Government of Kiribati

Kiribati National Infrastructure Investment Plan 2022–2032

Pacific Region Infrastructure Facility

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ABBREVIATIONS

Key Acronyms

ADB	Asian Development Bank
CAPEX	Capital Expenditure
CBA	Cost Benefit Analysis
CCDRM	Climate Change Disaster Response Management
CFD	Climate Finance Division of MFED
CIF	Climate Investment Funds
DCC	Development Coordination Committee
DFAT	Department of Foreign Affairs and Trade, Australia
EEZ	Exclusive Economic Zone
EU	European Union
GCF	Green Climate Fund
GDP	gross domestic product
GEF	Global Environment Facility
GoK	Government of Kiribati
ICT	information and communications technology
KDP	Kiribati Development Plan 2020–2023
KFSU	Kiribati Fiduciary Support Unit
KJIP	Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management
KTPF	Kiribati Trade Policy Framework
KV20	Kiribati 20-Year Vision
LDC	least-developed country
MCA	multi-criteria analysis
MDB	Multilateral Development Bank
MECE	Mutually Exclusive and Collectively Exhaustive principle
MFAT	Ministry of Foreign Affairs and Trade, New Zealand
MSP	Ministerial Strategic Plan
MTFF	medium-term fiscal framework
NGO	non-government organization
NIIP	National Infrastructure Investment Plan
O&M	Operations and Maintenance
OPEX	Operations and Maintenance Expenditure
PFM	public financial management
PRC	People's Republic of China
RERF	Revenue Equalisation Reserve Fund
SIDS	Small Island Developing States
SOE	State-Owned Enterprise
WHO	World Health Organization

Government and Infrastructure Agencies

AKA	Airport Kiribati Authority
BTC	Betio Town Council
CAAK	Civil Aviation Authority of Kiribati
KIT	Kiribati Institute of Technology
KPA	Kiribati Port Authority
KUC	Kiritimati Urban Council
MEHR	Ministry of Education and Human Resources
MFED	Ministry of Finance and Economic Development
MIA	Ministry of Internal Affairs
MICT	Ministry of Information, Communication, and Transport
MISE	Ministry of Infrastructure and Sustainable Energy
NEPO	National Economic and Planning Office
TUC	Tarawa Island Council

Currency

$	Australian dollar (official currency of Kiribati)
US$	United States dollar

EXECUTIVE SUMMARY

E.1 Context

The Kiribati National Infrastructure Investment Plan (NIIP) was prepared by the National Economic and Planning Office (NEPO) of the Ministry of Finance and Economic Development (MFED) assisted by the Pacific Region Infrastructure Facility (PRIF).

An NIIP examines the infrastructure needs of all sectors of the nation, drawing on the existing hierarchy of development priorities laid out in "Six Pillars" of the Kiribati Development Plan (KDP), Te Motinnano, and the Kiribati National Urban Policy.

Kiribati's NIIP presents:

(i) A summary of the fiscal environment for funding infrastructure.
(ii) A pipeline of candidate infrastructure investment projects.
(iii) A multi-criteria framework for screening and prioritizing candidate projects.
(iv) A shortlist of planned investments requiring funding assistance.

E.2 Summary of Fiscal Environment

Kiribati's domestic economy is fragile, with a continuing high trade deficit in excess of $140 million per annum. Governmental annual revenue was around $305 million in 2022 (inclusive of budget support), with 95% spent on operational expenditure. In part, this was due to novel coronavirus disease (COVID-19) recovery subsidies and higher salary and wages costs. However, pre-COVID-19 operating expenditure was still around 80% of total revenue; this leaves very little funding available for the recurrent repair and capital maintenance of infrastructure.

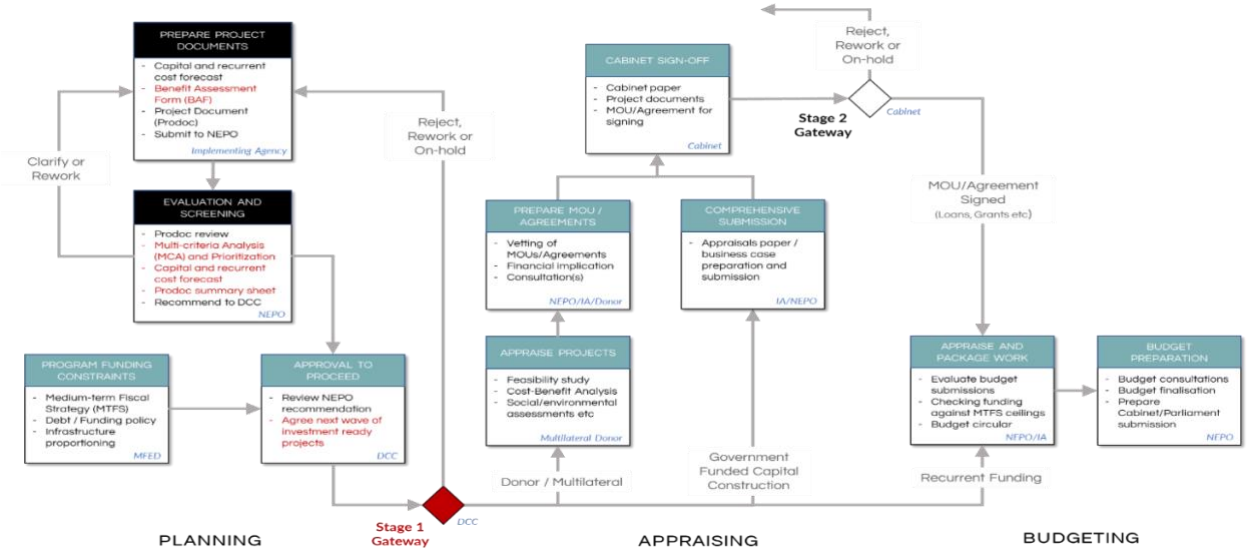
The current public debt balance is $46.6 million (18% of gross domestic product), with no new loan funding since 2016. This tight fiscal environment means that almost all infrastructure capital construction must be funded by donors through grant assistance.

The development budget tracks project-level expenditure across all six KDP pillars. Recent improvements to the coding of data allow tracking infrastructure-related expenditure over the past 4 years with a **rolling average of $126 million**, 96% of which has been funded through grant assistance.

E.3 Improving Early-Stage Project Screening

Given the tight fiscal environment and limited funds, the NIIP presents a framework for enhancing the ongoing management of the infrastructure pipeline and tools to assist with the **early-stage screening** (Gateway 1, Figure E1) and prioritization of projects using a process that is both systematic and transparent. The NIIP has developed and piloted these tools and methods and it is this institutional strengthening element of the NIIP that NEPO is seeking endorsement on from the Development Coordination Committee (DCC) and the cabinet.

Figure E1 Project Screening and Approval Process



Source: Authors.

The Plan has identified a comprehensive pipeline of infrastructure investments (capital construction projects and/or programs over $300,000) across 10 infrastructure sectors over the next 5–10 years. It provides a transparent prioritization framework to ensure funding decisions are aligned with the national development objectives of Kiribati.

The key enhancements to the government planning process implemented under the NIIP include:

(i) **Project database.** A 10-year rolling program of funded (ongoing) and unfunded (pipeline) infrastructure projects.

(ii) **Benefit assessment tool.** A structured Benefit/Impact Assessment Form for the early-stage capture and rating of economic, social, environmental and performance impact the project is expected to deliver.

(iii) **Multi-criteria Analysis framework.** A framework process (and tool) for early-stage evaluation and screening of projects based on the overall benefit score and likely economic viability.

(iv) **Screening Note.** A structured template/form (2-page) summarizing the Stage 1 unfunded projects to enter the dossier.

E.4 Identifying Candidate Projects for Inclusion

In total, the project database compiled for the NIIP has around 211 projects (exceeding $300k). The longlist was assembled from:

(i) the Kiribati Development Plan;
(ii) National Development Budget (supporting spreadsheets);
(iii) development partner's project list from NEPO;
(iv) KDP project list;
(v) corporate plans of the lead infrastructure agencies,
(vi) strategic reports and studies (e.g., the 2019 Kiribati Climate Change and Disaster Risk Finance Assessment and the Kiribati Utilities Reform Programme, 2022–2027),
(vii) consultations with 19 participating infrastructure agencies and PRIF partners, and
(viii) two workshops held for all the participating agencies to validate the final database.

Of the 211 infrastructure projects in the database, 47 are in the 2023/24 budget and a further 31 have been endorsed by the cabinet for funding. The primary aim of the NIIP is to provide a systematic and transparent methodology for identifying the next wave of priority projects for investment (Table E1).

Table E1 Project Database Summary by Sector

Name	Current #	Current ($m) [a]	Future #	Future ($m) [a]
Air	7	38.5	10	103.5
Buildings	49	166.5	44	504.1
Energy	5	96.3	11	615.0
Marine	14	314.5	15	72.3
Road	9	245.6	11	260.3
Telecom	12	219.6	4	24.7
Urban	1	10.9	4	323.0
Water	7	186.5	8	249.7
	104	**1,278.3**	**107**	**2,152.5**

Source: NIIP Project Database.

Note:

[a] "Current" projects are those with a status of Ongoing, Budgeted, Approved or Committed. "Future" projects are those with a status of planned or pipeline (refer Table 6-1 for status definitions).

E.5 Multi-Criteria Analysis Prioritization Framework

At the heart of a NIIP is the multi-criteria analysis (MCA) and prioritization framework. MCA is a rapid appraisal technique used to compare the relative benefit of disparate projects; it is particularly useful at the early stage of project preparation. It defines a set of criteria against which projects are assessed and applies a scoring system to this assessment with a weighting system to allow adjustments to the relative importance of criteria where appropriate. The MCA helps direct scarce resources toward projects that are most strongly aligned with the strategic development objectives of Kiribati.

11 Benefit Criteria in the MCA (Table 7-5)

It is intended that the enhanced MCA screening process is applied to all new projects being reviewed by DCC. It is important to note that the MCA provides a more qualitative process for screening disparate projects but will not provide an absolute ranking of importance. Other factors need to be considered during the Gateway #1 review such as inter-dependency between projects (e.g., Kanton airport upgrade does not rate high in the MCA but will become critical if the purchased Embraer jets are to go operational) and the drivers beyond those assessed under the MCA (e.g., imminent failure of an existing asset). For this reason, it is ultimately a committee decision on which projects should proceed past Gateway #1. From the MCA, the project team has however, identified the next wave of investments for consideration by DCC.

E.6 Early-Stage Screening Results (Gateway 1)

It is intended that the enhanced MCA screening process is applied to all new projects being reviewed by DCC. Given there are over 100 projects in the planned pipeline, it was impractical to evaluate all of these under the NIIP projects. A threshold of **projects >$3 million** was set by NEPO to pilot the improved tools and processes and identify the next wave of large-scale, priority projects for further appraisal and funding assessment.

The Kiribati NIIP grouped projects into three main categories.

- **Category A:** Projects already approved by the cabinet as a national priority.
- **Category B:** Projects proposed by government agencies and state-owned enterprises that have not been approved by the cabinet and are seeking financing. These projects were prioritized.
- **Other:** Projects proposed by government agencies and state-owned enterprises that lack detail or present challenges that need to be addressed before the screening and prioritization is conducted.

Category A Projects: Approved by the Cabinet

Category A projects have already been approved by the cabinet and are in the negotiation or appraisal stage. These projects (Table E6.1) were already screened and approved by the cabinet prior to the 2022 NIIP development. While funding had not been secured (at the time), these projects were under discussion with potential donors, but not yet been approved for inclusion in the budget.

Table E6.1 Projects Screened and Approved by the Cabinet (Appraising)

ID	Sector	Lead	Project Name	Cost Est. $
A103	Air	MFED	Establishing an X-ray Machine for Border Security	10.6
2301F171	Buildings	MOE	Kiribati Education Improvement Program (KEIP)	10.0
B117	Buildings	MTCIC	National Centralized Laboratory	5.4
B125	Buildings	OB	Outer Island Resilience and Adaptation Program	7.2
B146	Buildings	KHC	Urban Housing Project (Bairiki)	4.0
B147	Buildings	KHC	Urban Housing Project (Betio)	3.6
B184	Buildings	MEHR	KIT Upgrading	3.0
E101	Energy	PUB	Power System Upgrade - Betio Power Station Replacement	58.4
E106	Energy	MISE	South Tarawa Renewable Energy Project (STREP)	16.0
2704H119	Marine	MICT	Kiribati Outer Islands Transport Infrastructure Project, Phase 2	60.6
M133	Marine	MFMRD	Fish Collection Vessel	7.2
2704H108	Road	MISE	Outer Islands Infrastructure Program	216.8
R106	Road	MISE	Road Rehabilitation South Tarawa (roads not in Phase 1)	23.3
T106	Telecom	MICT	East Micronesian Cable Project	72.6
T108	Telecom	MICT	Improvement Internet Connectivity for Micronesia Project	31.1
T109	Telecom	MICT	Kiribati Connectivity Project	28.8
2101A056	Urban	MFMRD	Fisheries New Office	10.9

Est. = estimate, ID = Identification, KHC = Kiribati Housing Corporation, KIT = Kiribati Institute of Technology, MEHR = Ministry of Employment and Human Resources, MFMRD = Ministry of Fisheries and Marine Resource Development, MICT = Ministry of Information, Communication and Transport, MOE = Ministry of Education, MOJ = Ministry of Justice, MISE= Ministry of Infrastructure and Sustainable Energy, MTCIC = Ministry of Tourism, Commerce, Industry and Cooperatives, OB = Office of President, PUB = Public Utilities Board. Source: National Economic and Planning Office and Pacific Region Infrastructure Facility (PRIF).

Category B Projects: Shortlist Projects (Reviewed by DCC)

Based on the overall MCA weighted scores, thematically high scores, dependencies, and overall readiness of the projects, NEPO has recommended the following 15 shortlisted projects for funding consideration (Table E6.2). This list is expected to grow as project concepts mature toward a Gateway #1 review by DCC.

Table E6.2 Large Capital Construction Priorities for Cabinet Consideration

ID	Lead	Project Name	Brief Description	MCA Impact	Econ. Viability	Cost Est. ($)
PRIORITY B1 Projects (10)						
W105	MISE	Water Tank for Outer Island Households	To provide 13,695 x 3,000 liter water tanks for Outer Island households	HIGH	Unlikely	15.1
T115	MICT	Outer Island Network Extension (Submarine Cable)	Replacing satellite communication with faster and more reliable submarine cable to outer islands.	HIGH	Probable	15.0
A102	MICT	Kanton Airport Terminal and Airport Upgrade	Upgrade of the runway to handle jet operations of newly procure Embraer fleet. Critical dependency for national airline.	HIGH	Possible	21.9
B156	MHMS	Upgrading Works to Tungaru Central Hospital	Upgrading existing and addition of new units at Tungaru hospital to deliver appropriate primary and curative health care services	HIGH	Possible	150.0
A119	MICT	Resurfacing Outer Islands Airfields (Phase 2)	Rehabilitate old and failing runway surfaces on Outer Islands. Phase 1 to pilot efficient technologies for maximizing use of *in situ* materials and labor.	HIGH	Possible	22.6
B102	MTCIC	Butaritari Food Processing Plant	New food processing plant to support the community and access the abundant local fruits on the island.	LOW	Possible	3.9
M105	MFMRD	Transshipment Hub Kiritimati and Tarawa (Multi-purpose)	New transshipment port on Kiritimati (Poland) for tuna processing and Tarawa (Betio) expansion and development.	MEDIUM	Possible	216.0
U103	MIA	Bairiki Market II	Development of new market on Bairiki to service South Tarawa agriculture, cultural, and fisheries businesses.	MEDIUM	Probable	15.0
M132	MFMRD	Boat and Engine Project Phase II	Continuation of phase 1 deployment of new motors and boats to local fishermen on outer islands	MEDIUM	Possible	3.7
T117	MICT	Outer Island Mobile Rollout Phase 3	Expansion of 3G mobile coverage to Abemama, Tab North, Onotoa, Makin, Butaritari, Marakei, Abaiang.	HIGH	Probable	10.8
PRIORITY B2 Projects (5)						
W110	MISE	Sanitation for all households in Kiribati	Provide proper sanitation facilities for outer islands 13,695 households as per 2020 household listing. The objective is to improve sanitation, public health, and the protection of groundwater.	HIGH	Unlikely	125.2
B176	MHMS	Major renovation for Southern Kiribati Hospital (SKH)	Renovation work at Southern Kiribati Hospital (North Tabiteuea) to restore quality hospital services outside South Tarawa.	HIGH	Probable	110.0
M115	KPA	Bairiki Old Wharf Redevelopment	Reconstruction of breakwater and mooring to provide safe harbor for passenger and commercial craft during high tide and weather.	HIGH	Possible	3.6
M122	MICT	Replacement of MV Nei Matangare	New mini-container vessel with speed and capacity to link the Gilbert, Phoenix, and Line Islands (and Honolulu).	MEDIUM	Probable	20.0
R113	MICT	Maintenance and	Capital maintenance and upgrade	MEDIUM	Unlikely	200.0

ID	Lead	Project Name	Brief Description	MCA Impact	Econ. Viability	Cost Est. ($)
		upgrade of all national roads	work to arterial road network to improve access to community services.			

Est. = estimate, ID = Identification, KPA = Kiribati Ports Authority, MFMRD = Ministry of Fisheries and Marine Resource Development, MHMS = Ministry of Health and Medical Services, MIA = Ministry of Internal Affairs, MISE= Ministry of Infrastructure and Sustainable Energy, MICT = Ministry of Information, Communication and Transport, MOE = Ministry of Education, MTCIC = Ministry of Tourism, Commerce, Industry and Cooperatives.
Source: Priority Projects for Further Development (Table 7-11).

A more detailed economic analysis of each project will need to be completed ahead of final cabinet approval (Gateway #2) to ensure that scarce resources are allocated efficiently, and that the investment brings benefits to Kiribati and raises the welfare of its citizens.

Other Projects in the Pipeline

Ten projects were categorized as presenting challenges in implementation that would have to be overcome before investment discussions can take place. For example, these projects had potential issues regarding land acquisition that would make it difficult to start before 2030, or they lacked the details needed for the DCC to make a recommendation to proceed to a full appraisal.

A further five projects were classified as major risks, with very poor overall benefits, so they will not likely proceed in their current forms. These projects would require a re-evaluation of their overall design.

SECTION 1

INTRODUCTION

This section establishes the objectives for the National Infrastructure Investment Plan (NIIP) and presents the local country context. It also lays out the infrastructure sectors and agencies covered by this Plan.

1.1 About the Kiribati NIIP

Public infrastructure assets exist to provide a service to users and the community. For example, ports allow goods to be imported and exported, roads allow those goods to get to market, and power transmission lines allow those markets to operate. When infrastructure fails, these services are interrupted. Reliable infrastructure is one of the foundation stones of sustainable development in the Pacific. All the important services provided by governments and private sector ventures that create jobs and build wealth are built on the foundations provided by infrastructure.

A NIIP examines the infrastructure needs of all sectors of the nation be they economic, social, or administrative, drawing on the existing hierarchy of national development objectives, and sectoral- and institutional-level plans. This brings together a list of candidate infrastructure investment projects, which are then screened and prioritized across sectors in a process that is both systematic and transparent. At the same time, an assessment is made of likely economic viability of projects and the capacity of government to fund and deliver the infrastructure investment program so it can be scaled appropriately.

The NIIP is a living document, and it should be monitored, reviewed, and updated as necessary. This is the first NIIP publication for the Republic of Kiribati, and it outlines the priorities for major infrastructure investments over the next 10 years (2022–2032). The Plan was assembled through a consultative process involving a wide range of stakeholders, including central government ministries, infrastructure management agencies, international advisors, and development partners.

The NIIP should be seen as a framework for priority investments rather than a fixed blueprint, as situations and priorities will change over time and should be reviewed annually. The Plan has reviewed the full pipeline of candidate projects across the core infrastructure sectors and, through a multi-criteria analysis (MCA), identifies "**priority projects for further development**".[1] The subsequent development, funding, and budget approval for these priority projects is embedded within project management processes already established.

[1] UN Climate Change Conference. 2018. Kiribati. https://cop23.com.fj/kiribati/.

1.2 Country Context

1.2.1 Geography

Kiribati is a small island nation made up of 33 coral islands: 32 atolls and one raised coral island. These islands are divided into three groups, i.e., the Gilbert Islands (North, Central, South), Line Islands, and Phoenix Islands, scattered over an expanse of ocean of 3.5 million square km.

The total land area is 726 km^2, most of which is less than 2 m above sea level. Large parts of the country are expected to be underwater by 2050.[2] By 2050, the World Bank predicts rising sea tides and increasing storm surges will swallow half of Bikenibeu, South Tarawa, a Kiribati settlement that is home to 6,500 people.

The islands are low, flat, and narrow, with poor land fertility for farming and limited underground fresh water. The weather is mostly dry and sunny but gets wetter towards the northern side. As a small developing country, with islands dispersed over a wide area, development in Kiribati remains a challenge.

Kiribati's exclusive economic zone (EEZ) exists within both the North and South Pacific Ocean as the country straddles the Equator and covers the entire archipelago.

Kiribati remains one of the world's most vulnerable countries, subject to the devastation wrought by climate change's extreme weather patterns. Nonetheless, the nation remains determined to counter the forecast, devising a contingency plan to ensure the protection of its 119,000 residents.[3]

1.2.2 Population

There are an estimated 121,300 people living in Kiribati. Table 1-1 is a breakdown of the population according to the national census surveys undertaken in 2010 and 2020.

Table 1-1: National Population of Kiribati

District / Island	Households	Pop. (2020)	Pop. (2010)	Pop. (change)	Growth
Central	**1,764**	**8,406**	**7,572**	**834**	**11%**
Abemama	690	3,257	3,200		
Aranuka	267	1,223	1,057		
Banaba	84	330	295		
Kuria	252	1,191	993		
Maiana	471	2,405	2,027		
Phoenix and Line Is.	**1,989**	**11,320**	**9,129**	**2,191**	**24%**
Kiritimati	1,253	7,380	5,586		
Tabuaeran	398	1,992	1,792		
Teeraina	328	1,907	1,690		
Kanton (Tebaronga)	10	41	61		
Northern	**4,012**	**20,806**	**20,620**	**186**	**1%**
Abaiang	1,110	5,872	5,502		
Butaritari	624	3,241	4,346		
Makin	374	1,914	1,798		
Marakei	576	2,738	2,872		
North Tarawa	1,328	7,041	6,102		

[2] UN Climate Change Conference. Kiribati.
[3] UN Climate Change Conference. Kiribati.

District / Island	Households	Pop. (2020)	Pop. (2010)	Pop. (change)	Growth
South Tarawa	**9,576**	**63,439**	**50,182**	**13,257**	**26%**
South Tarawa	9,576	63,439	50,182		
Southern	**3,400**	**16,010**	**15,417**	**593**	**4%**
Arorae	208	983	1,279		
Beru	546	2,220	2,099		
Nikunau	439	2,061	1,907		
Nonouti	635	2,792	2,683		
North Tabiteuea	758	4,120	3,689		
Onotoa	338	1,423	1,519		
South Tabiteuea	279	1,357	1,290		
Tamana	197	1,054	951		
Grand Total	20,741	119,981	102,920	17,061	17%

Source: Kiribati national census 2020 and 2010, published at Pacific Data Hub. https://pacificdata.org/data/dataset/spc_kir_2020_phc_v01_m

Overall, the population of Kiribati has increased by approximately 17% over the 10-year period, with the vast majority (88%) of this population increase occurring in the populous centers on South Tarawa and Kiritimati Islands. More than half the population lives on South Tarawa.

Regarding the population, 60% is between 15 and 64 years of age. While there are more males in the age groups 0–24 years, females are in the majority in the age groups 25–75+.[4] In rural areas, females are in the majority from 30 years onward. In the urban areas, they are in the majority from 15 years onward.

Skilled and unskilled migration is encouraged through the Ministry of Education and Human Resources (MEHR).[5] Graduates of the Kiribati Institute of Technology (KIT) are particularly encouraged to migrate for work.[6] The Australian Government's Pacific Australia Labor Mobility program facilitates the employment in Australia of i-Kiribati in the aged care, fisheries and maritime, hospitality and tourism and technology and business sectors, as well as a range of other industries.[7] The New Zealand Government also has a labor mobility program.

The Government of Kiribati (GoK) recognizes the important role of labor migration in addressing the lack of employment opportunities, promoting economic and social development, alleviating poverty, and adapting to climate change. A National Labor Migration Policy has been designed to provide a coherent strategy for promoting overseas employment and protecting the welfare of I-Kiribati abroad, within the broader context of generating productive and decent employment opportunities for all I-Kiribati. The government recognizes that labor migration will become an increasingly important strategy for permanent migration and population control according to the government's "Migration With Dignity" Policy, which articulates the importance of training I-Kiribati to take up skilled labor migration opportunities in response to climate change threats to livelihoods at home (Government of Kiribati, 2022d).

The gross national income of Kiribati is boosted by remittances and salaries earned by i-Kiribati in foreign countries. $19 million (9.9% of gross domestic product [GDP]) is provided by remittances from over 4,000 i-Kiribati living and working in New Zealand (42%), Fiji, Australia,

[4] Government of Kiribati, National Statistics Office. 2021. 2020 Population and Housing General Report and Results. Tarawa: Government of Kiribati. https://nso.gov.ki/download/146/2020-census/1952/census-report-2020-book.pdf. Pg. 27.

[5] Kiribati Institute of Technology. 2022. Kiribati Institute of Technology. May 6. https://kit.edu.ki/overseas-employment/.

[6] International Labour Organisation. 2015. *My Guide to Overseas Employment for i_Kiribati Graduates.* Suva, Fiji: EU, UNDP and ESCAP. https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-suva/documents/publication/wcms_431972.pdf.

[7] Government of Australia. 2022. Pacific Australia Labour Mobility. May 6. https://www.palmscheme.gov.au/countries/kiribati.

Marshall Islands and Solomon Islands.[8] All i-Kiribati, including those living abroad, contribute to the Kiribati Provident Fund. These include i-Kiribati living permanently in Fiji. In 1945, the Banaban community from Ocean Island was displaced to Rabi Island in Fiji. The Constitution provides for it to send two elected representatives to the Kiribati Parliament to safeguard its interests.[9]

In 2014, Kiribati acquired the 5,500 acre Natoavatu estate on the island of Vanua Levu in Fiji. Initially intended for displaced i-Kiribati, the estate is now being developed with assistance from the People's Republic of China (PRC) as commercial agriculture to feed i-Kiribati at home.

1.2.3 Economic Context

Kiribati is a small island developing state a long way from markets. This makes Kiribati, as a market for importers, unattractive. In 2020, it had a trade deficit of about US$51.2 million per year, declining slightly from 2019. It exported US$27.7 million: US$9.7 million in products – fish and copra – and US$18 million in services – fishing licenses and ship registration fees – and imported US$78.9 million in products and US$70 million in services, resulting in an ongoing trade deficit that amounts to US$1,270 per capita.

To manage this imbalance, Kiribati is highly dependent on income from overseas in the form of fishing licenses, remittances, and income on the wealth fund. It also receives development partner support. It benefits from its grant-only status for multilateral development bank (MDB) financing. In 2020, all fiscal deficits were financed by the authorities' cash reserves or grants. Kiribati is frugal in its management of its financial assets; given that the International Monetary Fund (IMF) considers it is at high risk of debt distress, it has relied mainly on grants to respond to the COVID-19 pandemic, keeping public debt to about 20% of GDP. Kiribati incurred this debt between 1988 and 2014 to fund infrastructure and continues to make annual repayments. The country has limited capacity to fund future infrastructure through borrowing, even though its infrastructure has many gaps in key areas like water and sanitation.

Despite this careful management, Kiribati is exposed to high risks from natural disasters and climate change. Its atolls are regularly flooded during heavy rain and sea level has risen about 4 mm per year since 1993. Drinking water is scarce and tainted by saline. Soils are becoming salty and fish stocks are shrinking.

In addition to income from the sale of fish caught and exported by i-Kiribati, Kiribati depends on fishing license revenue that is 65% of the total. The Vessel Day Scheme continues to remain the main factor for improving revenue performance from fishing licenses. Licenses are issued to foreign ships to fish in Kiribati waters. Kiribati has recently decided to open its Phoenix Island Protected Area to commercial fishing to boost this income. Managing volatile fishing revenue is the key fiscal issue for the government.

Inflation, which had been negative until the pandemic, is expected to rise sharply in line with major trading partners. The fiscal strategy anticipates a rate of 3.3% in 2023, falling back from 5% in 2022. Global inflation rates of between 5% to 8.7% of major trading partners suggests this may be underestimated. Thus, inflation may be larger than the expected growth in GDP.

Despite this economic disadvantage, Kiribati has concentrated on its strengths, carefully stewarding the resources it has, both physical and financial. It closely manages its national

[8] European Union Global Diaspora Facility. 2022. *Kiribati.* May 6. https://diasporafordevelopment.eu/wp-content/uploads/2020/04/CF_Kiribati-v.1.pdf.

[9] https://www.constituteproject.org/constitution/Kiribati_2013.pdf?lang=en section 117. See also: https://www.kaldorcentre.unsw.edu.au/news/how-small-pacific-community-sparked-70-years-constitutional-innovation-citizenship

sovereign wealth fund established in 1956. It established a compulsory savings fund for i-Kiribati in country and working abroad in 1977.

Its workforce is concentrated in the very high-density urban areas of Tarawa and Kiritimati, where there is a large gap in infrastructure services. In addition, there are over 4,000 i-Kiribati working in foreign countries and remitting funds home.

1.3 Infrastructure and Sectors for Inclusion

1.3.1 Sectors

Many of the government departments and state-owned enterprises (SOEs) managing Kiribati's infrastructure assets would be considered capital-intensive based on the ratio of the capital expenditure to the revenue collected. Capital-intensive organizations typically own a high proportion of long-life, high-value assets such as transmission lines, bridges, wharves, pipelines, buildings, and roads. As these assets age, maintenance costs increase along with a decrease in their reliability and performance. This is an important distinction to make as a small deferral of these capital investments can significantly improve the short-term financial performance of the organization but result in longer-term unfunded liabilities (Table 1-2).

Table 1-2: Sectors Covered Under this Plan

Icon	Infrastructure Sector [a]	Typical Infrastructure Assets in Sector
	**Land Transport**	Earthworks; pavement; footpaths; signals; guardrails; curbing; drains; bridges; fords; culverts; retaining walls.
	**Aviation**	Runways; taxiways; aprons; navigation aids; lighting; weather stations; control systems; fueling, aircraft.
	**Maritime**	Wharfs; jetties; navigation aids; tugs; container yards; cranes; dredges.
	**Water and Sanitation**	Pipelines; boreholes; reservoirs; storage tanks; treatment plants; pumping stations; oxidation ponds.
	**Energy**	Diesel engines; hydro turbines; generators; transformers; solar panels; switching equipment; transmission/distribution lines.
	**Gov. Buildings and Facilities**	Schools; hospitals and medical facilities; government administration; justice and corrections; processing plants; sports facilities; public housing
	**Telecommunications**	Internet cable and landing stations; AM/FM towers
	**Coastal and Waterways**	Seawalls; embankments; levies; river channels
	**Solid Waste**	Hazardous waste; landfills; recycling facilities; metal bailers; incinerators
	**Urban Development**	Public parks; commercial districts; retail; markets and commercial; city landscaping; pedestrian facilities; tourism infrastructure.

Source: Authors.

Note:

[a] Infrastructure for the primary industries of Tourism, Agriculture and Fisheries is incorporated within the Building/Facilities, Maritime and Urban Development sectors. These primary industries are emphasized when applying

the MCA prioritization process (Section 7). While the Solid Waste sector is crucial to Kiribati's development, much of its activity is recurrent, rather than capital. Capital projects are generally under the threshold of $1 million used for this report.

1.3.2 Agencies Managing Infrastructure Delivery

Responsibility for the provision of infrastructure across Kiribati spans many government entities. Those who have projects in the NIIP pipeline are shown in Table 1-3.

Table 1-3: Public Services Entities Contributing to this Plan

Abbreviation	Agency
AKA	Airport Kiribati Authority
KHC	Kiribati Housing Corporation
KNSL	Kiribati National Shipping Line Limited
KOIL	Kiribati Oil Company Ltd
KPA	Kiribati Ports Authority
MELAD	Ministry of Environment, Lands and Agricultural Development
MFMRD	Ministry of Fisheries and Marine Resource Development
MHMS	Ministry of Health and Medical Services
MIA	Ministry of Internal Affairs
MICT	Ministry of Information, Communication and Transport
MISE	Ministry of Infrastructure and Sustainable Energy
MLPID	Ministry of Line and Phoenix Island Development
MOE	Ministry of Education
MOJ	Ministry of Justice
MTCIC	Ministry of Tourism, Commerce, Industry and Cooperatives
MWYSSA	Ministry of Women Youth Sport and Social Affairs
OB	Office of President
PUB	Public Utilities Board

Source: Authors.

1.3.3 Projects for Inclusion

While the terms "infrastructure asset" and "infrastructure investment" are used extensively throughout this publication, as NIIPs have developed, it is more common for them to now include capital projects (and studies) that replace, renew, or construct high-value public assets, including specialist equipment and plants.

The focus of NIIPs and the sectors that benefit most from the NIIP process remain those whose main asset base is physical infrastructure and buildings (Table 1-2).

In general, an infrastructure construction project is included in the NIIP if it has a **capital value greater than $100,000** (or is the first stage of a larger project which will exceed this threshold).

Capital value alone is not the only guide for identifying candidate projects for the NIIP. Table 1-4 provides a summary of the primary project classifications included in the NIIP.

Table 1-4: Categorizing Capital Construction Projects in the NIIP

Project Type	Definition	Drivers
Study	Feasibility studies and master plans for major public assets.	Including studies provides line of sight on upcoming projects.
Renewal	Works which return an existing asset to its as-new condition. Generally replacing like with like.	a) Asset has become unreliable or obsolete b) Asset has reached the end of its economic life (i.e., cheaper to renew than maintain) c) Asset is at risk of failing or poses a serious safety concern, etc.
Upgrade	Works required to improve existing infrastructure to meet increasing demand or improved levels of service.	a) Additional capacity required to meet demand b) Asset no longer meets service-level requirements c) Improvement needed to meet new regulations or standards, etc.
New	Works required to expand the network or deliver a new service. (Capital value >$200k)	a) New assets required to deliver wider services b) New assets required to deliver a new service

Source: Authors.

SECTION 2

STRATEGIC ENVIRONMENT

This section provides an overview of the national, sectoral, and institutional strategies that drive top-down decision making on infrastructure investments. The objective of this overview is to summarize the strategic plans in place and to explore the elements of those plans that help inform the key criteria/drivers for investment decision making and carry these across to the multi-criteria analysis framework presented in Section 7.

2.1 National Development Strategy

The Kiribati 20-Year Vision (KV20) is a long-term development blueprint for Kiribati covering the period 2016 to 2036.

*The **vision** of KV20 is for Kiribati to become a wealthy, healthy, and peaceful nation.*
*Our **mission** is to fast-track and accelerate growth through maximization of returns from our natural, human, and cultural capital.*

KV20 marks a shift in the development process whereby socioeconomic development is introduced to guide the short- to medium-term planning processes. In keeping with its longer-term focus, KV20 promotes economic planning beyond the 4-year cycle of government, which has been the main limitation to sustaining and implementing long-term strategies.

Furthermore, catapulting economic development over the next 20 years can only be possible if Kiribati focuses its attention on two of its productive sectors, i.e., fisheries and fisheries-related tourism. Adequate investment and a conducive environment need to be developed for these sectors to thrive. To this end, KV20 designated four pillars intended to complement, support, and cultivate an enabling environment:

- Pillar 1: Wealth and health
- Pillar 2: Peace and security
- Pillar 3: Infrastructure for development
- Pillar 4: Governance

Within the above pillars lie strategies that will drive infrastructure development decisions across Kiribati and guide investment decisions and prioritization criteria for the NIIP. Those most relevant strategies are within Pillars 1 and 3:

Pillar 1: Wealth and health

- Accelerate macroeconomic stability for long term sustainable development
- Develop sustainable tourism
- Maximize returns from sustainable fisheries and marine resources
- Developing inclusive sustainable trade and private sector
- Sustainable management and protection of marine and natural resources
- Increase overseas and domestic employment opportunities

- Decent work for all
- Improve the hospital and health center services

Pillar 3: Infrastructure for Development

- Improve air, land and sea transport infrastructure
- Harmonize infrastructural development for tourism
- Improve information and communications technology (ICT) infrastructure development
- Improve access to quality utility and social infrastructure (health, education, water, sewer and energy)

The introduction of an NIIP, with its 10-year planning horizon, also perfectly aligns with KV20's focus on a **longer-term view of development needs**.

2.2 National Policies

Several national policies have been prepared to achieve the KV20. These constitute the framework within which planning is undertaken. These include, but are not limited to:

1. Kiribati Trade Policy Framework 2017–2027
2. Kiribati National Urban Policy
3. Kiribati National Migration Policy
4. "Migration With Dignity" Policy
5. Kiribati National Energy Policy
6. Kiribati National Disability Policy and Action Plan 2018–2021
7. Kiribati Integrated Environment Policy

2.3 Kiribati Development Plan

GoK, in 2015, established a national set of indicators which it distributed to all government agencies, community groups, development partners and private sector organizations. The Kiribati Development Plan (KDP) provides four yearly steps to achieve KV20 by 2035. The Development Coordination Committee (DCC) is the main governing body that coordinates and reports on all development activity in Kiribati including the review of the KDP.

The 11th and latest release of the KDP (2020–2023) was published in August 2021. It is the second released under KV20. The 4-year plan was developed through an extensive consultation process and is the first plan where Kiribati nationals were fully engaged in its formulation. There is a sense of greater ownership of the plan, embodied in the implementation charter signed by all Secretaries.

The KDP is the more tactical medium-term plan to achieve the longer-term vision for Kiribati presented in KV20. It presents an actionable set of strategic initiatives and associated key performance indicators for monitoring progress against six Key Priority Areas, namely:

KPA 1: Harnessing our Human Wealth
KPA 2: Growing our Economic Wealth and Leaving No-one Behind
KPA 3: Improving our Health
KPA 4: Protecting our Environment and Strengthening Resilience
KPA 5: Good Governance
KPA 6: Developing our Infrastructure.

Table 2-1 explores the initiatives related to infrastructure investment under Key Priority Area's 2, 4, and 6. The purpose of the table is to highlight aspects of the KDP that need to drive the

infrastructure investment decision-making process and inform the prioritization criteria presented in **Section 7**.

Table 2-1: Key Components of KDP Driving Infrastructure Investment Decisions

KPA	Focus Area (Infrastructure)	Strategic Initiative
KPA 2: Growing our Economic Wealth	1. Broaden the country's economic base	▪ Diversify the fisheries sector ▪ Promote and strengthen tourism ▪ Promote trade and private sector development ▪ Promoting foreign investment
	2. Strengthen government revenue	▪ Maximize returns from SOEs
	3. Improving access to finance	▪ Increase official development assistance
KPA 4: Protecting our Environment and Strengthening Resilience	1. Improving the protection and management of the environment, climate change, and disaster risk	▪ Reduce vulnerabilities and respond to impacts of climate change and disaster risks ▪ Improve waste management and pollution control
KPA 6: Developing our Infrastructure	1. Provision of safe drinking water and access to good basic sanitation	▪ Increase the number of water tanks distributed ▪ Increase the number of desalination and distillation plants ▪ Increase the number of solar and hand water pumps installed in vulnerable areas ▪ Provision of more public and private facilities with good basic sanitation
	2. Increase compliance with the building code and establish an asset maintenance strategy	▪ Ensure that resilient building infrastructure and green construction are improved
	3. Improve and upgrade marine and coastal infrastructure	▪ Fully equip port facilities across all port sites ▪ Construct seawalls to protect coastal areas
	4. Build, upgrade and sustain roads, causeways, bridges and runways	▪ Upgrade and maintain road pavements on outer islands ▪ Upgrade runways on outer islands to improve access
	5. Improve transportation services	▪ Improve the regularity of interisland sea transportation ▪ Improve air transportation
	6. Improve energy supply in Kiribati	▪ Deliver more reliable grid supply ▪ Expand renewable power supply
	7. Improve access to digital connectivity, ICT development and data access	▪ Expand government connections to submarine cable ▪ Increase proportion of population with internet access ▪ Increase proportion of population covered by mobile network

ICT = information and communications technology, KDP = Kiribati Development Plan, KPA = key priority area, SOE = state-owned enterprise.

Source: Authors review of Kiribati Development Plan (2020–2023).

The KDP was developed in consultation with ministries and stakeholders, non-government organizations (NGOs) and civil society organizations. The priority issues identified by the KDP (2020–2023) are:

Top Priority
3.3.1 Health awareness

High Priority
1. Improving roads and runways
2. Regularity of sea transportation
3. Investment in renewable energy

The funding applied to priority areas in the 2022 development budget are in Figure 2-2.

Figure 2-2: Summary of Kiribati Development Budget by KDP Priority Area

KDP Pillar	2022 Development Budget
KPA 1: Harnessing our Human Wealth	$35,820,190
KPA 2: Growing our Economic Wealth	$87,419,504
KPA 3: Improving our Health	$15,898,146
KPA 4: Protecting our Environment and Strengthening Resilience	$19,242,453
KPA 5: Good Governance	$4,916,883
KPA 6: Developing our Infrastructure	$99,445,083
2022 Total	**$262,742,259**

KDP = Kiribati Development Plan, KPA = Key Priority Area.
Source: Development budget for 2022, as approved by the Maneaba ni Maungatabu, November 2021 (Table 2B).

Note that the Key Priority Areas are not mutually exclusive and project budgets are mapped to the KPA they most align with; hence, an infrastructure project which builds a hospital would likely be mapped against Key Priority Area 3, and coastal protection works linked to Key Priority Area 4 and so forth. **Section 4** provides a deeper analysis of the proportion of the development budget that is likely spent on infrastructure capital construction projects.

2.4 Te Motinnano (The Manifesto, Policy Statement)

Te Motinnano (2020) is a fundamental policy statement that sets the objectives for public service entities to address the increasing demand of the public for needed services, and also for generating income for Kiribati. It targets five main outcomes:

1. A Sustainable Economy for Equitable Distribution of Wealth

Kiribati has a limited resource base, and it is therefore critical that it harness its resources in the most sustainable manner so that maximum output is attained without compromising the availability of these resources to future generations. The government will promote equitable distribution of wealth for the generations of today and tomorrow attained from **marine and land resources, fisheries, agriculture,** and **tourism** to name a few.

2. Improving Infrastructure to Support the Economic Development of Outer Islands

The remoteness of the outer islands is both a communication and transportation hurdle for development. The government sees the critical need to develop the necessary infrastructure and services on the outer islands that is proportional to those available in urban areas in Kiribati. This will foster their economic growth and maximize their economic potentials enhanced through trade between the islands which will increase revenue for these islands.

3. Climate Change

Climate change is a cross-cutting issue that impacts security. The government launched its legislative framework and policies on disaster risk management and climate change in 2020 to

strengthen adaptive capacity and resilience. As a global issue, the government also takes a strategic approach in strengthening its access to global climate finance to support the implementation of climate-related commitments.

4. Cooperation with Private Sector, Non-Government Organizations, and Civil Society

The government has commenced coordination with the private sector, NGOs and civil society organizations, including church groups and local communities, to accommodate their needs and improve livelihoods as a means to achieve peace and prosperity.

5. Enhancing Government Services for the People

The government will enhance services by improving land lease agreements, improving infrastructure, enhancing foreign relations and forging strategic partnerships, and developing opportunities for economic growth for the Line and Phoenix Islands.

2.5 Kiribati Urban Policy

The Kiribati National Urban Policy, May 2019, outlines a vast array of urban sustainable development and governance considerations for urban councils, predominantly Tarawa Island Council (TUC), Betio Town Council (BTC), and Kiritimati Urban Council (KUC) that are specifically stipulated in the Ministerial Strategic Plan (MSP) of the Ministry of Internal Affairs.

The Kiribati National Urban Policy identifies seven core policy areas, i.e., the economy, governance, land, housing, environment, social and urban infrastructure. The framework is cognizant of the fact that urbanization takes a cross-sectoral and integrated approach to manage growing urban areas. The Ministry of Internal Affairs is the lead agency for identifying the infrastructure needs arising from urban development and of island councils. The urban plans and outer island strategic plans aim to capture local data that can guide the planning of, among other things, infrastructure acquisition and management.

2.6 Sectoral, Island, and Institutional Plans

Cascading down from the KV20 and KDP 2020–2023 are a series of sector-, institutional-, and island-level plans that connect the national strategy to the required investment projects and revenue streams. In formulating the NIIP, these documents have been reviewed to establish an understanding of the respective sector-level investment strategies reported in **Section 5** and to unearth and consolidate the pipeline of projects presented in **Section 6**. A full list of the documents reviewed is provided in Section 6.

2.7 Annual Reports

The final set of documents reviewed as part of the NIIP investigations were the annual reports Kiribati, SOEs, and the Island Councils in Table 1-3. The main purpose for exploring these documents was to better understand the economic and fiscal situation and to surface any infrastructure projects mentioned within these reports.

The Auditor General tables audited financial statements in the Maneaba ni Maungatabu and then makes them available on his website. The entities audited are:

- government accounts
- state-owned enterprises
- island councils
- special funds

The most recently shared audited public accounts of Kiribati and the audited financial statements of SOEs are for the 2020 year. Eight of the 23 island councils have issued audited financial statements for 2018 with the remaining 15 unaccounted for. Annual reports are not usual, with little information on performance shared with the Maneaba ni Maungatabu. All audited financial statements able to be considered by the public accounts committee.

The Auditor General has found most financial statements not yet able to be audited and has issued disclaimer reports for 13 of the 23 entities' reports tabled and available publicly.

The most recently published unqualified audit reports have been for the financial statements of Kiribati Ports Authority (2019), Public Utilities Board (2017) and Betio Shipyard (2017).

2.8 Cross-Cutting Strategies

2.8.1 SAMOA Pathway

In 2014, Kiribati called on the United Nations (UN) for a paradigm shift if small island developing states (SIDS) were to achieve their goals. It considered that climate change was undermining the human rights of i-Kiribati. It supported the SAMOA SIDS Conference as a means of establishing genuine and durable partnerships (United Nations, 2022c). This resulted in Small Island Developing States Accelerated Modalities of Action (The SAMOA Pathway).

Table 2-3: SAMOA Pathways-related Infrastructure

Initiative	Infrastructure supporting the initiative
1. Sustained and Sustainable, Inclusive and Equitable Economic Growth with Decent Work for All	▪ Transport, Telecommunication, Water and Sanitation, Energy, Waste Management
2. Climate Change	▪ Design of all infrastructure
3. Sustainable Energy	▪ Energy, Waste Management
4. Disaster Risk Reduction	▪ Meteorology, Water and Sanitation, Energy, Transport, Waste Management
5. Oceans and Seas	▪ Transport, Legislative framework, Waste Management
6. Food Security and Nutrition	▪ Water and Sanitation, Transport, Waste Management
7. Water and Sanitation	▪ Energy, Transport, Waste Management
8. Sustainable Transportation	▪ Energy, Water
9. Sustainable Consumption and Production	▪ Waste Management
10. Management of chemicals and waste, including hazardous waste	▪ Waste Management, Transport, Energy
11. Health and non-communicable diseases	▪ Buildings, Energy, Water and Sanitation, Transport
12. Gender equality and women's empowerment	▪ Water and Sanitation, Energy, Waste Management, Transport
13. Social Development	▪ Water and Sanitation, Energy, Waste Management, Transport
14. Biodiversity	▪ Waste Management, Legislative Framework, Telecommunications
15. Invasive Alien Species	▪ Customs and Quarantine, Waste Management, Telecommunications
16. Means of Implementation, including Partnerships	▪ Energy, Telecommunications,
17. Monitoring and Accountability	▪ Telecommunications, Energy

Source: United Nations. (2022c, May 9). SIDS. Retrieved from Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States: https://www.un.org/ohrlls/content/samoa-pathway

Development partners committed to the following aspects of the SAMOA Pathways Agreement:

1. To strengthen the use of domestic policies and financing, with due consideration for their respective levels of indebtedness and national capacities;
2. To gain access to international arrangements and modalities for the financing of development for developing countries, particularly small island developing states, including through capacity-building and a review of application procedures;
3. To implement, with the provision of appropriate financial resources, in line with existing international commitments within the framework of the United Nations Framework Convention on Climate Change, climate change adaptation and mitigation projects; and
4. To reduce transfer costs related to remittances while pursuing the international targets and agreed outcomes of important international initiatives set by the UN system concerning remittances, given their importance for the economic growth of small island developing states.

2.8.2 Climate Resilience

The Green Climate Fund (GCF) of the UN Environmental Programme, the Climate Investment Fund (CIF) and the Adaptation Fund provide funding for which Kiribati may be eligible to build climate resilience. As mentioned in section 4, access to these funds is conditional on Kiribati implementing public financial management (PFM) and several other reforms.

The Kiribati Climate Change and Disaster Risk Finance Assessment report (2019) details these, some of which have already been implemented. Generally, donor bodies want evidence that the funding they provide is resulting in the mitigation measures being effective. This requires detailed records and reporting as yet not entirely feasible in small island states such as Kiribati. With the help of donor partners, Kiribati may be able to access funds from these sources. ADB has already facilitated Kiribati receiving a loan through the GCF and the World Bank for the South Tarawa Water Supply Project.

The Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (KJIP) 2014–2023 is building on and strengthening existing implementation, financing and monitoring functions by integrating them with climate change and disaster risk management considerations. In addition, it is designed to strengthen coordination and communication among the Office of te Beretitenti, Ministry of Finance and Economic Development, Ministry of Foreign Affairs and Immigration and line ministries, as well as civil society and development partners. The KJIP formalizes the role of the Kiribati National Expert Group on Climate Change and Disaster Risk Management, which is the national coordination mechanism for Climate Change and Disaster Risk Management. It provides strategic and technical advice as well as recommendations on climate change and disaster risk management. It sits within the Office of the Beretitenti.[10]

2.8.3 Asset Management

Public infrastructure assets create an ongoing liability on future governments to fund their operation, maintenance, and eventual rehabilitation and renewal.

[10] Office of the Beretitenti. 2022. *Office of the Beretitenti.* May 6. https://www.president.gov.ki/office-of-te-beretitenti/climate-change-and-drm.html.

The International Infrastructure Management Manual provides the following definition:

> ***Asset Management:*** *The systematic and coordinated activities and practices of an organization to optimally and sustainably deliver on its objectives through the cost-effective lifecycle management of assets.*

Effective asset management is a shift in focus toward the long-term lifecycle of an asset, its sustained performance and service delivery, rather than the short-term, day-to-day aspects of the asset.

A recent investigation into the state of asset management in Kiribati was undertaken in 2019 and reported to Ministry of Finance and Economic Development (MFED)'s National Economic and Planning Office (NEPO). The resulting report *"Assessment of Kiribati Public Asset Management"* provides a useful set of observations on the current state of asset management across the core infrastructure sectors. These observations are summarized in **Section 5** under the current state of infrastructure heading.

The report also makes a series of actionable recommendations on "a way forward for asset management". A selection of those recommendations relevant to the development of the 10-year infrastructure investment plan includes:

Regulation and Oversight

a) A threshold should be established for what constitutes a major asset in Kiribati (size, risk).
b) Formal direction from ministers for SOEs to include an evaluation of major assets and Asset Management practices in their annual reports.
c) Establish criteria for what maintenance projects can be included in the consolidated maintenance fund.
d) Require the codification of asset management practices within SOEs.
e) Financial statements of general government should include an aggregated account of government assets and detailed schedule of major asset classes.

Organizational capability and structure

a) SOEs to acquire assistance in completing valuations and the codification of Asset Management practices.
b) Create asset profile documentation for the major and high-risk assets.
c) Establish a template for the maintenance, operation and servicing of heavy machinery.
d) Develop executable Asset Management plans for all major assets.
e) Develop a database of major assets, including Asset Management plans and procedures as well as financial, condition, and risk reporting.
f) Establish a dedicated division within MFED which deals the key components of the Asset Management framework, including the evaluation of risk assessments.
g) Expand the inspection capabilities of Ministry of Infrastructure and Sustainable Energy (MISE) to include regular surveys of major fixed assets.
h) Transition the ownership and maintenance responsibilities of all government buildings to the new MFED division.
i) Expand heavy machinery Asset Management to include all heavy plant and equipment.

People development and advocacy

a) All new infrastructure and major procurements need to include operation and maintenance documentation and consider the compulsory inclusion of training.

b) The publication of Asset Management analysis for the life cycle costs of major public assets to educate about the cost-efficiency of improved Asset Management practices and investment decisions.
c) New infrastructure projects and major procurements to include a period of operations and maintenance in as inclusions in the contracts, where appropriate.

When actioned, the above improvements will likely lead to a greater volume of rehabilitation and renewal projects entering the 10-year pipeline. It is important that the MCA framework and planning processes introduced through the NIIP development accommodate the move from a focus of "building new" infrastructure toward the "better management of existing" infrastructure.

2.8.4 Lack of Reliable and Disaggregated Data

SIDS generally have difficulty accessing reliable local data to inform their planning, including infrastructure plans. The Alliance of Small Island States has identified "the lack of reliable and disaggregated data (regarding the tourism industry) in SIDS remains an obstacle for growth and sustainability. These data challenges are a crosscutting issue that needs to be addressed holistically, including through enhancing the monitoring framework for the SAMOA Pathway and should be incorporated in the next international blueprint for SIDS".[11]

Meteorological data are required to monitor the impacts of natural disasters and climate change. The infrastructure and associated capacity to supply reliable data is still being developed. These data are crucial to the effectiveness of building codes.

Financial data are not yet timely and reliable. The Auditor General has identified the lack of accounting data as an obstacle to good financial management. He has not yet been provided with financial statements by Kiribati and many SOEs of the quality that would enable him to provide an unqualified opinion. Of the 23 entities reviewed, by value, 13% received unqualified audit opinions, 3% received qualified audit opinions and the remaining 84% received disclaimer opinions, meaning the Auditor General was unable to verify account balances or accounting records were not available. Kiribati has committed to building its PFM capacity.

The National Statistics Office has recently completed the 5-yearly Population and Housing Census. This provides up-to-date data via its website, meaning there is every possibility that Kiribati, with development partner support, can build its capacity to maintain the data it needs to plan for infrastructure investment.

Mitigating this risk is the small size of the country in which residents are highly connected socially. Information thus flows freely and can compensate for the lack of formal data.

2.8.5 Pandemic Response

The pandemic has affected all in Kiribati. The Pacific Islands Forum (PIF) through the Council of Regional Organisations of the Pacific undertook a review of the impact of COVID-19 in the

[11] Alliance of Small Island States. 2022. May 4. https://aosischair.sharepoint.com/sites/aosiscontentpublishing/Published%20Documents/Forms/AllItems.aspx?id=%2Fsites%2Faosiscontentpublishing%2FPublished%20Documents%2F2022%2E5%2E4%20%2D%20Statement%20%2D%20%20Roundtable%203%20High%2DLev%5FWebsite%20User%.

Pacific Region for the years 2020 and 2021.[12] It reported that:

"For countries depending on the fisheries sector such as … Kiribati, Gross Domestic Product (GDP) reported by the Asian Development Bank (ADB) remained positive … Literature analysis also reported Pacific Island communities that benefit from labor mobility through remittances and transfer of skills and knowledge were impacted during the crisis. Workers from … Kiribati who has extended working periods abroad due to travel restrictions, have reported increased levels of anxiety".

The report also described Kiribati's fiscal package and how Kiribati addressed the impact of COVID-19 on Kiribati's education system as follows:

- ***Fiscal Package** - A stimulus package was approved in June 2020. The package amounts to A$15.5 million, equivalent to 7.5% of GDP. It consists of unemployment support (A$2.6 million), private business stimulus (A$4.5 million plus A$3.5 million cargo buffer), and SOE stimulus (A$5.2 million). This excludes the first response package of A$11.5 million that has been largely donor-funded. The specific measures include: unemployment benefits via partial income substitution, employer cost-sharing for off-shore observers, seafarers, and fruit packers, reduction in social security contributions for both employers and employees, and loan support through government-owned financial intermediaries.*
- ***Education** - Following the development of the national plan, the Ministry of Education (MoE), through technical and financial support from UNICEF, developed a contingency plan for COVID-19 which specifically focused on education sector, in alignment with the national plan, to ensure that education system is well prepared for possible closure of schools and adequate on-going support is provided to students during school closure and after reopening of the schools.*

The impact on the health system has required new procedures for infection control. The World Health Organization (WHO) reports that "The support from partners such as SPC, UN agencies, the European Union, Australia and New Zealand, are coordinated closely through the WHO-led Pacific COVID-19 Joint Incident Management Team (JIMT). With leadership from the Ministry of Health and Medical Services and with support from WHO, SPC, EU and other partners, health workers, community workers and other frontline staff in Kiribati are equipped with the right PPE and provided with knowledge and skills to protect themselves and those around them from COVID-19."[13]

While Kiribati was able to dodge the early forms of COVID-19, as of 30 May 2022, it had over 3,000 cases in the community and 13 people have died of it. As of 10 April 2022, 43% of the population was fully vaccinated with 2,805 having received a booster dose. As of 30 May 2022, the country is still at level 3 as cases are still active in the community, and borders are closed.

The impact on the budget of COVID-19 has yet to be fully assessed as actual financial data are not yet available. Initial hopes that the revenues from fishing licenses would be retained appear optimistic. The recurrent budget has re-allocated funds away from infrastructure to social support, including health funding. The 2022 outbreak required lockdowns, with planned infrastructure expenditure affected.

[12] CROP - Council of Regional Organisations of the Pacific. 2021. *Socio-Economic Impact Assessment of COVID-19 in the Pacific Region 2020-2021.* Suva: Pacific Islands Forum Secretariat. https://www.forumsec.org/wp-content/uploads/2021/12/SEIA-Report.pdf.

[13] World Health Organization. 2022. *Partnerships bolster COVID-19 Infection Prevention and Control in Kiribati.* May 30. https://www.who.int/kiribati/news/feature-stories/detail/partnerships-bolster-covid-19-infection-prevention-and-control-in-kiribati.

SECTION 3

PLANNING FRAMEWORK

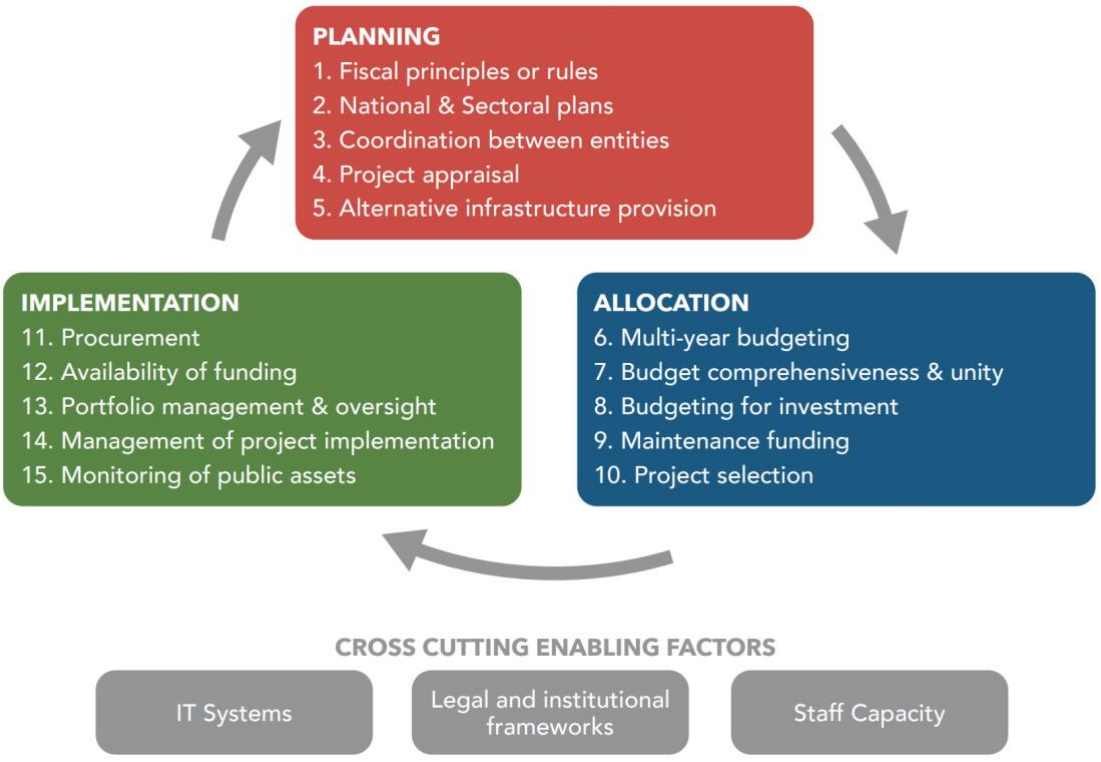
This section presents the decision-making hierarchy, governance structure and roles and responsibilities of key stakeholders in developing, prioritizing, and managing the program of work. It includes a diagnostic of the current planning process and lays out how the NIIP integrates with the upstream strategic planning and downstream budget-planning processes.

3.1 Assessment of the Planning Environment

3.1.1 Public Investment Management Assessment

In 2018, an independent assessment of Kiribati's PIM systems was completed and published. It used the IMF's public investment management assessment (PIMA) framework to assess the strength and quality of Kiribati's PIM. It considered 15 key indicators (referred to as institutions) in the three phases of the PIM cycle: planning, allocation, and implementation.

Figure 3-1: Public Investment Management Assessment PIMA – Kiribati, Sep. 2018



Source: Public Investment Management Assessment (PIMA): Strengthening Infrastructure Governance, IMF (2019).

A key finding from the assessment states:

The absence of a pipeline of ready-to-implement investment projects means decisions are made on an ad-hoc, project by project basis. There is limited central review of major project appraisals before decisions are taken to include projects in the budget. The capacity within ministries to conduct rigorous project selection is low and is compounded by the lack of published criteria for project selection.

This finding leads to two key recommendations which in turn support the development of the NIIP.

Key recommendation #3: (Planning of Public Investment)
Kiribati should revise the Kiribati Development Plan 2016–2020 in line with the revised KV20 and include a prioritized list of public investment activities to guide annual medium-term fiscal framework (MTFF) development and to inform discussions with donors.

- *Project proposals (for the pipeline of projects) including initial design, identification of main project benefits and cost estimations are to be developed by line ministries and SOEs. These are to be assessed by NEPO for their alignment to the national development objectives, based on criteria previously endorsed by the cabinet.*

Key recommendation #8: (Allocation of Public Investment)
NEPO should improve the consistency and transparency of project selection:

- *Develop a comprehensive project selection process including the development of a prioritized project pipeline, rigorous and systematic appraisal guidelines and selection criteria for project financing. Publish process and criteria for project selection.*
- *Encourage DCC to require MFED costing / analysis prior to DCC project review.*

NEPO has since developed a comprehensive project selection process and the NIIP builds on that work. It proposes costing / analysis tools for use by MFED in allocating public investment.

3.1.2 Development Cooperation Policy

In 2015, Kiribati sought to initiate a new Development Cooperation Policy[14] based on the new agenda for aid effectiveness. The resultant policy emphasizes the need to better align donor contributions "*with the recipient country's development priorities, policies, and strategies and donors using country systems to the fullest extent possible.*" The policy presents the following priorities to better align development cooperation with national priorities as set out in the KV20 and KDP:

2.1.1 The prioritization and selection of development cooperation will be based on the Government's policies and strategies stipulated in the Kiribati Development Plan.
2.1.2 The Government will identify and prepare a list of projects to mobilize development cooperation based on its needs and priorities through recommendations of the Development Coordinating Committee and cabinet approval.
2.1.3 The Government will ensure that community ownership and participation are well articulated in aid funded projects for sustainability.
2.1.4 The Government will consider and adopt counter fund arrangements where necessary, in such a way to demonstrate commitment and ownership.

[14] *The Kiribati Climate Change and Disaster Risk Finance Assessment (GoK, 2019) recommends the Development Cooperation Policy be updated to reflect the KV20 as well as reviewing the M&E framework for the KDP and KV20.*

2.1.5 Program approaches and sector wide approaches will be encouraged to address needs at the sectoral level. Development partners will be urged to provide development assistance on such a basis. In particular, adopting sector budget support is a favored delivery modality.

2.1.6 Development partners are required to harmonize and coordinate their support to facilitate interaction with Government and reduce transactions costs. This should include common reporting, undertakings or conditions, monitoring, and evaluation systems wherever possible.

The enhancements to the early screening and prioritization of pipeline projects developed during formulation of this NIIP, and the NIIP itself, align with the priorities set out in the Development Cooperation Policy, in particular 2.1.1, 2.1.2, 2.1.4, and 2.1.6.

3.2 Current Project Planning and Approval Process

Given Kiribati's commitment to developing its PFM and recent progress in building their capacity, this section provides a snapshot of it as of 2022. The project delivery cycle in Kiribati is described in nine phases:

1. **Identification.** Project inception and initial consideration of how it will be delivered.
2. **Preparation.** Drawing up project documentation (prodoc) and submission to MoE.
3. **Appraisal.** Checking documentation and submission to DCC.
4. **Approval.** Recommendation by DCC and approval by the cabinet.
5. **Funding.** Provision and warranting of funds for the project.
6. **Implementation.** Budget allocation and project design/commencement.
7. **Monitoring.** Tracking the effective delivery and construction (cost, schedule, quality).
8. **Evaluation.** Assessment of project achievements upon completion.
9. **Acquittal.** Final report on effectiveness of financing and assessed benefits.

Table 3-2 below summarizes the life cycle of capital projects (>$50,000) as they move through the first five stages above.

Table 3-2: Workflow for Infrastructure Projects >$50k: Identification to Approval

	INFRASTRUCTURE AGENCY / SOE	MFED / NEPO	KIDSC / DCC / CABINET/ GOVERNMENT	DEVELOPMENT PARTNERS
IDENTIFICATION	Maintain corporate strategies and long-term asset plans to identify 10+ year view of capital investment requirements.	MTBF and MTEF set expectations of available funding envelope for next 5+ years	Establish national vison (KV20) and development plan (KDP). Maintain relationships with DPs.	Align aid with national priorities and donor development goals/SDGs.
PREPARATION	Lead agency drafts the Project Document (Prodoc).			Liaises with agencies in sectors of interest.

	INFRASTRUCTURE AGENCY / SOE	MFED / NEPO	KIDSC / DCC / CABINET/ GOVERNMENT	DEVELOPMENT PARTNERS
APPRAISAL	Initial appraisal of Prodoc by line Ministry.	NEPO appraisal to determine financial and economic viability. Review costings and technical aspects.	KIDSC/DCC assesses NEPO review and project documentation. DCC approves, rejects, or seeks clarification. **Project Committed**	
APPROVAL	Respond to requests for clarification.	Prepare cabinet paper with DCC recommendation. Update KDP with new projects and forecasts.	Cabinet approves, rejects, or seeks clarification. **Project Approved**	
FUNDING	Develop project concept notes (aligned with development partner framework or government's template)	Identify funding source for unallocated projects (MFAI contacts potential donors). Update development budget and KDP.	Project dormant > 3yrs (lack of funds) need to be resubmitted to the DCC for review.	Discuss funding with MFAI. Assist in preparing concept papers for large projects.

MTBF: Medium Term Budget Framework; MTEF: Medium Term Expenditure Framework; KV20: Kiribati 20-Year Vision; Kiribati Vision 2020; KDP: Kiribati Development Plan; SDG: Sustainable Development Goals; NEPO: National Economic and Planning Unit; KIDSC: Kiribati Infrastructure Development Steering Committee; DCC: Development Coordination Committee; MFAI: Ministry of Foreign Affairs and Immigration.

Source: Development Cooperation Policy, Government of Kiribati 2015.
Note: Downstream Budgeting, Implementation, Monitoring, Evaluation and Acquittal process not included above workflow.

The appraisal, approval and funding for project falls with three main entities:

1) Ministry of Finance and Economic Development
   - National Economic Planning Office (NEPO)
2) Development Coordination Committee (DCC)
   - Kiribati Infrastructure Development Steering Committee (KIDSC)
3) Development Partners / Donors (DPs)

3.2.1 Role of National Economic Planning Office

Where a change to an infrastructure service is proposed, and it requires additional funding, or a change to the current funding structure, details of it are submitted via the appropriate ministry, to the NEPO for consideration in the coordination of funding across government.

NEPO considers projects against a common set of criteria (Table 3-3). It considers how consistent the proposal is with government policy, as articulated in the KV20 and the KDP. It looks at the rationale of the project, and what consultation has been completed. It considers how viable the proposal is and looks at the implementation arrangements proposed. Lastly, NEPO considers how sustainable the proposal is, especially how able the agency is to fund the recurrent costs resulting from the proposal.

Table 3-3: MFED Project Assessment Criteria

MFED Project Assessment Criteria
a. Consistency with Government Policy: KDP and KV20:
- Which national policies and strategies does the project address, and what contribution does it make to implement these policies and strategies? - Relationship with MOP
b. Rational of the Project:
- Are the project objectives clearly specified? - Have other options to achieve these objectives been investigated? - Is it clearly established that the option chosen to achieve project objectives is the best one?
c. Consultation:
- Has the adequate consultation been undertaken with relevant ministries/private sectoral/local government/NGO/Community groups?
d. Viability:
- Are the benefits and costs clearly described? - Are benefits and costs (both capital and recurrent) quantified? - Is it clear that the benefits exceed costs (note down any quantitative measures of viability such as rate of returns)? CBA analysis will be covered under this section.
e. Implementation Arrangements:
- Are the implementation arrangements adequate? - Has adequate consideration been given to private sector community participation?
f. Sustainability:
- Can the recurrent costs of the project be met by the aid recipient? - What level of cost recovery (i.e., fees or charges as a percentage of recurrent costs) is involved in the project? - Are the arrangements proposed for the management of the project adequate - once the project is operational?

KDP: Kiribati Development Plan; KV20: Kiribati 20-year vision; MOP: Ministry Operational Plan; NGO: Non-governmental organization; CBA: Cost Benefit Assessment; MFED: Ministry of Finance and Economic Development.
Source: Project evaluation criteria used by MFED, NEPO.

3.2.2 Role of the Kiribati Infrastructure Development Steering Committee

The KIDSC is a subcommittee of the DCC. Its terms of reference are to:

- Act as the coordinating body for all infrastructure related projects in Kiribati with a value of over $1 million to ensure value for money outcomes and benefits for Kiribati, and facilitate projects being delivered on time, on budget and within the agreed scope.
- Provide policy directives on infrastructure related projects and resolve any conflicts.
- Provide a central monitoring mechanism for major infrastructure projects and report to DCC on project progress and resolution of issues.
- Lay out plans for short to long-term parallel investments to support effective implementation of projects and maximize the benefits for Kiribati.
- Effectively monitor and manage project risks to facilitate delivery of project benefits.

Members are:

i.	Secretary to the Cabinet	Chairperson
ii.	Secretary MFED	Vice Chair
iii.	Secretary MISE	Member
iv.	Secretary MICT	Member
v.	Secretary OB	Member
vi.	Secretary MELAD	Member

vii.	Attorney General	Member

Advisors are:

viii.	Director of Engineering Services	Advisor
ix.	Director of Lands (LMD)	Advisor
x.	Director of Planning, NEPO	Advisor
xi.	Director of Environment (ECD)	Advisor
xii.	Manager, KFSU	Advisor

Secretariat is:

xiii.	NEPO, MFED	Secretariat

The member list above is reflective of the current ongoing projects; however, it can be expanded depending on the amount and type of projects. The committee can invite any one from other ministries, companies or individual for project-related technical advice.

The KIDSC oversees and monitors aspects of all infrastructure projects as it:

- advises on policy issues relating to project during planning planning/appraisal;
- advises/monitors use of donor funding and effectiveness from implementation to project completion and acquittal;
- resolves, approves and endorses all matters relating to any infrastructure project submitted by the Implementing Ministry prior to conveying it to donor. This involves projects that are submitted and managed by Kiribati Fiduciary Support Unit (KFSU) and NEPO;
- advises Kiribati of any issues or concerns affecting project implementation and propose remedial action;
- facilitates the implementation of the project;
- ensures there are no overlaps with other existing projects; and
- reports to the cabinet on issues related to policy matters.

The committee is scheduled to meet quarterly or can be called when the need arises.

3.2.3 Role of Development Coordination Committee

The DCC is made up of all Senior Responsible Officers and is chaired by the Cabinet Secretary, while the Secretary of MFED acts as Vice Chair. The Director of NEPO and the Director of Engineering Services, Ministry of Public Works and Utilities (MPWU), attend all meetings as non-members to give required briefings and advice. Other technical advisers may attend the meeting as and when required by the Committee or individual Secretaries. The secretarial work and other support services are provided by NEPO. The role of the DCC is:

- To propose, consider and coordinate development objectives, policies, strategies, programs and projects for inclusion in the Kiribati Development Plan and to make recommendations to the cabinet for final approval.
- To review the progress and direction of the Kiribati Development Plan while in implementation, updates to the Kiribati Development Plan and make recommendations for any changes it considers necessary to the cabinet for approval.
- To review sectoral development objectives, policies, strategies and programs, recommendations to the cabinet for final approval.
- To coordinate national development efforts and ensure the cooperation and free flow of information between Ministries, offices and other departments of government.
- To link sectoral and ministerial planning with National Development Planning and ensure consistency.
- To generally consider new projects and programs and assign national priorities for approval by the cabinet.

- To receive quarterly reports from ministries and departments and monitor the progress of on-going projects for funding of new projects and keep the cabinet informed.
- To review and re-appraise policies and strategies with a view to extending Kiribati's capacity for planning, implementing and sustaining developmental efforts.
- To promote a better understanding of Kiribati's developmental needs and problems within government and Kiribati as a whole.
- To review the annual development budget and make recommendations to the cabinet for final approval.

3.2.4 Role of Development Partners

Development partners are active in both supporting the initiation and financing of projects within their area of policy influence, for example:

- DFAT (Australia) provide support in the pillar 1: health, pillar 2 stability: education, law and justice, and climate resilience; and pillar 3. Economic recovery which includes budget support and online learning through the Kiribati Institute of Technology.[15]
- MFAT (New Zealand) priorities include ensuring Kiribati benefits long-term from its fisheries resources, reducing population pressure on South Tarawa, health and education, good government supported by stable revenue, climate change adaptation as it pertains to urban land in South Tarawa.[16]
- The European Union (EU) Partnership for Sustainable Development focuses on four components: 1) strengthening economic dialogue and PFM reform; 2) safe and sustainable drinking water; 3) adequate and equitable sanitation and hygiene; and 4. community and household resilience.[17]
- Taipei,China – provides support through its local contribution to the development fund.
- People's Republic of China (PRC) – provides Sustainable Development Fund small grants directly to registered organizations for sustainable development, income generation, and livelihood improvement. It also provides scholarships and fitness facilities and has donated vaccines and hosts parliamentary communication exchanges.[18]
- Asian Development Bank – priorities include promoting economic opportunities by strengthening fiscal sustainability, improving the business climate and upgrading infrastructure.

The World Bank and ADB and EU projects are funded out of specific project bank accounts managed by the MFED Kiribati Fiduciary Services Unit, on the authority of the Accountant General. These are established after Kiribati and the development partner signs the project financing agreements. The development partner deposits tranches for allocation in country. The KFSU manages and accounts for these separate bank accounts.

The Accountant General delegates authority to approve expenditure to the KFSU. This revenue and expenditure is separately reported in the financial statements, but are not included in the development budget.

[15] Department of Foreign Affairs and Trade, Australia (DFAT). 2022. *Development Assistance in Kiribati.* May 30. (https://www.dfat.gov.au/geo/kiribati/development-assistance/development-assistance-in-kiribati.

[16] Ministry of Foreign Affairs and Trade. 2022. *Our Development Cooperation with Kiribati.* May 30. https://www.mfat.govt.nz/assets/Aid-Prog-docs/IATI-PDFs/PACMM/Kiribati.pdf.

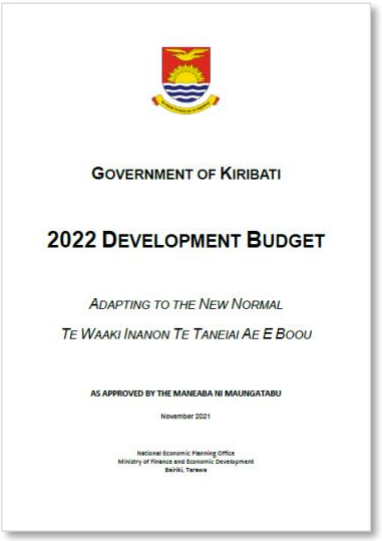
[17] European Community. 2022. *Annual Action Programme in favour of the Republic of Kiribati for 2019.* May 30. https://ec.europa.eu/international-partnerships/system/files/aap-financing-kiribati-annex-c-2019-7532_en.pdf.

[18] People's Republic of China (PRC). 2022b. *Sustainable Development Fund.* May 30. http://ki.china-embassy.org/eng/ggl/202203/t20220316_10652206.htm.

3.3 Accounting for Infrastructure

3.3.1 Development Budget

MFED annually publishes the development projects (under the infrastructure pillar as well as other pillars) that are to be pursued. These projects link to the government's development priorities as expressed in KV20 and KDP.


GOVERNMENT OF KIRIBATI

2022 DEVELOPMENT BUDGET

ADAPTING TO THE NEW NORMAL

TE WAAKI INANON TE TANEIAI AE E BOOU

AS APPROVED BY THE MANEABA NI MAUNGATABU

November 2021

National Economic Planning Office
Ministry of Finance and Economic Development
Bairiki, Tarawa

Execution of the development budget is governed by the development fund rules as per Section 11 of CAP 79 – Public Finance (Control and Audit). It brings together pledges from development partners and the Local Contribution to the Development Fund (LCDF) appropriated by Parliament through the Recurrent Budget. It captures projects that are underway, shown in the prior year's balance, and estimates of funding pledged to be expended in the budget year. Projects can be executed either through GoK systems or through donor systems.

LCDF contributions are approved by Parliament and appropriated annually to the development fund. Balances that are not fully expended in the budget year carry-over to the next year. This allows development fund balances to change over time and enables project delivery to be spread over the current year and forward estimates. This attribute has been critical in managing project timing and execution risks, especially in times of uncertainty, such as the current COVID-19 pandemic.

Where possible, forward estimates of LCDF and development partner programs have been incorporated into the budget out-years. For development partner-funded projects, the estimates are developed in consultation with development partners, and generally cover only the forward program relevant to that partner.

Figure 3-4: Example of Development Budget Spreadsheet

	A	B	C	D	E	F	G	H	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
1	M	Minis	Code	Project Title	Donor	Financial System Used	GoK/Donor	2020 Revised Budget (DB book)	2020 Actual (received)	2020 Actual Spent	Remaining Balance as of end 2020	Total Accumulated Funds received up to 20	Total Accumulated Expenditure up to 2020	Total Balance as of end 2020	2021 Budget	2021 Actual (received)	2021 Revised Budget	Total Available Balance for 2021 warranting	2021 Warrant	Remaining balance for further 2021 warrants	2022 Budget	2023 Est.	2024 Est.	2025 Est
626	24	MCT	2401K067	Banaba Airstrip	GoK	GoK	GoK	1,000,000	1,000,000		1,000,000	1,000,000		1,000,000			-	1,000,000	-	1,000,000				
631	24	MCT	2401N352	International Air Services	GoK	GoK	GoK	144,438	144,438	144,438		23,719,394	23,307,791	411,593			-	411,593	-	411,593				
634	24	MCT	2401E228	Kiribati Maritime Safety Programme	MFAT	GoK	GoK	388,288	388,288	191,645	196,643	416,945	208,033	208,912		221,622	221,622	430,534	208,045	222,489				
641	25	MFED	2504D125	Placement for Director for NEPO	DFAT	DFAT	Donor	316,000				2,528,000			316,000		241,272				316,000	316,000	316,000	
642	25	MFED	2504F182	Director for Climate Finance Unit	DFAT	DFAT	Donor	316,000							316,000		84,981				316,000	316,000	316,000	
647	25	MFED	2501G130	11th EDF Technical Cooperation Facility (PAPE) (EUR2,200,000)	EU	EU	Donor	427,655							381,000		231,159				742,581			
649	25	MFED	2502001	Copra Price Scheme	GoK	GoK	GoK	16,000,000	16,000,000	22,390,047	(6,390,047)	63,100,000	57,354,180	5,745,820	16,000,000	16,000,000	16,000,000	21,745,820	21,745,820	0	40,000,000	40,000,000	40,000,000	40,000,000
652	25	MFED	2502068	Kiribati Financial Management Information system	GoK	GoK	GoK	95,000	95,000	13,148	81,852	1,275,000	259,683	1,015,317			-	1,015,317	-	1,015,317				
653	25	MFED	2504A051	SOE Reform Programme	GoK	GoK	GoK	131,191	131,191	798,542	(667,351)	10,758,444	10,155,797	594,647			-	594,647	1,007	593,640				
661	25	MFED	v73	Incentivising Economic Reform - Technical Assistance	MFAT	MFAT	Donor	1,767,107							181,528		748,247				340,671			
664	25	MFED	2504K059	COVID-19 Relief Package (SOE - AKA)	GoK	GoK	GoK	648,006	1,379,006	648,006	731,000	1,379,006	648,006	731,000			-	731,000	730,054	946				
665	25	MFED	2504K041	COVID-19 Relief Package (SOE - AKL)	GoK	GoK	GoK	10,432	800,000	10,297	789,703	800,000	10,297	789,703			-	789,703	-	789,703				
666	25	MFED	2504K069	COVID-19 Relief Package - Unemployment support package	GoK	GoK	GoK	2,265,000	2,265,000		2,265,000	2,265,000		2,265,000			-	2,265,000	-	2,265,000				
667	25	MFED	2504K070	COVID-19 Relief Package - Business Stimulus Package	GoK	GoK	GoK	4,490,000	4,490,000	3,500,000	990,000	4,490,000	3,500,000	990,000			-	990,000	-	990,000				
668	25	MFED	2504K071	COVID-19 Relief Package - Cargo Buffer	GoK	GoK	GoK	3,500,000	3,500,000		3,500,000	3,500,000		3,500,000			-	3,500,000	1,083,527	2,416,473				
669	25	MFED	2504K066	COVID-19 Relief Package - SOE Stimulus Package	GoK	GoK	GoK	2,586,582	1,065,994		1,065,994	1,065,994		1,065,994			-	1,065,994	-	1,065,994				
670	25	MFED	2504K036	COVID-19 Emergency Response – APDRF	ADB	GoK	GoK	2,065,541	2,065,541		2,065,541	2,065,541		2,065,541		2,065,511	2,065,511	4,131,052	2,065,511	2,065,541				
671	25	MFED	2504K011	2020–2040 PLP Consultations & Embedding SDG & SAMOA Pathway	GoK	GoK	GoK	40,000	40,000	16,809	23,191	40,000	16,809	23,191	20,000	20,000	20,000	43,191	20,000	23,191				

Source: MFED Budget Development Spreadsheet (2022)

To generate the development budget, MFED maintains a database (structured spreadsheet) that itemizes budgets at a project level, with each project having attributes that allow the allocated budgets to be consolidated against these themes (e.g., alignment with KV20 and KDP pillars, including infrastructure). In 2022, we see, for example, a shift in the development budget toward the KV20 "Wealth" pillar, reflective of the social protection payments/copra subsidies (Figure 3-4). The database also holds historic snapshots of budget and actual spend (2 years) and future projections (budget year +3 years). There are over 850 projects in the database (active and complete) with costs from as little as $1,000 to over $60 million.

The development budget book reflects the best available information at the time it is prepared and is subject to change as more information becomes available. It provides a useful snapshot of GoK development priorities, and the composition of GoK and development partner support to achieve them.

GoK operates under cash accounting standards and many project payments are managed through the donor's own accounting systems. This makes it difficult to accurately account for capital construction expenditure in the governments published financial statements, as such, the development budget book is our best and only source of information for determining historic levels of infrastructure capital construction expenditure (refer analysis in Section 4.3).

The calendar for preparing and updating the development budget is presented in Table 3-5.

Table 3-5: Development Budget Preparation Cycle

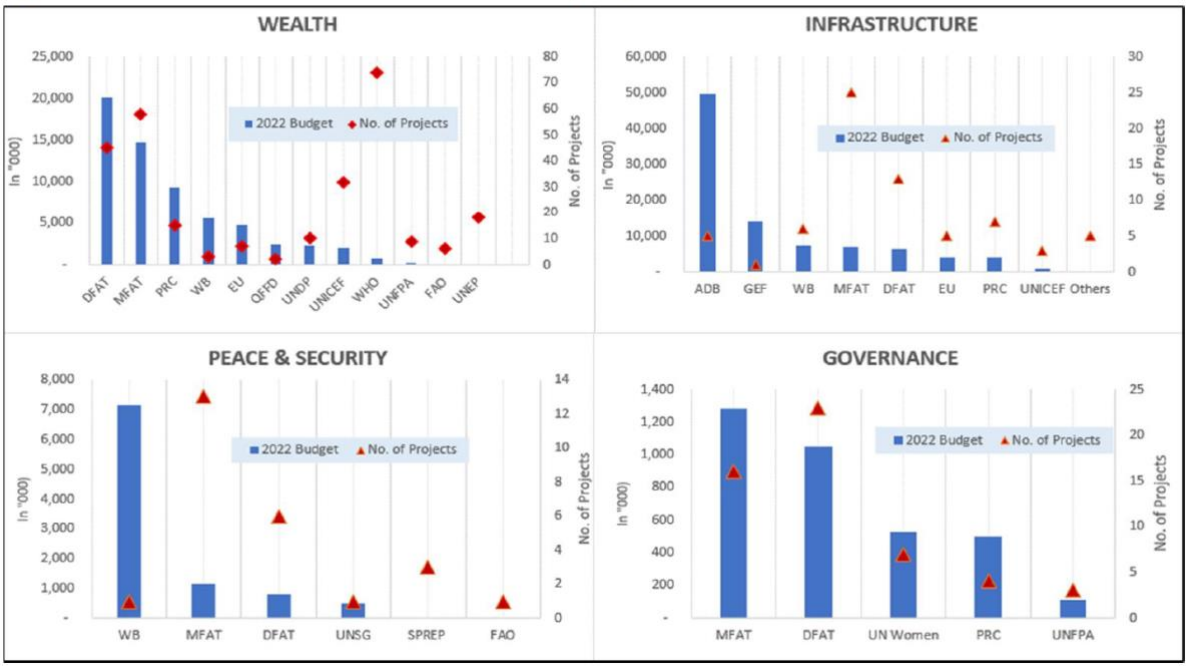
Date	Budget Process Steps
August 16	1. Circulation to ministries for both development and recurrent budget templates.
August 17	2. Formulation of the recurrent and development budget submissions.
September 3	3. Recurrent and development budget submission deadline.
September 10	4. Development budget template circulation to ministries to verify and confirm.
September 13	5. Budget committee meeting.
September 21	6. Budget committee recommendation to the cabinet (special cabinet meeting if required.)
September 24	7. Development budget submission deadline.
October 4	8. Sector deadline for development budget consolidation.
October 5	9. Development Coordination Committee (DCC) meeting on consideration of the development budget.
October 12	10. First draft of consolidated budget to the cabinet.
October 18–22	11. Incorporation of the cabinet feedback in the consolidated budget.
November 1–5	12. Printing of final budget.
November – late	13. Submission of budget to Parliament.

Source: MFED, NEPO budget planning calendar

There is a considerable level of funding analysis presented in the published development budget book as illustrated in Figure 3-6.

Figure 3-6: Extracts from the Development Budget Book

Figure 6: Donor investments to the Kiribati 20-Year Vision (KV20)



Ministry Code	Code	Ministry	Total Project Cost	Accumulated Bal up to 2020	2021 Budget	2021 RevBudget	2021 Warrant	2021 Remaining Unwarranted	2022 Budget	2023 Est.	2024 Est.	2025 Est
09	OB	Office of Te Beretitenti	73,802,030	5,031,412	13,836,942	19,013,869	6,259,334	4,433,103	13,538,357	9,051,328	823,900	
10	PSO	Public Service Office	43,497,146	1,264,769	9,618,135	6,943,980	320,000	2,530,988	8,372,219	7,392,719	7,082,014	1,416,219
11	Judiciary	Judiciary	266,011	21,859		1,255	1,255	21,859				
12	KPS	Kiribati Police Service	1,264,519	21,169	244,435	292,430		21,169	243,958	74,400		
13	PSC	Public Service Commission	15,000									
14	MFAI	Ministry of Foreign Affairs and Immigration	6,860,581	1,956,554	177,910	2,092,081	2,138,349	1,807,602	255,041	317,118	75,500	
15	MIA	Ministry of Internal Affairs	31,504,433	6,965,552	1,393,190	1,501,450	3,233,173	5,233,829	1,043,999			
16	MELAD	Ministry of Environment, Lands and Agricultural Development	37,155,790	1,811,615	2,633,270	4,408,282	2,352,124	417,699	10,311,371	2,093,659	843,030	725,000
17	MM	Maneaba ni Maungatabu	58,200	40				40				
18	MTCIC	Ministry of Tourism, Commerce, Industry and Cooperatives	4,978,584	1,902,762	587,750	815,988	1,670,145	524,545	873,905			
20	OAG	Office of the Attorney General	224,290	180				180				
21	MFMRD	Ministry of Fisheries and Marine Resource Development	80,940,891	12,680,442	11,145,548	5,911,323	3,963,021	12,458,751	3,682,030	6,655,050	7,397,314	8,400,000
22	MHMS	Ministry of Health and Medical Services	175,171,354	2,638,950	22,351,598	18,615,437	9,883,008	7,232,181	15,830,947	53,039,005	24,388,199	7,717,963
23	MOE	Ministry of Education	108,876,817	8,224,971	16,407,506	18,009,860	8,462,160	10,331,070	21,213,831	15,440,712	14,754,711	4,500,000
24	MICT	Ministry of Information, Communication and Transport	259,341,193	29,835,199	11,011,675	45,505,262	3,851,364	34,185,209	9,372,151	9,600,400	9,200,000	7,700,000
25	MFED	Ministry of Finance and Economic Development	233,502,263	22,342,557	28,500,879	32,577,154	32,660,405	17,053,625	48,800,372	53,787,000	46,887,000	46,155,000
26	MWYSSA	Ministry of Women, Youth, Sport and Social Affairs	71,264,560	4,424,284	3,913,551	11,802,552	10,499,676	4,951,242	35,666,489	34,982,461	34,203,037	33,900,000
27	MISE	Ministry of Infrastructure and Sustainable Energy	481,921,770	13,180,272	71,686,359	104,900,730	7,538,120	12,549,870	78,825,111	22,537,330	39,952,000	5,000,000
28	MEHR	Ministry of Employment and Human Resources	44,131,916	163,990	7,867,094	5,383,600	125,000	38,990	6,034,140	10,498,720	10,462,000	75,000
29	MLPID	Ministry of Line and Phoenix Island Development	46,902,081	2,696,186	11,957,550	1,422,496	2,758,443	1,116,533	8,122,383	9,757,891	7,203,883	1,000,000
37	MOJ	Ministry of Justice	11,730,695	31,833	9,674,783	202,314		31,833	555,954	530,864	197,750	208,250
		Grand Total	**1,713,410,124**	**115,194,592**	**223,008,174**	**279,400,062**	**95,715,578**	**114,940,317**	**262,742,259**	**235,758,656**	**203,470,338**	**116,797,432**

NOTE:
** This table combines updates from both GoK and Donor system, and will not add up to estimated totals. This is because we only warrant funds that are through the GoK or funds received through Government No.4 account.Please refer to Table 6 for detailed breakdown of GoK and Donor system.*

ADB: Asian Development Bank; DFAT: Department of Foreign Affairs and Trade; GEF: Global Environmental Facility; MFAT: Ministry of Foreign Affairs and Trade; PRC: People's Republic if China; WB: World Bank; EU: European Union; QFFD: Qatar Fund For Development; SPREP: Secretariat of the Pacific Regional Environment Program; UNDP: United Nations Development Program; UNICEF: United National International Children's Emergency Fund; UNFPA: United Nations Population Fund; UNSG: United Nation's Secretary General; FAO: Food and Agriculture Organization; UNEP: United Nations Environment Program; UN Woman: United Nations for Women
Source: 2022 Development Budget Book, GoK.

As mentioned above, complicating our ability to analyze historic levels of infrastructure investment is the fact that donors can fund and manage their own projects directly (Table 3-7). While most of these appear to be now captured in the development budget, the forward estimates are not a complete listing of donor-approved projects and **warrants are only issued**

for funds managed through GoK systems (No.3 and No.4 Account managed by MFED). Further analysis and explanation of this is presented in Section 4.2.

Table 3-7: Tracking Actual Expenditure Limited to GoK System Projects

Financial System Used	Total Project Cost	Accumulated Bal up to 2020	2021 Budget	2021 RevBudget	2021 Warrant	2021 Est Balance	2022 Budget
GoK System	829,065,822	115,194,592	75,122,915	95,461,303	95,715,578	114,940,317	116,789,532
Donor System	884,344,302		147,885,258	183,938,759			145,952,727
Grand Total	**1,713,410,124**	**115,194,592**	**223,008,174**	**279,400,062**	**95,715,578**	**114,940,317**	**262,742,259**

GoK: Government of Kiribati.
Source: 2022 Development Budget Book (Table 6), GoK.

The development budget identifies projects approved for funding, either by donors or Kiribati. The projects are coded against the KV20. Most infrastructure capital construction projects are coded against the KV20 "Infrastructure Development" pillar. However, a small portion of infrastructure construction projects can be coded against the other three pillars. All GoK-funded projects and some donor projects are funded through the development fund.

3.3.2 Development Fund

Infrastructure projects are, along with other projects, funded through the development fund (Kiribati's Number 4 Bank Account). The development budget documents the allocation of money from the development fund to approved uses, including to infrastructure projects.

The development fund is a bank account that consists of the following:

1. LCDF appropriated through the recurrent budget;
2. grants received from donors for development purposes;
3. proceeds of loans for development purposes; and
4. moneys earned by such projects.

Funds are released from the development fund under warrant.

Kiribati appropriates about 50% of its annual recurrent budget to the LCDF. In addition, funds from the PRC are paid into the LCDF. This LCDF is deposited to the development fund and is released by warrant.

The actual expenditure also differs from that in the development budget, because of delays in implementing the projects, for example caused by weather and the COVID-19 pandemic. The balance of the development fund includes unspent funds brought forward from prior years.

The development fund holds funds contributed for projects but not yet spent. As of 31 December 2020, the balance was $116.7 million, with 23 donors contributing to the development fund including: PRC $3.5 million, Taipei,China $2.2 million, Australian DFAT $1.3 million, NZAid $2 million, regional bodies, and UN agencies. Of this, Kiribati holds $630,435 in an Infrastructure Maintenance Fund.

3.3.3 Other Cash Balances

There is a further $13 million in special funds held for various set purposes (See Table 4-15). The Revenue Equalisation Reserve Fund (RERF) had a balance of $1.172 billion. The net worth of liquid assets as of 31 December 2020 was $1.658 billion.

3.4 Role of the NIIP

The NIIP is new to Kiribati. It is being developed, not only in response to several recommendations outlined in Section 3.1, but also to assist Kiribati in sustainably delivering infrastructure services as well as to adapt to climate change. It sets priorities for further development, taking into consideration economic, social, and environmental impacts.

The investment plan takes a longer-term (10-year) view on infrastructure across all sectors to determine the likely levels of investment on the horizon and make decisions now around investment thresholds and funding constraints so expectations can be managed, and transparent prioritization carried out to determine those projects that deliver the greatest impact (assessed and weighted against social, environmental, and economic benefits).

The NIIP presents a framework for enhancing the ongoing management of the infrastructure pipeline and tools to assist with the **early-stage screening** (Gateway 1, Figure 3-8) and prioritization of projects using a process that is both systematic and transparent. The NIIP has developed and piloted these tools and methods and it is this institutional strengthening element of the NIIP that NEPO is seeking endorsement on from the DCC and the cabinet.

The NIIP provides a transparent prioritization framework to ensure funding decisions are aligned with the national development objectives of Kiribati. The key enhancements to the government planning process implemented under the NIIP include:

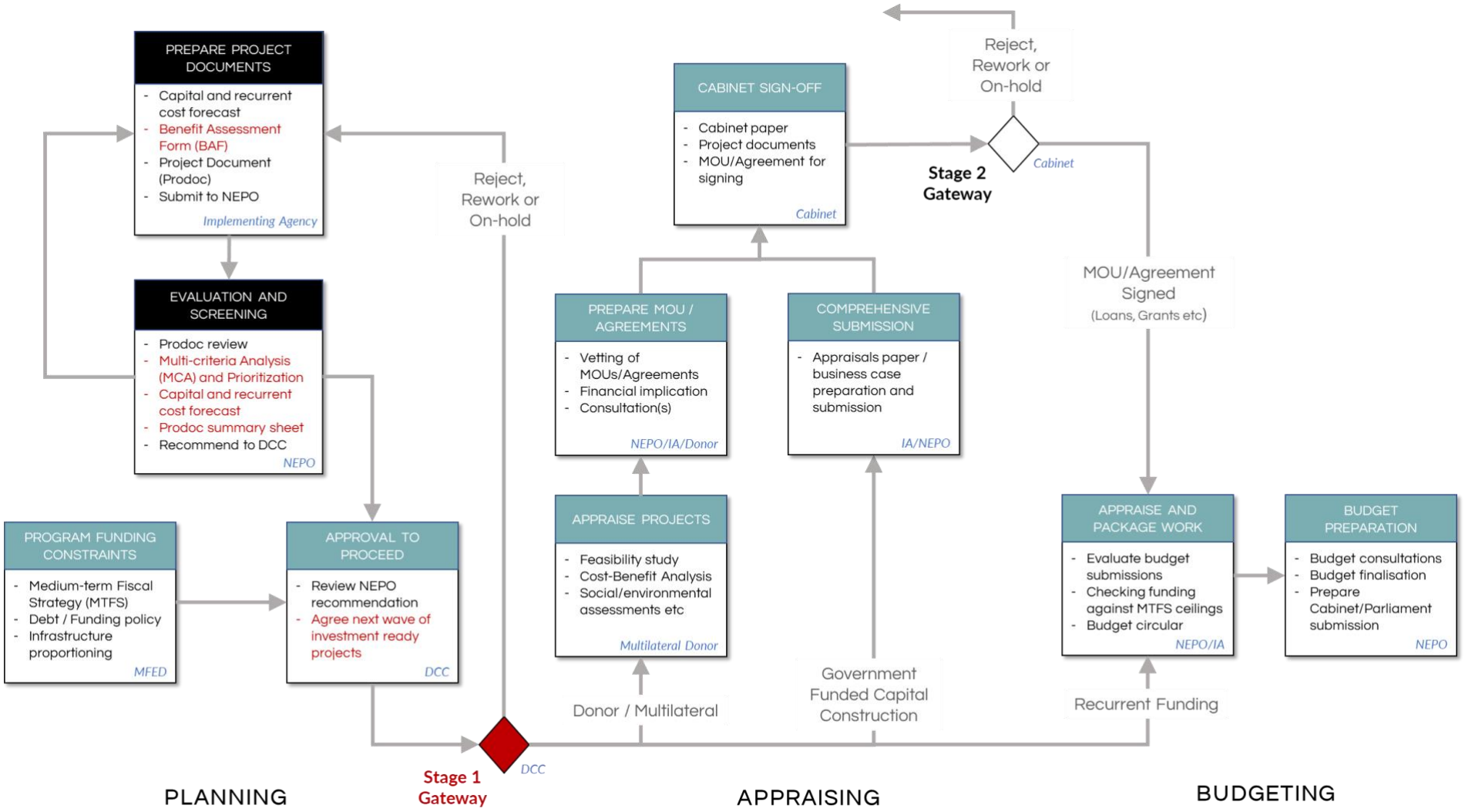
(i) **Project database.** A 10-year rolling program of funded (ongoing) and unfunded (pipeline) infrastructure projects.

(ii) **Benefit assessment tool.** A structured benefit/impact assessment form for the early-stage capture and rating of economic, social, environmental and performance impact the project is expected to deliver.

(iii) **MCA framework.** A framework process (and tool) for early-stage evaluation and screening of projects based on the overall benefit score and likely economic viability.

(iv) **Screening Note.** A structured template/form (two-page) summarizing the Stage 1 unfunded projects to enter the dossier.

Figure 3-8: Early-Stage Screening of Projects for Cabinet Submission



MOU: memorandum of understanding; DCC: Development Coordination Committee; NEPO: National Economic Planning Office; IA: Infrastructure Agency; MTFS: Medium-Term Fiscal Strategy; BAF: Benefit Assessment Form; MCA: Multi-Criteria Analysis
Source: Authors.

SECTION 4

FUNDING ASSESSMENT

This section explains the macroeconomic indicators of the Government of Kiribati and reports on the overall health of the economy. It analyzes historic infrastructure investment levels and financial metrics to establish available government revenue and ancillary sources of infrastructure funding. It then establishes an investment strategy to inform the program prioritization process and to group/rank investments to fit within realistic funding constraints.

4.1 Health of the Economy

Kiribati is one of the world's most fisheries-dependent countries and is trying to find a balance between protecting the ocean environment and benefiting from its resources. In 2019, GDP was valued at $284 million (Table 4-1) and government revenue was $344.5 million. Kiribati's main source of annual revenue is from variable fishing licenses pertaining to Kiribati's 3,550,000 km^2 EEZ, one of the largest in the Pacific. Kiribati also holds both financial and physical assets which it manages to maintain itself as a wealthy, healthy, and peaceful nation.

Kiribati raises funds from issuing fishing licenses to both Kiribati and foreign ships. This one source provides **65% of Kiribati's annual revenue** and results in government revenue exceeding GDP. The government's policy of sending i-Kiribati to work overseas results in them sending remittances home. This leads to a positive inflow of funds to Kiribati, with its gross national income[19] of $556.9 million being higher than its GDP and government revenue. This reliance presents a high risk to the government.

Kiribati has one of the highest percentages of government spending as a percentage of GDP in the world. This is not unusual for a Pacific country—six of the top countries are in the Pacific. What is unusual is the low debt level which has been achieved through wise spending via the offshore investments in RERF and donor assistance for projects such as the roading and wharf infrastructure developments. Prior to the pandemic, Kiribati estimated growing financial net worth over the medium term, through increasing RERF and cash balances and reducing debt. Its policy is that, where new debt is considered, it must be concessional, with at least a 35% grant component.

Kiribati also has least developed country (LDC) status with development partners and is thus entitled to grant funding. This LDC status is due for review in 2025.

Mainly due to rising income from fishing licenses, Kiribati's GDP has grown steadily, with income from its other major export crop, copra, tending to be flat in line with world consumption.

[19] *Gross national income, the sum of a country's GDP plus net income (positive or negative) from abroad. It represents the value produced by a country's economy in a given year, regardless of whether the source of the value created is domestic production or receipts from overseas.*

Table 4-1: Key Economic Development Indicators - Kiribati 2015–2020

Economic Indicator	2015	2016	2017	2018	2019	2020
NATIONAL ACCOUNTS [a] calendar year ($,000) at current prices						
GDP by industrial origin at current market prices	**226,674**	**240,131**	**245,553**	**262,635**	**255,960**	**262,883***
- Agriculture, forestry, & fishing [b]	49,146	63,247	74,879	66,567	65,277	68,812*
- Real estate activities [c]	23,718	25,335	26,671	27,617	29,127	30,166*
- Construction	22,501	21,743	17,030	12,867	10,936	10,043*
- Financial & insurance activities [d]	14,814	13,858	16,267	15,410	14,867	13,248*
- All Others	116,496	115,948	110,706	140,174	135,752	140613*
Gross value added at factor cost | basic prices	213,952	239,926	252,576	255,307	254,938	266,636*
Taxes less subsidies on products	12,722	205	−7,023	7,328	1,022	−3,753*
Net factor income from abroad [e]	241,075	187,849	223,201	227,941	280,419	227,609*
Gross National Income	**467,750**	**427,980**	**468,753**	**490,577**	**536,379**	**490,492***
Expenditure on GDP (at current market prices)	**223,949**	**235,072**	**241,066**	**256,796**	**253,732**	**259,958***
Final consumption expenditure	338,108	370,199	383,004	400,032	419,501	397,881*
Household	190,888	200,462	215,438	198,647	214,055	219,006*
NPISHs	4,666	4,838	4,938	5,050	5,045	5,260*
General Government	142,554	164,898	162,628	196,336	200,400	173,615*
Gross capital formation	94,861	81,611	73,395	60,742	47,573	46,852*
Gross fixed capital formation	96,915	83,115	72,431	55,158	47,572	46,948*
Investment Financing at Current Prices						
Gross capital formation	94,861	81,611	73,395	60,742	47,573	46,852*
Gross national saving	175,084	113,373	171,623	169,376	170,367	155,322*
Gross domestic saving	−111,434	−130,067	−137,452	−137,397	−163,541	−134,998*
Net factor income from abroad	241,075	187,849	223,201	227,941	280,419	227,609*
Net transfers from abroad	45,443	55,592	85,874	78,831	53,490	62,710*
GOVERNMENT FINANCE fiscal year ending 30 June ($ '000)						
General Government						
Revenue	291,115	239,704	252,597	345,004	344,551	341,427
Expense	154,334	173,200	190,683	194,912	220,907	245,789
Gross operating balance	136,781	66,504	61,913	150,092	123,644	95,638
Transactions Nonfinancial Assets						
Net/gross investment in nonfinancial assets	9,077	14,674	20,849	13,527	69,761	14,901
- Fixed assets	9,078	14,675	20,849	13,527	69,761	14,901
Expenditure	163,411	187,874	211,533	208,439	290,668	260,690
Net lending/Net borrowing	127,704	51,829	41,064	136,564	53,883	80,737
Primary balance	**127,871**	**51,979**	**41,368**	**137,198**	**56,165**	**80,737**

GDP: gross domestic product, NPISH: nonprofit institutions serving households.
Source: https://data.adb.org/dataset/kiribati-key-indicators, last accessed 27 August 2022.
Notes:

[a] *For 2005 onward, data may not be directly comparable with estimates for years prior to 2005 due to significant improvements in methodology and use of improved data.*
[b] *Data refer to agriculture and fishing.*
[c] *Data refer to real estate (housing business).*
[d] *Data refer to financial intermediation.*
[e] *Refers to investment income and compensation of employees.*
(*) Estimates

4.1.1 Gross Domestic Product

The Kiribati economy, in 2020, was estimated to have produced **$262.9** million in goods and services. Agriculture, fishing, public administration, compulsory social security, and real estate make up 51% of GDP. The order of contribution to GDP in 2020 is:

- agriculture, forestry, and fishing (26%);
- public administration, compulsory social security (18% of GDP);
- real estate (11%);
- education (9%);
- transport and storage (7%);
- financial and insurance services (6%);
- human health and social work activities (6%);
- wholesale and retail trade; repair of motor vehicles and motorcycles (5%);
- construction and manufacturing (each 4%);
- communication (3%); and
- accommodation and food service activities; professional, scientific and technical activities; electricity, gas and air-conditioning supply; arts, entertainment and recreation (each 1%).

The population of Kiribati in 2020 was 124,000; thus, GDP per capita resident in Kiribati is A$2,120, which has trended upwards since independence in 1979.

4.1.2 Trade Balance (Deficit)

Following on from Section 1.2.3 above, despite the rising per capita GDP, Kiribati continues to run a trade deficit which amounts to over **$140 million per annum** and increasing.

Kiribati's top **exported products** are coconut oil and fish. Major export destinations are Taipei, China; Hong Kong, China; Australia; Morocco; and Viet Nam. It is a member of the South Pacific Regional Trade and Economic Cooperation Agreement. Top exports in 2020 were: commercial services US$8.9 million, fish US$4.5 million, copra US$2.9 million, machinery (forklifts, etc.) US$4 million, other machinery US$0.2 million, fuels US$0.3 million.

While Kiribati's main product exported is fish, it is not yet self-sufficient in food, with "41 percent of the population experiencing severe food insecurity. Around 1 in every 12 I-Kiribati's habitual food consumption is insufficient to provide the dietary energy levels that are required to maintain a normal active and healthy life".[20]

Kiribati imports services: commercial services US$54.9 million; oil US$5 million; cereals US$7 million; plants and seeds US$6.7 million; machinery US$6.6 million; vehicles US$6.5 million; electrical equipment US$5 million; meats and fish US$5 million; flours US$4 million; tobacco US$4 million; and sugar and seaweed US$3.7 million.

The trade deficit is offset by cash flow mainly from remittances and other income from overseas. Kiribati's current account balance is now positive at about **$124.7 million**.

4.1.3 Overall Economy

Kiribati's economy and ability to provide public services, including infrastructure services, depend on positive contributions from outside the country. The sources of these contributions

[20] Kiribati National Statistics Office. 2021. *Kiribati Food Security Profile.* February 25. https://nso.gov.ki/environment/food/kiribati-food-security-profile/.

are from fishing, fishing license revenue, i-Kiribati working overseas, and development partner support.

The IMF has recommended reforms to improve the performance of the Kiribati economy. At the end of 2021, the IMF reported: "Kiribati's economy is showing signs of recovery with real gross national product (GDP) growth projected at 1.5% in 2021 following a contraction of 0.5% in 2020. Strong fishing revenues and supportive fiscal policies boosted government and household financial balances. Inflationary pressures appear to have risen substantially in 2021 due to a combination of supply disruptions and high domestic demand. The nascent recovery is expected to gain steam as the vaccination drive continues, and real GDP growth is projected at 2.4% in 2022. Inflationary pressures are expected to continue in 2022, partially due to the passthrough effect of higher energy prices. Risks to the outlook are substantial and predominantly tilted to the downside, primarily stemming from COVID-19 developments potentially delaying the global recovery" (IMF, 2021a).

The slow border re-opening, travel restrictions, and the COVID-19 outbreak in the first quarter of 2022 has set back recovery. With global growth forecast to decline and inflation in emerging economies of 8.7%, the IMF has downgraded its estimates for Kiribati. The IMF expects growth in 2022 to decline to about 1.1%, with inflation expected to reach 5% (IMF, 2022).[21] The IMF urged the government to diversify its income stream:

"The production and export structures in Kiribati are highly concentrated, mainly relying on fisheries and copra. Kiribati's economy could benefit from new product lines and quality upgrades including by:

- *upgrading fishing exports through investing in sustainable fishing methods and in state-of-the-art processing facilities;*
- *upgrading copra-based products such as coconut oil could also be a source of high-quality exports;*
- *enhancing complementary fishing activities—such as trans-shipment, aquaculture, fish farming, and processing facilities—particularly in the periphery;*
- *investing in renewable energy such as building the ocean thermal energy conversion plants to generate power and supply cold ocean water for use in refrigeration; and*
- *exploring the potential to excavate Kiribati's manganese and copper resources through deep sea mining while ensuring environmental safety".* [22]

Kiribati revised its 2023 economic growth estimate to 2.8% of GDP, and 3.3% inflation taking into consideration increased vaccinations and border reopening. This estimate reflects higher commodity prices from the Russian invasion of Ukraine, as well as supply chain constraints and higher shipping costs from COVID-19. The government expects these to be temporary and to have worked their way through by 2023. This is despite 2022 global inflation projections in emerging markets and developing economies of 8.7%.[23]

From the above analysis, we make the following **observations** on the health of the economy:

- Kiribati's domestic economy is fragile with a continuing high trade deficit biased towards food to address food insecurity, and oil to provide basic energy, water and sanitation services and transport.
- The country's ability to fund and manage the construction and maintenance of infrastructure is highly constrained.
- Its sources of revenue are volatile and depend on the sale of licenses for ships to fish in

[21] IMF. 2022. *Kiribati.* May 13. https://www.imf.org/en/Countries/KIR.

[22] IMF. 2021. *Mission Concluding Statement: Kiribati: Staff Concluding Statement of the 2021 Article IV Mission.* Washington: IMF..

[23] Government of Kiribati. 2022. *2023 Fiscal Strategy.* Tarawa: Government of Kiribati.

the marine waters of its EEZ. Fish stocks are migratory and attempts to manage their sustainability depend on development partner support.

- Revenue from licensing ships to fish in i-Kiribati waters accounts for 65% of GDP and is affected by natural disasters and the number of ships choosing to fish in i-Kiribati water.
- Kiribati is a price taker with high transportation costs likely to increase the cost of infrastructure projects.
- The Kiribati economy, by itself, is not yet capable of reliably meeting extra long-term debt commitments. The private sector is small, and any infrastructure acquisition would depend on GoK and development partner funding.

4.2 Health of Government's Finances

There is little difference between the health of the economy and that of government finances.

In response to the pandemic, the government has allocated funds to supporting the economy by subsidizing copra producers, unemployment benefits, and pay rises for public sector staff. Departmental costs have increased by 25% during the pandemic while other government expenditure has increased by 15%. Kiribati has increased its local contribution to the development fund by 46%. The result has been that economic activity expanded in some areas, with the importation of cars being one.

4.2.1 Analysis of the Recurrent Budget

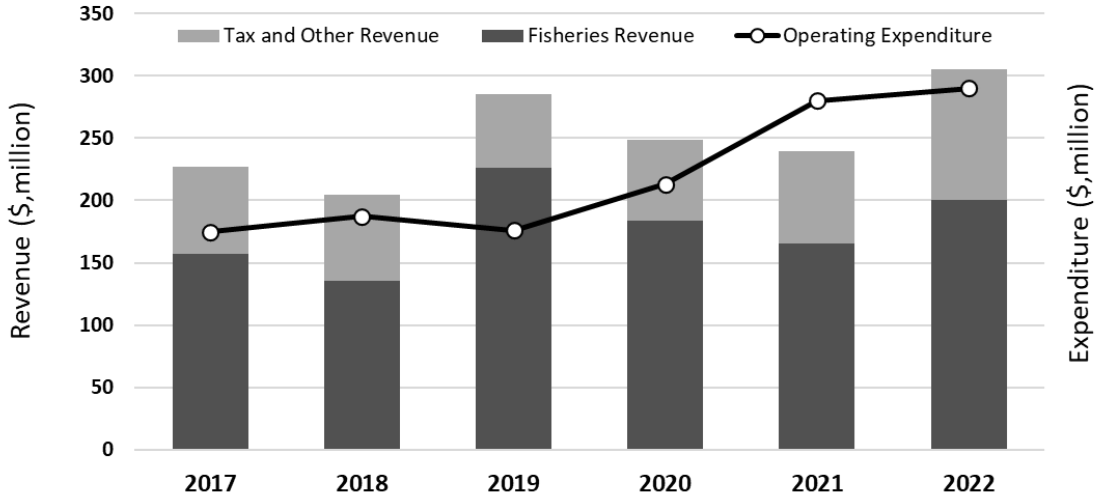
The recurrent budget appropriates funds from the consolidated fund for use by government departments / ministries, in debt servicing, for subsidies, grants and other commitments as well as Kiribati's LCDF and the RERF (Table 4-2). As explained in Section 3.3.2, the LCDF is applied using the special rules of the development fund.

Table 4-2: Recurrent Budget - Medium Term Fiscal Framework 2017–2022

Fiscal Framework ($, million)	2017	2018	2019	2020	2021	2022
Tax Revenue	45.8	44.8	49.4	51.6	50.0	54.3
Non-tax Revenue	165.3	145.7	235.3	190.2	175.5	233.5
Fishing licenses	151.0	130.0	210.6	170.7	160.0	193.1
Fish trans-shipment fees	6.4	4.0	14.5	12.0	4.5	6.0
Other fishing revenue	0.1	1.9	1.2	1.3	0.9	0.9
Other non-tax revenue	7.8	9.8	9.0	6.1	10.1	33.5
Total Revenue (incl. budget support)	**227.2**	**204.3**	**285.3**	**248.9**	**239.5**	**305.2**
Fisheries as % Revenue	69%	67%	79%	74%	69%	66%
Wages and Salaries	64.7	80.4	80.4	85.0	106.1	106.6
Use of Goods and Services	46.2	44.5	46.1	52.7	42.7	41.5
Subsidies	47.9	47.3	34.4	25.0	24.4	26.3
Social Benefit	4.7	4.7	4.6	38.1	87.3	96.2
Other	11.2	10.4	10.4	12.1	19.6	19.4
Total Operating Expenditure	**174.7**	**187.3**	**176.0**	**213.0**	**280.1**	**290.1**
Operating as % revenue	77%	92%	62%	86%	117%	95%
Operating Balance	**52.5**	**17.0**	**109.3**	**35.9**	**-40.6**	**15.1**

Source: MTFF Recurrent Budgets of GoK.

Figure 4-3: Revenue and Expenditure Trends 2017–2022



Source: MTFF Recurrent Budgets of GoK.

Over the medium term, as shown in Table 4-2 and Figure 4-3, Kiribati expects fishing revenues to return to pre-pandemic levels in 2025, with 2022 revenue expected to be an increase of 21% on 2021 figures. Given the continuing pandemic, this may be optimistic. Sustainably managing fish stocks remains a challenge, with the government opening the Phoenix Island Protected Area to commercial fishing. Tax revenue is expected to increase from $54 million in 2022 to $60 million in 2025, mainly due to increases in company tax. Income tax revenue is not expected to return to its 2019 levels until after 2024.

The IMF has recommended that the medium-term fiscal framework be strengthened by managing the wage and social spending increases of 2021 and re-examining the copra subsidy. The IMF also recommended making explicit budget provisions for climate change adaptation and called on the plans to reopen Phoenix Islands Protected Area to commercial fishing to be designed to ensure sustainability of fishing and to preserve marine biodiversity.

Recurrent budget support by donors is conditional on the government meeting fiscal responsibility and economic reform commitments. The government is anticipating the budget support, which rose from an actual $7 million in 2020 to an estimated $17.3 million in 2021, will continue at that level each year until 2026.[24]

Debt servicing costs in 2022 are $4 million a year (discussed further in Section 4.5). Kiribati's medium-term fiscal framework aims to **restrict recurrent budget** allocation to ministries to 50% of the total recurrent budget, leaving 50% to respond to apply to raising living standards, including responding to the pandemic. This local contribution to the LCDF enables Kiribati to address immediate development needs, including for infrastructure services.

4.2.2 Analysis of the Development Budget

In addition to numerous building construction projects, the main Infrastructure funded over the last decade has been:

a) Transport:
- Road Rehabilitation on Tarawa (ADB and World Bank)
- Nippon Causeway (GoK and Japan)
- Aircraft for Air Kiribati (GoK)

[24] Government of Kiribati. *2023 Fiscal Strategy*, p. 20.

- Outer Islands Road and Airstrip Upgrade (Taipei, China)

b) Energy
- Electricity Distribution Refurbishment (GoK)
- Solar Photovoltaic Grid Connection (EU)
- Storage Facility for KOIL (Taipei, China)

c) Waste Management
- Solid Waste Management (MFAT)

d) Water and Sanitation
- Tungaru Hospital Water / Sanitation Upgrade (World Bank)
- Water and Sanitation in Outer Islands (EU and UNICEF)

e) Telecommunications and ICT Development (World Bank)

The development budget and its supporting spreadsheets are the main data sources and tools Kiribati uses to track project expenditure. The 2022 development budget totals $262.7 million, of which:

- $93.6 million is from local government contribution to LCDF appropriated through the annual recurrent budget; and
- $169.1 million is from development partners (64% of the total development budget).

The top 10 projects with the highest capital budgets are in Table 4-4.

Table 4-4: Top 10 Major Projects in the Development Budget (2022)

	Ministry	Project	Donor	2022 Budget
1	MFED	Copra Price Scheme	GoK	$40,000,000
2	MISE	Outer Islands Transport Infrastructure Project	ADB	$33,700,000
3	MWYSSA	Support Fund for Unemployment	GoK	$32,400,000
4	MISE	South Tarawa Renewable Energy Project	ADB	$16,000,000
5	MISE	Promoting Outer Island Development through the Integrated Energy Roadmap	GEF	$14,000,000
6	MOE	Improvement Program Phase 3 to 5	DFAT	$10,004,711
7	OB	Outer Island Resilience and Adaptation (IDA 19)	World Bank	$7,165,377
8	MISE	South Tarawa Sanitation (IDA 19)	World Bank	$7,165,377
9	MOE	Overseas Scholarships	GoK	$6,500,000
10	MICTTD	Submarine Cable	DFAT	$6,500,000

MFED: Ministry for Finance and Economic Development; MISE: Ministry for Infrastructure and Sustainable Energy; MWYSSA: Ministry of Women Youth Sport and Social Affairs; MOE: Ministry for Education; OB: Office of Te Beretitenti (President); MICTTD: Ministry of Information, Communications, Transport and Tourism Development; ADB: Asian Development Bank; GEF: Global Environment Fund; DFAT: Department of Foreign Affairs and Trade.
Source: Government of Kiribati (2021), 2022 Development Budget, Figure 3.

Of the $262.7 million, **$99.4 million** (38%) has been **allocated to the infrastructure pillar**. The main development priorities are transport, energy, and water and sanitation, through the Ministry for Infrastructure and Sustainable Energy (MISE). Allocation to MISE in 2022 totaled $78.8 million (30% of the total development budget).

However, not all infrastructure projects have delivered the services as intended. The Kiribati Public Asset Management Strategy found that:

"…previous investments have not fulfilled their design potential, with serviceability and utilization rates well below what would be considered prudent. In particular, a lack of preventative maintenance and minor repair has led to the significant degradation of capital, with a large portion of older

infrastructure investments unserviceable well before the end of their design life. Indeed, many of the new investments over the past 5 years have simply restored the functionality of ageing or degraded capital rather than expanding the capital stock and broadening the delivery of services to the public."[25]

As mentioned in Section 3, funds are released from the development fund by warrant (for GoK-managed funds only). The amount warranted is a better indicator of the capacity of Kiribati to deliver against budget for projects managed through its own systems. Tracking expenditure managed through donor systems, coupled with less structured reporting in development budget books prior to 2019, **makes it difficult to assess accurate levels of capital construction** expenditure in years where the pandemic and associated border closures did not restrict development spending.

Historically, GoK has achieved between 55% and 127% of its budgeted expenditure (Table 4-5). The deficit in 2021 was due to the subsides to stimulate post-COVID-19 recovery. The development books do not yet track achievement on donor managed expenditure.

Table 4-5: Budget vs Actual Allocation 2017–2022 (Development Projects)

Development Budget ($ million)	2017	2018	2019	2020	2021	2022
Total Project Cost	**-**	**1,010.0**	**1,025.3**	**1,226.7**	**1,320.9**	**1,713.4**
GoK System	-	481.0	510.9	518.7	687.5	829.1
Donor System	-	529.0	514.4	708.0	633.3	884.3
Infrastructure and Other Projects	**134.6**	**244.1**	**240.2**	**327.6**	**223.0**	**262.7**
Budget managed by GoK	52.4	111.1	138.8	147.5	75.1	116.8
Budget managed by Donor	82.2	133.0	101.4	180.1	147.9	145.9
Revised Budget [1]	210.5	294.3	209.0	357.9	279.4	-
Warrants Issued [2]	**NR**	**61.7**	**130.0**	**106.8**	**95.7**	-
To GoK	NR	61.4	129.9	106.8	95.7	-
To Donor	NR	0.3	0.0	0.0	0.0	-
Budget vs Warrant (GoK)	**-**	**55%**	**93%**	**72%**	**127%**	**-**

GoK: Government of Kiribati.

Source: 2018–2022 Development Budget Books (Table 6), GoK.

1. *Revised during the year to take into consideration actual revenues being received.*
2. *Indication of actual expenditure against that estimated in the development budget.*

4.2.3 Role of State-Owned Enterprises

SOEs deliver most of Kiribati's urban infrastructure services and operate most of its urban infrastructure. The intention of legislation for SOEs is for them to recover costs through fees and charges paid by users of the infrastructure services. However, as with Air Kiribati, Ltd. and Kiribati Oil, political and social service priorities cannot always be constrained by total cost recovery intentions. Kiribati thus has subsidized transport costs from other sources of revenue and competing services, including infrastructure operations and maintenance. It also generates cash flow for transport from accounts receivable of other SOEs and the government itself.

Kiribati is improving SOE performance through a strategy to improve cashflow, reduce fiscal risks, and ensure the continuity of essential services. The MFED's report to the cabinet on 2019

[25] Webb, J. 2019. *Assessment of Kiribati Public Asset Managment.* Tarawa: Ministry of FInance and Economic Development. https://www.mfed.gov.ki/sites/default/files/Kiribati%20Public%20Asset%20Management%20Strategy.pdf.

SOE performance has been finalized, but has not yet been published. All SOEs publish a Statement of Intent, which records each SOE's strategy. An SOE's ability to deliver on their Statement of Intent and to prepare financial statements relies on staff capacity. The SOE Unit plans training for finance staff.

ADB and the International Cooperation and Development Fund (ICDF) (Taipei,China) are Kiribati's suppliers of loan funds. Kiribati last raised loan funds in 2014, preferring to receive grant funding to which it is entitled, and to draw down on its sovereign wealth fund to help it respond to the pandemic. Loans to SOEs go through Kiribati, which on-lends funds at concessionary rates. SOEs make interest and repayment payments to Kiribati. All new projects of SOEs are reported in the development budget.

From the above analysis, we make the following **observations** on the health of government finances:

- The government is highly dependent on one source of income: fishing licenses. This source is dependent on climate, the health of the Kiribati oceans, and sustainable management of fish stocks and their habitat.
- A substantial increase in recurrent budget support by donors is expected, from an actual $7 million in 2020 to an estimated $17.3 million in 2022.
- GoK is prudently managing the RERF and has cash reserves equal to about 7 months of expenditure.
- Long-term cost implications of all infrastructure decisions are yet to be incorporated into annual budgets.
- The IMF has recommended that the medium-term fiscal framework be strengthened by reviewing the responses to the pandemic, namely the 2021 wage and social spending increases and the copra subsidy.
- The total value of capital and non-capital projects reported in the 2022 development budget has grown from $1.0 billion in 2018 to 1.7 billion in 2022.
- Based on warrants issued, the budget achievement on infrastructure and other projects managed through GoK systems varies between 55% (2018) and 127% (2021).
- The budget achievement on projects managed entirely within donor systems is not tracked in the development budget sheets.

4.3 Historic Cost of Infrastructure Capital Construction

4.3.1 Analysis of Projects in the Development Budget (2019–2022)

The raw spreadsheet from which the development budget is generated, includes both recurrent and capital projects and it includes projects funded by both Kiribati and development partners. It is understood that some capital projects, funded directly by development partners, may not be included in the development budget.

About half of the development budget is allocated to capital projects. Of all capital projects about 10% are allocated to non-infrastructure projects. Not all projects approved are completed in the year budgeted, with many projects being constructed over several years (Table 4-6).

Table 4-6: Summary of the Development Budget

Development Budget ($ million)	2019	2020	2021	2022	4-yr Avg
TOTAL Development Budget	**240.2**	**315.7**	**223.0**	**262.7**	**260.4**

Development Budget ($ million)	2019	2020	2021	2022	4-yr Avg
Infrastructure Pillar	111.6	169.1	106.8	98.1	
Other Pillars	128.6	146.6	116.2	164.6	
Infrastructure as % of Total	49%	56%	49%	38%	48%

Source: Author analysis of 2019–2022 development budget spreadsheets.

4.3.2 Infrastructure Projects Budgeted in 2022

There are 123 projects listed in the 2022 Development Budget spreadsheet totaling $262.7 million. There has been a significant shift in the budget allocation away from the infrastructure which historically made up ~48% of the development budget. In 2022, $99.4m has been allocated to the infrastructure pillar, with much of that being associated with subsidies to stimulate economic recovery. These infrastructure projects are summarized in Table 4-7.

Table 4-7: Infrastructure Projects (2022 Budget) $ million

Project	Funding From	Financial System Used	
		Donor	GoK
Reduce risk of water scarcity (via SPC)	MFAT	0.802	
Building Resilience through Improved Sanitation	EU	2.545	
Provision of Sustainable Drinking Water for Kiritimati	EU	1.631	
Averting water-related emergencies	MFAT	0.056	
Delivery of critical utilities in South Tarawa and Kiritimati	MFAT	1.619	
E-Government IDA 19	World Bank	0.220	
Fit for Purpose Landing Craft for the Line & Phoenix Groups	PRC		2.436
Housing Development - Bairiki Phase 1 and 2	MFAT		0.700
Housing Development Phase II - Bairiki	GoK		0.700
Infrastructure Maintenance Fund	GoK		3.000
Kiribati Outer Islands Transport Infrastructure Project	ADB	33.700	
Kiribati Utilities Reform Program GFA	MFAT		2.590
Kiribati Utilities Reform Program TA	MFAT	1.374	
Kiritimati Copra Mill	PRC		0.702
Promoting OI Development thru Integrated Energy	GEF	14.000	
Seismic Station Support	Others		0.003
Senior Secondary School in Kiritimati	GoK		1.000
South Tarawa Renewable Energy Project	ADB	16.000	
South Tarawa Sanitation IDA 19	World Bank	7.165	
Submarine Cable	DFAT	6.000	
Upgrading of Social Facilities	PRC		1.000
WASH from the Start	MFAT		0.887
Grand Total		**85.112**	**13.017**

SPC: Secretariat of the South Pacific; IDA: International Development Association; GFA: Government Financial Agreement; TA: Technical Assistance; WASH: Wate, Sanitation and Hygiene; MFAT: Ministry of Foreign Affairs and Trade; EU: European Commission; PRC: People's Republic of China; ADB: Asian Development Bank; GEF: Global Environment Fund; DFAT: Department of Foreign Affairs and Trade; GoK: Government of Kiribati.
Source: Author analysis of 2022 development budget spreadsheet.

Of the development budget allocated to infrastructure, only $13 million (13%) is to be managed through GoK accounting systems and even a smaller portion of infrastructure projects, $3.7 million (4%) is to be funded by the government. A discussion on debt financing this considerable level of donor investment, and the impact projected increases in these levels will have on the fiscal situation, is provided in Section 4.5.

From the above analysis, we make the following **observations** on past infrastructure investment:

- The development budget and its supporting spreadsheets are the main data sources and tools GoK uses to track the expenditure on projects in the infrastructure and other sectors.
- From our review, a broad assumption is that 40%–50% of the development budget is currently spent on infrastructure projects (both renewal of existing and construction of new assets). Over the past 4 years it has averaged 48%.
- The average historic budget levels set for infrastructure construction over the past 4 years was **~$121.4 million per year.**
- The development budget for 2022 is $262.7 million with $98.1 million being allocated to infrastructure projects of which only 4% ($3.7m) is being funded through GoK revenue.
- As 80%–85% of the funds are not managed through government financial systems, it is difficult to ascertain how much of this budgeted spend was delivered (at a project level).

4.4 Future Cost of Infrastructure Construction

4.4.1 Breakdown of Projected Infrastructure Expenditure

Section 6 summarizes the "current" committed program for infrastructure construction that is either ongoing, approved or committed for funding and totals $1.28 billion. Through extensive communication with the participating agencies, we were able to obtain cost projections (estimates) over the next 10 years for 97% of the "current" committed program.

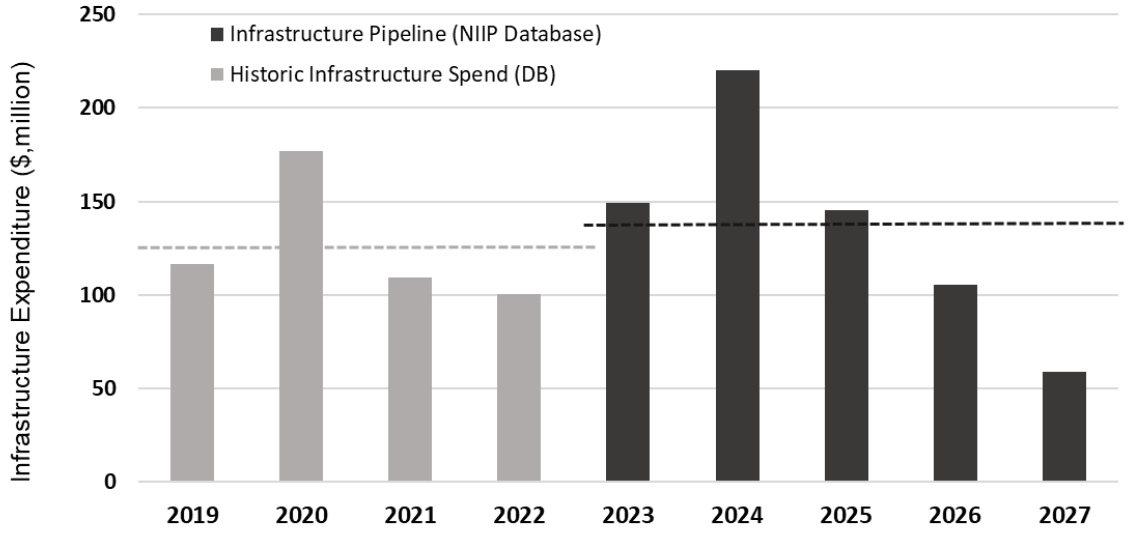
Of the $1.28 billion in project capital construction estimates, $339 million was anticipated to have been spent by the end of 2022, mostly associated with larger ongoing projects and some smaller projects scheduled for completion in 2022. Of the remainder, **$909 million** is forecast/committed to be spent between 2023 and 2032. On average, the current commitments for infrastructure expenditure equate to an average of **$136 million** per year over the next 5 years, summing to ~$680m or 75% of the current commitments (Table 4-8).

Table 4-8: Summary of Projected Capital Construction Costs

Capital Cost Estimate ($ million)	To end 2022	2023	2024	2025	2026	2027
New Construction	107.9	82.8	86.7	75.1	57.8	28.4
Improvements to Existing	44.1	50.4	53.1	61.9	39.6	22.1
Renewal of Existing	157.7	5.8	69.7	8.0	8.3	8.7
Study	29.1	10.4	10.6	0.5	0.0	0.0
TOTAL (Infrastructure)	**338.7**	**149.5**	**220.1**	**145.5**	**105.8**	**59.2**

Source: NIIP Project Database (refer Section 6).

Figure 4-9: Past vs Future Levels of Infrastructure Expenditure



NIIP = National Infrastructure investment Plan, DB = development budget.
Source: NIIP Project Database (refer Section 6).

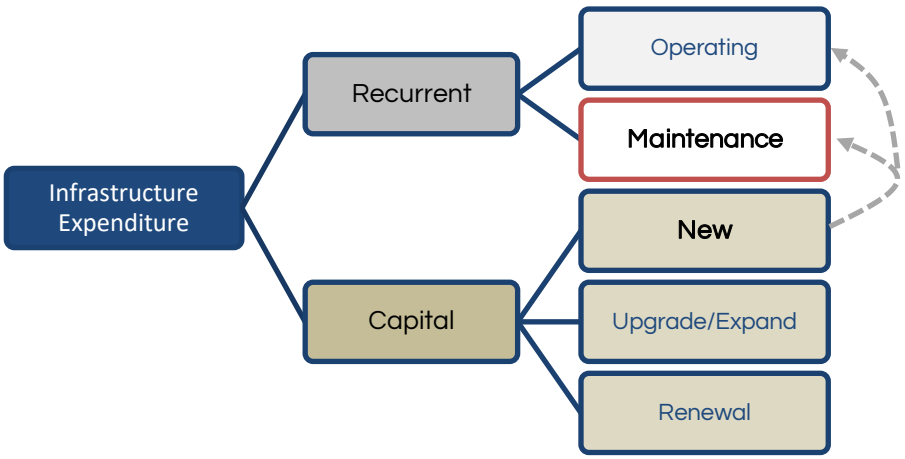
As demonstrated in Figure 4-9, this 5-year average commitment is ~35% higher than past levels of budgeted capital construction ($125 million annually) and requires further analysis to ensure it is fiscally feasible to invest at these levels given almost all of the funding will have to come from donors. Furthermore, this projection is very conservative as it does not make allowance for any planned/pipeline projects being started within the next 5 years; based the small proportion of renew works, it is also unlikely to adequately cover the ongoing unfunded liability of a deteriorating infrastructure asset base.

A more comprehensive analysis of the cost projections from the NIIP database is presented in Section 6 and demonstrates the share volume of current and future capital construction projects which were sourced from participating agencies during this investigation.

4.4.2 Impact of Capital Construction on the Recurrent Budget

Kiribati has established a maintenance fund. Kiribati, through the recurrent budget, moves funds to the maintenance fund in accordance with current agreements with development partners and ministries (Figure 4-10). SOEs are expected to fund their own maintenance.

Figure 4-10: Infrastructure Expenditure Categories



Source: Authors.

Table 4-11: Maintenance Burden as a Percent of Capital Construction

Asset Class	Avg. Annual Maintenance	Avg. Annual Operating
Buildings	**0.7%–1.5%**	**7%–14%**
Aquatic Center	1.1%	13.9%
Museum	0.6%	9.7%
Commercial	0.8%	7.0%
Roads	**2%–2.5%**	**<0.2%**
Carparks	2.1%	NR
Bridges	0.5%	NR
Parks and Reserves	**5%–10%**	**4%**
Plant and Equipment	**3%–5%**	NR

Source: Local Government and Municipal Knowledge Base.

Note: this is a wiki-type site contributed to by LG Australia, it continues to develop over time as Australia has reasonably advanced recording of costs and expenditure coded by asset type. It is provided as context to our 3% estimate of maintenance as a percentage of capital construction.

To "illustrate" the ongoing burden on private and public resources, we could make a very broad and conservative assumption that the annual operating and maintaining expenditure (OPEX) of new infrastructure capital construction is, on average, 6% per year. As evidenced in Table 4-12, it can be much higher than this for active assets (e.g., plant and equipment, vessels, aircraft) and lower for passive assets (e.g., roads, retaining walls, bridges).

Table 4-12: Estimated OPEX Costs for Recently Completed Capital Projects

	Capital	Annual Costs (Estimated)		
Selected Project	Costs	Operating	Maintenance	Government support required
Aircraft	5.7 million	800,000 (14%)	500,000 (9%)	Airfields, training, education, certification
Police Office	96,000	5,760 (6%)	1,920 (2%)	Police salaries, equipment, court costs
Landfill seawall rehab.	250,000	n/a	10,000 (<1%)	Monitoring costs
Photovoltaic solar mini off grid	100,000	4,000 (4%)	3,000 (3%)	Training of solar maintenance staff, supply of inverters, panels, waste management
Medical equipment	600,000	30,000 (5%)	30,000 (5%)	Technician training, hospital supplies
Islet boat/s	1.2 million	200,000 (16%)	120,000 (10%)	Maritime aids, safety training, Outboard repairs and parts
Mobile towers	1.4 million	42,000 (3%)	42,000 (3%)	Energy provision, Licensing, regulation
Bridge	65,000	1,300 (2%)	1,300 (2%)	Transport staff, monitoring equipment
Waste – garbage truck	60,000	6,000 (10%)	2,400 (4%)	Staff costs, garage costs.
Reverse osmosis plant	55,000	5,500 (10%)	2,750 (5%)	Supply of parts, skilled operators, education, maintenance staff
Subtotal	9.5 million	1,094,560 (11.5%)	715,770 (7.5%)	
		Direct Annual OPEX Cost	**$1,835,930**	Indirect annual costs to government not yet estimated

OPEX = operating and maintenance expenditure.

Source: Table 8 of 2022 Development Budget and Author assessed % O&M (Table 4-11).

Using this broad assumption that annual maintenance across all infrastructure classes is conservatively 6% of new construction cost (Table 4-11), and the average annual forecast expenditure on new capital construction (Table 4-13Table 4-8) of $75.6 million, Kiribati would need to add an estimated $4.5 million per year to its recurrent budget to cover the ongoing maintenance of this infrastructure; a similar increase would also apply to operating budgets, especially when the infrastructure is buildings, which require energy to operate.

Table 4-13: Cumulative Impact of New Construction on the Recurrent Budget

Capital Cost Estimate ($, million)	2023	2024	2025	2026	Average
New Construction	82.8	86.7	75.1	57.8	**75.6**
6% of Capital on O&M	5.0	5.2	4.5	3.5	
Cumulative OPEX Cost	**5.0**	**10.2**	**14.7**	**18.1**	

O&M = operation and maintenance, OPEX = operation and maintenance expenditure.

Source: Authors.

The net impact of the new /expanded infrastructure forecast over the next 4 years would result in a cumulative increase to $18.1 million by the end of 2026, or a total additional cost of $48.0 million in OPEX over that same period (Table 4-13).

The above analysis is illustrative of the significance of expanding Kiribati's infrastructure and how important it is to consider its whole-of-life costs at the time of project appraisal. This is reflected in the MCA criteria and benefit assessment form used to rate the impact of a project as outlined in Section 7.

4.4.3 Implications of an Increase in the Infrastructure Construction Program

Kiribati is aware of the "limited domestic public financial resources for infrastructure investment and its limited institutional capacity to absorb and execute infrastructure investment."[26]

Getting the balance right is Kiribati's job. It must estimate how much investment in SOE infrastructure services is sufficient to result in a service that people will pay for, given it saves them money in other areas; for example, buying firewood to boil water is a savings when electricity is used to heat water. Each SOE ideally is raising fees that are sufficient to not only operate the asset but to maintain and refurbish that asset over its entire design life.

Not all infrastructure can generate fees and charges. Public service entities often must invest in costly passive assets that do not generate cash flow, such as roads, bridges, drains, and coastal seawalls. To maintain these, it must raise general revenue. For each added investment, added general revenue must either be found or Kiribati must accept a very short service life of the asset. In which case, the cost becomes higher rather than lower.

From the above analysis, we make the following **observations** on future cost of infrastructure capital construction investment:

- The historic level of infrastructure investment has averaged around $125 million annually over the past 4 years. A reallocation of COVID-19 subsidies has dropped this to $98.1 million in 2022.
- From the project database and 10-year projections assembled for the NIIP program, we find that the "current" committed program of capital construction is $1.31 billion (2023–

[26] Government of Kiribati. 2021. *2022 Development Budget.* Tarawa: Government of Kiribati. https://www.mfed.gov.ki/publications/development-budget-2022-hvp-speech.

2032), with 62% forecast over the next 5 years (an average of $168 million per year). This level of capital construction is 35% higher than average levels budgeted over the past 4 years and over 70% higher than levels budgeted for in 2022.

- The 35% increase is conservative as it assumes no planned/pipeline projects will be started in the next 5 years and does not account for an apparent under investment in rehabilitation and renewal of existing infrastructure.
- The fiscal impact of this level of change is significant given 95% of the funding for capital construction comes from donors.
- Additionally, a broad assumption is that every dollar spent on new infrastructure increases the annual recurrent operation and maintenance budget by 6%. Given that approximately $92 million per year is forecast to be spent on new infrastructure over the next 5 years, this would likely result in an additional $85 million of fees and charges to be raised through the economy, either from taxes or fees and charges to cover this additional recurrent OPEX cost.

4.5 Debt Funding of Infrastructure

4.5.1 Debt Sustainability

The IMF regularly assesses Kiribati's debt levels and its ability to sustain those. It has found debt servicing to be a significant issue.

In the period 2016–2019, the government achieved its aim of implementing effective debt management controls. The fiscal strategy during this period was:

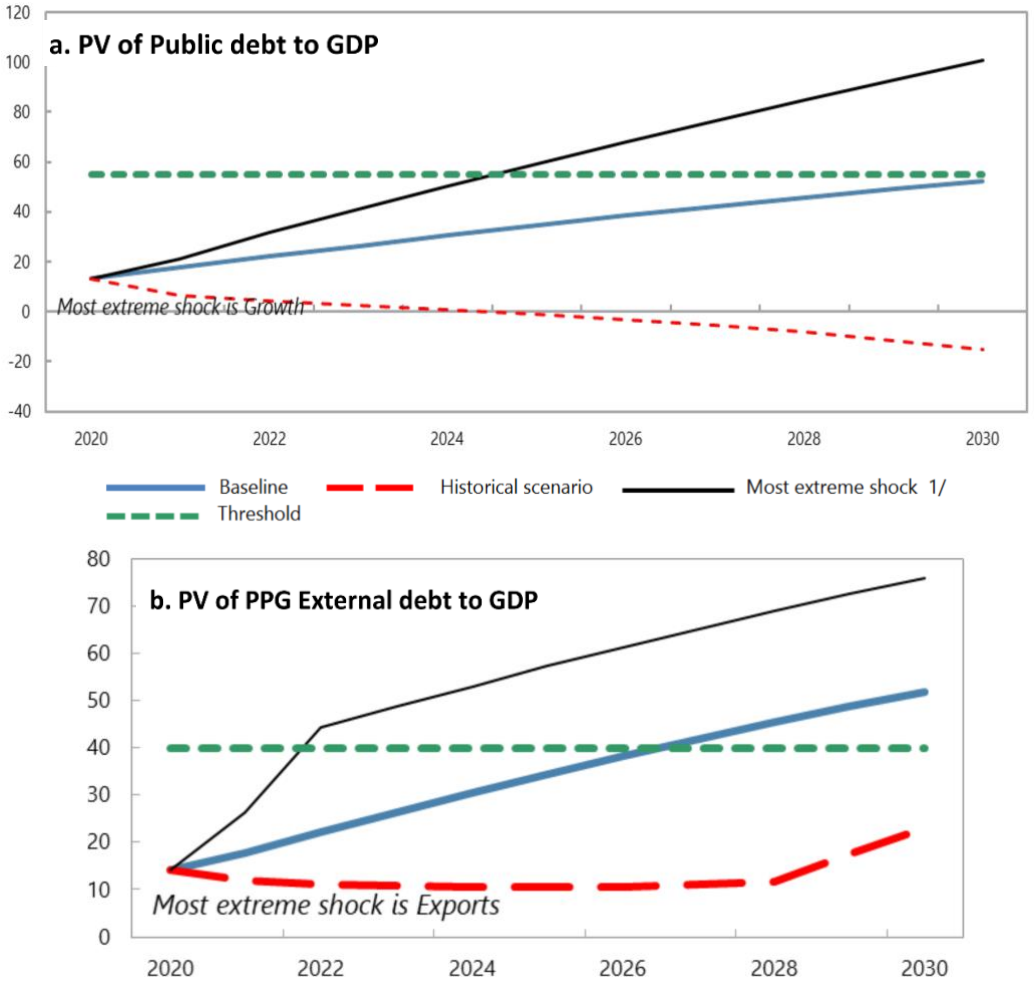
a) no new debt,
b) living within means, and
c) a target of $1 billion reserves achieved, while reducing interest payments to help finance the government's budget.

The 2020–2023 national plan does not mention debt, though the 2022 fiscal strategy states that "Where new debt is considered, it must be concessional, with **at least a 35 percent grant component**."[27] As depicted in Figure 4-14, the public debt balance at the end of 2020 was $46.6 million. The level of public debt has remained stable at about **20% of GDP**.[28] It was 18% of GDP in 2020. However, external debt has risen steadily year-on-year and is expected to exceed the indicative threshold of 35% of GDP in the long-term. The IMF assesses that Kiribati's debt is sustainable, although its risk of debt stress is high.

[27] Government of Kiribati, Ministry of Finance and Economic Development. 2021. *Fiscal Strategy for the 2022 Budget & Medium Term Fiscal Strategy.* Tarawa: Government of Kiribati.

[28] IMF. 2021. *Mission Concluding Statement: Kiribati: Staff Concluding Statement of the 2021 Article IV Mission.* Washington: IMF. https://www.imf.org/en/News/Articles/2021/03/02/mcs030221-kiribati-staff-concluding-statement-of-the-2021-article-iv-mission.

Figure 4-14: Kiribati Present Value of Public Debt to GDP



PV: present value; PPG: public and publicly guaranteed; GDP: gross domestic product.
Source: Kiribati Second Inclusive and Resilient Growth Development Policy Operation (P169179), 2020, p. 19.

The above baseline scenario assumes that future IDA and ADB financing is provided on 100% credit terms, rather than the grant terms which is currently the case. Given the large volume of IDA and ADB financing relative to the small size of Kiribati's economy, the assumption of credit rather than grant terms is sufficient to result in a rapid accumulation of public and publicly guaranteed external debt.[29]

Kiribati has no internal debt, so its external debt and public debt follow the same dynamics. The impact of the pandemic on the fiscal position is yet to be confirmed. The IMF estimated a shift from surplus to deficit in 2020 and ADB estimates the current debt-to-GDP ratio to rise from the pre-pandemic estimates.

In 2020 it was thought that: "Once the pandemic ends, focus should revert to formulating a sustainable medium-term fiscal framework that abstracts from volatile, exogenous components of the budget (fishing revenue and grants, plus their associated capital spending) and promotes current expenditure stability. In the event of a surge in fishing revenue, supplementary budgets should be avoided, with the windfall being allocated only after evaluating projects in a comprehensive medium-term framework".[30]

[29] World Bank. 2020. *Kiribati Second Inclusive and Resilient Growth Development Policy Operation (P169179).* Washington: World Bank.

[30] IMF. 2020. *Kiribati—Assessment Letter for the Asian Development Bank and World Bank.* Washington: IMF.

Debt sustainability analyses by the IMF and the World Bank have consistently noted that Kiribati remains at high risk of debt distress. "The latest official joint IMF/World Bank Debt Sustainability Analysis (DSA) from January 2019 found Kiribati to be at high risk of external and overall debt distress. Bank staff have updated the DSA for the purpose of this operation, in consultation with the IMF. The updated assessment indicates that the risk of external debt distress remains high after adjusting for recent changes in the outlook, including the COVID-19 shock on GDP growth and the fiscal balance in 2020 and 2021. The high risk assessment reflects Kiribati's limited structural capacity to fund its substantial development and climate adaptation expenditure needs through debt, given historically low economic growth rates and the likelihood that climate change and natural disaster risks will further lower the economy's potential growth rate in the long run".[31] The government's movement of funds to social support confirm this assessment as it reduces funds available for other uses, including capital expenditure.

Filling the infrastructure gap and reaching the development goals depends on employing the available fiscal resources in a prudent manner and the continuing support of development partners. Vulnerabilities can be exacerbated by climate change and contingent liabilities.

Current debt servicing is $4 million per year. The amount of interest paid by Kiribati increased in 2019 to $2.2 million, up from $0.6 million in 2018. With rising interest rates, this cost is expected to continue to rise, even though most loans are concessional. The government anticipates a cost of $4 million per year until 2026. Kiribati's eligibility for grants depends on its ongoing LCD status, which is being reviewed in 2025.

4.5.2 Climate Finance

Kiribati is seeking grant funding from development partners and is approaching global donors for climate finance. The Climate Financing Division of the MFED is focused on coordinating Kiribati's engagement with multilateral sources of climate financing: GCF, Adaptation Fund, and the Green Investment Fund. There is a pipeline of projects in excess of $500,000 ready for funding. The eligible projects assist Kiribati to meet its Nationally Determined Contributions under the Paris Agreement. The overriding aim is to reduce emissions.

The GCF invests in the built environment; energy and industry; and human security, livelihoods, and wellbeing. Not all projects are infrastructure. It is mandated to invest 50% in mitigation and 50% in adaptation. GCF can structure its financial support through a flexible combination of grants, concessional debt, guarantees, or equity instruments to leverage blended finance and crowd-in private investment for climate action in developing countries.

GCF funding of US$28.6 million has been obtained for 49.4% of the cost of the South Tarawa Water Supply Project. The 50.6% is co-financed through grant funding. Kiribati is eligible for a further US$500,000 for grant funding.[32] The World Bank is trustee for the Adaptation Fund. Once accredited, a national implementing entity can directly access financing and manage all aspects of climate adaptation and resilience projects, from design through implementation, to monitoring and evaluation.[33]

The Global Green Growth Institute provides technical assistance to Kiribati to address implementation challenges in the whole-of-island approach, particularly to identify

[31] World Bank. *Kiribati Second Inclusive*, p.19.

[32] Green Climate Fund. 2022. *Projects and Programmes*. September 7. https://www.greenclimate.fund/project/fp091#investment.

[33] Adaptation Fund. 2022. Applying for Funding. September 7. https://www.adaptation-fund.org/apply-funding/

sustainable micro-scale income generation opportunities and to improve availability and access to green infrastructure services.[34] Its engagement is closely linked to the KJIP.

4.5.3 Agency Debts owing to Consolidated Fund

The government is the sole borrower of external funds. All debt financing raised is paid into the consolidated fund. It is then on-lent to government entities. Kiribati has lent funds from the consolidated fund to SOEs and other entities. Some loans are interest free, and some attract a fixed interest. Loans outstanding as of 31 December 2019 of $7.1 million are for working capital (Te Mautari Ltd, KCWS), for purchase of spare parts (Air Tungaru aka Air Kiribati), and loans from ADB forwarded to SOEs (Betio Shipyard, PUB) as well the Development Bank of Kiribati.

In addition, there are special funds held by the Accountant General for the following infrastructure purposes.

Table 4-15: Special Funds in Hands of Accountant General 31 December 2020

Special Fund Name	Amount held	Purpose
Kaoki Mange Special Fund	$ 691,291	Waste Management (return rubbish money back)
Import Levy Fund	$8,729,625	Subsidize goods transport (Gilbert Islands)
Dai Nippon Causeway Fund	$2,703172	Roads
Civil Aviation Fund	$350,337	Aviation
Plant and Vehicles Unit Fund	$ 97,325	Plant and Equipment
Highway Authority	$ 60,618	Road
Sanitation Maintenance Fund	$ 395,891	Sanitation
Total	**$13,028,258**	

Source: GoK Annual Account 2020.

In the report of the audit of the 2019 accounts, the Auditor General noted records and reconciliations were incomplete. All special funds had conditions on their use and most related to infrastructure.

4.5.4 Contingent Liabilities of the Government

The 2020 annual accounts of Kiribati identify a total of $21.9 million in contingent liabilities. Kiribati has guaranteed loans from the Kiribati Provident Fund to Air Kiribati of $8.3 million and the Development Bank of Kiribati of $1.4 million, as well as $5.4 million of Kiribati Provident Fund funds are also guaranteed. In addition, Kiribati has contingent liabilities for Special Drawing Rights of 21.9 million to the IMF, World Bank, and International Development Association, all of which are on call.

From the above analysis, we make the following **observations** on debt financing.

- As of 31 December 2020, Kiribati owed $46.6 million in loans with current debt servicing of $4 million per annum.
- GoK has been carefully balancing its commitments. Its debt burden has been reduced to a reasonably stable level of about 20% of GDP. The public debt balance at the end of 2020 was $46.6 million. However, IMF and World Bank continue to rate Kiribati at a high risk of debt distress.

[34] Global Green Growth Institute. 2022. *Kiribati.* September 7. https://gggi.org/country/kiribati/.

- Any new infrastructure projects must demonstrate their ability to generate sufficient revenue to cover capital and interest repayments as well as operation and maintenance costs. It is Government policy that "where new debt is considered, it must be concessional, with at least a 35 percent grant component."[35]

4.6 Funding for Capital Construction

Kiribati is an SIDS that has LDC status.[36] As such it is eligible to receive office development assistance. Government policy is that, where new debt is considered, it must be concessional, with at least a 35% grant component.

Kiribati is a group A development member country of ADB and is eligible for Asian Development Fund (ADF) grant country allocation resources ($17.32 million per annum) available for commitment over 2022–2024. Further financial resources, totaling $20 million, will be accessed from the ADF Disaster Response Facility and the ADF Thematic Pool for specific activities.

Because of its LDC status, Kiribati is eligible for concessional funding, including through the GCF (See: Section 4.5.2 above). ADB provides concessional loans in Special Drawing Rights, thus protecting Kiribati from currency fluctuations. In addition, ADB has recently obtained grant funding for South Tarawa sanitation project with co-financing through the Climate Fund and the World Bank. Access to these funds is conditional on Kiribati implementing PFM and several other reforms.

Many of the government agencies, including the national government, are not yet able to provide financial reports to a standard that the Auditor General can audit. Of over $1,929 million of assets controlled by the government and its entities, 84% were held by agencies unable to provide financial statements that the Auditor General could audit. Government entities controlling 3% of assets received unqualified audit opinions. The agencies controlling the remaining 13% of assets received a qualified audit opinion. This situation creates a risk that the historical financial data being analyzed is inaccurate. Much of the analysis is based on estimates. A clear funding strategy depends on reliable income streams and good financial data, both of which are yet to be developed in Kiribati.

4.6.1 Bilateral Partners and Multilateral Agencies

The government has put a high priority on improving access to and management of climate change finance. As a SIDS and LDC, external support for both adaptation and mitigation activities within Kiribati is imperative for achieving its sustainable development objectives and specific adaptation and mitigation goals, as defined in the national policies and plans. Kiribati has undertaken some institutional restructuring and change within recent times, to strengthen its response and coordination for Climate Change and Disaster Risk Management (CCDRM).

Bilateral partners currently provide the bulk of support for CCDRM-related activities in Kiribati and thus a focus on strengthening strategic relations with multilateral funds is well placed. In 2016, the cabinet approved the establishment of the Climate Finance Division (CFD) within MFED. The primary role of the CFD is to engage and access climate change finance from multiple multilateral sources, either directly or through partnerships with entities that are accredited to the multilateral fund(s). At this stage, the CFD is mandated to specifically engage

[35] Minister of Finance and Economic Development, Government of Kiribati. 2021. *Development Budget Speech 2022.* Tarawa: Parliament of Kiribati.

[36] In the same category are Timor-Leste and Tuvalu.

with the GCF, Adaptation Fund, and Climate Investment Funds (CIF). Several larger-scale project proposals are in various stages of development, in consultation with these funds.[37]

The Kiribati Climate Change and Disaster Risk Management Risk Finance Assessment: Final Report of August 2020 noted that "it is fundamentally important that climate change-prone SIDS like Kiribati work towards achieving optimal outcomes from all external sources, including committed and potential global climate funds, in addition to their domestically sourced funds."[38]

The government has put a high priority on improving access to and management of climate change finance. As a SIDS and LDC, external support for both adaptation and mitigation activities within Kiribati is imperative for achieving its sustainable development objectives and specific adaptation and mitigation goals, as defined in the national policies and plans. Kiribati has undertaken some institutional restructuring and change within recent times, to strengthen its response and coordination for CCDRM.

ADB, the World Bank, the EU, and UNDP are the principal multilateral sources of funding to Kiribati. Their interventions are guided by their respective country partnership strategies with Kiribati and through regional programs. Their areas of focus cover a wider scope beyond CCDRM, according to their comparative advantages and preferred modalities. ADB, UNDP, and the World Bank are all accredited multilateral implementing entities of the GCF and Adaptation Fund.

The three major regional organizations that undertake climate change financing are the Pacific Island Forum Secretariat (PIFS), the Secretariat of the Pacific Regional Environment Programme (SPREP), and the Pacific Community (SPC). These organizations are not strictly sources of funding. They do, however, play an important conduit role in advising and facilitating global climate change finance to Kiribati from (usually) bilateral and multilateral sources. SPREP has Regional Implementing Entity status for the GCF and Adaptation Fund and has implemented the UNDP and DFAT-funded Pacific Adaptation to Climate Change (PACC) Project and Pacific Islands Green House Gas Abatement through Renewable Energy Project (PIGGAREP). SPC implemented the EU's Global Climate Change Alliance (covering both climate change, disaster risk management and capacity building) and has recently obtained Regional Implementing Entity status to the GCF. SPC, PIFS and SPREP are readiness delivery partners for the GCF.

Funding from development partners is a major component of budget financing for the government, averaging 40% of total revenue and 90% of development expenditure in the last 4 years.

4.6.2 Risks and Sensitivities

The main risk is in the high dependence on uncertain and fluctuating fishing license revenues. The other is the continuing development of public financial management capacity. Continued development partner support is conditional on Kiribati meeting economic reform initiatives.

Kiribati has already committed resources to improving its MTFF and publishes timely recurrent and development budgets. Audits are generally up to date with most audits of agencies for years ending 2015 to 2019 finalized in 2021. As mentioned above, the SOE reform program is

[37] Deutsche Gesellschaft für Internationale Zusammenarbeit, The Pacific Community, Pacific Islands Forum Secretariat and the Asian Development Bank. 2020. *Kiribati Climate Change and Disaster Risk Management Risk Finance Assessment: Final Report August 2020.* Suva, Fiji Islands: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. https://www.forumsec.org/wp-content/uploads/2020/09/Kiribati-CCDR-Report.pdf.

[38] Deutsche Gesellschaft et al. *Kiribati Climate Change* p. 36.

being implemented, with SOEs improving their financial reporting. The following agencies have yet to have their audits finalized to 2019:

- Kiribati Copra Cooperative Society Ltd (FY2015 – disclaimer)
- Kiribati Solar Energy (FY2016 – disclaimer)
- Kiribati Coconut Development Ltd (FY2016 – disclaimer)
- Kiribati Shipping Services Ltd (FY2017 – disclaimer)
- Betio Shipyard Ltd (FY2017 – unqualified)
- Air Kiribati Ltd (AKL) (FY2019 – disclaimer)
- Kiribati National Shipping Line (FY2019 – disclaimer)

Kiribati is thus committed to funding losses of the above government agencies, which is over $10 million per year. Kiribati has already provided $12.7 million in equity to AKLand contributes funds annually to allow it to function. For example, Kiribati has contributed $65 million over 3 years to enable Air Kiribati to purchase Dash 8 and Embraer aircraft. The annual operating costs of these exceed $1.4 million each. Also, AKLowes $3.4 million to Kiribati Oil at year end for prior-year purchases that are still being reconciled.

The other risk that Kiribati manages is the run down in the capacity of infrastructure to deliver services. The maintenance of infrastructure is crucial to its ability to deliver the services for which it was built. Kiribati has established a maintenance fund to which $6 million is allocated annually from the recurrent budget. This is a good first step, as the fund is not yet able to fully estimate maintenance needed across all infrastructure.

Disaster risk management and climate change adaptation presents a series of risks in the planning and management of infrastructure by Kiribati. The biggest risk Kiribati manages is the provision of infrastructure services during a disaster, especially clean drinking water. The KV20 emphasizes robust coastal seawall and cost savings from photovoltaic systems as a strategy to decrease reliance on imported fuel,[39] and the Kiribati Climate Change Policy and the National Disaster Risk Management Plan both mention innovative energy technologies, protection of coastal areas and efficient rainwater harvesting systems as contributing to overall climate change and disaster risk management for resilient infrastructure.[40]

Another risk comes from pressures on development partners. With the highly fragile and uncertain global outlook, development partner countries are facing their own challenges, including inflation, supply chain bottlenecks, tightening monetary policies, and uncertain economic recovery from the resurgent pandemic.[41] Thus, development partner funds will be highly targeted and GoK will need to demonstrate the very real value added by these infrastructure investments.

Kiribati has already committed to building its financial management capacity, both in the government and in SOEs. It has obligations under its SDGs, climate change adaptation and disaster risk management plans, and sector strategies developed with DPs. Kiribati's ability to maintain current infrastructure is limited, with SOEs now being reformed to improve their financial management capabilities. Increases in the stock of infrastructure to meet its growing population at home is heavily dependent on development partner support and climate financing.

[39] Government of Kiribati. 2016. *Kiribati 20-Year Vision.* Tarawa: Government of Kiribati.

[40] Government of Kiribati. 2018. *Kiribati Voluntary National Review and Kiribati Development Plan Mid-Term Review (July).* Tarawa: Government of Kiribati.

[41] United Nations. 2022. *Financing for Sustainable Development Report 2022.* New York: DESA, UN. https://desapublications.un.org/file/955/download.

Kiribati is heavily dependent on development partners for support. These include: ADB, World Bank, DFAT, PRC, MFAT, Taipei,China and UN Agencies. The main providers of grants are ADB (which also provides concessional loans), PRC, Taipei,China and DFAT. While some donors provide budget support and report their projects as part of the development budget, others, including NGOs, provide services or project outputs outside the budget process. It is not always possible for Kiribati to gain a complete accounting for grants provided, and not all grants are for infrastructure. Some will be for studies, others for policy development and others for budget support. The current estimate of budget support is presented in Table 4-16.

Table 4-16: Sources of Budget Support as Percent of GDP

Table 5: Sources of Financing (percent of GDP)	2017	2018	2019	2020p	2021p	2022p	2023p
Fiscal balance (ex. budget support)	4.0	5.3	13.0	-20.6	-9.2	-1.1	-1.1
Financing	-4.0	-5.3	-13.0	20.6	9.2	1.1	1.1
Budget support grants	7.7	5.0	0.0	7.6	4.8	4.6	4.4
Asian Development Bank	2.6	1.3	0.0	0.0	0.0	0.0	0.0
Australia	0.2	0.2	0.0	1.5	0.2	0.2	0.2
European Union	0.0	0.0	0.0	1.5	1.4	1.3	1.3
New Zealand	1.0	1.0	0.0	2.2	0.9	0.8	0.8
World Bank	3.9	2.6	0.0	2.5	2.4	2.3	2.2
Use of cash reserves	-11.7	-10.3	-13.0	13.0	4.4	-3.5	-3.2
Cash reserves closing balance	59.4	66.0	75.9	62.5	54.8	55.6	56.2

Notes: WB staff estimates and projections. Australia and New Zealand budget support for 2020 has been disbursed, while other partners' support remains subject to approvals. Projections are based on the continuation of current budget support programs at existing levels of financing, and these amounts have not necessarily been committed. WB projections assume DPOs of US$5m continue to be prepared on an annual basis.

GDP: gross domestic product; DPO: development policy operation; WB: World Bank.
Source: World Bank, "Kiribati Second Inclusive Growth and Resilience Development Policy Operation (P169179).

From the above analysis, we make the following **observations** on funding sources.

- GoK has recently reduced its debt level to 20% of GDP; however, this will be extremely difficult to sustain with the ambitious infrastructure investment program approved by government.
- Current policy is to only consider concessional debt, with at least 35% being grant.
- Kiribati has public debt of $46.6 million with current repayments at $4.0 million per year.
- Support for funding infrastructure is dependent on development partner programs, the funding available, which is short term (1 plus 3 years) and subject to risk factors within development partner governments.
- Kiribati has limited capacity to borrow to fund infrastructure. It will be seeking grant funding, and access to funds through the likes of the GCF will depend on its ability to demonstrate it is achieving intended targets. Continuing development partner support depends on Kiribati developing its financial management capacity in SOEs and general government.
- ADB has accessed Green Climate Funding on Kiribati's behalf. Further borrowings would need to meet strict PFM and eligibility criteria as well as to demonstrably achieve intended outcomes.

SECTION 5

SECTOR-LEVEL REVIEW

This section presents a sector-by-sector summary on the key issues and infrastructure needs to meet service level expectations in the primary infrastructure sectors (Roads, Water, Sanitation, Maritime, Aviation and Energy). The summary information has been extracted from sector and corporate plans, asset management plans, where they exist, and interviews with the sector's primary infrastructure agencies. It sets the context for the identified candidate infrastructure projects in Section 6.

5.1 LAND TRANSPORT Sector

5.1.1 Infrastructure Management Responsibilities

▪ Ministry of Information, Communication and Transport (**MICT**)	Provides regulatory oversight to KLTA (vehicle and driver regulator) along with sector policy and strategic planning functions. Hosts the Highway Committee which responds to notifications of issues and complaints from the public regarding the road condition and decides on the appropriate course of action.
▪ Kiribati Highways Authority (**KHA**)	KHA (*formerly Kiribati Land Transport Authority*) was established under the New Public Highways Protection Act 2019. It is primarily responsible for managing driver and vehicle licensing. It also has a legislated mandate (2018) to oversee road maintenance but is not currently staffed to carry out this function.
▪ Ministry of Infrastructure and Sustainable Energy (**MISE**)	Manages roads budget, construction equipment and technical staff to carry out the road works.
▪ Te Atinimarawa Co Ltd (**TACL**)	100% government-owned aggregates company established to sell lagoon-dredged aggregates, sands and gravels, to the whole population of South Tarawa, in an environmentally responsible manner. It is accountable through the Ministry of Fisheries and Marine Resources Development.
▪ Urban and Island Councils	Urban Councils have a *de facto* responsible for maintaining feeder roads, and the Island Councils for the roads on their island, but these responsibilities are debated as they are not covered under current legislation or budgetary allocations.

The current priority of the Highway Committee is road safety, rather than longer-term structural integrity of the road network. Routine maintenance contracts cover regular cleaning of the road surface and clearing of drainage, but do not include any civil works for minor repairs and capital maintenance. MISE is the sole provider of major road works, and its ability to procure and maintain their heavy equipment has a substantive impact on the service life of Kiribati roads.

5.1.2 Sector Summary (Extent and Condition of Infrastructure)

The road network is very small, comprising approximately 546 km of main roads and 262 km of minor roads, of which 119.4 km (22%) and 13.8 km (5%), respectively, are sealed roads. The main sealed roads are on South Tarawa and Kiritimati (41.6 km and 84 km, respectively), with the unsealed roads being distributed among 20 islands. The lightly travelled roads of Kiritimati are in relatively good condition, the more heavily used sealed roads on South Tarawa have had significant investment over the past 10 years and are also now in generally good condition.

5.1.3 Issues and Challenges (Investment Drivers)

Roads on outer islands are predominantly reef mud roads that are vulnerable to rain and dust throughout the dry season. Responsibilities for funding and maintaining these outer island roads are not well defined. Any upgrading to a sealed standard will need to consider the additional resourcing of ongoing maintenance activities.

MISE and MFED both acknowledge that the budget available to undertake repairs or complete preventative maintenance and rehabilitation is unlikely to be sufficient.[42] Bridge inspections and maintenance is an area not well resourced by MISE and under investment in this area is also an unfunded liability for government.

The shortfall in preventive maintenance is picked up through major capital projects, typically reconstruction of roads and bridges, and tends to be carried out by international contractors and funded through overseas development assistance or a redistribution of government budgets such as the recent US$60.4 million road improvement program (2010–2016) – the largest economic infrastructure investment in the country since World War II. Most of the fund went toward reconstructing 32 km of the main road, 6 km of feeder roads, and associated drainage improvements on South Tarawa.

5.2 AVIATION Sector

5.2.1 Infrastructure Management Responsibilities

▪ Civil Aviation Authority of Kiribati (**CAAK**)	Established as a corporate body in 2015 under the Civil Aviation Act. Responsible for the regulatory system for air transportation in Kiribati.
▪ Airport Kiribati Authority (**AKA**)	The Airport Act was passed in 2018 and led to the establishment of the Airport Authority in April 2019. Responsible for the management and maintenance of airports including services and facilities related to airport operations (navigation aids, runways, terminals, etc.).
▪ Air Kiribati Ltd (**AKL**)	100% government-owned airline delivering domestic air operations in Kiribati. Responsible for the operation and maintenance of aircraft and supporting infrastructure.

5.2.2 Sector Summary (Extent and Condition of Infrastructure)

There are only two international airports in Kiribati: one on South Tarawa (Bonriki) and one on Kiritimati (Cassidy) Island. There are currently no direct flights from Tarawa to Kiritimati, flights between the two require a transit stop in Fiji.

[42] J. Webb, *Assessment of Public Asset Management*.

The Kiribati Aviation Investment Programme was established to carry out airport upgrade activities at Bonriki and Cassidy to meet International Civil Aviation Organisation (ICAO) standards for international airports using a funding loan from the World Bank. The program (2013–2019) has upgraded the runways, terminal, fire station, and navigation aids at these airports.

In addition, to these two international airports, there are 19 airports in the outer islands which are used for domestic services. Domestic runways are mostly made of reef-mud and need maintenance work to improve the deteriorating runway surface conditions.

5.2.3 Issues and Challenges (Investment Drivers)

AKL is a 100% government-owned entity and receives a subsidy to cover current operating loses, made worse by the COVID-19 pandemic. However, major plans for developments in domestic and international operations have been analyzed and suggests both the international and domestic markets can be profitable with investment (a new Tecnam fleet of nine-seater aircraft for inter-island flights). Plans to introduce Embraer jet for international flights and to service the route between Tarawa and Kiritimati Islands means that the Kanton airport and runway will need to be upgraded to serve as an Extended Diversion Time Operations (EDTO) alternate.

AKL also plans to build prefabricated office buildings as the existing ones have been condemned by structural survey. A hangar is also required to house airplanes and assets. Further, AKL intend to establish a nationalized training center to help develop long-term career path options at Air Kiribati.

Underpinning the success of an aviation industry in Kiribati is an effective regulator. In an evolving aviation industry post-COVID-19, the Civil Aviation Authority of Kiribati (CAAK) must respond to an increased need for the regulatory and security services to keep people safe and secure. A safe and reliable aviation sector compliant with international safety standards goes hand in hand with Kiribati's desire to grow tourism.

5.3 MARITIME Sector

5.3.1 Infrastructure Management Responsibilities

▪ Ministry of Information, Communication and Transport (**MICT**)	The Marine Division is responsible for all maritime regulations in Kiribati, aids to navigation, marine guard (Tarawa and Kiritimati), search and rescue, ship and vessel registration, seafarer licensing, marine pollution and registry; hydrography and other safety and maritime environment matters.
▪ Kiribati Ports Authority (**KPA**)	Responsible for the operation (cargo and people) and maintenance of the two main ports of entry; Betio port in Tarawa and Kiritimati Island.
▪ Kiribati National Shipping Line (**KNSL**) (formerly Kiribati Shipping Services Ltd)	100% government-owned shipping company providing shipping service in Kiribati prior to the entry of the private sector. Currently focused on providing monthly shipping services to all islands in the Gilbert Group.

5.3.2 Sector Summary (Extent and Condition of Infrastructure)

Kiribati covers 811 km^2 and consists of 20 inhabited islands with vast distances between population centers (Kiritimati in the Line Islands is some 3,300 km east of South Tarawa). The

vast sea area is serviced by more than 56 registered vessels providing domestic services between the islands making the reliability, safety and efficiency of maritime transport an absolute priority. Domestic shipping services are the only (and most affordable) means of transportation to provide connectivity between islands.

5.3.3 Issues and Challenges (Investment Drivers)

The nation depends upon maritime transport to import essential manufactured goods, export agriculture and fishery products, and connect and resupply outer island communities. Only two ports are capable of handling international shipping: one in Betio, which serves the Gilbert Islands, and the other in Kiritimati, which supplies the Line Islands and Phoenix Islands. Domestic shipping services (inter-island) are provided by small independent shipping companies and the government-owned operator, Kiribati National Shipping Line (KNSL).

The Marine Division has several infrastructure challenges that require investment. Among these is the ongoing need to provide safe passages for boats to reach the shores of islands with difficult access. This initiative has been estimated at $100 million, with a further $167 million needed to establish and improve wharfs/jetties and ramps for domestic travel and cargo shipments. Furthermore, current infrastructure (aid to navigation, boat ramps, jetties, cargo handling equipment, and machinery) are also in need of regular maintenance and repair.

The Kiribati Ports Authority (KPA) depends heavily on expensive equipment to maintain its operation and much of it is out of date and in need of replacement. KPA's major plans in the next 4 years is to purchase more new heavy equipment to improve cartage of containers with the soon to be completed Betio container yard. There are also plans to expand the Betio port, rehabilitate the wharf at Bairiki, and construct the new KPA office in Kiritimati Island.

Domestic sea transport is largely dominated by the private sector, though their presence is only prominent in profitable routes. KNSL serves an important role, as an arm of government, in ensuring a more complete shipping service to the people of Kiribati on less profitable routes. KNSL also provides a vital role to the fisheries sector bringing fish and other sea food product back to Tarawa with the support of the Fisheries department. Given the high demand for goods shipping and on-time cargo delivery, the two operational vessels (LC-Linnix and LC-Aratoba) are not enough to meet all shipping transport needs, particularly at shipping peak times.

5.4 WATER/SANITATION Sector

5.4.1 Infrastructure Management Responsibilities

▪ Public Utilities Board (**PUB**)	Responsible for the water supply and sewerage in South Tarawa
▪ Ministry of Finance and Economic Development (**MFED**)	Responsible for management of South Tarawa Sanitation Project
▪ Urban and Island Councils	

5.4.2 Sector Summary (Extent and Condition of Infrastructure)

The main source of drinking water and water for cooking in urban areas is that piped into the compound, while in non-urban areas it is from an unprotected well or rainwater tanks (Table 5-1).

Table 5-1: Household Access to Drinking and Cooking Water

Source of drinking / cooking water	Division						Urban/rural area		I-Kiribati head of household
	Total	South Tarawa	Northern	Central	Southern	Line Islands & Phoenix	Urban	Rural	
Source of drinking water									
Piped into dwelling	788	510	25	32	60	161	665	123	725
Piped into compound, yard or plot	5,652	4,041	421	236	460	494	4,504	1,148	5,371
Public tap / standpipe	2,500	1,565	272	260	329	74	1,624	876	2,389
Piped to neighbour	1,257	725	189	34	239	70	792	465	1,215
Protected well	4,039	969	1,247	361	792	670	1,270	2,769	3,939
Unprotected well	7,000	1,678	2,042	1,001	1,758	521	1,899	5,101	6,792
Rain water with tank with tap inside	556	479	16	15	13	33	500	56	494
Rain water with tank with tap outside	2,731	2,248	171	115	89	108	2,299	432	2,548
Communal tank	2,478	513	904	169	696	196	632	1,846	2,392
Tanker truck	158	115	3	2	2	36	151	7	139
Bottled water	412	388	1	5	15	3	389	23	368
Desalinated water	34	19	2	-	13	-	19	15	32
PUB water	449	401	18	-	-	30	431	18	412
Rainwater from neighbour	99	56	5	1	13	24	73	26	94
Other sources of drinking water	107	47	23	2	20	15	57	50	106
Source of cooking water									
Piped into dwelling	801	499	30	35	60	177	672	129	734
Piped into compound, yard or plot	5,969	4,339	429	229	455	517	4,828	1,141	5,658
Public tap / standpipe	2,334	1,445	242	259	322	66	1,498	836	2,228
Piped to neighbour	1,182	648	184	39	240	71	712	470	1,146
Protected well	4,539	1,439	1,245	349	802	704	1,763	2,776	4,390
Unprotected well	8,187	2,645	2,106	1,007	1,848	581	2,929	5,258	7,910
Rain water with tank with tap inside	349	297	9	16	9	18	309	40	306
Rain water with tank with tap outside	1,651	1,350	86	107	68	40	1,374	277	1,536
Communal tank	1,133	299	304	124	328	78	353	780	1,100
Tanker truck	110	75	-	2	2	31	104	6	99
Bottled water	129	118	2	1	8	-	118	11	117
Other sources of drinking water	117	61	25	1	9	21	72	45	109

PUB = Public Utilities Board.

Source: Kiribati Population and Housing Survey 2020 (Government of Kiribati, National Statistics Office, 2021, p. 116).

Water in South Tarawa comes from three sources: water lenses, rainwater collection, and open wells. The central water supply in South Tarawa comes from one of two **water lenses**. Supply is through a constant flow arrangement that limits consumption. The safe rate of extraction from the water lenses is 1,700–2,000m^3/day (higher rates of extraction could lead to salination of the supply). Water is extracted from the lenses, undergoes basic treatment, and is then supplied through a transmission main approximately 30 km long, which stretches from east to west across South Tarawa and supplies several small storage tanks and the distribution network.

Households have developed strategies to manage water demands using other sources to supplement the public supply. Rainwater harvesting is used to some extent, but its total contribution is marginal, and it cannot be relied upon during the periodic droughts that affect Tarawa. Groundwater in urban areas is harnessed to some extent through private, shared, and communal shallow wells. However, the groundwater is generally brackish and contaminated bacteriologically by animal and human waste, as the catchment in urban areas is unprotected.

5.4.3 Issues and Challenges (Investment Drivers)

Current challenges include inadequate water quality and quantity, inadequacy of utility services, infrastructure problems such as water loss/leakage, poor waste management, and waterborne illnesses, safe water supply unreliability resulting in the reliance on unhealthy well water, limited access of water by some households, and poor sanitation system on South Tarawa where people use shared public toilets instead of having individual toilets.

In South Tarawa, population density is an order of magnitude higher than in any other place in Kiribati. While the transmission main was rehabilitated through a project that closed in 2018, leakages from the distribution network are estimated at 67%, so only about 700 m^3/day, or around 10 liters per person per day, is available for consumption from the public supply. This amount is far below the 50 liters per person per day recommended to meet minimum health requirements. The public water supply is rationed to 2 hours every 2 days, and delivery pressure is low. Projected population growth means that, without intervention, the gap between supply and demand will continue to widen.

Water supply is charged at a very low rate ($5 to $10 per household per month) to domestic water users, while commercial users are charged a very high rate of $5 to $8 per 1,000 liters. Income generated from commercial users represents some 20% of water produced, which is not sufficient to meet the operation and maintenance costs of the water system nor cover the capital costs needed to reduce water losses in the reticulation network. The high incidence of water-related diseases (mainly diarrhea) can be attributed to the fact that many people still use shallow open hand-dug wells contaminated by nearby sewage soak pits or leaking toilet pipes and fixtures. Numerous water supply and sanitation facilities installed in the rural areas have broken down.

The South Tarawa Water Supply Project (US$15 million IDA grant), initiated late 2019 in co-financing with ADB and GCF, focuses on improving water services and strengthening the water and sewerage services provider Public Utilities Board to improve the sustainability of services.

Outer island communities mainly need the upgrading and rehabilitation of old and damaged water systems originally installed under a UNDP project in villages where the systems were already in place. Other villages previously not installed with the system need such water systems to be able to have better access to limited freshwater water sources.

The existing seawater-based sewerage system in South Tarawa is both under-utilized and wasteful, and public toilet facilities constructed in high-density areas are run-down and hardly used by the population, who have therefore returned to the tradition of defecating on the beaches.

5.5 ENERGY Sector

5.5.1 Infrastructure Management Responsibilities

▪ Public Utilities Board (**PUB**)	PUB is a corporate body, established under the Public Utilities Ordinance, Cap 83, on 1 July 1977. PUB was more recently established as an SOE under the SOE Act which came into force on 1 August 2013 with a more independent Board of Directors. It supplies and distributes electricity to South Tarawa customers from Betio to Nabeina.
▪ Kiribati Solar Energy Company Ltd (**KSEC**)	100% government-owned liability company with the majority shareholding being held by the Minister of Public Works and Utilities. The main objective of the KSEC is in expanding the use of renewable energy through solar photovoltaic on outer islands and in urban districts.
▪ Kiribati Oil Company Ltd (**KOIL**)	100% government-owned enterprise supplying fuel, propane gas, a wide selection of motor oil and other energy related products and services in Kiribati. They have their main facilities in Betio and Kiritimati.

5.5.2 Sector Summary (Extent and Condition of Infrastructure)

As a small, remote island state, Kiribati is highly dependent on imported energy supply. Electricity is one of the government's largest expenditures. Yet the current fossil fuel-based power system is inadequate to meet future demand and nearing the end of their economic lifespans, leading to frequent blackouts that affect businesses and families alike. The main source of lighting for households in Kiribati is solar power, with dry cell batteries being the next most used source (Table 5-2).

Table 5-2: Sources of Energy for Lighting

Source of lighting	Division						Urban/rural area		I-Kiribati head of household
	Total	South Tarawa	Northern	Central	Southern	Line Islands & Phoenix	Urban	Rural	
Electricity	8,217	7,011	422	50	102	632	7,641	576	7,672
Pressure lamp	24	8	2	2	4	8	8	16	24
Kerosene lamp	223	61	80	20	61	1	61	162	218
Solar	12,815	3,478	3,120	1,538	3,062	1,617	4,412	8,403	12,396
Dry cell batteries/ batteries	1,515	240	731	207	241	96	244	1,271	1,484
None	519	146	190	88	90	5	150	369	513
Generator	12	-	2	6	4	-	-	12	12
Mobile / cellphone torch	20	6	5	3	6	-	6	14	18
Other source of lighting	71	25	21	9	15	1	26	45	69

Source: Kiribati Population and Housing Survey 2020 (Government of Kiribati, National Statistics Office, 2021, p. 117).

5.5.3 Issues and Challenges (Investment Drivers)

Kiribati's distance from markets and high reliance on imported diesel contribute to one of the highest costs of power generation in the region ($0.36 per kWh, against the regional average of $0.32). Although 72% of the population in South Tarawa is connected to the grid, high electricity costs suppress demand, impede business growth, and contribute to energy poverty.

The Kiribati Integrated Energy Roadmap, 2017–2025 identifies solar power as the least-cost option for scaling up renewable power generation and improving energy security. South

Tarawa has 1.57 MWp of grid-connected solar plants, but there remains a significant untapped potential to develop up to 554 MWp of solar and 1.1 MWp of wind.

The central barriers to scaling up renewable energy generation in Kiribati include (i) lack of energy storage to manage intermittency and supply night-time demand, (ii) limited financing options apart from development partners, and (iii) a policy and regulatory environment that is not conducive to private sector investment. ADB is supporting government efforts to install more solar generation while addressing each of these barriers.

The South Tarawa Renewable Energy Project (US$14.7m) will directly increase the share of renewable energy serving the capital and pave the way for further investment in clean energy.

SECTION 6

PROJECT PIPELINE

This section of the NIIP presents the longlist of candidate projects submitted by the participating agencies and performs checks on any gaps in coverage or disproportionate representation. Another key output from the NIIP process is a structured, central register of all projects and their key attributes (impact, costs, responsibilities, timeframe, etc.). This project database has been provided to NEPO for their ongoing management and upkeep.

6.1 Primary Sources of Project Information (Bibliography)

Cascading down from the KV20 and KDP 2020–2023 are a series of sector-, institutional-, and island-level plans which connect the national strategy to the required investment projects and revenue streams. In formulating the NIIP, the following documents have been reviewed to establish an understanding of the respective sector-level investment strategies reported in **Section 5**, and to unearth and consolidate the pipeline of projects presented in **Section 6**.

Direct Project Lists

- Kiribati Development Plan
- National Development Budget (supporting spreadsheets)
- Development Projects (Donor project List from NEPO)
- National Development Coordination Plan (Project List from NDC Plan)

Strategic Planning Documents Reviewed

- National Water Resources Implementation Plan Sustainable Water Resource Management, Use, Protection and Conservation: A 10-Year Plan, November 2008
- Tarawa Water Master Plan: 2010–2030, December 2010
- Kiribati Climate Change and Disaster Risk Finance Assessment 2019
- Mid-term evaluation of the Kiribati Solid Waste Management Programme, April 2019
- Kiribati National Energy Policy
- Pacific Energy Update of the Asian Development Bank, 2021
- Scaling up Renewable Energy in Low Income Countries: Investment Plan for Kiribati, 2018
- Kiribati National Urban Policy
- Maiana Island Strategic Plan 2020–2023
- Nonouti Island Strategic Plan 2020–2023
- Ministry of Information, Communication, Transport and Tourism Development Strategic Plan 2020–2023
- Kiribati Utilities Reform Programme, 2022–2027
- Kiribati Infrastructure Sector Review, PRIF, 2009
- Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management 2019–2028
- Kiribati National Investment Policy Framework 2018–2028

Understandably, the same projects were represented across the different lists and documents; however, they were not always given the same name or described in the same way so there was a reconciliation required by the project team; where there were questions the team went back to the agencies and NEPO to reconcile the lists numerous times. Many of the projects have grown in scope and size; further, for several of the projects, the feasibility study has been separately scheduled as its findings will likely dictate the subsequent prioritization and planning decisions prior to full commitment of the main capital project.

6.2 Establishing the Project Database

To complete the analysis presented in this Section, it was necessary to develop a structured database to hold the register of projects in a structured manner. The format of this database is described in Table 6-1.

Table 6-1: Proposed Database Fields for Central Infrastructure Project Register

ID	Field	Field Description
1	**Reference Number**	A unique project reference. This is either the NEPO-assigned ID for projects in their register, or a temporary number generated for pipeline projects in the NIIP.
2	**Sector**	The primary sector the infrastructure is associated with. This is not always the same as the main sector the entity operates in. For example, if MSI has a project to build a bridge then it would be classed as a 'Road' sector project. ROAD – Land Transport MARINE – Maritime and Ports AIR – Airports ENERGY – Energy Generation and Transmission WATER – Water and Sanitation BUILDINGS – Government Facilities, Hospitals, Schools, etc. URBAN – Urban Development WATERWAYS – River And Coastal Protection TELECOM – Information and Telecommunications WASTE – Waste Management
3	**Project Type**	Is the capital project to build, rebuild or improve infrastructure? New – Build new infrastructure Upgrade – Upgrade/Improve existing capacity of expand extent Renew – Refurbish or replace existing (like with like) Study – Feasibility study for major infrastructure
4	**Program (PgM)**	Programs cover many sites, can include infrastructure and non-infrastructure components, and often relate to renewing existing infrastructure (e.g., road rehabilitation, town center upgrade, bridge replacements, pipe renewals).
5	**Lead Entity**	The lead agency/entity responsible for delivering the project.
6	**Line Ministry**	The concerned ministry(s) or responsible minister that has a stake in funding or administering the capital construction.
7	**Project Name**	Brief project title.
8	**Brief Description**	Brief description which will help people understand the broad scope of the project.
9	**Island**	The location (island) that the project will serve which may be wider than where the project is based.

<table>
<tr><th>ID</th><th>Field</th><th>Field Description</th></tr>
<tr><td>10</td><td>Group</td><td>Geographic region (Island Group).</td></tr>
<tr><td>11</td><td>Project Sourced From</td><td>The generic entity who has knowledge of the project and/or maintains a list from which this project was identified.</td></tr>
<tr><td>12</td><td>Status of Project</td><td>The stage the project is at in the delivery cycle.
<table><tr><td>Ongoing</td><td>Ongoing (multi-year budgeted).</td></tr><tr><td>Budgeted</td><td>Designs complete and budget approved but not yet started.</td></tr><tr><td>Approved</td><td>Funding secured and approved.</td></tr><tr><td>Committed</td><td>Approved by Development Coordination Committee (funding not yet confirmed)</td></tr><tr><td>Planned</td><td>Identified in agency's forward program. Feasibility phase complete.</td></tr><tr><td>Pipeline</td><td>Pipeline project. Early stage of development.</td></tr></table></td></tr>
<tr><td>13</td><td>Latest Estimate</td><td>Best estimate of construction cost.</td></tr>
<tr><td>14</td><td>Currency</td><td>The currency of the estimate.</td></tr>
<tr><td>15</td><td>Estimate Quality</td><td>The quality of the project capital cost estimate.
<table><tr><td>Excellent</td><td>"Engineering level". Scope and design parameters known. Budget level estimate built up from unit costs.</td></tr><tr><td>Good</td><td>"Feasibility level". Scope defined and reasonable estimate and cost breakdown.</td></tr><tr><td>Fair</td><td>"Rough order cost". Scope reasonably defined. Estimate based on engineering judgement. No breakdown.</td></tr><tr><td>Poor</td><td>"Order of Magnitude". Scope not well defined. Cost indicative only.</td></tr></table></td></tr>
<tr><td>16</td><td>Likely Funding</td><td>Best estimate of the likely budget source(s) from which the project will be funded. One or more sources marked with "X". If donor is known specific in Field#17.
<table><tr><td>Capex</td><td>Funding likely from agencies own capital budget</td></tr><tr><td>Grant</td><td>Funding likely from government grant/transfer/budget</td></tr><tr><td>Donor</td><td>Funding likely from development partner</td></tr><tr><td>Private</td><td>Private funding source (e.g., church, community)</td></tr><tr><td>Unknown</td><td>Funding source is unknown at this stage</td></tr></table></td></tr>
<tr><td>17</td><td>Secured Funding from</td><td>For Approved, Budgeted and Ongoing projects where development partners providing funding, please name the donor(s).</td></tr>
<tr><td>18</td><td>Cost Estimate</td><td>The cost estimate (Field#13) converted to $, million Australian dollars.</td></tr>
<tr><td>19</td><td>Estimated Progress / Expenditure (%)</td><td>Used to estimate how non-pipeline (i.e., committed-ongoing) project costs will be spread/spent across the next 10 years. Annual cashflow projections to the nearest 5-10% is sufficient when estimating future spend on approved/committed projects.</td></tr>
</table>

Source: Authors.

A workshop was held on 20 June 2022 to review the list and identify any missing projects. At that point there were 122 projects in the register totaling $1.29 billion, with only 6% of that total in the planned/pipeline.

First NIIP Workshop 20 June 2022

From the workshop review and follow-up activities, additional projects were identified and added to the register. It is important to note that none of these projects were "dreamed up" for this project; as per instruction provided in the workshop, "the NIIP project register is to contain projects agencies have identified in their strategic or corporate level plans that pertain to capital construction and **are likely to need funding within the next 10 years**".

A second iteration of the database was sent to all participating agencies on 19 July 2022 for a final review and to update missing information – in particular the forecast of expenditure on committed/budgeted projects. In parallel, participating agencies were also asked to complete the impact assessment form for pipeline projects over $2 million (discussed in Section 7). At that point, there were 200 projects in the register totaling $4.76 billion with 66% of that total in the planned/pipeline (Figure 6-2).

Figure 6-2: Infrastructure Capital Construction Project Database

Proj. Ref.	Sector Code	Project Type	PgM ?	Lead Agency	Concerned Ministry	Project	Brief Description	Island	Group	Project Sourced From	Status	Latest Estimate ($)	Curr.	Estimate Quality
B125	Buildings	New	Yes	OB		Outer Island Resilience and Adaptation Program	Climate change resilience program	(multi)	National	NEPO	Approved	7,200,000	AUD	Excellent
A104	Air	Upgrade	No	MICT		Upgrading of Air Kiribati Hangar and office	Redevelopment of AKL hangar and office	South Tarawa	South Tarawa	Agency	Approved	1,000,000	AUD	Excellent
T107	Telecom	New	No	MICT		New Broadcasting Station	Establishing a new broadcasting station on Xmas island	Kiritimati	Pheonix and Line	Agency	Ongoing	747,666	AUD	Excellent
M108	Marine	Upgrade	No	MICT		Upgrading of Betio Wharf	Upgrading of existing wharf to serve the new patrol boat	South Tarawa	South Tarawa	Agency	Approved	350,000	AUD	
B126	Buildings	New	No	MICT		Building a New Museum Centre on Betio	Battle of Tarawa (WWII) Museum	South Tarawa	South Tarawa	Agency	Pipeline	3,182,846	AUD	Excellent
M109	Marine	New	No	MICT		New Floating Jetty for Kiritimati Island	Installing a new floating jetty for Xmas island	Kiritimati	Pheonix and Line	Agency	Pipeline	61,482	AUD	Excellent
A105	Air	Upgrade	No	CAAK		Resurfacing Outer Islands Airfields	Applying tar sealed runways to all outer island airfields	(multi)	National	Agency	Pipeline	6,041,311	AUD	Excellent
M110	Marine	New	No	KPA		Betio Port Rehabilitation Project	Expanding the existing port at Betio	South Tarawa	South Tarawa	Agency	Pipeline	2,236,160	AUD	Excellent
A106	Air	New	No	CAAK		New Airstrip for Banaba	Installin a new airstrip for Banaba island	Banaba	Central Gilbert	Agency	Approved	1,000,000	AUD	Fair
B127	Buildings	New	No	KPA		New KPA Office on Kiritimati	Building a new office for KPA Xmas branch	Kiritimati	Pheonix and Line	Agency	Approved	354,000	AUD	Excellent
M111	Marine	Renew	No	KPA		Seawall Repair at the West Mole, Betio Wharf	West mole seawall repair works	South Tarawa	South Tarawa	Agency	Approved	220,000	AUD	Excellent
M112	Marine	Renew	No	KPA		Rehabilitation of Betio Container Yard	Container yard concrete pavement	South Tarawa	South Tarawa	Agency	Ongoing	4,400,000	AUD	Excellent
M113	Marine	Upgrade	No	KPA		Betio Yard Expansion	Container yard expansion phase 1	South Tarawa	South Tarawa	Agency	Approved	1,160,000	AUD	Excellent
M114	Marine	Upgrade	No	KPA		Landfill-Port Expansion	Container yard expansion phase 2	South Tarawa	South Tarawa	Agency	Approved	3,000,000	AUD	Excellent
B128	Buildings	Upgrade	No	KPA		KPA Engineering Workshop Upgrade	Building a new engineering workshop building	South Tarawa	South Tarawa	Agency	Approved	518,000	AUD	Excellent
M115	Marine	Renew	No	KPA		Bairiki Old Wharf Redevelopment	Rebuilding the existing Bairiki wharf	South Tarawa	South Tarawa	Agency	Approved	3,600,000	AUD	Excellent
M116	Marine	Renew	No	KPA		New Outer Island Wharfs	Building a new outer Island Wharf- 3 selected islands with poor/doesn't have a wharf	(multi)	National	Agency	Approved	6,000,000	AUD	Excellent
1502H017	Marine	Upgrade	No	MIA		Maneaba Upgrading	Upgrading of the existing of the Council's Maneaba	Butaritari	North Gilbert	Agency	Ongoing	43,810	AUD	Excellent
B129	Buildings	Renew	No	MIA		Butaritari Island Guest House	The new guest house on Butaritari island	Butaritari	North Gilbert	Agency	Planned	250,400	AUD	Excellent

Source: Authors.

Our international experts held a second and final round of face-to-face consultations in Kiribati between the 26–31 August 2022 and 19–23 September 2022 to present and finalize the financial analysis and to validate the register of capital construction projects. Table 6-3 shows the entities were met and consulted with during this time.

Table 6-3: Schedule of Final Round of Consultations

Date	Entity	Title	Outcome
26-30/08	NEPO	Keieta Tekabwaara Senior Economist	Review draft NIIP. Validate financial analysis and present MCA framework. Identify investment-ready projects.
26-31/08	NEPO	Vanessa Vaai OIC	Review draft NIIP. Received copies of final documents. Briefed on revised Terms of Reference of Kiribati Infrastructure Development Steering Committee of DCC. Provided briefing on visit and next steps.
26/08	JICA	Matsui, Nobuaki JICA Field Office Volunteer Coordinator, Project Formulation	Confirmed JICA's interest in supporting Kiribati project in future.

Date	Entity	Title	Outcome
27/08	PUB	James Young CEO	Explanation of draft NIIP. Invited to submit PUB projects for which PUB will be seeking funding in next 10 years. (Sought extra projects and MCA forms)
27/08	MFED	Jeffrey Lamb Director, Green Financing Division	Phone briefing on NIIP. Referred to Ruth Cross in the Division for more information.
29/08	KOIL	Tiimi Kaiekieki CEO	Captured extra project and MCA form.
29/08	MISE	Peter Tong Acting Director Planning	Introduced to new Director of Engineering and follow up on outstanding MCAs.
29/08	MISE	Nemani Waqanivalu Director Engineering	Confirmed asset register is in awareness stage.
29/08	MICT	Ioane Titaake Planning Officer	Confirmed MCAs yet to be received.
29/08	BNL	Ioane N. Koroivuki CEO	Confirmed funding of both cable projects and an indication of operating and maintenance costs.
29/08	MFED	Ruth Cross Climate Finance Project Associate	Confirmed role of Climate Finance Division and obtained three new projects and MCAs.
31/08	ADB	Teatao T. Tira Senior Country Officer	Briefed on draft NIIP. Presented list of ADB- funded projects and obtained confirmation of completeness and accuracy.
31/08	US Dept of State	Tony Greubel Charge d'Affaires ad interim, US Embassy Richard Fitzmaurice First Secretary, Pacific Regional Officer	General discussion on US aid to Kiribati through multilateral partners.
31/08	DFAT	Tim Gill Deputy High Commissioner	Understanding of DFAT bilateral envelope and other sources of infrastructure funding from Australia (Defence, PRAIIF)
19/9	NEPO/ MFAI	Secretary MFED Ms. Koin Uriam Kiritione, OIC NEPO Ms. Vanessa Vaai, MFAI rep Ms. Betty Mapuola, Acting Senior Economist Ms. Keieta Tekabwaara	Present final report, discuss project shortlist, DCC submission process, dossier of priority next wave investments.
20/9	MFAT	First Secretary to MFAT Ms. Marni Gilbert, Ms. Ngaina Teiwaki, MFAT, Mr. Abi rep from MFAT, Ms. Betty Mapuola, MFAI rep, Ms. Keieta Tekabwaara, Acting Senior Economist	Present final report and financial analysis. Discuss AM drivers and projects.
21/09	PRC	First Secretary, the Embassy of the People's Republic of China in Kiribati Mr. Xu Haohang, Ms. Keieta Tekabwaara, NEPO	Present final report, DCC submission process, review PRC projects.
21/09	MISE / PUB	Ms. Moanibou A Muller, SAS MISE, Mr. Teuea Tebau, Acting DS MISE, Mr. Joseph Bautaake, Project Officer MISE, Mr. Peter Tong, Project TA MISE, Mr. Panapa Pita, Senior Civil Engineer MISE, Ms. Tibwe Taraua, Water Engineer MISE, Ms. Laavaneta Juliano, Structural Engineer MISE, Mr. Toatau Irata, Costing Division MISE, Mr. James Young, CEO PUB, Mr. Nemani Waqanivalu, Director of Engineering Services MISE, Karetita Tekautu, Economist NEPO, Ueue Nabuti, Economist NEPO, Keieta Tekabwaara, Acting Senior Economist NEPO	Present final report, discuss project shortlist, DCC submission process, off-budget submissions, dossier of priority next wave investments, missing PUB projects for inclusion, MCA process.
22/09	MICT	Mr. Bareti Tong, Director, Research and Planning Unit, MICT, Mr. Ioane Titaake, Senior Development Planner, Mr. Tioti Batuao Planning Officer, MICT, Mr. Bernard Tom Project Officer, KPA, Ms. Ueue Nabuti, Economist NEPO, Ms. Keieta Tekabwaara Actg. Senior Economist, NEPO	Present final report, discuss project shortlist, DCC submission process, dossier of priority next wave investments. Review MICT projects. Discuss NDC Plan and projects.

Date	Entity	Title	Outcome
22/09	MIA	Ms. Ruube Barekiau, Senior Rural Development Officer, Rural Planning Division MIA, Mr. Kaotitaake Kokoria, SAS MIA, Mr. Bautara Danny, Local Government Maintenance Officer, MIA, Mr. Riare Manuera, Local Government Internal Auditor, Mr. Buren Timi, Economist NEPO, Ms. Keieta Tekabwaara Actg.Senior Economist, NEPO	Present final report, discuss project shortlist, DCC submission process, dossier of priority next wave investments. Review MIA projects and discuss Museum project.

NEPO: National Economic Planning Unit; JICA: Japan International Cooperation Assistance; PUB: Public Utility Board; MFED: Ministry for Finance and Economic Development; KOIL: Kiribati Oil Company; MISE: Ministry of Infrastructure and Sustainable Energy; MICT: Ministry of Information, Communication and Transport; BNL: BwebwerikiNET Ltd (Fibre Company); ADB: Asian Development Bank; US: United States; DFAT: Department of Foreign Affairs and Trade; PRC: People's Republic of China; MIA: Ministry of Foreign Affairs.

Source: Authors.

6.3 Capital Project Database Summary

The final project database of infrastructure capital construction projects assembled for the NIIP project contains **211 projects** including current projects which are ongoing, budgeted, approved, or committed through to those pipeline projects which would require funding within the next 10 years.

A threshold of >$100,000 was set for identifying capital construction and information was sourced across 19 entities as summarized in Table 6-2 below.

Table 6-2: Project Database (Projects by Entity)

Entity	Name	Current #	Current ($m) [1]	Future #	Future ($m) [1]
KHC	Kiribati Housing Corporation	2	7.6	2	17.8
KNSL	Kiribati National Shipping Line			1	2.9
KOIL	Kiribati Oil Company Ltd			1	10.0
KPA	Kiribati Ports Authority	7	15.7	2	5.8
MEHR	Ministry of Employment and Human Resources	3	16.6		
MELAD	Ministry of Environment, Lands and Agricultural Dev.	1	1.8		
MFED	Ministry of Finance and Economic Development	2	10.8	3	61.4
MFMRD	Ministry of Fisheries and Marine Resource Dev.	8	239.4		
MHMS	Ministry of Health and Medical Services	7	21.8	5	267.7
MIA	Ministry of Internal Affairs	8	9.6	18	35.4
MICT	Ministry of Information, Communication, Transport	18	312.4	26	362.2
MISE	Ministry of Infrastructure and Sustainable Energy	16	339.5	20	861.5
MLPID	Ministry of Line and Phoenix Island Development	9	30.7	3	4.2
MOE	Ministry of Education	7	67.0	6	97.4
MOJ	Ministry of Justice	1	0.2	2	1.2
MTCIC	Ministry of Tourism, Commerce, Industry and Coop.	5	9.9	6	18.6
MWYSA	Ministry of Women, Youth and Social Affairs	3	17.5	7	51.5
OB	Office of President	4	6.1	3	351.5
PUB	Public Utilities Board	3	171.7	2	3.3
	Totals [2]	**104**	**1,278.3**	**107**	**2,152.5**

Source: NIIP Project Database.

Notes:

1. *"Current" projects are those with a status of Ongoing, Budgeted or Approved by the cabinet or Committed to by DCC. "Future" projects are those with a status of planned or pipeline (refer Table 6-1 for status definitions) and have yet to be screened.*
2. *The cost/budget for projects is the total estimated construction costs. Thus, the dollar sum in the current column does not equate to remaining spend – this is elaborated on in the analysis contained in Section 6.4.*

While the summation of the total project budget for "current" projects is $1.28 billion, it is estimated from entity expenditure projections that $73 million of this sum will have been spent by the end of 2022, leaving ~$1.21 billion of "current" committed projects still to be expended. The financial impact of this level of construction has been discussed in Section 4.

It can be observed in Table 6-2, that the majority of infrastructure is delivered by eight key entities: MFMRD, MHMS, MICT, MISE, MLPID, MOE, OB and PUB (PUB appears to have a limited pipeline, however, because the $595m PUB Power Upgrade Program sits with MISE at this stage).

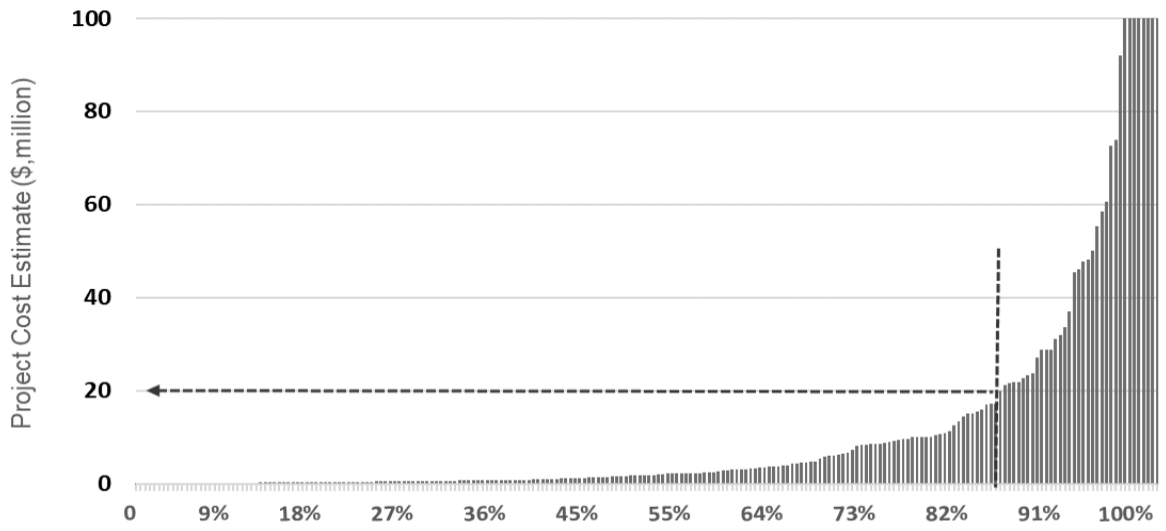
Table 6-3: Project Database (Projects by Sector)

Name	Current #	Current ($m) [1]	Future #	Future ($m) [1]
Air	7	38.5	10	103.5
Buildings	49	166.5	44	504.1
Energy	5	96.3	11	615.0
Marine	14	314.5	15	72.3
Road	9	245.6	11	260.3
Telecom	12	219.6	4	24.7
Urban	1	10.9	4	323.0
Water	7	186.5	8	249.7
	104	**1,278.3**	**107**	**2,152.5**

Source: NIIP Project Database.
Note: "Current" projects are those with a status of Ongoing, Budgeted, Approved or Committed.
"Future" projects are those with a status of planned or pipeline (refer Table 6-1 for status definitions).

Another key observation in reviewing the capital construction database is that some very large projects, especially those in the planned pipeline, tend to inflate the values. 85% of projects have a cost estimate below $20 million and account for only 16% of capital construction budget for all current/future projects (Figure 6-4).

Figure 6-4: Distribution of Capital Construction Projects by Cost (all)



Source: NIIP Project Database.

Table 6-5: Largest Capital Construction Projects/Programs in the Database

ID	Status	Lead	Project Name	Status	Cost Est.
E107	Energy	MISE	PUB Power Upgrade Program	Planned	594.9
U102	Urban	OB	Temaiku Reclamation Project	Committed	300.0
2704H180	Road	MISE	Outer Islands Infrastructure Program	Approved	216.8
M105	Marine	MFMRD	Transshipment Hub on Kiritimati/Tarawa	Committed	216.3
R113	Road	MICT	Highway Upgrade	Planned	200.0
B156	Buildings	MHMS	Upgrading Works to Tungaru Central Hosp.	Planned	150.0
W110	Water	MISE	Sanitation for all households	Planned	125.2
B176	Buildings	MHMS	Southern Kiribati Hospital (SKH) Renovation	Planned	110.0
2706L034	Water	PUB	South Tarawa Water Supply Project	Ongoing	92.1
B193	Buildings	MOE	Staff Housing at Outer Islands	Planned	73.9
					2,079.1

MISE: Ministry of Infrastructure and Sustainable Energy; OB: Office of Te Beretitenti (President); MFMRD: Ministry of Fisheries & Marine Resource Development; MICT: Ministry of Information, Communication and Transport; MHMS: Ministry of Health and Medical Services; PUB: Public Utility Board; MOE: Ministry of Education.
Source: Authors.

The primary objectives for establishing a central database of all infrastructure capital construction projects (and related studies) are to answer the following questions:

Q1. What is the current financial commitment to fund infrastructure? (Section 6.4)
Q2. What is the size of the pipeline of planned future investments? (Section 6.5)

By using the project database described above, economic analysis in Section 4 and MCA prioritization criteria outlined in Section 7, ultimately answer the final question:

Q3. Which investment ready projects are prioritized for further development? (Section 8)

6.4 Summary of Current Projects

The project database contains 211 capital construction projects, 103 of which have a status of ongoing, budgeted, approved (by cabinet) or committed (screened and approved by DCC) – this is considered to be the "current" program commitments (definitions are provided in Table 6-1, item 12). There is a good distribution of these projects across the sectors as shown in Table 6-8, with 30% ongoing/budgeted, 40% approved (in final appraisal/design stage) and 29% committed (approved and seeking funding).

Table 6-6: "Current" Capital Projects (by Sector)

Sector	#	Ongoing	Included in Budget	Cabinet Approved	DCC Committed	Total Current
Air	7	3.5	0.2	13.0	21.9	38.5
Buildings	49	25.6	61.3	19.6	60.0	166.5
Energy	4	21.9		16.0	58.4	96.3
Marine	14	15.8		78.8	220.0	314.5
Road	9	1.0	1.4	240.1	3.1	245.6
Telecom	12	36.0	34.6	148.7	0.2	219.6
Urban	1				10.9	10.9
Water	7	157.3	28.8	0.4		186.5
Totals	104	**261.1**	**126.3**	**516.5**	**374.5**	**1,278.3**
		20%	10%	40%	29%	

DCC: Development Coordination Committee.
Source: NIIP Project Database.

In total, 55 projects have been endorsed to seek funding by the Development Coordination Committee (i.e., status = "approved" or "committed"). Of those, 31 ($516 million) have a status of approved – which in line with database definition means they have been approved by cabinet and funding is in place. However, upon closer examination it appears many of these projects have not yet formalized funding agreements or MOUs.

A key activity performed by the NIIP project team was to work with NEPO and the participating agencies to forecast the likely expenditure (remaining percentage by year), for "current" DCC endorsed projects. This included an estimate of the percentage spent at the end of the current (2022) budget year. Analysis of these projections allow us to estimate the annualized funding commitment required for the current projects (committed-ongoing), as presented in Table 6-7.

Table 6-7: Projected Expenditure on "Current" Infrastructure Projects (by Sector)

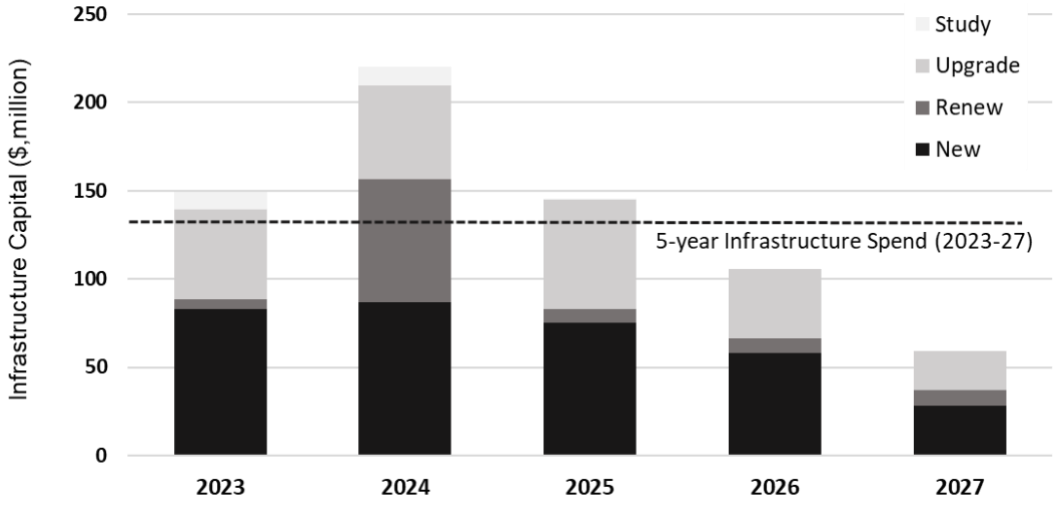
Sector	#	Total Cost	To 2022	2023	2024	2025	2026	2027
Air	7	38.5	1.0	6.2	16.5	14.8	0.0	0.0
Buildings	49	166.5	29.3	34.9	37.5	28.0	11.9	2.7
Energy	5	96.3	21.3	0.0	7.4	19.1	19.1	13.3
Marine	14	314.5	24.1	15.0	10.8	18.6	21.7	24.8
Road	9	245.6	156.4	3.6	67.0	5.2	5.1	7.4
Telecom	12	219.6	39.6	45.3	39.9	39.6	40.3	4.1
Urban	1	10.9	1.1	2.2	5.4	2.2	0.0	0.0
Water	7	186.5	65.9	42.3	35.6	18.0	7.8	6.9
Total ($m)	104	**1,278.3**	**338.7**	**149.5**	**220.1**	**145.5**	**105.8**	**59.2**

Source: NIIP Project Database.
Note: The figures above exclude "studies".

The projections above were used to assess the funding liabilities of the "current" program and compare with past expenditures. The financial impact of the current infrastructure program commitments is reported on in **Section 4**.

As with any forward projection, the "current" commitments begin to tail away after 2025 (Figure 6-8). We have not put cost projections against the $2.15 billion planned pipeline as these projects have yet to be approved and any projections would be highly speculative.

Figure 6-8: Projected Expenditure on "Current" Infrastructure Projects



Source: NIIP Project Database.

6.4.1 Infrastructure Maintenance and Renewal

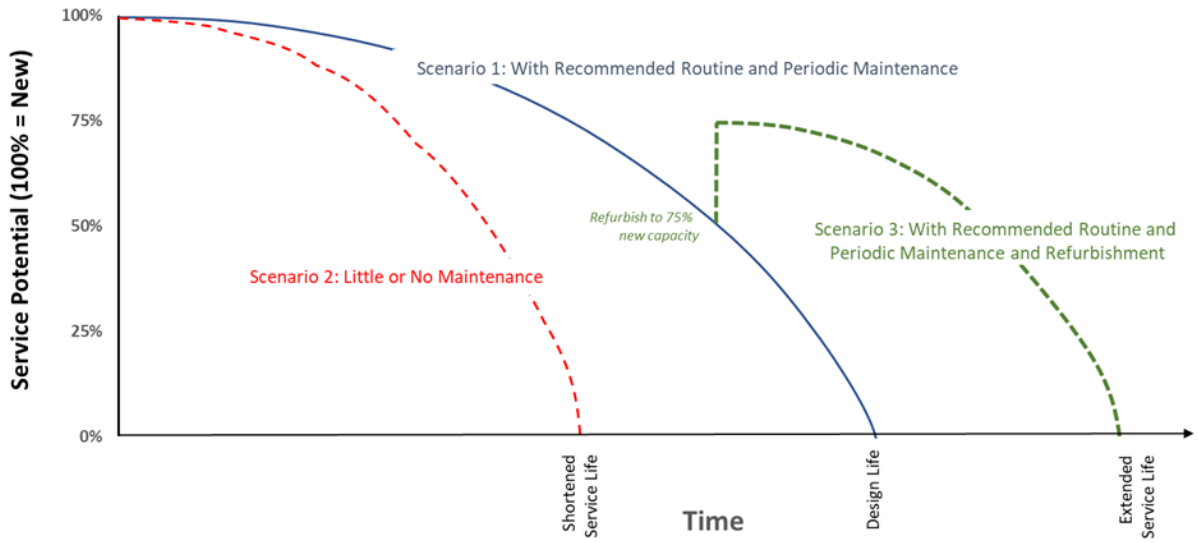
A key observation upon reviewing the "current" committed program (Figure 6-8) is that participating agencies have a far greater proportion of their projects focused on expanding and improving their asset base (new/upgrade) over rehabilitating and renewing existing. In part this could reflect nature of development in Kiribati, but we have seen similar trends across the pacific where not enough focus is spent on optimizing the condition of existing infrastructure.

A recent PRIF study into maintenance across the pacific outlines the importance of adequately budgeting and managing "whole-of-life" infrastructure costs to ensure the maximum potential life of infrastructure is realized.[43]

When new infrastructure is built it will typically have a "design life" assigned upon which its economic viability will have been assessed. To achieve this, asset managers need to adhere to the manufacturers' recommended maintenance regime or accepted best practice. When maintenance regimes are not followed, assets will fail to meet service standards (for example, pumping capacity, in-service hours) and thus need replacement before their design life has been realized. In this situation the "service life" of the asset will be less than its design life (Scenario 2 in Figure 6-9).

"Capital maintenance" in the form of a **rehabilitation or refurbishment** can restore the service potential of an asset and extend its service life beyond its original design life (Scenario 3 in Figure 6-9). The Maintenance Benchmarking Report promotes a move toward this scenario (3) whereby a greater volume of planned capital maintenance is carried out to extend the service life of infrastructure assets beyond their original design life and result in overall lower whole-of-life costs to infrastructure entities.

Figure 6-9: The Impact of Maintenance and Renewal on the Service Life of Assets



Source: Adapted from Asset Management Insights Ltd. (2013). Effective Age. Retrieved from Asset Insights.net: https://www.assetinsights.net/Glossary/G_Effective_Age.html.

[43] PRIF. 2021. Infrastructure Maintenance across PICs: Maintenance Benchmarking Report.

The other negative consequence of the forward program having a disproportionate focus on building new infrastructure to the detriment of having sufficient funds to operate, maintain, refurbish and rehabilitate existing assets is that expanding the asset base also increases the ongoing liabilities to operate and maintain (and rehabilitate) that new infrastructure, as explained in Section 4.4.2.

The project impact assessment criteria and prioritization framework outlined in Section 7, attempts to address this bias by introducing rating criteria that score projects which rehabilitate existing infrastructure assets higher than capital construction projects that expand the asset base.

6.5 Summary "Unfunded" Planned Pipeline

A very sizeable, planned pipeline of future projects was identified during formulation of the NIIP. The question asked of participating agencies was "what projects are in your corporate or strategic plans that are likely to require capital investment within the next 10 years". As such, the pipeline is a credible list of potential projects, as opposed to a rough "wish-list" of abstract projects, and it signals what agencies feel is needed to keep their current infrastructure operational (through rehabilitation and renewal projects) or to improve or expand it to meet future demand.

The size of the pipeline is somewhat alarming given past levels of expenditure and the challenges Kiribati will face funding the "current" program, the analysis of which has been discussed in Section 4.5.

The project database contains 107 projects which have a status of planned or pipeline – this is the "future" program commitments (definitions are provided in Table 6-1, item 12). There is a good distribution of these projects across the sectors as shown in Table 6-12.

Table 6-10: "Future" Capital Projects (by Sector)

Sector	#	Planned	#	Pipeline	Total Future
Air	8	49.0	2	54.5	**103.5**
Buildings	33	409.6	11	94.5	**504.1**
Energy	8	610.9	3	4.0	**615.0**
Marine	12	57.1	3	15.2	**72.3**
Road	9	212.7	2	47.6	**260.3**
Telecom	4	24.7			**24.7**
Urban	4	323.0			**323.0**
Water	6	242.5	2	7.2	**249.7**
Totals	84	**1,929.5**	23	**223.0**	**2,152.5**

Source: NIIP Project Database.

The very real fiscal constraint in funding infrastructure, necessitates a robust process for screening pipeline projects (the MCA process as presented in Section 7). However, it is not practical or necessary to screen the entire portfolio of 98 "future" projects as part of the NIIP project.

Given a key aim of the NIIP is to identify "high priority projects for future development" and investment, it was decided, in consultation with NEPO, to limit the MCA to those projects which were identified as

a) likely requiring external funding
b) not currently approved (i.e., committed, planned or pipeline)

c) reasonably large in scale (>$3 million)
d) Funding source identified as "unknown"

Applying the above filter criteria identified **47 projects** to flow through to the Gateway 1 MCA analysis (Table 6-11).

Table 6-11: List of "Unfunded" Capital Projects (>$3m) – for Gateway 1 Review

ID	Sector	Lead	Project Name	Status	Cost Est.
A117	Air	MICT	Airport and Airfield Infrastructure Upgrade (T14)	Pipeline	46.1
A119	Air	MICT	Resurfacing Outer Islands Airfields (Phase 2)	Planned	22.6
A102	Air	MICT	Upgrading of Kanton Airport Runway	Committed	21.9
A110	Air	MICT	Bonriki Apron Extension	Planned	12.5
A116	Air	MICT	Sustainable Aviation Fuel Integration Initiative (T12)	Pipeline	8.4
A111	Air	MICT	Banaba Airport Construction	Planned	6.7
B156	Buildings	MHMS	Upgrading Works to Tungaru Central Hospital	Planned	150.0
B176	Buildings	MHMS	Southern Kiribati Hospital (SKH) Renovation	Planned	110.0
B193	Buildings	MOE	Staff Housing at Outer Islands	Planned	73.9
B189	Buildings	MOE	School Fence for All	Committed	31.9
B164	Buildings	MWYSA	Sport City at Temaiku and Ananau Causeway	Pipeline	27.0
B187	Buildings	KHC	Kiribati Housing Corp. - Upgrading of Housing	Planned	13.3
B167	Buildings	MWYSA	Upgrading of Betio Sport Complex	Planned	10.0
B163	Buildings	MWYSA	Construction of Mini Gymnasium	Pipeline	9.7
B190	Buildings	MOE	School Multi-Purpose Hall (Permanent Maneaba)	Planned	9.6
B192	Buildings	MOE	Improving Access to JSS Education	Planned	9.3
B188	Buildings	MOE	Permanent Classroom for Primary Schools Phase 1	Committed	8.7
B117	Buildings	MTCIC	National Centralized Laboratory	Committed	5.4
B148	Buildings	KHC	Urban Housing Project (TBD)	Planned	4.5
B102	Buildings	MTCIC	Butaritari Food Processing Plant	Planned	3.9
B191	Buildings	MOE	Computer Lab for JSS	Planned	3.7
B110	Buildings	OB	Quarantine and Isolation Centres	Planned	3.7
B147	Buildings	KHC	Urban Housing Project (Betio)	Committed	3.6
B126	Buildings	MIA	Building a New Museum Centre on Betio	Pipeline	3.2
B154	Buildings	MIA	New Museum in Bikenibeu	Planned	3.1
E107	Energy	MISE	PUB Power Upgrade Program	Planned	594.9
E119	Energy	KOIL	Fuel Farm	Planned	10.0
M105	Marine	MFMRD	New Transhipment Hub on Kiritimati and Tarawa	Committed	216.3
M122	Marine	MICT	Replacement for MV Nei Matagare	Planned	20.0
M131	Marine	MTCIC	Zero-Impact Cruise Liner, Phoenix Islands (T9)	Pipeline	10.1
M121	Marine	MICT	Roll-on Roll-off Passenger Ferry for Gilbert Group	Planned	9.5
M126	Marine	MISE	Banaba Island Boat Ramp	Planned	9.0
M132	Marine	MFMRD	Boat and Engine Project Phase II	Committed	3.7
M115	Marine	KPA	Bairiki Old Wharf Redevelopment	Planned	3.6
R113	Road	MICT	Highway Upgrade	Planned	200.0
R120	Road	MISE	Electric Vehicle Network Development (T11)	Pipeline	45.4
R116	Road	MISE	Procure Heavy Equipment for Island Councils	Planned	8.6
T115	Telecom	MICT	Kiribati Domestic Fibre Network Project	Planned	21.6
U102	Urban	OB	Temaiku Reclamation Project	Planned	300.0
U103	Urban	MIA	Bairiki Market II	Planned	15.0
2101A056	Urban	MFMRD	Fisheries New Office	Committed	10.9
U104	Urban	MIA	Betio Mixed Use Development (BTC Fish Market)	Planned	4.7
U101	Urban	MTCIC	Abatao Agriculture and Livestock Project	Planned	3.4
W110	Water	MISE	Sanitation for all Households	Planned	125.2

ID	Sector	Lead	Project Name	Status	Cost Est.
W111	Water	MISE	South Tarawa Septic and Sewer Improvements	Planned	50.0
W105	Water	MISE	Outer Island Water Tanks	Planned	15.1
W113	Water	MHMS	Public Health Clinic's Distillation Plants	Pipeline	6.0

MISE: Ministry of Infrastructure and Sustainable Energy; OB: Office of Te Beretitenti (President); MFMRD: Ministry of Fisheries & Marine Resource Development; MICT: Ministry of Information, Communication and Transport; MIA: Ministry of Internal Affairs; MISE: Ministry of Infrastructure and Sustainable Energy; MHMS: Ministry of Health and Medical Services; PUB: Public Utility Board; MOE: Ministry of Education; MTCIC: Ministry of Tourism, Commerce, Industry and Cooperatives; KPA: Kiribati Port Authority; KOIL: Kiribati Oil Ltd; KHC: Kiribati Housing Corporation; MYYSA: Ministry of Women Youth Sport and Social Affairs.

Source: NIIP Project Database.

SECTION 7

MULTI-CRITERIA ANALYSIS FRAMEWORK

This section describes the multi-criteria analysis and decision-making framework that has been used to assess the relative impact (benefits) delivered by projects in the 10-year pipeline and aid in determining the next wave of **priority projects for further development**. This framework includes screening the projects for completeness, development of the MCA criteria conducting the assessment and scoring.

7.1 Prioritization Criteria

7.1.1 Multi-Criteria Analysis

At the heart of an NIIP is the MCA framework. MCA is a rapid appraisal technique used to rank projects; it is particularly useful at the early stage of project preparation. It defines a set of criteria against which projects are assessed and applies a scoring system to this assessment with a weighting system to allow adjustments to the relative importance of criteria where appropriate.

Prioritization of candidate infrastructure projects helps focus planning activity on the projects with the greatest potential impact on the achievement of national development objectives. Infrastructure needs are always likely to exceed available resources, and the MCA helps direct scarce resources toward projects that are most strongly aligned with the strategic development objectives of Kiribati.

It is common for MCA criteria to be grouped under three "triple bottom line" reporting criteria, namely; **economic, social**, and **environmental** outcomes. There may also be a fourth grouping of criteria that do not neatly fit under these three headings, typically bespoke criteria that rate the strength of a projects alignment with strategy and the capacity of government to implement the project.

The MCA guides more informed judgement by decision makers in ranking projects. Each criterion is applied with judgment based on the information that is available at the time – this can obviously be limited for less developed projects in the 10-year pipeline. Hence the resulting MCA-priority list published within this report **should be reviewed annually** as projects are developed and potentially as priorities shift over time (e.g., pandemic response may put a greater weighting on projects which drive increased revenue for government).

7.1.2 Impact Criteria

The criteria used in the MCA have been developed in consultation with the NIIP coordination unit (MFED/NEPO) and NIIP steering committee (DCC). The criteria were also ratified with participating infrastructure agencies during project workshop and follow-up interviews. Principles applied in selecting the most appropriate criteria, recognizing that there can be tension between these principles, were that the criteria should:

- Reflect the priorities of national development goals and key investment decision criteria;
- follow MECE principles, namely that they are mutually exclusive and comprehensively exhaustive (i.e., little overlap in scoring the different criteria);
- be evidence based and assessed using quantitative data to the extent possible; and
- be limited to no more than 10 to 12 criteria. A higher number of criteria results increases the complexity in the evaluation and narrows the distribution of averaged results.

Table 7-1 presents the 10 criteria approved by the NIIP Steering Committee for use in the prioritization. Table 7-2 highlights the linkages between the criteria and KV20 and KDP goals.

Table 7-1: MCA decision-making criteria

	Benefit Criteria	Consideration (when assigning relative rating score)
1.	**GENERAL BENEFIT AREAS** *Improved reliability of public services and criticality of the project*	
1.1	Reliability and access to public services	Will the project improve asset reliability and deliver a more reliable or expansive service to the public? For example, fewer interruptions, higher quality, greater coverage.
1.2	Criticality of the project	What will be the consequences in terms of capacity or coverage of infrastructure services if the project does not proceed? How urgent is the project?
1.3	Complexity and sustainable operation	How complex is the project? Is there adequate capacity to not only deliver but to operate and maintain the assets?
2.	**SOCIAL IMPACT** *Enhances social services, wellbeing, and regional development.*	
2.1	Access to social services	Will the project facilitate improvements in the delivery of education, health, or community services?
2.2	Regional development	Will the project provide a stimulus to outer island development through improvements in infrastructure related services in these areas?
3.	**ENVIRONMENTAL IMPACT** *Protects the environment and provides resilience to extreme events.*	
3.1	Resilient to climate change and natural disasters (adaptation)	Does the project have specific objectives or components related to climate change adaptation or reducing the impact of natural disasters, in order to make our infrastructure more resilient?[a]
3.2	Impact on the environment	Will the project have a positive, neutral, or negative impact on the environment, e.g., land, coastal and marine environments, water resources?
4.	**FINANCIAL AND ECONOMIC IMPACT** *Promotes economic development of public and private sector and is financially sustainable.*	
4.1	Grow primary industries	Will the project contribute to growth and development of tourism, fisheries, or agriculture?
4.2	Infrastructure cost efficiency (preserve existing)	Does the project focus mainly on the rehabilitation, replacement (at same capacity), or upgrading capacity of existing infrastructure, or on entirely new infrastructure to address unmet demand?
4.3	Grow private sector and local expertise	Will the project provide a stimulus to the growth of existing businesses and the development of new businesses?
4.4	Financial and economic viability of the project	How likely is it that the project will produce sufficient economic benefits to recover the capital cost and generate a reasonable economic internal rate of return?

Note:

[a] Classification of CCCDRM-related activities is taken into consideration in weightings (GoK, 2019, pp. 99-100.).

Source: Adapted from Guideline to Preparing National Infrastructure Investment Plans (PRIF, 2022).

Table 7-2: Primary links between criteria and national development goals

Criteria	Kiribati 20-Year Vision	Kiribati Development Plan 2020-23	Kiribati National Urban Policy
OTHER			
Reliability and access to public services	▪ To improve air, land and sea transport infrastructure. ▪ To develop and improve ICT infrastructure. ▪ To improve access to quality utility and social infrastructure.	6.1 Provide safe sources of drinking water and good sanitation. 6.2 Provide safer and effective building infrastructure. 6.5 To enhance access to communication, technologies, connectivity and quality information and services. 6.6 To improve land, air, and sea transport services. 6.7 Improve energy supply in Kiribati.	5.2 To strengthen management of water and energy resources efficiently, economically, and sustainably. 9.2 To promote regular energy supply that adequately meets public demand. 7.1 To provide 100% coverage of treated tap water in all households in urban areas. 7.4 To ensure 100% coverage of sanitation services with proper collection, transportation, treatment and disposal. 8.2 To provide adequate urban transport infrastructure to ease mobility and travel demand. 8.5 To improve access to ICT services, including internet connectivity to improve quality of education and communication
SOCIAL			
Access to social services	▪ Ensuring accessible and affordable quality healthcare system.	3.3 Improve access to quality health care.	4.1 To provide affordable housing in all urban areas. 6.2 To improve delivery and management of social services for health and education for all. 6.4 To create an urban inclusive environment promote social inclusion, community involvement, and cultural preservation.
Regional development		6.5 To enhance access to communication, technologies, connectivity and quality information and services to all the people of Kiribati.	6.1 To create inclusive infrastructure, provide basic services to the poor related to housing, water, sanitation, and transport. 9.1 To ensure equitable and adequate coverage of electricity and energy provision.
ENVIRONMENTAL			
Adapting to climate change and natural disasters (resilience)	▪ Sustainable management and protection of marine and natural resources.	6.3 To build, upgrade and sustain marine and coastal infrastructure.	3.5 To strengthen physical planning and development that improves mitigation of disaster risk.
Impact on the environment	▪ Improving land use for sustainable development.	4.1 Reducing vulnerabilities and responding to observed and likely impacts of climate change and disaster risks. 4.2 Strengthening and improving the protection, conservation, management, sustainability, and resilience building measures and approaches.	3.4 To promote urban development that reflects efficient use of land, strategic investment phasing, based on green development principles. 5.1 To protect the natural environment in urban areas by enhancing green spaces, protecting and reinvigorating the existing ones. 5.4 To encourage and introduce technological interventions across the waste supply chain to

Criteria	Kiribati 20-Year Vision	Kiribati Development Plan 2020-23	Kiribati National Urban Policy
			maximize recycling and minimize waste for landfill disposal. 9.3 To promote the usage of renewable energy as major sources of energy,
FINANCIAL AND ECONOMIC			
Grow primary industries	▪ Maximizing returns through sustainable fisheries and marine development. ▪ Developing sustainable tourism. ▪ To safeguard, revive and promote tangible cultural heritage. ▪ To harmonize infrastructural development for tourism.	2.1.1 Promote and strengthen sustainable tourism and cultural industry development. 2.1.6 Enabling business environment for both private and foreign investment.	1.2 To promote culture, tourism, handicrafts, and arts as sources of employment opportunities and income for the most vulnerable in the communities. 1.3 To strengthen creative and cultural industries in urban areas to promote Kiribati tourism internationally. 8.4 To enhance telecommunication services on Tarawa and Kiritimati to cater for potential increased population growth and cruise passengers.
Efficiency of infrastructure		6.4 To upgrade and sustain roads, causeways, bridges and runways.	7.2 To ensure availability, quality and sustainability of water-supply through source conservation, increasing efficiency, reducing losses and development of new sources.
Private sector development	▪ Promoting inclusive trade and private sector for sustainable development.	2.1.6 Enabling business environment for both private and foreign Investment.	
Financial and economic viability of the project	▪ Accelerating macroeconomic stability for long-term development	2.2 Strengthen and improve collection of existing revenue sources. 2.4 Increase access, coordination and management of external finance and aid to improve aid effectiveness.	1.1 To improve urban services and infrastructure that supports economic growth.

Source: Adapted from Guideline to Preparing National Infrastructure Investment Plans (PRIF, 2022) and Infrastructure Australia's "Guide to Multi-Criteria Analysis" (2021)

7.2 Rating Against the Criteria

7.2.1 Establishing Criteria Impact Ratings

To build an effective MCA framework, the next step is to create an objective set of impact assessment rating bands for each of the benefit streams/criteria outlined in Table 7-1. The general principles in setting these ratings bands were to:

- where possible, keep to four bands;
- scores always positive (1–10);
- provide an abbreviated description for each band (e.g., low, moderate, high);
- elaborate with a more detailed band description to assist with objective scoring;
- keep rating criteria independent of project scale (normalized);
- keep generic as MCA to apply across multiple sectors and capital project types;
- avoid (or penalize) use of "n/a" or "unknown" – encourage a deeper response.

This led to the following rating assessment bands for each benefit criteria (Table 7-3).

Table 7-3: Benefit Criteria Rating Framework

	Criteria Rating	Objective Description
	GENERAL BENEFITS	
1.1	Reliability and access to public services	
1	None	The project will not contribute to a better quality of service. No change over current levels.
4	Some	There is likely to be some improvement in the quality of service provided to the public and/or users of the infrastructure. But difficult to quantify.
7	Moderate	There will be quantifiable improvements to the quality of service provided to the public and/or users of the infrastructure.
10	High	There will be definite, quantifiable improvements in the quality of service.
1.2	Urgency (criticality) of project	
1	No Risk	Minimal adverse consequences for the delivery of essential infrastructure services if the project is delayed. Project is not urgent.
4	Minor	Some adverse consequences if the project is delayed.
7	Moderate	Moderate level of adverse consequences if the project is delayed.
10	High Risk	Serious adverse consequences for the delivery of essential infrastructure services if the project is delayed. Project is urgent.
1.3	Complexity and sustainability	
10	Basic	Business as usual project. Small scale. Extensive experience in delivering locally.
7	Minor	Mostly delivered by local resources with some international support. Demonstrated experience in implementing similar projects. Reasonably straight forward technology/methods/construction.
4	Moderate	Reliance on offshore expertise to deliver. Similar jobs have been implemented in the past, but the project will put a strain on available resources. Moderate complexity.
1	Extreme	Significant reliance on offshore expertise. Large scale project and/or highly complex with many stakeholders. New to Kiribati.
	SOCIAL BENEFITS	
2.1	Access to social services	
1	None	No impact on education, health, or community services.
4	Some	Project makes an indirect contribution to the delivery of education, health, or community services.
7	Moderate	Project facilitates the delivery of education, health, or community services as an explicit objective.

	Criteria Rating	Objective Description
10	Significant	Project delivers major improvements to the quality or coverage of education, health, or community services, as its main objective.
2.2	Rural and regional development	
1	None	No impact on rural/regional/outer island development.
4	Low	Project makes an indirect contribution to rural/regional/outer island development.
7	Moderate	Project facilitates rural/regional/outer island development as an explicit objective.
10	High	Project delivers major improvements in rural/regional/outer island development through improvements in infrastructure services in these areas, as its main objective.
	ENVIRONMENTAL BENEFITS	
3.1	Adaptation to climate change	
1	None	Does not include any contribution to climate change adaptation or disaster risk management for the broader community.
4	Low	Some contribution to climate adaptation and/or disaster risk management for the broader community. Climate adaptation not a key focus of the project.
7	Moderate	Climate change adaptation and/or disaster risk management for the broader community included among a range of project objectives.
10	High	Climate change adaptation and/or disaster risk management for the broader community are specific and major objectives of the project.
3.2	Impact on the environment	
1	Highly Negative	Major negative impact on the environment. Examples of major risks to land, coastal, marine environments, or water resources.
3	Slight Negative	Some negative impact on the environment, with some examples provided. Most can be mitigated.
5	Neutral	No net impact on the environment.
7	Slight Positive	Some positive impact on the environment, with some examples provided.
10	Highly Positive	Major positive impact on the environment. Examples of major benefits for land, coastal and marine environments, or water resources.
	FINANCIAL AND ECONOMIC BENEFITS	
4.1	Growth of primary industries	
1	None	The project will not contribute to the growth of primary industries. No change over current levels.
4	Some	There is likely to be some growth in primary industry revenue or profitability as a result of the project.
7	Moderate	The project will generate additional revenue or improve the profitability across our primary industries.
10	Significant	The project will result in major improvement and growth of our primary industries and these benefits can be monetized/quantified.
4.2	Optimizing the use of existing infrastructure (renew over new)	
1	New	The project involves entirely new infrastructure. Likely to add additional O&M costs to agency budget.
4	Upgrade	The project involves replacing existing infrastructure with upgraded capacity. Likely to add additional costs to operate and maintain.
7	Replace	The project involves replacing existing infrastructure like for like. Likely to reduce O&M costs from current levels.
10	Rehabilitate	The project involves rehabilitating existing infrastructure to maintain the same capacity. Likely to reduce O&M costs from current levels.
4.3	Developing local expertise	
1	None	Project does not contribute to the growth of local expertise.
4	Some	Some impact on private sector development and/or the development of i-Kiribati. Benefits can be described but not monetized.
7	Moderate	Moderate level of private sector development or growing capability within government. Examples of several businesses impacted and quantifiable benefits.
10	Significant	Major contribution to the growth of existing businesses and/or the development of new businesses. Many staff impacted positively with quantifiable benefits.

	Criteria Rating	Objective Description
4.4	Economic Viability	
0	Unknown	No financial data is yet available for the project.
2	Very Low	No significant economic benefit. Not a driver for the project. No capital cost recovery and a likelihood of higher operational costs. Negative cost-benefit ratio.
4	Low	Some non-tangible economic benefit. No capital cost recovery. Neutral impact on operating costs, Negative cost-benefit ratio.
5	Some	Some tangible economic benefits. Some capital cost recovery and/or likely reduction in operating costs, Negative cost-benefit ratio.
6	Moderate	A moderate level of economic benefits (additional revenue or reduced operating costs) summing over the life of the project to a figure approaching the capital cost.
8	High	High level of tangible economic benefits, capable of recovering capital and operation costs. Generating a cost-benefit ratio >1.
10	Very High	Significant economic benefits, capable of recovering lifecycle costs and generating a cost-benefit ratio > 3.

O&M = operation and maintenance.

Source: Adapted from Guideline to Preparing National Infrastructure Investment Plans (PRIF, 2022) and Infrastructure Australia's "Guide to Multi-Criteria Analysis" (2021).

7.2.2 Weighting the Criteria

During the first workshop, participants reviewed the criteria and were asked to rank the criteria in order of importance – based on their understanding of how decisions should be made as to which projects would deliver the "best impact/outcomes" if rated against these criteria (Figure 7-4).

The results were interesting and demonstrate why rating and ranking projects will not please everybody. The analysis is summarized in Table 7-5 and was used to support the final weightings, also presented in that table.

Figure 7-4: Workshop Importance Ranking of Criteria

CRITERIA FOR ASSESSING PROJECT BENEFITS / IMPACTS

			Pts
1.1	**Improve level of service to public** (asset reliability, quality of service)	What level of impact will the project have on asset reliability and the **level of service delivered** to the public?	3
1.2	**Reduce risk exposure** (urgency/consequence)	What will be the **consequences** if the project doesn't proceed? How much **risk** is government exposed to if the project is delayed?	1
1.3	**Capacity to deliver** (complexity of project)	How **complex** is the project? Is there adequate **capacity** and knowledge to construct, operate and maintain the infrastructure?	4
2.1	**Improve social services** (education, health, community etc)	How significant will be the improvements of social services (education, health, community well-being etc)	2
2.2	**Stimulate regional development**	What impact will the project have on stimulating **regional development** through improvements in infrastructure and/or services to outer islands?	6
3.1	**Reduce climate and disaster impacts** (resilience)	How will the project make infrastructure **more resilient to climate change** or reduce the impact of natural disasters?	9
3.2	**Safe for the environment**	Will the project have a positive, neutral, or negative **impact on the environment**?	5
4.1	**Grow primary industries** (tourism, fisheries, agriculture)	How much will the project contribute to growth and development of our **primary industries** (tourism, fisheries, or agriculture)?	7
4.2	**Sustain existing infrastructure** (lifecycle costs)	Does the project focus on optimising O&M costs by **rehabilitating existing infrastructure** or is it expanding our asset base?	8
4.3	**Grow local expertise and private sector**	Will the project provide a stimulus to the growth of **local expertise** or contribute to **private sector** development?	10
4.4	**Deliver a positive economic return**	In considering the information above, how likely is it that the project will produce sufficient economic benefits to **generate a positive cost-benefit ratio?**	11

Source: NIIP Workshop Participants (20 June 2022).

Table 7-5: Criteria Importance and Weighting

		Sum or Pts [a]		Top 3 Count [b]		Final Weighting [c]	
ID	Benefit Criteria	Total	Rank 1	Count	Rank 2	%	Combined
1.1	Reliability and quality of services	157	**2**	12	**1**	14%	**26%**
1.2	Criticality of the project (urgency)	206	8	4	6	8%	
1.3	Complexity and sustainable operation	184	7	1	10	4%	
2.1	Access to improved social services (health, education)	140	**1**	9	**3**	12%	**16%**
2.2	Regional development	225	10	1	10	4%	
3.1	Resilient to climate change (adaptation)	175	**5**	9	**3**	12%	**24%**
3.2	Impact on the environment	173	**4**	6	**5**	12%	
4.1	Grow primary industries (tourism, fisheries, agri.)	181	6	2	8	8%	**34%**
4.2	Infrastructure cost efficiency	221	9	3	7	8%	
4.3	Grow private sector and local expertise	225	10	2	8	4%	
4.4	Financial and economic viability of the project	172	**3**	10	**2**	14%	
						100%	

Source: NIIP Workshop Participants (20 June 2022)
Note:
[a] This method simply summed the rankings. The lowest overall score was the most important.
[b] This method counted those that ranked the criteria a 1, 2 or 3 (i.e., in their most important three criteria). The highest count was the most important.
[c] The final weightings considered the general bands of results from the individuals and factored this into the final weights.

There are 11 criteria in total; assigning equal weightings to each would see ~9% given to each. However, we determined a spread of 4%–14% was appropriate and we used the general rankings from the workshop survey to aid in assigning the final ratings. We might have expected a higher overall weighting given to the economic criteria (4), although given the exposure of Kiribati, it was no surprise to see climate resilience and environmental impact rate highly (3).

The weightings are applied to the scores for each criterion, so they sum to an overall maximum score of 10. For example, a project that scores a 10/10 from environmental criteria 3.1 and 3.2 would receive a maximum score of 2.4 out of 2.4 (i.e., 24%*10pts) for "Environmental Impact" and this would go toward its total overall score when summed against the other three impact areas, namely Social, Economic and Other.

7.2.3 Building the Benefit Assessment Tool

The final step in building the MCA framework was to create a tool (spreadsheet) that would allow participating agencies to self-assess the benefits their project will deliver. The aim of the scoring tool/form is twofold: first is to get the agency to think about and describe the benefits in a structured manner, and second is to provide an objective assessment of the relative merits/benefits of the project so as it may be compared with disparate projects across sectors.

The resulting "Benefit Assessment Tool" allows agencies to describe and score the relative benefit of their project to then submit to NEPO for screening. The form was designed to have

drop-down lists and promote a structured description of the economic, social, and environmental benefits the project was expected to deliver.

As shown in Table 7-2, there is a strong link between the impact/benefit criteria and the objectives of the KV20 and KDP; thus, any projects that score highly are, by design, well aligned with the objectives of these strategic planning documents.

Figure 7-6: Benefit Assessment Tool for Project Screening

Project Screening (Benefit Assessment Tool)

For submission to National Economic Planning Office, MFED

Project ID: **A102**

Project Name: **Upgrading of Kanton Airport Runway**

Impact Assessment Criteria	Impact Rating (Guide for selecting Impact Rating)		Explain Impact Rating selected
1.1 What level of impact will the project have on asset reliability and the **level of service delivered** to the public?	High	There will be definite, quantifiable improvements in the quality of service	Kanton Airport upgrade would increase the reliability and capacity of the Kanton runway for operation of jet aircraft and use as EDTO. Flight service between the Gilbert islands group and the Line & Phoenix Island groups will be positively be affected.
1.2 What will be the **consequences** if the project doesn't proceed? How much **risk** is government exposed to if the project is delayed?	Moderate	Moderate level of adverse consequences if the project is delayed.	Travel between the two major island groups of Kiribati will remain as it is with weekly flight via Fiji to Kiritimati and popular use of sea travel to Kiritimati by the majority of the local travelling public.
1.3 How **complex** is the project? Is there adequate **capacity** and knowledge to construct, operate and maintain the infrastructure?	Extreme	Significant reliance on offshore expertise. Large scale project and/or highly complex with many stakeholders. New to Kiribati.	The intended adoption of the enzyme technology known as "OpsDirt", the skills required and the logistics expected to be involved in aquiring and mobilising materials needed for the Kanton airport upgrade will be complex.
2.1 How significant will be the improvements of social services (education, health, community well-being etc)	Some	Project makes an indirect contribution to the delivery of education, health, or community services.	There will be an indirect benefits to the improvements of social services for the Line & Phoenix Island groups arising from the completion of the Kanton Airport Upgrade works.
2.2 What impact will the project have on stimulating **regional development** through improvements in infrastructure and/or services to outer islands?	High	Project delivers major improvements in rural/regional/outer island development through improvements in infrastructure services in these areas, as its main objective.	An improved reliability of the Kanton runway facility is expected to dramatically improve communication and transaction flows between the three island groups of Kiribati.
3.1 How will the project make infrastructure more **resilient to climate change** or reduce the impact of natural disasters?	None	Does not include any contribution to climate change adaptation or disaster risk management for the broader community.	
3.2 Will the project have a positive, neutral, or negative **impact on the environment**?	Slight Negative	Some negative impact on the environment, with some examples provided. Most can be mitigated.	Raw materials for runway upgrade will mostly be imported materials.

Source: Authors.

7.3 Conducting the Assessments

7.3.1 Planned Pipeline for Prioritization

With over 200 projects in the current and future pipeline, it was necessary to distill the list down to a more manageable number to complete the benefit assessment rating on. There were three key considerations in determining the projects to be rated:

1) There was little need to assess projects that were already approved by the cabinet (**Error! Reference source not found.**) – although it would have been interesting, just not practical, to compare the relative benefits against projects rated using this methodology.
2) It is intended that the screening process will be applied to all new projects as they are identified (far fewer on an annual basis). Thus, in part, this first screening of the backlog of projects acts as a pilot of the new screening process. It is not a one-off study task to be completed every 5 years; rather, it is a process NEPO will apply to all projects from year to year and even throughout the year.
3) The "current" committed program is already ambitious in both delivery capacity and funding viability.

What was decided, in consultation with NEPO, was to identify larger (>$3 million) planned/pipeline projects and select projects within that list that required external donor funding and could credibly start within the next 5 years given constraints around land purchase, dependencies with other projects, delivery capacity, likelihood of gaining funding and the like. This local knowledge, provided by NEPO narrowed the original list of 47 unfunded committed and planned pipeline projects with a capital construction estimate >$3 million (Table 6-11) down to a shortlist of **30 "review-ready projects"** requiring MCA (Table 7-7) and subsequent review by the DCC to determine if they are ready to progress to funding. This list constituted those priority unfunded projects, not yet budgeted, that were likely to compete for external donor funding. The combined value of these projects is $839 million.

Once the final shortlist of review-ready projects for MCA was identified, our project team worked with the respective lead agency to complete the benefit assessment form (Section 7.2.2) for those projects which had yet to have an assessment completed; 15 assessments were carried out by participating agencies as part of (and immediately following) the first workshop training.

7.4 Analyzing the MCA Results

The purpose of completing the benefit assessment form was twofold:

1) It describes the benefits the projects will deliver in a structured comparable format across projects.
2) It allows objective scoring of the projects to enhance decision making about which projects deliver the greatest impact (economic, social, and environmental).

Ultimately the MCA process generates a weighted benefit score for the project which can be compared across the portfolio. While this provides a useful comparison of the relative impact a project will deliver it is not the only mechanism by which the government ultimately determines which projects should receive funding.

As one example, a development partner may have a particular fund such as GCF, which was established in response to climate change by investing in low-emission and climate-resilient development. To access this fund, GoK and development partners would look specifically at projects that achieved a high "Environmental" Impact score and in particular those that scored 10 against criteria 3.1 (Table 7-3).

For this reason, Table 7-7 presents an ordered listing of the projects sorted on the weighted impact score but also shows the relative score (out of 10) for the grouped criteria bands of Performance/Other, Social, Environmental and Economic/Financial. The Benefit Assessment Forms are included in **Appendix A** for these projects.

Table 7-7: MCA Assessment of Investment-Ready Projects

			Raw Score (out of 10)			
ID	Project Name		Perf.	Social	Envir.	Econ.
		Total	**26%**	**16%**	**24%**	**34%**
A119	Resurfacing Outer Islands Airfields (Phase 2)	6.8	8.2	7.8	4.5	6.9
W110	Sanitation for all Households in Kiribati	6.8	7.4	8.5	8.0	4.6
M115	Bairiki Old Wharf Redevelopment	6.7	7.2	6.8	7.0	6.1
B176	Major Renovation for Southern Kiribati Hospital	6.2	7.3	7.8	5.5	5.1
A108	Kanton Airport Terminal and Airport Upgrade	6.2	6.5	6.8	4.5	6.8
W105	Water Tank for Outer Island Households	6.2	7.2	9.5	6.0	3.9
T117	Outer Island Mobile Rollout Phase 3	6.1	6.8	7.0	3.0	7.4

ID	Project Name		Raw Score (out of 10) Perf.	Social	Envir.	Econ.
B156	Upgrading Works to Tungaru Central Hospital	6.1	7.0	8.5	6.0	4.4
T115	Outer Island Network Extension (Submarine Cable)	6.1	5.8	10.0	3.3	6.4
R113	Maintenance and Upgrade of all National Roads	5.7	7.7	7.0	3.5	5.1
U103	Bairiki Market II	5.5	6.2	6.3	4.5	5.3
B190	School Multi-purpose Hall (Permanent Maneaba)	5.4	5.8	9.5	6.0	2.8
M122	Replacement of MV Nei Matangare	5.4	7.4	4.8	3.5	5.5
M121	Landing Craft for the Line and Phoenix Group	5.3	7.7	9.3	2.5	3.7
B191	Computer Lab For Junior Secondary School	5.2	6.5	9.3	3.3	3.7
U101	Abatao Agricultural and Livestock Complex	5.1	4.5	7.8	1.8	6.7
B192	Improving Access to JSS Education	5.0	6.1	10.0	3.3	2.9
M132	Boat and Engine Project Phase II	4.9	5.1	6.3	3.5	5.2
U104	Betio Mixed Use Development	4.8	5.6	5.5	3.3	4.9
R120	Electric Vehicle Network Development (T11)	4.8	6.5	4.0	5.5	3.4
M105	Transshipment Hub Kiritimati and Tarawa	4.8	7.4	4.5	5.0	2.7
B102	Butaritari Food Processing Plant	4.6	3.7	5.5	2.5	6.2
B154	Culture and Museum Building Bikenibeu	4.4	7.7	7.8	1.8	2.1
A111	Banaba Airport Improvements	4.4	6.8	4.8	4.5	2.4
A110	Bonriki Apron Extension	4.0	4.5	3.3	2.5	5.1
B193	Staff Housing at Outer Islands	3.8	3.1	7.0	3.3	3.3
A117	Airport Infrastructure Efficiency Upgrade (T14)	3.7	4.0	1.8	4.3	4.0
M131	Zero-Impact Cruise Liner, Phoenix Islands (T9)	3.6	2.6	4.8	4.3	3.3
A116	Sustainable Aviation Fuel Integration Initiative (T12)	2.8	1.5	1.8	5.5	2.5
B189	School Fencing	2.3	3.1	3.3	1.8	2.3

Source: Analysis of Benefit Assessment Ratings (MCA)

Note: Three bands emerge: 'HIGH' impact projects >6.0, 'MEDIUM' impact projects 4.5-6.0 and 'LOW' impact <4.5

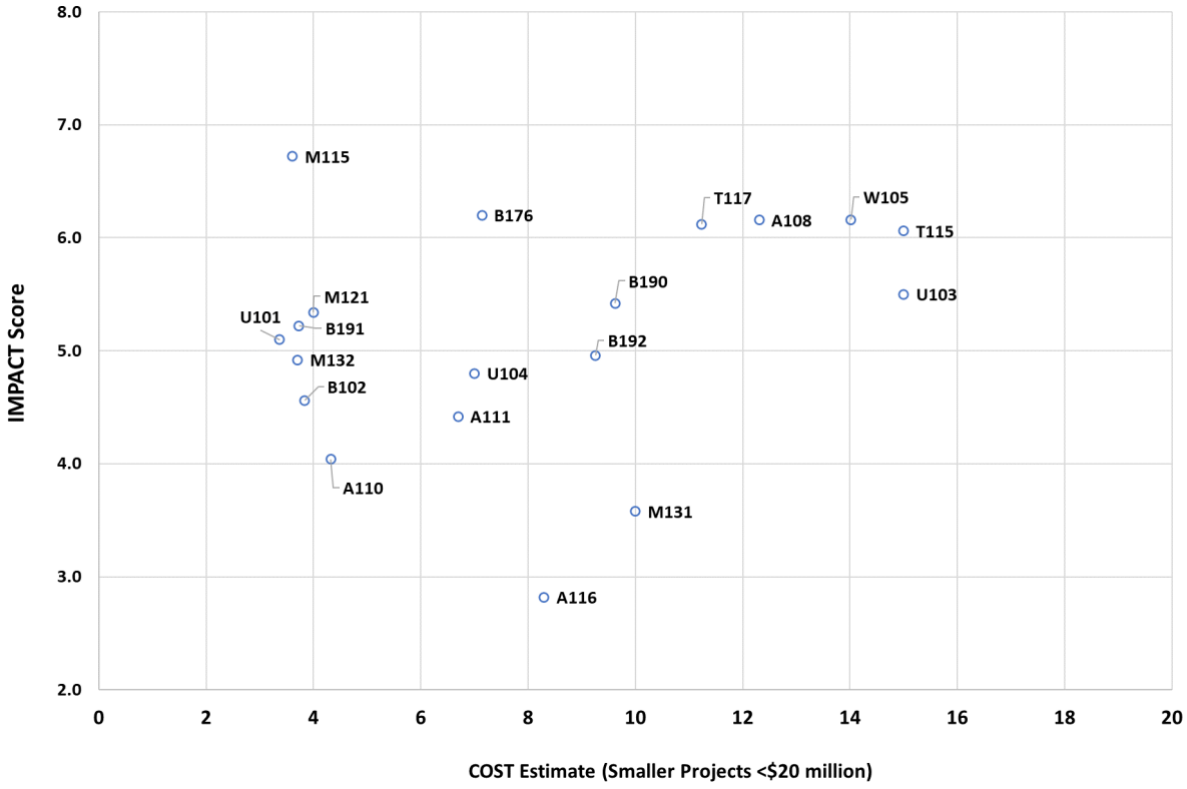
The project ranking developed for this NIIP is a clear indication of relative benefits/impact these projects are likely to deliver. However, it should be noted that the precise ranking of each project should be treated with some care. The subjective nature of the prioritization process and other intangibles not included in the ranking criteria means that the detailed results can always be challenged. Therefore, projects should be grouped, reflecting their relative impact, and de-emphasizing the specific score and inter-project ranking.

From Table 7-7, we see three useful bands for analysis, those projects with a weighted score **> 6.0** (High Impact) having strong overall benefit streams. A second band forms for projects rated **4.5-6.0** (Medium Impact). These projects might have strong benefits in a particular area (e.g., B192 Improving Access to JSS Education which scores highly on social and services criteria but not on financial return) and hence could be picked up under special funds aligned with these specific benefit areas. The final band is projects with an overall weighted score **<4.5** (Low Impact), which are likely to require closer scrutiny to ensure they return sufficient overall benefits to government and the community.

Another key consideration when determining which projects should progress through Gateway 1 screening is to consider the scale of the project (

Figure 7-8). It is important to remember that the **Impact Score** is independent of scale, that is, the benefits assessed are normalized by cost. For example, if two projects have the same weighted impact score, but one is double the cost of the other, then in principle it will deliver double to net benefits. However, larger projects also consume far greater resources, they can be more challenging to deliver (also assessed against Criteria 1.3), and they can stretch the capacity and capability of on-island resources.

Figure 7-8: Distribution of Investment-Ready Projects by Weighted Score (<$20m)



Source: Analysis of Benefit Assessment Ratings (MCA).

The primary goal of the MCA process, which it achieves in this plan, is to move the discussion toward the relative impact a project delivers in terms of triple bottom line reporting and evaluation of social, environmental, and economic impacts. The framework also encourages agencies to consider the ongoing sustainability and costs of maintaining and operating the infrastructure once delivered (Criteria 1.3 and 4.2) and the scale of the project when balancing the portfolio.

7.5 Assessing Economic Viability at Gateway 1

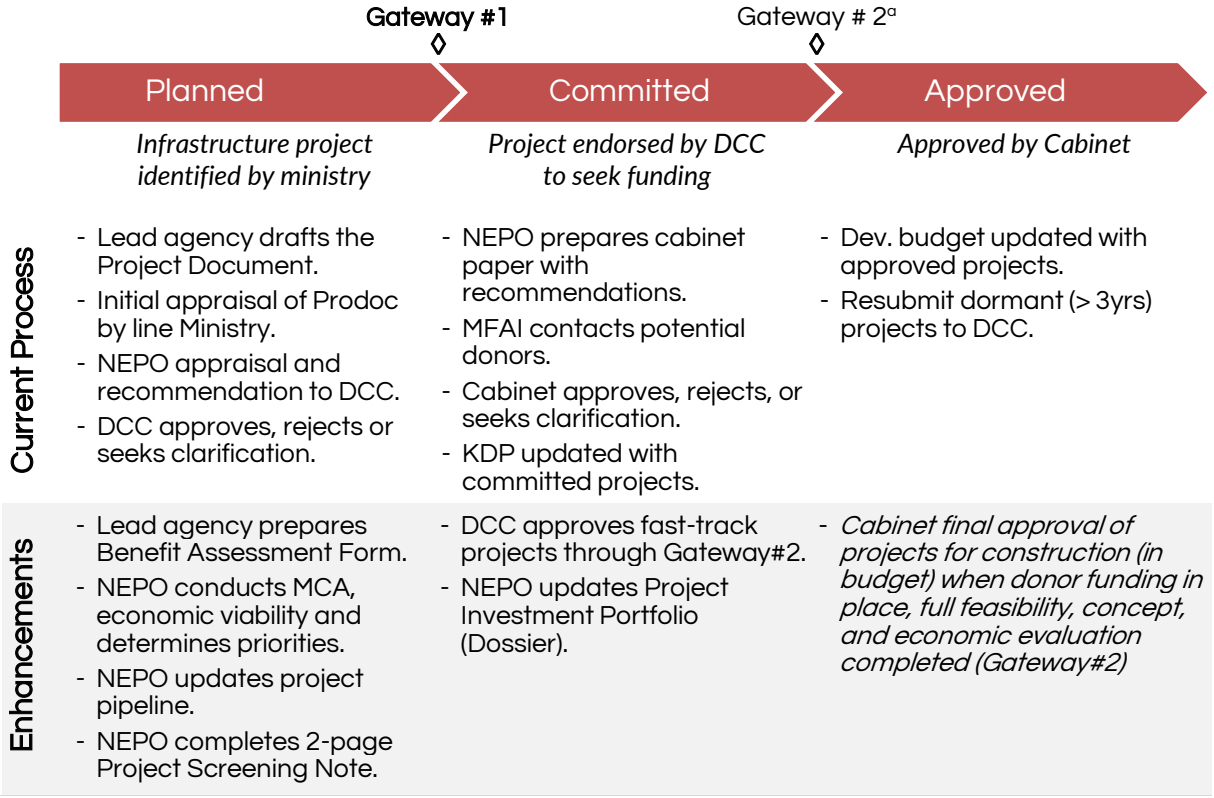
Kiribati's current project management systems in place require ministries and SOEs to complete a Project Document (ProDoc) when submitting projects for evaluation and screening at Gateway 1 (also refer workflow in Table 3-2).

The NIIP project has introduced enhancements to this Gateway 1 screening review by introducing a more structured pipeline of projects and multi-criteria prioritization process discussed above and summarized in Currently, if the project appears to meet the criteria of the government, the project is listed among those planned and work commences on progressing the project. As almost all infrastructure projects in Kiribati require funding assistance from donors the next step generally involves discussions with these partners. Donors invariably require detailed financial and economic analysis as part of a wider feasibility study to enable them to decide if the proposed project meets their criteria. The cabinet should only approve projects for the Development Budget when this more detailed evaluation is complete, and the project demonstrates a realistic return or is proven to achieve stated social or environmental outcomes (Gateway #2).

Figure 7-9.

Currently, if the project appears to meet the criteria of the government, the project is listed among those planned and work commences on progressing the project. As almost all infrastructure projects in Kiribati require funding assistance from donors the next step generally involves discussions with these partners. Donors invariably require detailed financial and economic analysis as part of a wider feasibility study to enable them to decide if the proposed project meets their criteria. The cabinet should only approve projects for the Development Budget when this more detailed evaluation is complete, and the project demonstrates a realistic return or is proven to achieve stated social or environmental outcomes (Gateway #2).

Figure 7-9: Project Appraisal Process



Note:
[a] There is no formal second gateway in current process.
Source: Authors.

Given the maturity of project development at Gateway 1, it is not practical to expect ministries to submit robust economic assessments at this stage. Gateway 1 is intended to be an early-stage screening review to weed out projects that are insufficiently thought out or would fail to deliver sufficient economic, social or environmental benefits.

However, it is still possible to complete a high-level assessment of the likelihood of the project delivering an economic return at Gateway 1. Table 7-10 presents the outcome of this assessment on all investment-ready projects evaluated in the NIIP. The somewhat qualitative approach takes into consideration the generally poor data available at this early-stage review and the current capacity of entities to prepare robust economic analysis.

To arrive at an initial assessment of the economic viability of projects, the overall economic score from the MCA is reviewed (column 2, Table 7-10) along with the economic viability score assessed against criteria 4.4 of the MCA (column 3). Table 7-3 provides the rating criteria for the assessed economic viability (reproduced below):

Unknown	No financial data is yet available for the project.
Very Low	No significant economic benefit. Not a driver for the project. No capital cost recovery and a likelihood of higher operational costs. Negative cost-benefit ratio.
Low	Some non-tangible economic benefit. No capital cost recovery. Neutral impact on operating costs, Negative cost-benefit ratio.
Some	Some tangible economic benefits. Some capital cost recovery and/or likely reduction in operating costs, Negative cost-benefit ratio.
Moderate	A moderate level of economic benefits (additional revenue or reduced operating costs) summing over the life of the project to a figure approaching the capital cost.
High	High level of tangible economic benefits, capable of recovering capital and operation costs. Generating a cost-benefit ratio >1
Very High	Significant economic benefits, capable of recovering lifecycle costs and generating a cost-benefit ratio > 3

The estimates of ongoing O&M are taken from 4.3 (b) of the MCA (column 4). Given the poor quality of data, and the lack of a detailed cost-benefit analysis, the above estimates the operations costs and maintenance costs based on data provided by local governments in Australia. Future work will need to be done to prepare reliable standard costings for Kiribati. The total cost of the project is as per the MCA (column 5). Some of these estimates are based on detailed costings, e.g., water tanks in outer islands, while others are estimates prior to a feasibility study being commenced.

Estimating beneficiaries is not an exact science (column 7), but rather an estimate by those proposing the project. The number of beneficiaries is generally those direct users of the infrastructure who may pay fees or charges for access to the related services, but this is not always the case, especially for socially driven projects. Indeed, given the population of 122,000, the above assumes that individual i-Kiribati will benefit from many of these projects. There is no indication that the individuals can afford to pay the estimated per capita costs.

Table 7-10: Initial Economic Viability of Projects

Project Name	MCA Criteria					Beneficiaries		Likely Econ. Viability
	Econ. Score (4)	Positive Return (4.4)	O&M %Cap. (4.3b)	Est. Cost ($m)	Ann. O&M ($m)	No.	$/Ben.	
Outer Island Mobile Rollout Phase 3	7.4	High	3%	11.2	0.34	20,000	562	Probable
Resurfacing Outer Islands Airfields (Phase 2)	6.9	Moderate	2%	22.6	0.45	25,000	904	Probable
Abatao Agricultural and Livestock Complex	6.7	High	3%	3.4	0.10	30,000	112	Probable
Outer Island Network Exten. (Submarine Cable)	6.4	High	5%	15.0	0.75	76,000	197	Probable
Replacement of MV Nei Matangare	5.5	Some	14%	26.6	3.72	100,000	266	Probable
Bairiki Market II	5.3	High	2%	15.0	0.30	10,000	1,500	Probable
Renovation for Southern Kiribati Hospital	5.1	Some	2%	7.1	0.14	16,000	446	Probable
Betio Mixed Use Development	4.9	High	1%	7.0	0.07	5,000	1,400	Probable
Sanitation for all Households in Kiribati	4.6	Low	2%	58.6	1.17	20,741	2,825	Probable
Water Tank for Outer Island Households	3.9	Some	2%	15.1	0.30	74,998	201	Probable
Kanton Airport Terminal and Airport Upgrade	6.8	High	4%	12.3	0.49	10,000	1,231	Possible
Butaritari Food Processing Plant	6.2	Moderate	8%	3.8	0.31	5,000	767	Possible
Bairiki Old Wharf Redevelopment	6.1	Moderate	1%	3.6	0.04	4,000	900	Possible
Boat and Engine Project Phase II	5.2	Moderate	4%	3.7	0.15	996	3,715	Possible
Bonriki Apron Extension	5.1	High	6%	4.3	0.26	15,000	288	Possible
Upgrading Works to Tungaru Central Hospital	4.4	Moderate	4%	150.0	6.00	10,000	15,000	Possible
Landing Craft for the Line and Phoenix Group	3.7	Some	14%	4.0	0.56	10,000	400	Possible
Computer Lab for Junior Secondary School	3.7	Some	14%	3.7	0.52	10,000	373	Possible
Improving Access to JSS Education	2.9	Low	20%	9.3	1.85	5,000	1,851	Possible
Banaba Airport Improvements	2.4	Low	2%	6.7	0.13	5,000	1,340	Possible
Transshipment Hub Kiritimati and Tarawa	4.5	Very Low	2%	200.0	4.00	300	250,000	Unlikely

Project Name	MCA Criteria					Beneficiaries		Likely Econ. Viability
	Econ. Score (4)	Positive Return (4.4)	O&M %Cap. (4.3b)	Est. Cost ($m)	Ann. O&M ($m)	No.	$/Ben.	
Maintenance and Upgrade of National Roads	5.1	Some	2%	200.0	4.00	35,000	5,714	Unlikely
Airport Infrastructure Efficiency Upgrade (T14)	4.0	Low	4%	46.0	1.84	5,000	9,200	Unlikely
Electric Vehicle Network Development (T11)	3.4	Some	5%	31.5	1.58	6,000	5,250	Unlikely
Staff Housing at Outer Islands	3.3	Low	3%	73.9	2.22	100	739,000	Unlikely
Zero-Impact Cruise Liner, Phoenix Islands (T9)	3.3	Low	14%	10.0	1.40	500	20,000	Unlikely
School Multi-purpose Hall (Perm. Maneaba)	2.8	Low	4%	9.6	0.38	19,000	506	Unlikely
Sustainable Aviation Fuel Integration (T12)	2.5	Very Low	5%	8.3	0.42	1,000	8,300	Unlikely
School Fencing	2.3	Very Low	8%	31.9	2.55	19,000	1,680	Unlikely

JSS: Junior Secondary School, MCA: multi-criteria analysis, O&M: operations and maintenance.

Source: Authors.

Practices in developed countries have found that projects which have been determined to be economically viable based on untested and assumed usage and beneficiary numbers can lead to economic catastrophe.

The likely economic viability assessed at Gateway 1 is only a best estimate of whether the priority projects are likely to have a positive return on investment in order to aid the determination of which projects should advance. Further detailed economic analysis of each project will need to be completed ahead of the second gateway review to ensure scarce resources are allocated efficiently, and investment brings benefits to Kiribati and raises the welfare of its citizens (Asian Development Bank, 2017).[44]

7.6 Shortlisted Priority Projects

The MCA provides a very useful tool for evaluating the pipeline of investment ready projects but as discussed above it is not the authoritative process by which priority projects for further development are determined.

Ultimately the MCA is used to promote and support annual discussion between MFED's National Economic and Planning Office (NEPO), the submitting agency and the KIDSC/DCC with their recommendations then reviewed and ultimately approved by cabinet.

In completing its review, NEPO considered project dependencies with existing programs (continuation), projects specifically identified in government's manifestos, those discussed at the recent parliamentary sessions, government's commitment to digital transformation, and so forth, NEPO grouped projects into three main categories.

- **Category A:** Projects already approved by the cabinet as a national priority.
- **Category B:** Projects proposed by Government agencies and SOE's that have not been approved by the cabinet and are seeking financing. These projects were prioritized.
- **Other:** Projects proposed by Government agencies and SOE's that lack detail or present challenges that need to be addressed before the screening and prioritization is conducted.

Category A Projects: Approved by the Cabinet

Category A projects have already approved by the cabinet and in the negotiation or appraisal stage. These projects (Table E6.1) were already screened and approved by the cabinet prior to the 2022 NIIP development. While funding had not been secured (at the time), these projects

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were under discussion with potential donors, but not yet been approved for inclusion in the budget.

Table 7-11: Projects Screened and Approved by the Cabinet (Appraising)

ID	Sector	Lead	Project Name	Cost Est. $
A103	Air	MFED	Establishing an X-ray Machine for Border Security	10.6
2301F171	Buildings	MOE	Kiribati Education Improvement Program (KEIP)	10.0
B117	Buildings	MTCIC	National Centralized Laboratory	5.4
B125	Buildings	OB	Outer Island Resilience and Adaptation Program	7.2
B146	Buildings	KHC	Urban Housing Project (Bairiki)	4.0
B147	Buildings	KHC	Urban Housing Project (Betio)	3.6
B184	Buildings	MEHR	KIT Upgrading	3.0
E101	Energy	PUB	Power System Upgrade - Betio Power Station Replacement	58.4
E106	Energy	MISE	South Tarawa Renewable Energy Project (STREP)	16.0
2704H119	Marine	MICT	Kiribati Outer Islands Transport Infrastructure Project, Phase 2	60.6
M133	Marine	MFMRD	Fish Collection Vessel	7.2
2704H108	Road	MISE	Outer Islands Infrastructure Program	216.8
R106	Road	MISE	Road Rehabilitation South Tarawa (roads not in Phase 1)	23.3
T106	Telecom	MICT	East Micronesian Cable Project	72.6
T108	Telecom	MICT	Improvement Internet Connectivity for Micronesia Project	31.1
T109	Telecom	MICT	Kiribati Connectivity Project	28.8
2101A056	Urban	MFMRD	Fisheries New Office	10.9

Est. = estimate, ID = Identification, KHC = Kiribati Housing Corporation, KIT = Kiribati Institute of Technology, MEHR = Ministry of Employment and Human Resources, MFMRD = Ministry of Fisheries and Marine Resource Development, MICT = Ministry of Information, Communication and Transport, MOE = Ministry of Education, MOJ = Ministry of Justice, MISE= Ministry of Infrastructure and Sustainable Energy, MTCIC = Ministry of Tourism, Commerce, Industry and Cooperatives, OB = Office of President, PUB = Public Utilities Board.
Source: National Economic and Planning Office and Pacific Region Infrastructure Facility (PRIF).

Category B Projects: Shortlist Projects (Reviewed by DCC)

Based on the overall MCA weighted scores for the 30 review-ready projects, a consideration of dependencies, and overall readiness of the projects, NEPO has recommended the following 15 shortlisted projects for funding consideration (Table 7-12). This list is expected to grow as project concepts mature toward a Gateway #1 review by DCC.

Table 7-12: Large Capital Construction Priorities for Cabinet Consideration

ID	Lead	Project Name	Brief Description	MCA Impact	Econ. Viability	Cost Est. ($)
PRIORITY B1 Projects (10)						
W105	MISE	Water Tank for Outer Island Households	To provide 13695 x 3000L Water tanks for Outer Island Households	HIGH	Unlikely	15.1
T115	MICT	Outer Island Network Extension (Submarine Cable)	Replacing satellite communication with faster and more reliable submarine cable to outer islands.	HIGH	Probable	15.0
A102	MICT	Kanton Airport Terminal and Airport Upgrade	Upgrade of the runway to handle Jet operations of newly procure Embraer fleet. Critical dependency for national airline.	HIGH	Possible	21.9
B156	MHMS	Upgrading Works to Tungaru Central Hospital	Upgrading existing and addition of new units at Tungaru hospital to deliver appropriate primary and curative health care services	HIGH	Possible	150.0
A119	MICT	Resurfacing Outer Islands Airfields (Phase 2)	Rehabilitate old and failing runway surfaces on Outer Islands. Phase 1 to pilot efficient technologies for	HIGH	Possible	22.6

ID	Lead	Project Name	Brief Description	MCA Impact	Econ. Viability	Cost Est. ($)
			maximizing use of *in situ* materials and labor.			
B102	MTCIC	Butaritari Food Processing Plant	New food processing plant to support the community and access the abundant local fruits on the island.	LOW	Possible	3.9
M105	MFMRD	Transshipment Hub Kiritimati and Tarawa (Multi-purpose)	New transshipment port on Kiritimati (Poland) for Tuna processing and Tarawa (Betio) expansion and development.	MEDIUM	Possible	216.0
U103	MIA	Bairiki Market II	Development of new market on Bairiki to service South Tarawa agriculture, cultural and fisheries businesses.	MEDIUM	Probable	15.0
M132	MFMRD	Boat and Engine Project Phase II	Continuation of phase 1 deployment of new motors and boats to local fishermen on outer islands	MEDIUM	Possible	3.7
T117	MICT	Outer Island Mobile Rollout Phase 3	Expansion of 3G mobile coverage to Abemama, Tab North, Onotoa, Makin, Butaritari, Marakei, Abaiang.	HIGH	Probable	10.8
PRIORITY B2 Projects (5)						
W110	MISE	Sanitation for all households in Kiribati	Provide proper sanitation facilities for outer islands 13695 households as per 2020 household listing. The objective is to improve sanitation, public health and the protection of groundwater.	HIGH	Unlikely	125.2
B176	MHMS	Major Renovation for Southern Kiribati Hospital (SKH)	Renovation work at Southern Kiribati Hospital (Nth Tabiteuea) to restore quality hospital services outside South Tarawa.	HIGH	Probable	110.0
M115	KPA	Bairiki Old Wharf Redevelopment	Reconstruction of breakwater and mooring to provide safe harbor for passenger and commercial craft during high tide and weather.	HIGH	Possible	3.6
M122	MICT	Replacement of MV Nei Matangare	New mini container vessel with speed and capacity to link the Gilbert, Phoenix and the Line Islands (and Honolulu).	MEDIUM	Probable	20.0
R113	MICT	Maintenance and Upgrade of all National Roads	Capital maintenance and upgrade work to arterial road network to improve access to community services.	MEDIUM	Unlikely	200.0

Est. = estimate, ID = Identification, KPA = Kiribati Ports Authority, MFMRD = Ministry of Fisheries and Marine Resource Development, MHMS = Ministry of Health and Medical Services, MIA = Ministry of Internal Affairs, MISE= Ministry of Infrastructure and Sustainable Energy, MICT = Ministry of Information, Communication and Transport, MOE = Ministry of Education, MTCIC = Ministry of Tourism, Commerce, Industry and Cooperatives, MCA = multicriteria analysis.
Source: Priority Projects for Further Development (Table 7-11).

7.7 Funding Strategy for Shortlisted Priority Projects

Kiribati allocates about 30% of its annual recurrent budget to its development. Of this, 22% (in 2022), i.e., 7% of its annual income, is allocated to infrastructure: renewal, rehabilitation and new.

Major infrastructure projects are funded with and by development partners. Each development partner has its area of interest and specialty that it contributes to the development of Kiribati. What follows is a rough indication of the possible sources of funding for the priority projects identified above.

The transaction costs to Kiribati to access development partner funds have increased over recent years. New instruments have been developed to respond to the need for financing nations' responses to the impacts of climate change. In response, Kiribati has established a Climate Financing Division of the MFED. In addition, development partners, such as Australia, are developing their own financing facilities which, again, require a higher level of financial skills to access, manage and to meet the subsequent contractual obligations. Relatively small

construction projects are now being funded by several donors in partnership, adding to the transaction costs by complicating GoK reporting obligations.

Table 7-13: Potential Sources of Funding of Priority Projects for Development

ID	Lead	Sector	Potential for Financing	Project Name	Explanation	MCA Impact	Cost Est.	Potential Operational Support
A108	MICT	Aviation	**World Bank, ADB, PRC, GoB**	Kanton Airport Terminal and Airport Upgrade	PRC has provided grant support for the feasibility study. About 12 people live on Kanton. The airport upgrade will enable AKA to operate Embraer jet, purchased from Brazil, between Tarawa, Phoenix Islands (8,500) and the Line Islands, which include Kiritimati Island, (11,500). Providing regular jet flights from Tarawa will enable the higher land in Kiritimati Island to be opened for development.	HIGH	12.3	AKA, MISE
A119	CAAK	Aviation	**PRC, World Bank - CAF, ADB**	Resurfacing Outer Islands Airfields (Phase 2)	Rough estimate only. Feasibility study not yet completed. Could follow Kiribati Outer Islands Resilience and Adaptation Project being implemented by World Bank – CAF.	HIGH	22.6	20 Island Councils
B156	MHMS	Health Buildings	**DFAT, JICA, EU, MFAT**	Upgrading Works to Tungaru Central Hospital	Current Tungaru Central Hospital is 30 years old, reaching the end of its life. It was built with Japanese Funding in the early 1990s. EU has funded incinerators. The antenatal clinic is held in a tent.	HIGH	150.0	MISE, MHMS
B176	MHMS	Health Buildings	**DFAT, MFAT**	Major Renovation for Southern Kiribati Hospital (SKH)	Southern Kiribati Hospital is 14 years old. A lack of routine repairs means the roof leaks. Emphasis in on regular maintenance after the repair.	HIGH	7.1	MISE, MHMS
M115	KPA	Maritime	**KPA, CAF, GCF**	Bairiki Old Wharf Redevelopment	Wharf has fallen into disuse because of the causeway. To be repurposed, it needs redevelopment to withstand impact of climate change. Seawalls need to be built. Dredging to create deeper passages may have negative impact on sea current and marine environment. Local knowledge is needed.	HIGH	3.6	KPA
T115	MICT	Telecom	**USAID, AIFFP, JICA**	Outer Island Network Extension (Submarine Cable)	ADB funded the cable to Kiritimati Island, finishing in July 2022. The MOU for funding this cable between Nauru, Kiribati and FSM is well advanced with USAID, AIFFP and JICA jointly funding its construction. It is part of a pacific-wide initiative to connect PICs to high-speed internet through international hubs in Guam, Sydney or Hawaii.	HIGH	15.0	SCCL, BNL
M122	MICT	Maritime	Unknown	Replacement of MV Nei Matangare	Seeking a replacement for the 30-year-old passenger / cargo ship built in Japan in 1992. It travels at 5.6 knots / hour and carries over 1,200 gross tonnage. It takes 15 days to get from Tarawa to Kiritimati Islands, without stops. KNSL is not yet profitable although it provides a necessary service throughout Kiribati.	MEDIUM	26.6	KNSL, MICTTD
M105	MFMRD	Maritime	**MFAT, PRC, KPA**	Transshipment hub Kiritimati and Tarawa	MFAT has funded the feasibility study. Transshipment allows ports that would otherwise have limited maritime services because of their small hinterland to have a high connectivity to global maritime trade. La Nina years make Kiritimati Island a desirable hub. Its main competitor is Majuro.	HIGH	200.0	KPA, Private Sector Firms
U103	MIA	Building	**Bank Finance, Private Sector**	Bairiki Market II	Planned upgrade to current Bairiki Market building. Should be an economically viable project. Bank funding may be available.	MEDIUM	15.0	Teinainano UC, MELAD, OB, Housing, Private Sector

ID	Lead	Sector	Potential for Financing	Project Name	Explanation	MCA Impact	Cost Est.	Potential Operational Support
T117	MICT	Telecom	**ATHKL**	Outer Island Mobile Rollout Phase 3	Extends the current mobile and internet services to 90% of the population. Upgrade current services and extend services to new islands.	HIGH	11.2	BNL, ATHKL, Ocean Link, Vodaphone, CCK
M132	MFMRD	Maritime	**GoK**	Boat and Engine Project Phase II	The project distributes boats and out board motors to island and urban local governments for use by villagers to access fish in waters far from shore. This is to reduce the pressure on onshore fisheries and to support villagers in securing their food. It is not expected that the project will generate income, but should lead to the development of skills in OBM repairs across Kiribati.	MEDIUM	3.7	Island Councils
R113	MICT	Land Transport	**World Bank-IDA, ADB, GoK**	Maintenance and Upgrade of all National Roads	The World Bank funded US$20 million Kiribati Road Rehabilitation Project to rehabilitate 32 kms of urban road on Tarawa was completed in 2018. The total road network is 670 kms. The 638 kms serves about 60,000 people in Phoenix, Line and outer Gilbert Islands. Much of the cost is in equipment, materials and transportation of equipment and materials for maintenance of roads. Local labor is available to maintain roads.	MEDIUM	200.0	MISE, KLTA, MICT, PUB

Source: Authors, NEPO and Agency MCAs.

SECTION **8**

RECOMMENDATIONS

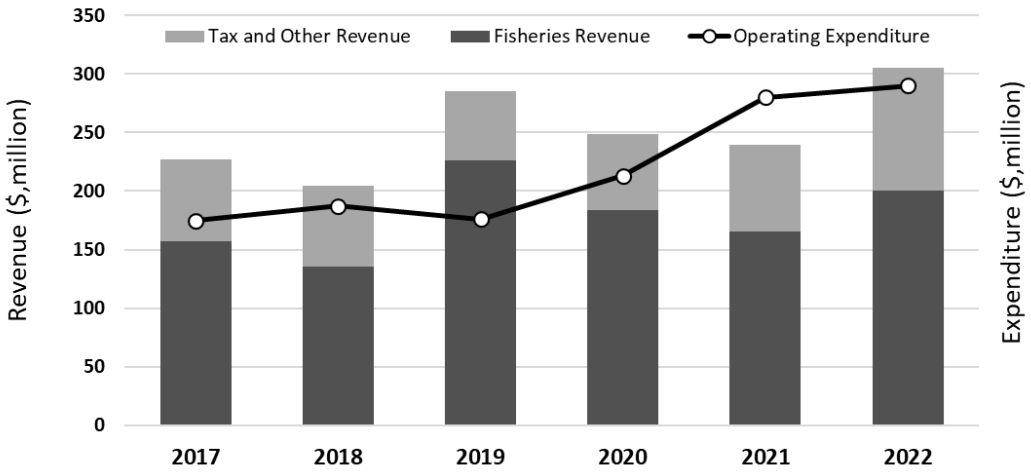
This section presents the key observations of the project team in preparing the NIIP. It presents these observations and recommendations in an executive format for endorsement by government.

8.1 Endorsement of the Plan

The primary aim of the NIIP is to consolidate the current and planned capital construction projects across multiple sectors into a single pipeline so government can better understand and prioritize future investments knowing the full scale of the national infrastructure program.

In endorsing this NIIP, the Government of Kiribati acknowledges the following key observations and findings:

1. Kiribati's domestic economy is fragile with a continuing high trade deficit (in excess of $140 million per annum) biased toward oil and food to provide basic energy, water and sanitation services and transport. Government revenue is very dependent on fishing license revenues (65% of GDP and 65% of governments revenue in 2022).
   Section 4.1 and 4.2.1
2. Recurrent appropriation of income to wages and salaries, social benefits, goods and services, and the operation and maintenance of existing infrastructure, has increased from $176 million in 2019 to $290 million in 2022 (or an increase from 62% to 95% of revenue in those years).
   Section 4.2.1



Refer Figure 4-3: Revenue and Expenditure Trends 2017–2022

3. Tight fiscal management has seen GoK debt maintained at about 20% of GDP. The public debt balance at the end of 2020 was $46.6 million (18% of GDP) with annual debt

servicing costs at $4 million and expected to rise. The IMF recently noted that GoK "has limited scope for external borrowing."[45] It projects that debt will grow to 71% of GDP by 2025.

Section 4.5

4. Kiribati annual Development Budget includes both infrastructure projects and projects under the other sectors of the KDP which are managed through GoK accounts and through external donor systems. The Development Budget for 2022 is $262.7 million of which $99.4 million is allocated to infrastructure (a reduction in past levels due COVID-19 recovery subsidies).

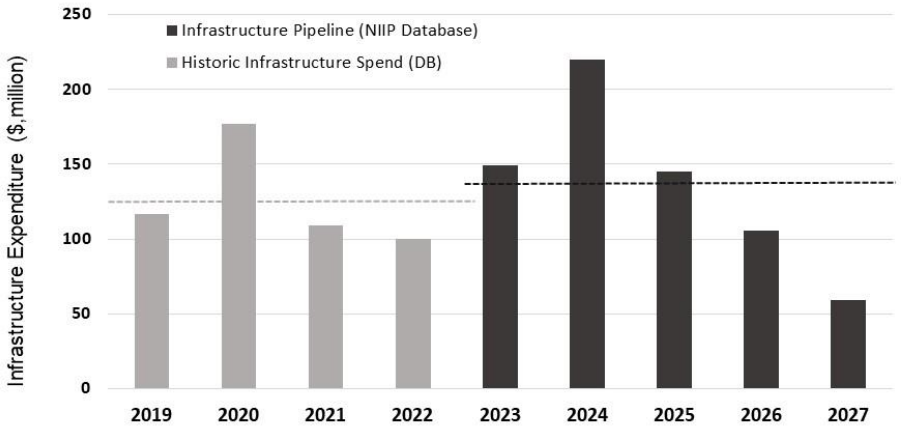
   Section 3.3 and 4.2.2

5. To fund the cost of rehabilitating or upgrading existing infrastructure, or to construct new infrastructure, GoK is almost entirely dependent of donor assistance. 13% of the $98.1 million allocated to infrastructure in 2022 is funded by GoK revenue.

   Section 4.3.2

6. The forward program of infrastructure projects that is in the current budget or identified as "approved for funding" equates to $1.28 billion, with an average annual forecast of $136 million over the next 5 years, 39% higher than the $98.1 million budgeted for infrastructure in 2022 and 9% higher than the 4-year rolling average ($125 million).

   Section 4.4.1



Refer Figure 4-9: Past vs Future Levels of

7. A significant proportion (55%) of the anticipated infrastructure sector of the KDP is associated with building new infrastructure. Using a conservative assumption that construction adds 6% annually to operation and maintenance costs, the proposed infrastructure projects would require an additional $48 million of fees and charges to be raised through the economy to cover this additional recurrent liability.

   Section 4.4.2

8. Funding an infrastructure construction program of this scale will require extremely favorable financing costs if GoK is to sustain fiscally responsible debt servicing levels. Should Kiribati lose its LDC status, and be required to pay full credit terms, given the size of the grants to infrastructure relative to the Kiribati economy, debt would quickly climb to >70% of GDP over the coming 5 years.

   Section 4.5

9. This National Infrastructure Investment Plan also identifies a "planned pipeline of unfunded projects" in addition to the $1.28 billion already committed. There are 107 projects in this planned pipeline totaling $2.15 billion, with 47 likely to require external

[45] *Mission Concluding Statement: Kiribati: Staff Concluding Statement of the 2021 Article IV Mission, 2021, p. 10*

funding and having a capital construction estimate >$3 million.
Section 6.5

10. Of the 47 review-ready projects, 30 were assessed against the economic, social, environmental and performance benefits/outcomes they were expected to deliver in order to achieve the KV20 and KDP goals. MCA was applied to each of these projects to identify the priority projects for further development.
*Section **Error! Reference source not found.***

11. The MCA process provides GoK with a more objective method of screening projects early in their development cycle, to align them with the overall KV20 and KDP goals. This process also enables potential financiers to align projects with their fund criteria. Overall, the process enables Kiribati to prioritize its investments based on these weighted criteria.
Section 7

8.2 Improvement Opportunities

Through completion of this investment plan, the project team has identified several potential areas for improvement (Table 8-1).

Table 8-1: Improvement Opportunities

Improvement Area	Opportunity	Lead
Use of multi-criteria analysis at project screening stage	▪ Maintain a master pipeline of planned projects (building on what has been compiled for the NIIP). ▪ Adopt the Benefit Assessment Form (BAF) and MCA process outlined in the NIIP and apply to all new projects during the Gateway 1 screening process. ▪ Modify the Prodoc form to incorporate the summary analysis from the benefit assessment and the scoring from the MCA. ▪ Maintain a dossier of priority investment projects (starting with the 20 in Appendix A) and add new projects as they pass Gateway 1; this may result in some of the current priorities being pushed out under a constrained funding scenario – NIIP has provided the baseline.	NEPO NEPO, KIDSC NEPO NEPO, KIDSC
Accounting for ongoing maintenance and operational costs	▪ Ensure Gateway 2 Prodoc submissions for capital construction projects include an assessment of the ongoing maintenance costs and that the source of funding these costs is identified. ▪ Expand the use of the Maintenance Fund (currently limited to buildings, water and sanitation and schools and hospitals / health clinics) to include recurrent maintenance costs across all infrastructure sectors. ▪ Improve the coding and accounting of recurrent expenditure to differentiate routine, preventive and capital maintenance so as it can be better tracked (currently it is treated as an operating expense) ▪ Promote agency level maintenance plans and recurrent maintenance forecasting (3-years) in line with the budget cycle.	NEPO MFED NEPO NEPO
Project economic viability	▪ Enhance the financial and economic analysis that is completed on projects that pass Gateway 1 and require closer scrutiny of this information during Gateway 2. ▪ Update the Prodoc template to capture the results of the economic evaluation in a standard format (e.g., annual maintenance costs, Net Present Value of total costs, cost-benefit ratio).	NEPO NEPO

Improvement Area	Opportunity	Lead
Debt management	▪ Establish capital funding thresholds for infrastructure and model the debt financing costs and forecast at thresholds. ▪ Ensure there is a strong link between approving projects to proceed for funding (Gateway 2 'Approved' projects) and the funding thresholds.	MFED MFED
Document Management	▪ Support the Kiribati National Library and Archives to maintain a catalogue of infrastructure plans, financial statements, strategies, and reports. Once catalogued, government staff and visiting advisors can then consult with the Librarian to access relevant material. By having access to a professional librarian, all can be sure they have the reports / plans, etc. required, including those paper- based and electronic records not yet made public. ▪ Link to Pacific Data Hub where useful.	

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APPENDIX A:
BENEFIT ASSESSMENT FORMS

Investment Ready Projects for Prioritization

1.	W110	Sanitation for Households in Kiribati
2.	A119	Resurfacing Outer Islands Airfields (Phase 2)
3.	M105	Transshipment Hub Kiritimati and Tarawa
4.	M115	Bairiki Old Wharf Redevelopment
5.	W105	Water Tank for Outer Island Households
6.	B176	Major Renovation for Southern Kiribati Hospital (SKH)
7.	T117	Outer Island Mobile Rollout Phase 3
8.	B156	Upgrading Works to Tungaru Central Hospital
9.	T115	Outer Island Network Extension (Submarine Cable)
10.	R113	Maintenance and Upgrade of all National Roads
11.	A108	Kanton Airport Terminal and Airport Upgrade
12.	B190	School Multi-purpose Hall (Permanent Maneaba)
13.	M121	Fit-For-Purpose Landing Craft for the Line and Phoenix Group
14.	B191	Computer Lab For JSS
15.	U101	Abatao Agricultural and Livestock Complex
16.	B192	Improving Access to JSS Education [Need prodoc]
17.	M132	Boat and Engine Project Phase II
18.	M122	Replacement of MV Nei Matangare
19.	U103	Bairiki Market II
20.	U104	Betio Mixed Use Development
21.	R120	Electric Vehicle Network Development (T11)
22.	B154	Development of the Culture and Museum building Bikenibeu
23.	B102	Butaritari Food Processing Plant
24.	A110	Bonriki Apron Extension
25.	B193	Staff Housing at Outer Islands
26.	A111	Banaba Airport Feasibility Study
27.	A117	Airport Infrastructure Efficiency Upgrade (T14)
28.	M131	Zero-Impact Cruise Liner, Phoenix Islands (T9)
29.	A116	Sustainable Aviation Fuel Integration Initiative (T12)
30.	B189	School Fencing

W110 Sanitation for Households in Kiribati

CAPITAL PROJECT EVALUATION SUMMARY

Stage 1 Screening and Prioritisation Assessment

Project ID: **W110**

Project Name: **Sanitation for all households in Kiribati**

PART 1: Performance Benefits	Submitted	Evaluated		Evaluator comment (if req'd)
1.1 What level of impact will the project have on asset reliability and the level of service delivered to the public?	High			
The asset provided will be owned by each household, therefore the level of service delivered, level of accountability by every households in terms of ongoing operation and maintenance of the installed asset will also be high.	10	10	14%	
1.2 What will be the consequences if the project doesn't proceed? How much risk is government exposed to if the project is delayed?	Moderate			
There is moderate level of risk to the Government if the project doesn't proceed since provision of toilet is a soul responsibility of every household, GoK may provide technical support when needed from time to time. Prioritizing	7	7	8%	
1.3 How complex is the project? Is there adequate capacity and knowledge to construct, operate and maintain the infrastructure?	Moderate			
Project implementation in terms of construction is not new to Kiribati. MISE have the capacity to provide technical support/ supervision of the construction work to ensure compliance to the approved design. An opportunity for	4	1	4%	*Given scale and perhaps coverage, this will be a highly*
Impact Rating and Final Weighted Score	**8.2**	**7.7**	**26%**	**2.00**

PART 2: Social Benefits	Submitted	Evaluated		Evaluator comment (if req'd)
2.1 How significant will be the improvements of social services (education, health, community well-being etc)	Significant			
A poor access to proper sanitation facilities often results in conflict over the ownership of some public toilets. The projects will eventually improve this since an individual household will have their own toilets and will not have to	10	10	12%	
2.2 What impact will the project have on stimulating regional development through improvements in infrastructure and/or services to outer islands?	High			
The provision of toilets to every household will deliver significant improvements in terms of health, social and physicals of household members in the outer islands. Since not so much infrastructure exist in the outer islands,	10	10	4%	
Impact Rating and Final Weighted Score	**10.0**	**10.0**	**16%**	**1.60**

PART 3: Environmental Benefits	Submitted	Evaluated		Evaluator comment (if req'd)
3.1 How will the project make infrastructure more resilient to climate change or reduce the impact of natural disasters?	Moderate			
The project is looking at the construction of a safe s permanent substructure asset/sanitation facility only, such provision is considered moderate resilient to climate change and impact to natural disasters depending on the	7	7	12%	
3.2 Will the project have a positive, neutral, or negative impact on the environment?	Highly Positive			
The likely environmental impacts of the project is mainly during the construction phase with the materials used such as gravel and sand which require regular monitoring under the Environmental Act. However major positivie	10	10	12%	
Impact Rating and Final Weighted Score	**8.5**	**8.5**	**24%**	**2.04**

PART 4: Economic and Financial Impacts	Submitted	Evaluated		Evaluator comment (if req'd)
4.1 How much will the project contribute to growth and development of our primary industries (tourism, fisheries, or agriculture)?	Significant			
Provision of sanitation facilities to every household in Kiribati will bring greater benefit to the tourism industry with more safe santation facilities provided in the outer islands for tourist with no more open defecation on the beach	10	10	8%	
4.2 Does the project focus on optimising O&M costs by rehabilitating existing infrastructure or is it expanding our asset base?	New			
The project is one of the Government's manifest whereby substructure will be provided by the Government and the public or every household is expected to offer assistance or inkind contribution with the construction of such	1	1	8%	
4.3 Will the project provide a stimulus to the growth of local expertise or contribute to private sector development?	Significant			
The project provides significant contribution to existing businesses /private sectors who are supplies materials required for the project. It's an opportunity for local hardware suppliers to engage in the project.	10	10	4%	
4.4 In considering the information above, how likely is it that the project will produce sufficient economic benefits to generate a positive cost-benefit ratio?	Moderate			
0	6	4	14%	
Impact Rating and Final Weighted Score	**6.2**	**5.4**	**34%**	**1.84**
Overall Project Impact Rating	7.9	7.5	**100%**	**7.5**

APPENDIX B:
PROJECT SCREENING NOTES

Priority Projects for Further Development

1.	A108	Kanton Airport Terminal and Airport Upgrade
2.	A119	Resurfacing Outer Islands Airfields (Phase 2)
3.	B156	Upgrading Works to Tungaru Central Hospital
4.	B176	Major Renovation for Southern Kiribati Hospital (SKH)
5.	M105	Transshipment hub Kiritimati and Tarawa
6.	M115	Bairiki Old Wharf Redevelopment
7.	T115	Outer Island Network Extension (Submarine Cable)
8.	M122	Replacement of MV Nei Matangare
9.	U103	Bairiki Market II
10.	B102	Butaritari Food Processing Plant

Project Name

Upgrading of Kanton Airport to Enable Jet Operations (A108)

Brief Description

Remediation of 2,000 meter runway using enzyme technology (OpsDirt) to allow Kanton airport to function as an ADTO alternate for the new Embraer aircraft servicing the route between Kiritimati and Tarawa. Proposal also includes ancillary works (lighting, nav aids, fire safety, etc.) to upgrade the airport to Cat.5 standard for jet operations.

Sector	**Aviation**	*Type*	Renew	*Location*	Canton Island, Phoenix Group
Lead Agency	MICT	*Implementing*	AKA	*Consulted*	MISE, CAAK, AKL, AKA

Project Driver (Need/Urgency)

Kanton airport provides a current alternate for turbo prop flights between Kiritimati and Tarawa however its condition prohibits its use for the planned Embraer Jet operations. To be a viable 'EDTO alternate' for the recently procured Embraer 190-E2 the runway needs refurbishing. Until this work is completed the AKL's is unable to fly its new planes commercially between Tarawa and Kiritimati.

Proposed Solution (Address Driver)

The runway needs refurbishment. Previous studies recommended the use of asphalt treatment which is costly given the remote location. Recently, a new enzyme-based surface treatment technology has become available, which will reduce the ongoing maintenance needs and extend the life of the pavement.

The airport will also be upgraded to Category 5 standard with addition of navigation aids, lighting, fire trucks, etc.

Delivery Method

Phase 1: Runway remediation. 2 months. Specialist machinery, materials and supervisory staff will be deployed to support an international contractor to deliver the works.

Phase 2: Upgrade airport to Cat.5. 2 months. Upgrade and provision of operational facilities including a fire truck, so the airport and its facilities meets Category 5 airport standard.

Phase 3: Extend to Outer Islands. Submitted as a separate project.

Cost Breakdown

Capital Items	Amount (AUD)	Description and Assumptions
Runway remediation	6,600,000	Barge and equipment, MSQA, runway works
Airport Cat.5 upgrade	15,300,000	Fencing, navigation aids, lighting, ATS, fire truck, etc.
Total Annual	**21,900,000**	

Recurrent Costs	Amount (AUD)	Description and Assumptions
Maintenance (annual)	372,000	1% runway, 2% PPE
Operation (annual)	153,000	1% PPE
Ongoing/Recurrent	**525,000**	Increase due to more M&E equipment

Financial benefits

The ongoing maintenance costs will be less than with the current runway. Application of the technology across other runways could compound the savings. It is also proposed the equipment and shipping vessel be provided to AKA for wider use across OI.

# Beneficiaries	10,000	*Cost/Beneficiary*	$2,190	*Likelihood of Economic Viability*	SOME

O&M funding and responsibilities

Maintaining a Cat.5 standard requires a higher level of maintenance due to the increased equipment needed. Bonriki is Cat.5 so AKA are familiar with requirements.

Summary of MCA Assessment

Criteria	Score*	Summary of Benefits/Impact
Criteria 1. **Quality**	6.5	▪ Enable Embraer jets to fly domestically ▪ Reuse of technology on other airports ▪ Critical to Embraer viability – fleet already procured.
Criteria 2. **Social**	5.3	▪ Pilot use of technology for reuse on other OI airports. Contribution to wider regional development (beyond Canton and Kiritimati)
Criteria 3. **Environmental**	5.0	▪ Reduced carbon footprint of AC methods
Criteria 4. **Economic**	5.4	▪ Reduced pavement maintenance but increased electrical and plant maintenance at airport.
Weighted Total Score	**5.4**	This project would score lower if not linked to the Embraer fleet needing an EDTO alternate.

**Project Impact: SIGNIFICANT (>=6.6), HIGH (5.0-6.5), MODERATE (3.0-4.9), LOW (<=2.9)*

Top 3 Risks and Concerns

	Risk	Mitigation
1	The Embraer jet operations do not commence operation due to external factors.	The runway is in a poor state and requires significant maintenance to support the existing fleet so any upgrade would still be of value.
2	The new enzyme technology fails prematurely.	Engage experts to ensure liability is managed and technology is appropriate.
3	Availability of international contractors to complete work.	This has been a risk with border restrictions but mostly mitigated into 2023.

NEPO Evaluation Summary

This project scores "HIGH" impact on the MCA analysis, largely due to it being critical to the viability of the Embraer fleets operation. There will be significant costs to keep Kanton at Cat.5 with addition electrical equipment and fire trucks. The feasibility study needs to confirm the appropriate/minimum requirements for Kanton to function as an EDTO alternate for the Embraer fleet. The study also needs to confirm the enzyme technology is appropriate for runways in the pacific.

Recommendation is to proceed with a full feasibility assessment prior to approval.

NEPO Checklist

Y	Cost estimates realistic	Y	Prodoc completed
Y	Project risks acceptable	Y	Benefit Form completed
Y	O&M implications acceptable	N	Cost Benefit Analysis completed
Y	Impacted agencies consulted		

Submission Status New submission *Submission Date* May 2021

DCC Signoff

	Fastrack project
x	Requires Gateway 2 review
	Requires additional information
	Do not proceed

Donors to be approached to complete feasibility assessment and CBA to bring back for DCC review prior to gateway 2 approval.

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