REQUEST FOR PROJECT
FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

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ADAPTATION FUND

PROJECT PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT INFORMATION

Project Category:	Regular
Country:	Kiribati
Title of Project:	Enhancing the resilience of the outer islands of Kiribati
Type of Implementing Entity:	Regional Implementing Entity
Implementing Entity:	Secretariat of the Pacific Regional Environment Program
Executing Entity:	Ministry of Infrastructure and Sustainable Energy (MISE)
Amount of Financing Requested:	US$ 8.3 million

Project Background and Context:

Socio-economic context[1]

The Republic of Kiribati is one of the smallest, most remote, geographically dispersed, and climate change vulnerable countries in the world. It comprise of 33 main islands span in three main groups of islands, *Gilbert, Line* and *Phoenix Islands*. From the 33 islands, only one island, (Gilbert Group) is a raised limestone and the other 32 are low-lying coral atoll islands. There are a total of 12 uninhabited islands; most of them are from the Phoenix and Line group. The whole area of the Phoenix Group (of just more than 400,000 km^2 and comprised of 8 atoll islands) was declared by Government of Kiribati as the Phoenix Island Protected Area and named as a UNESCO World Heritage site in 2010.

Most of the islands in Kiribati are less than 2 km wide, and little more than 1.8 meters (on average) above sea level. High population concentration and high costs of basic services make Kiribati especially vulnerable to external shocks, including the adverse impacts of climate change. Kiribati's contribution to global warming is insignificant with

[1] Based on World Bank report, January 2017

emissions per capita (approximately 0.6tCO2e/capita in 2014) among the lowest in the world. The only major sector of emissions for Kiribati is energy (including transport), with slight contributions from agriculture and forestry.

21 of the 33 islands are inhabited, with the bulk of the population residing in the Gilbert Islands, which have a land area of 286 km^2 and hosts the capital, Tarawa. Approximately 47% of the total Kiribati population of around 120,000 people lives in the capital, South Tarawa, which has high population densities of up to 10,000 people per km^2 in some villages. South Tarawa is a magnet for internal migration from the outer islands. The capital provides opportunities for cash employment and consumption, as well as access to higher education and specialist social services not available elsewhere in Kiribati. This has led to population growth of 5.2% in recent years into both North and South Tarawa. Because of the geography of the narrow and low-lying Tarawa atoll, the entire population and most infrastructures is concentrated along the coast, making it directly exposed to climatic threats.

A UNDP study of poverty in Kiribati showed the highest incidence of basic needs poverty occurred in South Tarawa, affecting 18.3% of households and 24.2% of the population (highest poverty rate in the Pacific). Moreover, as much as 66 percent of the population is at risk of falling into extreme poverty, and this risk is amplified by the effects of climate change on freshwater supply, health and sanitation and coastal infrastructure.

With a Gini coefficient of 0.39, however, inequality in Kiribati is relatively low in international comparison. Expenditures of the richest quintile of households are 4.7 times expenditures of the poorest quintile.

The revenue of Kiribati is drawn primarily from five main sources: (i) the sale of fishing licenses (access fees account for more than 50% of annual government revenue and add about 22% to the GDP); (ii) official development assistance; (iii) The Kiribati Revenue Equalization Reserve Fund (RERF); (iv)general taxation; and, (v) tariffs paid by households for services. Again, the high dependency on donor contributions and a vulnerability to external economic and environmental factors add to the challenges faced by the country, and more specifically the infrastructure sector.

The public sector dominates the economy, accounting for more than half of estimated gross domestic product (GDP). The general level of demand is largely determined by the government's recurrent budget, half of which is funded by access license fees paid by foreign fishing vessels to catch tuna in Kiribati's exclusive economic zones and by earnings of Kiribati's reserve fund invested in overseas financial markets. Total demand draws in close to $100 million of imports yearly, while yearly exports of goods are valued at around $5 million. The balance of payments current account is sustained by factor income from abroad (i.e., tuna vessel fishing licenses, seafarers" remittances, and investment earnings) and grants received by government, churches, and other non-government organizations.

A whole-of-nation approach is being pursued by government to address the impacts of climate change and sea level rise and related environmental issues in Kiribati. The effects of climate change are seen as major challenge against developmental efforts which will require capacity building at all levels to manage and improve environmental, social and economic sustainability. In order to build island resilience to the adverse impacts and extreme events of climate change and in parallel with achieving the common development goals of Kiribati, the country relies mostly on external aid (donors) to finance its adaptation measures towards climate change as the country is unable to meet the costs of adaptation on its own.

An economic evaluation of the costs of climate change related risks has been estimated to be 35% of Kiribati GDP. The estimate takes into account only the potential impacts of climate change on coastal zone (US$7-$13 million a year) and water resources (US$1-$3 million a year).

Current climate, projected climate change and related assumptions[2]

Kiribati has a hot, humid, tropical climate with an average air temperature of 28.3°C and average rainfall of about 2100 mm per year in Tarawa (1980–1999). Its climate is closely related to the temperature of the oceans surrounding the small islands and atolls. Across Kiribati the average temperature is relatively constant year round. From season to season the temperature changes by no more than about 1°C. Kiribati has two seasons – *te Au Maiaki*, the dry season and *te Au Meang*, the wet season. The periods of the seasons vary from location to location and are strongly influenced by the seasonal movement of the South Pacific Convergence Zone (SPCZ) and the Inter-tropical Convergence Zone (ITCZ).

The six-month dry season (*te Au Maiaki*) for Tarawa starts in June, with the lowest mean rainfall in October. The wet season (*te Au Meang*) starts in November and lasts until April; the highest rainfall occurs from January to March, peaking with a mean of 268 mm in January. The highest rainfall usually occurs when the ITCZ is furthest south and closest to Tarawa; there are also high rainfalls, though to a lesser extent, when the SPCZ is strongest. The average sea-surface temperature of oceans around Kiribati is 29.2°C (1980–1999). As Kiritimati is 2000 km to the east from Tarawa, its wet season starts at a different time, from January to June, with the wettest months being March and April. Rainfall in the northeast of Kiribati is only affected by the ITCZ.

Across Kiribati there is a change in mean monthly rainfall towards the end of the year. There is however, a large variation in mean annual rainfall across Kiribati. A notable zone of lower rainfall, less than 1500 mm per year exists near the equator and extends eastwards from 170°E. On average, Tarawa at 1.1416ºN receives just under 2100 mm, while the island of Butaritari at 3.1678ºN only 350 km to the north, receives around 3000 mm. The climate of Kiribati, especially rainfall, is highly variable from year to year. Tarawa, for example, receives more than 4000 mm of rainfall in the wettest years, but only 150 mm in the driest. This huge range is similar in Kiritimati and has enormous

[2] Kiribati Nationally Determined Contribution, 2016.

impacts on water availability and quality, crop production, food security and health. The main reason for this variability is the El Niño–Southern Oscillation (ENSO). Many Kiribati islands lie within the equatorial waters that warm significantly during an El Niño event and cool during a La Niña event. As a result rainfall is much higher than normal during an El Niño and much lower during a La Niña. Maximum air temperatures tend to be higher than normal during El Niño years, driven by the warmer oceans surrounding the islands, while in the dry season minimum air temperatures in El Niño years are below normal. At Kiritimati, El Niño events also bring wetter conditions in both seasons and La Niña events bring drought. El Niño is generally associated with above-normal rainfall and strong westerly winds, while La Niña is associated with below-normal rainfall and the risk of drought.

The climate of Kiribati is changing and will continue to change in the future as a result of global climate change. Table 1 summarises the trends already observed in variables such as temperature, rainfall, sea level, extreme events and ocean acidification in Kiribati.

Table 1: Climate trends in Kiribati Observed over a period from 1950 to 2009

Climate Variable	Observed Trends
Air temperature	Annual and seasonal mean air temperatures are getting warmer: • Maximum temperatures have increased at a rate of 0.18°C per decade. • Annual and seasonal minimum air temperatures have increased slightly more than the increase in maximum air temperatures.
Sea-surface temperature	Water temperatures have risen since the 1970s: • in the Gilbert Group by approximately 0.15°C per decade; • in the Line Group by approximately 0.1°C per decade; and • in the Phoenix Group by approximately 0.12°C per decade. Since 1950 the rise has been gradual in the waters around the Gilbert Islands, but it has been variable from one decade to the next in the Line and Phoenix Islands.
Rainfall	Annual rainfall has increased: • Annual and wet season rainfall has increased for Kiritimati but there is no trend in the dry season. • At Tarawa, rainfall data show no clear trends. • At both the above sites, rainfall has varied substantially from year to year.
Droughts	The impact of droughts, usually associated with La Niña, can be severe in Kiribati; for example: • In 1971, 1985, 1998 and 1999 annual rainfall was less than 750mm. • The recent drought from April 2007 to early 2009 severely affected the southern Kiribati islands and Banaba. During this period, groundwater turned brackish and the leaves of most plants turned yellow.
Cyclones, severe storms and extreme sea levels	• Tropical cyclones rarely pass between the Kiribati islands. • Between 1969/70 and 2009/10 three cyclones passed within 400km of Arorae Island in western Kiribati and three cyclones within 400km of Caroline Island in eastern Kiribati. • Storm surges and extreme sea levels occur occasionally.
Sea level	Sea level has risen (see figure 6): • Sea level measured by satellite altimeters has risen by 1–4mm per year (global average is 3.2 +/– 0.4mm per year). • Sea-level rise naturally fluctuates from year to year at levels of about 26cm. There are also decade to decade variations. These fluctuations over both timeframes are a result of phenomena such as ENSO.
Ocean acidification	Ocean acidification has been increasing: • Since the 18th century ocean has been slowly becoming more acidic. The aragonite saturation state has declined from about 4.5 in the late 18th century to an observed value of about 3.9 ± 0.1 by 2000. • 'Based [on] the large-scale distribution of coral reefs across the Pacific and the seawater chemistry, Guinotte et al. (2003) suggested that seawater aragonite saturation states above 4 were optimal for coral growth and for the development of healthy reef ecosystems, with values from 3.5 to 4 adequate for coral growth, and values between 3 and 3.5, marginal. Coral reef ecosystems were not found at seawater aragonite saturation states below 3 and these conditions were classified as extremely marginal for supporting coral growth' (KMS, BoM & CSIRO 2011, Vol. 2, p.100).

With many islands situated at 2 meters or less above sea level, Kiribati has already witnessed first-hand the impacts of global climate change. According to the Pacific Regional Environment Programme (SPREP), two small uninhabited Kiribati islets, Tebua Tarawa and Abanuea, disappeared underwater in 1999. The United Nations Intergovernmental Panel on Climate Change predicts that sea levels will continue to rise due to climate change, and it is thus likely that within a century the nation's arable land will become subject to increased soil salination and will be largely submerged, while other islands and atolls will share a similar fate to Tebuatarawa and Abanuea and disappear altogether.

Table 2 provides climate change projections for Kiribati are based on up to 18 global climate models for up to three emission scenarios – low, medium and high – and three 20-year periods – centred on 2030, 2055 and 2090, relative to 1990. There is no single projected climate future for Kiribati, but rather a range of possible futures. Projections represent an average change over either the whole of Kiribati or over smaller but still broad geographic regions such as the Line Group. However, projections are not for specific locations such as towns.

Table 2: Climate projections for Kiribati over the 21st century

Climate Variable	Projected Changes
Air temperature	Surface air temperature will continue to increase (very high confidence). Under a high emission scenario (see also Table 4): • Annual and seasonal mean temperature will increase by 0.3–1.3°C for the Gilbert Islands and by 0.4–1.2°C for the Phoenix and Line Islands by 2030 (high confidence). • Annual temperature increases could be greater than 3°C by 2090 (moderate confidence). (As there is no consistency in projections of future ENSO activity, it is not possible to project Interannual variability in temperature.)
Sea-surface temperature	Sea-surface temperature will continue to increase (very high confidence): • Sea-surface temperatures will increase by 0.6–0.8°C by 2035 and by 1.2–2.7°C by 2100 (Bell et al. 2011). (As there is no consistency in projections of future ENSO activity, it is not possible to project Interannual variability in sea-surface temperature.)
Rainfall	Rainfall patterns will change: • Wet season, dry season and annual average rainfall will increase (high confidence). • Annual and seasonal mean rainfall will increase (>5%) by 2030. The majority of models simulate a large increase (>15%) by 2090 (low confidence).
Extremes	There will be more extreme rainfall and very hot days: • The intensity and frequency of days of extreme heat and warm nights will increase and Cooler weather will decline (very high confidence). • The intensity and frequency of days of extreme rainfall will increase (high confidence).
Drought	The incidence of drought will decrease (moderate confidence): • In the Gilbert, Phoenix and Line Islands mild drought will occur approximately seven to eight times every 20 years by 2030, decreasing to six to seven times by 2090 (low confidence). • The frequency of moderate drought is projected to decrease from two or three times every 20 years by 2030 to once or twice by 2090 (low confidence). • Severe drought will occur approximately once or twice every 20 years by 2030, decreasing to once every 20 years by 2055 and 2090 (low confidence).
Sea level	Mean sea level is projected to continue to rise (very high confidence): • Mean sea level will rise by approximately 5–15cm by 2030 and 20–60cm by 2090 under the higher emissions scenario (moderate confidence; see Table 5 and Figure 5). • Interannual variability of sea level will lead to periods of lower and higher regional sea levels with levels similar to the past. • The sea-level rise combined with natural year-to-year changes will increase the impact of storm surges and coastal flooding. (Scientists warn that due to the melting of large ice sheets such as those in Antarctica and Greenland, rise could possibly be larger than predicted. But currently not enough is known to make predictions confidently.)
Ocean	The acidification of the ocean will continue to increase (very high confidence):

Past La Niña events have shown that the impacts of droughts can be very severe in Kiribati. For example, in 1971, 1985, 1998 and 1999, annual rainfall was less than 750

mm. The recent drought from April 2007 to early 2009 severely affected the southern Kiribati islands and Banaba. During this period, copra production significantly declined, depressing the outer island economies which rely on copra as a main income source. The groundwater also turned brackish and the leaves of most plants turned yellow. During the 1970–1971 drought, a complete loss of coconut palms was reported at Kenna village on Abemama in central Kiribati.

Sectoral context[3][4]

A ground water lens exists on the atolls and provides the main source of potable water for the great majority of the people on the outer islands. Within any atoll, the quality of ground water lens with respect to salinity depends on precipitation and the width of the land. Climate change will affect precipitation and the width of the land through the process of erosion and accretion and these in turn determine the availability the lens. The northern atolls have higher rainfall than those at the south, but the more southerly islands tend to be wider. Additional characteristics of atolls that affect the quality of the ground water lens include geo-physical and biological aspects of land formation which vary from site to site.

The World Health Organisation (WHO) guidelines for potable water limit sodium ion concentration to 250 mg per litre of water or about 1350 electrical conductivity units. A limit of 600 mg per litre or 2500 electrical units is adopted in Kiribati[5].

Available ground water within the atolls is limited and insufficient to meet the need of the people. On some atolls at certain villages, available ground potable water far exceeds the limit set by WHO guidelines.

A drought definition has been adopted by the Ministry of Environment, Land, and Agricultural Development (MELAD) in 2003. However, this definition has not been applied to monitor precipitation for the purpose of identifying drought conditions. The definition is based on preceding 3 months total precipitation being less than 500 mm.

Ideally ground water wells need to be away from the villages to minimize exposure to contamination. However people find it convenient to have ground water wells within the village and households prefer to have a well dug out at their own house plot. Unprotected wells will always be contaminated from runoff during heavy rain. The alternative of having to fetch water from a well outside the village area will not be attractive nor it is in all cases practical. This is because sources of good ground water lenses in the vicinity of the village or over much of the island are not generally known.
In anticipating climate change impacts on the ground water lens, it is important to know the extent of available ground water resources on the islands and to use this knowledge in planning adaptation measures for water resources.

[3] Based on World Bank report, January 2017
[4] Kiribati National Adaptation Program of Action, 2007
[5] Alam K et al, 1997

Some villages are located on sites that do not have ground water lenses, either because the land is too narrow or that the water lens is very polluted as is the case on South Tarawa. For South Tarawa piped water system has been installed, distributing water throughout the stretch of about 35 km from protected water galleries. However, not all households are provided from this source, and wells are still used. Leakage in the water supply system is high and water charges are not based on metered consumption. The management system needs to be maintained and strengthened.

On outer islands various water systems have been tried in the past. Remnants of these systems are found on islands where they were installed. The current water supply technology is now solar pumps and overhead tanks near the villages. The costs of installing and maintaining such systems may limit its application to certain villages and atolls.

The islands are located in relatively calm latitudes but their low, narrow atolls are subject to long term sea level rise and, more immediately, are exposed to continuing coastal erosion and inundation during spring tides, storm surges and strong winds which are destroying key areas of land - storm surges and wave-overtopping contaminate the fresh groundwater lens which is vital for the population's water security. Sea-level rise and exacerbated natural disasters such as drought and weather fluctuations pose significant and direct additional threats to the water and other sectors and resources central to human and national development. By 2050, up to 80% of the land in Buariki, North Tarawa, and up to 50% of the land in Bikenibeu, South Tarawa could become inundated by sea-level rise and increasing storm surge, resulting in greater salinity of the water lenses, incremental loss of freshwater supply, damage to buildings and infrastructure, and increasing incidences of diseases and epidemics.

Droughts accompany the La Nina phenomenon, which occurs approximately every 6-7 years. Changes in rainfall, sea level rise, and changes in evapo-transpiration due to increased temperatures could result in a 19-38% decline in the thickness of the groundwater lens in Tarawa. Prolonged droughts and groundwater salination directly impact human wellbeing and agricultural productivity, and exacerbate the situation of extreme water shortage. The impact of climate change and sea level rise is also expected to be especially severe on coastal land and infrastructure, water resources, human health, agriculture, ecosystems and fisheries.

Fresh water supplies to the outer islands households are already a growing cause for concern that government is eager to address. Households rely on groundwater and rainwater harvesting to provide for their daily water needs including drinking, cooking and washing. However, groundwater resources and rainwater water supply are critically dependent on weather conditions, climate variability and even seawater inundation from extreme high tides and exceptionally rough seas, affecting water quality and having an increasingly negative impact on health, especially for women and infants. There is limited food production and because a significant proportion of household food supplies arrive from elsewhere by boat, supplies oscillate. Poor diets characterized by

deficiencies in Vitamin A, iron and other micronutrients, result in significant health issues. Non-communicable diseases linked to poor diet, such as diabetes, are on the rise in throughout the country as in the Pacific region generally. The impact of inadequate fresh water and food supplies on households is compounded by their limited awareness of links between potable drinking water, sanitation, diet and health.

Kiribati has one of the highest rates of infant mortality in the Pacific region, at 47 deaths per 1,000 live births. This shocking statistic is mainly due to diarrheal disease, caused by inadequate access to clean water and appropriate sanitation.

Open defecation rates in Kiribati are some of the highest in the Pacific sub-region. According to the UNICEF/WHO Joint Monitoring Programme data in 2015, just 40 per cent of the population of Kiribati has access to improved sanitation, with 36 per cent defecating in the open. In rural areas and the outer islands the rates are even higher – open defecation is practiced by nearly half of the rural population (49 per cent) and by more than 70 per cent in some outer islands.

In the absence of continued adaptation, Kiribati could face economic damages due to climate change and sea level rise of US$8 to16 million a year by 2050.

Focus of the proposal

The present proposal focuses on increasing resilience to climate change and disasters of the outer islands of Kiribati. This is achieved by targeting the water and health sector and ensuring that these outer islands have improved and sustainable access to potable drinking water as well as improved hygiene and sanitation.

The project will contribute t the achievement of the development priorities of the Government of Kiribati. The vision of the 2016-19 Kiribati Development Plan (KDP), is “Towards a better educated, healthier, more prosperous nation with a higher quality of life”. In particular, the KDP underlying areas of priority which the project will directly address are: (i) Improved infrastructure (water harvesting and storage); (ii) Improved access to basic services (water and agriculture); (iii) Improved health standards (improved quality of diet content); (iv) Climate change adaptation (water and food resilience); and (v) Gender equity and the empowerment of women (clear priority of women’s participation).

Project Objectives:

The overall objective of the project is to strengthen the resilience of *11 Outer Islands* [6] in Kiribati to the impacts of climate change through improved access to sustainable portable water supply as well as improved health and sanitation conditions. The rationale for selection of these islands is supported by the detailed analysis undertaken

[6] The list of the islands and villages to benefit from the project has been submitted to Cabinet for approval at the next Cabinet meeting schedule for the month of August, 2018.

in 2016 on behalf of the Office of the President as part of a detailed island selection process for a Whole of Island Approach (WOIA) to development in the Gilberts Group.

This will be achieved by:

- Strengthening national and island-wide water resource, health, hygiene and sanitation response action;

- Strengthening Local (village) water resource, sanitation and hygiene response action;

- Providing water supply and sanitation support to the remaining 44 villages not covered under the KIRIWATSAN project on the same 8 Islands;

- Providing water supply and sanitation support to 6 villages in 3 additional new islands;

- Procuring new weather stations and rehabilitate existing ones to ensure reliable and updated information on weather and climate. The information will assist in planning and decision making for example in a drought on island. Small scale EWS will also be included based on needs and priorities of communities; and

- Conducting awareness raising, knowledge management and M & E of water resource, sanitation and hygiene response actions as well as the project deliverables; project best practices and lessons learned.

The total number of villages covered by the proposal is 50 villages in the 11 vulnerable outer islands in Kiribati.

To ensure a coordinated approach in implementing the project, partnership with other international and regional organisations that are working on water and health and sanitation projects in Kiribati will be fostered. This includes delivery and executing partners such as the Secretariat of the Pacific Community, CSIRO, NIWA and IFAD. While relevant government ministries and departments will take the lead in implementing the different components of the project, these technical agencies will provide technical support and advice in the implementation of the various components of the project. This approach will ensure that national and local level technical capacities are enhanced and the project can be sustained.

Project Components and Financing:

Project Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
1. Institutional and island wide water resource, sanitation and hygiene response action strengthening (Ministry of Infrastructure and Sustainable Energy)	1.1.1 Water resource, sanitation and hygiene assessments for the selected outer island. [7](To replicate and upscale the assessment of health care facilities in the outer islands) 1.1.2 Island wide water safety, sanitation and hygiene plans developed for the selected islands. 1.1.3 Island level early warning system needs assessment. 1.1.4 Drought Response Plans to enable the selected islands respond to drought periods and to better adapt better to the effects to climate change.	1.1 Reduced vulnerability at the island level to climate related hazards and threats (AF Outcome 1)	80,000 80,000 60,000 80,000 300,000

[7] Health care facilities assessment started in mid-2017 on Abaiang island for the improvement of WASH in health care facilities. The project provides an opportunity for the assessment to be rolled out in the outer islands.

	1.2.1 Island self-assessment and planning tool for developed. 1.2.2 Island Planner / Resilience officer established. 1.2.3 Training module developed for local Island and government officials on water resource, sanitation and hygiene assessments and management 1.2.4 Training of local island and government officials conducted on assessment and management	1.2 Strengthened institutional and island capacity to reduce risks associated with climate induced losses (AF Outcome 2)	40,000 150,000 40,000 35,000 265,000

2. Local (village) resilience strengthening (Ministry of Infrastructure and Sustainable Energy)	2.1.1 Assessment and planning tool for Village assessment and action planning developed. 2.1.2 Training module on water resource, sanitation and hygiene assessments developed for village-level assessment 2.1.3 Village-based assessments conducted in at least 50 villages in 11 vulnerable islands. 2.1.4 Village-level resilience, Recovery, upgrading and Asset Management plans developed in identified villages	2.1 Strengthened awareness and ownership of adaptation and climate risk reduction processes and capacity (AF Outcome 3)	40,000 35,000 80,000 80,000 235,000

3. Improved water supply systems and sanitation and hygiene programmes developed (Ministry of Health)	3.1.1 Water harvesting facilities constructed 3.1.2 Water supply systems installed using an integrated approach to provide a sustainable and improved supply infrastructure for water from various sources for the selected villages 3.1.3 Sanitation and hygiene programmes developed for the selected villages to accompany the improved water supply systems in 3.1.2		4,045,000 4,045,000
4. Weather and Climate Information for Decision Making (National Hydrological and Meteorological Services)	4.1.1 Semi-automated stations installed or rehabilitated on the 11 islands to ensure information and data is received by Kiribati Meteorological Services in Tarawa in a timely manner. 4.1.2 Early Warning Systems for communities based on their priorities identified in a consultative and inclusive approach.	4.1 Increased adaptive capacity with relevant development and natural resource sectors (AF Outcome 4)	1,500,000 1,000,000 2,500,000

5. Awareness raising, knowledge management and M & E (Ministry of Infrastructure and Sustainable Energy)	5.1.1. Lessons learned and best practices (e.g health impacts of unsafe water supply and proper sanitation) are generated, captured and distributed to other communities, civil society, and policy-makers in government appropriate mechanisms. 5.1.2. Regional Advocacy and replication 5.1.3. Community level monitoring by NDA 5.1.4. Overall project monitoring and Evaluation by the Project Management Unit	5.1 Project implementation is fully transparent. All stakeholders are informed of products and results and have access to these for replication; M & E is in compliance with AF and SPREP standards and procedures	100,000 50,000 20,000 60,000 230,000
6. Project Execution cost			731,750
7. Total Project Cost			7,575,000
8. Project Cycle Management Fee charged by the Implementing Entity (if applicable)			757,500
Amount of Financing Requested			8,332,500

Projected Calendar:

Milestones	Expected Dates
Start of Project Implementation	08/2019
Mid-term Review (if planned)	08/2021
Project Closing	08/2024
Terminal Evaluation	03/2024

PART II: PROJECT JUSTIFICATION

A. *The project components*

The outer island of Kiribati are characterized by a high exposure to multiple climate hazards but especially coastal inundation and saltwater intrusion which affects quality and quantity of portable drinking water as well as health and sanitation of the outer island communities. Climate sensitivity is in the outer islands are underpinned by rapid urbanization and population growth, underlying vulnerabilities (poverty, limited access to basic services, gender inequalities, weather dependent livelihoods, environmental and ecosystem degradation) and limited adaptive capacity at household, village, island and governance level.

Noting these challenges, the project seeks to strengthen the resilience of outer Island communities to the impacts of climate change and disasters through improved access to sustainable portable water supply and improved health and sanitation both at village and island level. The project combines horizontally and vertically interrelated resilience strengthening of institutions, communities and physical and social assets.

Taking a comprehensive approach, the project will contribute to strengthening village, island and local government capacities, and facilitating processes that respond to current and future needs as well as providing a strong mix of soft and hard interventions. It is anticipated that local resilience at the household, village and island level is sustainably strengthened.

The specific needs of women, indigenous people, people with disabilities and youth will be considered at all stages of the project. This is achieved through engaging representatives of these groups in community and stakeholder consultations with a community-based approach and people's process – where community groups are formed and sustained throughout all stages of the project and through which communities participate in project implementation: in planning and executing activities and monitoring.

The delivery of the project will be supported by technical international and regional organisations such as the Secretariat of the Pacific Community, CSIRO, NIWA and IFAD. While relevant government ministries and departments will take the lead in implementing the different components of the project, these technical agencies will provide technical support and advice. This approach will ensure that national and local level technical capacities are enhanced and the project can be sustained

Component 1: Institutional and island-wide water resource, sanitation and hygiene response action strengthening - *Ministry of Infrastructure and Sustainable Energy*

This component will focus on reducing vulnerability to climate-related hazards and threats at the island level by:

1.1.1. Conducting island water resource, sanitation and hygiene assessments (include assessment of outer islands health care facilities)
1.1.2. Developing island-wide water safety, sanitation and hygiene plans for the selected islands
1.1.3. Conducting island level early warning system needs assessment
1.1.4. Developing drought response plans to enable the selected islands respond to drought periods and to better adapt better to the effects to climate change

The information generated by the assessments will allow government and the selected islands to plan and prioritize interventions that are resilient, sustainable and focused on the needs of vulnerable groups. Proposed interventions will be present in the action plans. The early warning assessment will identify early warning system needs and barriers for establishing such a system.

This component will also focus on strengthening institutional and island capacity to reduce risks associated with climate-induced losses by:

1.2.1 Developing island self-assessment and planning tool
1.2.2 Establishing island planner / resilience officer
1.2.3 Developing training module for local island and government officials on water resource, sanitation and hygiene assessments and management
1.2.4 Training of local island and government officials conducted on assessment and management

The capacity of local governments and island planners/ officers to deal with water and sanitation is limited. To ensure local planning practices focus on resilience outcomes, government and island level trainings are provided. To ensure sustainability of these processes, an island planning tool for water and sanitation assessment will be developed in combination with the establishment of an island planner/officer – as currently, no such position exist.

Component 2: Local (village) resilience strengthening – *Ministry of Infrastructure and Sustainable Energy*

This component will focus on strengthening awareness and ownership of adaptation and climate risk reduction processes and capacity by:

2.1.1 Developing assessment and planning tools for village assessment and action planning
2.1.2 Developing training module on water resource, sanitation and hygiene assessments for village-level assessment
2.1.3 Conducting village-based assessments in at least 50 villages in 11 vulnerable islands

2.1.4 Developing village-level resilience, Recovery, upgrading and Asset Management plans in the identified villages

The outputs of component 2 are similar to those under component 1 (1.1.1. – 1.1.4) but focused on the village level. Although similar, information generated by the assessments will allow the selected villages to plan for identifying and prioritizing interventions that are resilient, sustainable and focused on village and household needs (and especially those of vulnerable groups). Proposed interventions will be present in the village-level resilience, recovery and upgrading plans. To ensure awareness and ownership over the project activities, targeted population groups will be involved in all steps (planning, implementation, monitoring, etc.) of project activities, including trainings and setting up early warning systems. An assessment and planning tool for village assessment and action planning will be developed to ensure communities can easily participate in conducting the assessments and in developing community-level resilience-, recovery- upgrading and asset management plans.

Component 3: Improved water supply systems and sanitation and hygiene programmes developed – *Ministry of Health*

This component will increased adaptive of the selected villages by:

3.1.1 Designing and constructing water harvesting facilities
3.1.2 Installing water supply systems using an integrated approach to provide a sustainable and improved supply infrastructure for water from various sources in each village.
3.1.3 Developing sanitation and hygiene programmes for the selected villages to accompany the improved water supply systems in 3.1.2.

Component 4: Weather and Climate Information for Decision Making – *National Hydrology and Meteorology Services*

For most of the islands, access to weather and climate information or data is often unavailable or outdated. The project will install or rehabilitated semi-automated stations on the 11 islands to ensure information and data is received by Kiribati Meteorological Services (KMS) in Tarawa in a timely manner. The data generated will better inform the different forecasting models such as Seasonal Climate Outlook for the Pacific (SCOPIC) currently used by KMS to forecast drought for Kiribati. This component will also consider small scale Early Warning Systems for communities based on their priorities identified in a consultative and inclusive approach. This will be achieved by:

4.1.1 Installing and rehabilitating semi-automated stations on the 11 islands to ensure information and data is received by Kiribati Meteorological Services in Tarawa in a timely manner.
4.1.2 Identifying and setting up early warning systems for villages based on their priorities identified in a consultative and inclusive approach.

Component 5: Awareness raising, knowledge management and M & E – *Ministry of Infrastructure and Sustainable Energy*

This component will ensure the project implementation is fully transparent, all stakeholders are informed of products and results and have access to these for replication and M & E is in compliance with AF, SPREP and Government of Kiribati standards and procedures. This is done through:

5.1.1. Lessons learned and best practices from the project (e.g health impacts of unsafe water supply and proper sanitation) are generated, captured and distributed to other villages, islands, civil society, and policy-makers in government and other appropriate mechanisms.
5.1.2. Regional Advocacy and replication
5.1.3. Community level monitoring by NDA
5.1.4. Overall project monitoring and evaluation

To maximize village ownership and awareness, selected villages will be involved in monitoring (besides planning and executing project activities). As other islands in the Pacific experience similar approach.

B. *Economic, social and environmental benefits*

By implementing a combination of institutional, community and risk and vulnerability reduction measures, especially in vulnerable/poor island areas of Kiribati, this project is expected to provide reductions in future climate related economic, household and livelihood losses, reductions in vulnerabilities of women, indigenous people, disabled people and youth and reductions in environmental degradation.

Given that communities, and especially vulnerable groups, will be involved throughout the project, they'll have the opportunity to directly influence project activities and outcomes, thus influencing their direct project benefits.

Table No. 3: Overview of economic, social and environmental benefits of intervention compared to no intervention (baseline).

Type of Benefit	Baseline	With/ after the project
Economic	Regular cyclones and floods increasingly lead to economic and household losses and loss of livelihood options.	Reduction in economic and household losses because institutions, selected villages and physical and natural assets, ecosystems and livelihoods are more resilient.
	Long-term climate change impacts such as sea level rise, and droughts and will lead to increased economic and	New climate resilient infrastructure and services contributes to economic benefits.

	household costs and loss of livelihood options. Islands and villages are dense, lack (resilient) houses/infrastructure and have limited livelihood options.	 Reduction in economic and household losses of island and villages because of increased resilience.
Social	Regular cyclones and floods can increasingly be considered as co-drivers of poverty and lead to fatal accidents and compound social problems such as, disease, sanitation, food security issues, community safety issues etc. Long-term climate change impacts such as sea level rise and droughts will lead to reduced social wellbeing and reduction in communities' adaptive capacity	Reduction in climate induced poverty, fatality rates, diseases and water and food security and safety issues because institutions, village and physical and natural assets, are more resilient. Capacity development and direct involvement in adaptation actions increases the resilience of the most disadvantaged in the islands and villages.
Environmental	Ecosystem degradation lead to reduction of livelihood options and health issues	Promotion of ecosystem-based adaptation in the island and village environment, leading to environmental benefits

C. *Cost-effectiveness of the proposed project.*

The project aims to be cost-effective by:

- Avoiding future costs of climate change impacts and ensuring sustainability of interventions
- Efficient project operations
- Village involvement/distributions
- Selecting technical options based on cost-, feasibility and resilience/sustainability criteria

Taking no action (business as usual) will lead to incrementally increasing costs in time associated with damage and losses due to sea level rise, inundation, intrusion, floods and other disasters, low productivity/limited livelihood options and health related costs, especially in villages. Proposed interventions under this project will reduce these future costs. Although sustainability related measures (including e.g. development of assessment and planning tools, the establishment of a resilience officer, trainings and community involvement and resilient planning and design of water infrastructure) can be considered as 'extra' costs, not bearing these costs will significantly reduce the impact on the long run of this project and the scale beyond the community (i.e. country-wide impact).

Efficient project operations
SPREP traditionally shows high cost-effectiveness in project operations because technical assistance, training and capacity building are done mostly in-house, because SPREP works directly with local government partners (thereby building their capacity as well as reducing costs) and because of strong community involvement, which helps reducing costs significantly. This is relevant to all components of the project.

Community involvement/distributions
The project will be implemented in close partnership with communities and local government institutions. This model of partnership will allow significant cost reduction as communities and local partners will provide support. For example, communities will provide in-kind contributions by participating in designing and construction etc.

D. *Project is consistent with national or sub-national sustainable development strategies*

A whole-of-nation approach is being pursued by government to address the impacts of climate change and sea level rise and related environmental issues in Kiribati. Climate change and disaster risks are being addressed in policies and strategies relating to population, water and sanitation, health and environment. Similarly disaster risk management is progressively being incorporated into policies and strategies relating to fisheries, agriculture, labour, youth and education. The Kiribati *Integrated Environment Policy* encourages all government programs to collect, manage and use environmental data to safeguard the environment and strengthen resilience to climate change and disasters.

The project will contribute to the achievement of the goals and objectives of the following national frameworks and also to the sustainable development aspirations of the Government of Kiribati:

The vision of the 2016-19 Kiribati Development Plan (KDP) is "*Towards a better educated, healthier, more prosperous nation with a higher quality of life*". In particular, the project will directly address the following: (i) Improved infrastructure (water harvesting and storage); (ii) Improved access to basic services (clean water and agriculture support); (iii) Improved health standards (reduced incidence of diarrhoea); (iv) Climate change adaptation (water and food resilience); (v) Reduced poverty (vegetable sales, reduced reliance on food imports); and (vi) Gender equity and the empowerment of women (clear priority of women's participation).The KDP is the overarching national development plan detailing national development priorities. The KDP is linked to the Sustainable Development Goals, the Pacific Plan and the Mauritius Strategy for Small Island Developing States (BPoA+10).

The National Adaptation Program of Action (NAPA) (2007) sets out a plan for urgent and immediate actions in the Republic of Kiribati to begin work in adapting to climate change. The goal of the NAPA was to contribute to and periodically complement a long term framework of adaptation through identifying immediate and urgent adaptation

needs that are consistent with national development strategies and climate change adaptation policies and strategies. The objective is to communicate in a simplified way the identified immediate and urgent adaptation needs of Kiribati, which is also relevant to the national communication obligation required by the UNFCCC. These adaptation needs are identified through a participatory, consultative and multidisciplinary planning process. The NAPA outlines 9 priority projects valued at US$11.983 million to address short-term (3 years) needs in critical sectors that include: water, coastal zone management, agriculture, coastal infrastructure) and to strengthen national adaptive capacity and information systems.

The National Framework for Climate Change and Climate Change Adaptation (April 2013) establishes a framework for an effective national response to address the impacts of climate change that requires that climate change and climate change adaptation assume a prominent role within the national development planning process. This process is comprised of five main parts that include long range policy and strategy statements, namely: Kiribati Development Plan (KDP), annual GoK Budget, multi-year budget framework and Ministry Operational Plans (MOPs) and Public Enterprise Business Plans (PEBPs).

The Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management (KJIP) (2014) has been developed to reduce the vulnerabilities to the impacts of climate change and disaster risks and to coordinate priorities so that investments will derive maximum value.

Apart from the above national frameworks, the project will build on past and existing projects on water, sanitation and hygiene (WASH) that are implemented at national and community level including, in the outer Islands. This include projects such as the IFAD Food and Water Project, KIRIWATSAN project, a USAID/SPREP funded project involving the installation of water pumps in the outer islands, the Kiribati LDCF project - Enhancing " whole-of-islands" approach to strengthen community resilience to climate and disaster risks in Kiribati project which is now being implemented.

The proposed project will build-on lessons learned and experiences of past water and health and sanitation projects implemented in Kiribati and will complement existing and planned interventions to replicate/ upscale and expand interventions with positive outcomes and ensuring sustainability.

E. *Compliance with relevant national technical standards*

All project activities are in compliance with existing rules, regulations, standards and procedures endorsed by the government as reflected in the table below:

Table 4: Project compliance with relevant rules, regulation, standards, procedures and tools to project activities.

Expected concrete outputs	Relevant rules, regulations, standards and procedures	Compliance & procedure
1.1.1 Water resource, sanitation and hygiene assessments for the selected outer island. (To replicate and upscale the assessment of health care facilities in the outer islands) 1.1.2 Island wide water safety, sanitation and hygiene plans developed for the selected islands. 1.1.3 Island level early warning system needs assessment. 1.1.4 Drought Response Plans to enable the selected islands respond to drought periods and to better adapt better to the effects to climate change.	The vision of the 2016-19 Kiribati Development Plan (KDP) is "Towards a better educated, healthier, more prosperous nation with a higher quality of life'. In particular, the KDP underlying areas of priority which the project will directly address are: (i) Improved infrastructure (water harvesting and storage); (ii) Improved access to basic services (clean water); (iii) Improved health standards (reduced incidence of diarrhoea); (iv) Climate change adaptation (water); (v) Reduced poverty (vegetable sales, reduced reliance on food imports); and (vi) Gender equity and the empowerment of women (clear priority of women's participation).	Aligning to the KDP as the overarching development plan for sustainable development, the project will implement/ address the water and health and sanitation related recommendations in the Government of Kiribati's National Capacity Self-Assessment (NCSA) report; National Adaptation Program of Action (NAPA); National Framework for Climate Change and Climate Change Adaptation; Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management (KJIP); and Pacific Adaptation Strategies Assistance Programme – Kiribati National Stocktaking and Stakeholder Consultations Report.
1.2.1 Island self-assessment and planning tool for developed. 1.2.2 Island Planner / Resilience officer established. 1.2.3 Training module developed for local Island and government officials on water resource, sanitation and hygiene assessments and management 1.2.4 Training of local island and government officials conducted on assessment and management	The vision of the 2016-19 Kiribati Development Plan (KDP) is "Towards a better educated, healthier, more prosperous nation with a higher quality of life'. In particular, the KDP underlying areas of priority which the project will directly address are: (i) Improved infrastructure (water harvesting and storage); (ii) Improved access to basic services (clean water); (iii) Improved health standards (reduced incidence of diarrhoea); (iv) Climate change adaptation (water); (v) Reduced poverty (vegetable sales, reduced reliance on food imports); and (vi) Gender equity and the empowerment of women (clear priority of women's participation).	Aligning to the KDP as the overarching development plan for sustainable development, the project will implement/ address the water and health and sanitation related recommendations in the Government of Kiribati's National Capacity Self-Assessment (NCSA) report; National Adaptation Program of Action (NAPA); National Framework for Climate Change and Climate Change Adaptation; Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management (KJIP); and Pacific Adaptation Strategies Assistance Programme – Kiribati National Stocktaking and Stakeholder

		Consultations Report.
2.1.1 Assessment and planning tool for Village assessment and action planning developed. 2.1.2 Training module on water resource, sanitation and hygiene assessments developed for village-level assessment 2.1.3 Village-based assessments conducted in at least 50 villages in 11 vulnerable islands. 2.1.4 Village-level resilience, Recovery, upgrading and Asset Management plans developed in identified villages	The vision of the 2016-19 Kiribati Development Plan (KDP) is "Towards a better educated, healthier, more prosperous nation with a higher quality of life'. In particular, the KDP underlying areas of priority which the project will directly address are: (i) Improved infrastructure (water harvesting and storage); (ii) Improved access to basic services (clean water); (iii) Improved health standards (reduced incidence of diarrhoea); (iv) Climate change adaptation (water); (v) Reduced poverty (vegetable sales, reduced reliance on food imports); and (vi) Gender equity and the empowerment of women (clear priority of women's participation).	Aligning to the KDP as the overarching development plan for sustainable development, the project will implement/ address the water and health and sanitation related recommendations in the Government of Kiribati's National Capacity Self-Assessment (NCSA) report; National Adaptation Program of Action (NAPA); National Framework for Climate Change and Climate Change Adaptation; Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management (KJIP); and Pacific Adaptation Strategies Assistance Programme – Kiribati National Stocktaking and Stakeholder Consultations Report.
3.1.1 Water harvesting facilities constructed 3.1.2 Water supply systems installed using an integrated approach to provide a sustainable and improved supply infrastructure for water from various sources for the selected villages 3.1.3 Sanitation and hygiene programmes developed for the selected villages to accompany the improved water supply systems in 3.1.2	The vision of the 2016-19 Kiribati Development Plan (KDP) is "Towards a better educated, healthier, more prosperous nation with a higher quality of life'. In particular, the KDP underlying areas of priority which the project will directly address are: (i) Improved infrastructure (water harvesting and storage); (ii) Improved access to basic services (clean water); (iii) Improved health standards (reduced incidence of diarrhoea); (iv) Climate change adaptation (water); (v) Reduced poverty (vegetable sales, reduced reliance on food imports); and (vi) Gender equity and the empowerment of women (clear priority of women's participation).	Aligning to the KDP as the overarching development plan for sustainable development, the project will implement/ address the water and health and sanitation related recommendations that in the Government of Kiribati's National Capacity Self-Assessment (NCSA) report; National Adaptation Program of Action (NAPA); National Framework for Climate Change and Climate Change Adaptation; Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management (KJIP); and Pacific Adaptation Strategies Assistance Programme – Kiribati National Stocktaking and Stakeholder Consultations Report.

4.1.1 Semi-automated stations installed or rehabilitated on the 11 islands to ensure information and data is received by Kiribati Meteorological Services in Tarawa in a timely manner. 4.1.2 Early Warning Systems for communities based on their priorities identified in a consultative and inclusive approach	Early warning systems are vital, gaps exists such as observation & monitoring systems, data processing capabilities to generate early warning information; integration of warning information into decision making for enhanced preparedness & community awareness; and capabilities to understand and respond to early warning information	To strengthen early warning systems to ensure effective and timely communication to the public, with particular attention paid to isolated, hazard-prone and disadvantaged areas.
5.1.1. Lessons learned and best practices (e.g health impacts of unsafe water supply and proper sanitation) are generated, captured and distributed to other communities, civil society, and policy-makers in government appropriate mechanisms. 5.1.2. Regional Advocacy and replication 5.1.3. Community level monitoring by NDA 5.1.4. Overall project monitoring and evaluation	The vision of the 2016-19 Kiribati Development Plan (KDP) is "Towards a better educated, healthier, more prosperous nation with a higher quality of life'. In particular, the KDP underlying areas of priority which the project will directly address are: (i) Improved infrastructure (water harvesting and storage); (ii) Improved access to basic services (clean water); (iii) Improved health standards (reduced incidence of diarrhoea); (iv) Climate change adaptation (water); (v) Reduced poverty (vegetable sales, reduced reliance on food imports); and (vi) Gender equity and the empowerment of women (clear priority of women's participation).	Aligning to the KDP as the overarching development plan for sustainable development, the project will implement/ address the water and health and sanitation related recommendations that in the Government of Kiribati's National Capacity Self-Assessment (NCSA) report; National Adaptation Program of Action (NAPA); National Framework for Climate Change and Climate Change Adaptation; Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management (KJIP); and Pacific Adaptation Strategies Assistance Programme – Kiribati National Stocktaking and Stakeholder Consultations Report.

F. *Other funding sources*

One of the selection criteria of the islands and villages selected to benefit from the project is that of avoided overlap with other projects. The project will build-on and compliment other past and/ or existing water and health and sanitation related projects and programs. This information has been retrieved based on in-depth consultations with the national government and other relevant stakeholders including the target islands and villages.

Relevant projects have been identified based on the same consultations with the national government and online research. Relevant projects and their complimentary potential with information retrieved from consultations with the Pacific Community, IFAD and online research are listed below:

G. Capturing and disseminating lessons learned

A dedicated component (5) addresses awareness raising, knowledge management and M & E. Whilst this provides the cornerstone for capturing and disseminating lessons learned, other project components directly contribute to knowledge management mechanisms and dissemination of lessons learned from local to national and to international levels.

At the local level, a participatory approach (involving villages and island authorities in planning and implementation activities) will lead to increased local knowledge. Project demonstration sites will contribute, from the start and in an ongoing way, to sharing lessons and training through local disseminators and tools and guidelines. The project will also use a participatory monitoring process, which will enable the beneficiary communities under component 2 to work directly with the project's M&E officer, to highlight issues in delivery and to strengthen benefits, including in replication and sustaining the project's gains.

At the national level, other vulnerable islands and villages in Kiribati will be able to draw from lessons learned through this project, including replication and scale-up of good practices. Information will be consolidated in reports and the tools and will be developed for resilient (and vulnerable groups sensitive) urban community development/upgrading and water infrastructure and sanitation and hygiene programmes.

H. The consultation process

Consultations at the ministerial and government department level were undertaken by the NDA office for the development of this concept proposal in Kiribati. The consultations were to confirm government priorities (from policies and plans) and agreeing on (and establishing wide support for) this proposal. The consultations detailed the thematic and geographic focus (focusing on the pre-identified target communities).

Since the project will build on the KIRIWATSAN project (both phase 1 and 2), previous community consultations have been carried out to identify specific interests and concerns relating to water related projects and related safeguard were identified, including those of women, indigenous people, elderly, youth and people with disability.

I. Justification for funding requested

The proposed project components, outcomes and outputs fully align with national and local government/institutional priorities/gaps identified, with identified villages and

vulnerable groups needs and with all seven Adaptation Fund outcomes as stated in the Adaptation Fund results framework. This alignment has resulted in the design of a comprehensive approach in which the different components strengthen each other and in which outputs and activities are expected to fill identified gaps of Kiribati's current water, sanitation and hygiene response. The project aims to maximizing the funding amount for the concrete adaptation component (components 3 and 4); funding allocation to the other (softer) components is required for complementarity/support for components 3 and 4 and sustainability and quality assurance of the project.

J. Sustainability of the project

Institutional sustainability
The project will pave the way for the national government and local authorities to sustain and up-scale the project to other islands and villages by sharing the assessment and planning tools for island and village assessments and action planning for sustainable portable water resource and improved health and sanitation. The Ministry of Infrastructure and Sustainable Energy will anchor the tool and integrate it into its training for local government and planning officials.

Social sustainability
By fully engaging village households in project activities, including assessments, the development of plans/ strategies and monitoring, the project aims to achieve long-lasting awareness and capacities of these households. Besides that, the increased resilience of community level houses and infrastructure will reduce community vulnerabilities, also on the long-run. Moreover, community households will be trained to construct and maintain water source and to enhance their livelihood options in a sustainable and resilient way.

Economic sustainability
Investing in increasing the resilience of vulnerable physical, natural, and social assets and ecosystems is a sustainable economic approach. It will not only avoid future costs related to climate change and disaster impacts but it will also enhance livelihood options. The islands climate change plans and village level resilience, recovery and upgrading plans will include economic opportunities, as well as resilience building opportunities.
.

Environmental Sustainability
The island and village level plans will also be considerate of the environment, including for instance the protection of ecosystems or the reduction of waste production.

Financial sustainability
With the enabling and supporting regulatory framework in place at national level, the self-assessment and planning tools for sustainable portable water resource and improved health and sanitation, there are no barriers for the Government of Kiribati to allocate funding to improved access to portable water and health and sanitation for the outer islands and villages that are to benefit from the project. In fact, the self-

assessment and planning tools create an enabling environment for outer islands and village communities to fund their own water and health and sanitation projects.

Technical sustainability
Water and climate early warning system infrastructure will be designed using resilience principles. This will enhance the durability/sustainability significantly. Besides that, resilient infrastructure will be maintained in partnership with local governments, public utilities and communities/households. This will ensure that after the project, infrastructure systems are maintained.

K. *Overview of the environmental and social impacts and risks identified as being relevant to the project*.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	X	
Access and Equity		X
Marginalized and Vulnerable Groups	X	
Human Rights	X	
Gender Equity and Women's Empowerment		X
Core Labour Rights	X	
Indigenous Peoples		X
Involuntary Resettlement		X
Protection of Natural Habitats		X
Conservation of Biological Diversity		X
Climate Change		X
Pollution Prevention and Resource Efficiency		X
Public Health		X
Physical and Cultural Heritage		X
Lands and Soil Conservation		X

The proposed project seeks to fully align with the Adaptation Fund's Environmental and Social Policy (ESP). Outlined below is a brief description of the initial analysis that has been carried out to evaluate environmental and social impacts of the project, and areas where further assessment is needed.

Activities under Component 1 (Institutional and island-wide strengthening to enhance local climate response actions), component 2 (Local (community) resilience strengthening) and Component 5 (Awareness raising, knowledge management and M & E) are all soft activities. According to the Adaptation Fund's Environmental and Social Policy, "Those projects/programmes with no adverse environmental or social impacts should be categorized as Category C" No environmental and social impacts, whether direct, indirect, transboundary or cumulative are envisaged to arrive as a result of any of the soft activities under Components 1, 2 and 5. Despite this, however, steps will be taken to ensure that no environmental or social impacts can occur.

The activities under Component 3 and 4 are 'hard' activities, and as such some activities have the potential, without and environmental and social safeguarding systems including mitigation measures, create negative environmental and social impacts. However, in our assessment, none of the activities proposed could be considered to be in Category A of the Adaptation Fund's impact classification, and as

such, the activities under these two components are likely to fit into Category B or C. This is because this project proposes hard activities that are numerous, but small scale and very localized, and managed by communities where possible, who have a stake in avoiding environmental and social impacts. This means that the potential for direct impacts is small and localized, that there can be few indirect impacts, and that transboundary impacts are highly unlikely. Given this, cumulative impacts are also unlikely.

The community and vulnerable group consultation that will take place will include question focused on identifying environmental and social risks of the project as per the safeguard areas in the table above. These safeguard areas will be identified and assessed again in detail during the water resource, sanitation and hygiene assessments.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Arrangements for project implementation

The proposed management structure for the project will give management supervision and ultimate accountability to the Project Manager. Implementing partnerships are simplified and more directly linked to the Project Management Unit (PMU) Manager.

The PMU will be located at the MISE. Along with the PMU Manager, support staff will include a Project Coordinator and Project Officer. Support staff will report directly to the PMU Director.

The Project Steering Committee (PSC) for the project will be providing guidance and oversight of the project.

B. Measures for financial and project risk management.

Table 5: Risk and Risk Management

Risk	Potential Impact	Mitigation Measures
Country level issues:		
Unreliable transport and communication services	Delays in implementation, under achievement of Project objective, outcomes and outputs.	Set targets and expectations to fit reality of logistics. Favour arrangements that prepare staff and beneficiaries in outer islands to be as autonomous as possible.
Damage to the environment from extreme weather events or climatic change at a rate more rapid than expected	Reductions to current food and water supplies, reduced returns on improvements introduced by project	Inclusion of special investments in expanding atolls water and health and sanitation research drawing on results from international organisations, regional centres, other Pacific country outcomes; intensify work on health and

		sanitation; expand water storage capacity.
Project Issues:		
Vandalism and limited sense of responsibility for publicly-owned water infrastructure	Poor maintenance of infrastructure for safe drinking water	Granting voluntarily formed water-user groups full control over the rainwater harvesting structures, their management and use of water derived from them
Community elders impose views and preferences for development that represent only some parts of population.	Young people and women will not be able to communicate their views or influence decision-making with respect to resource allocation. Continued out-migration of young people to South Tarawa	Appointing national NGO with knowledge of traditional cultural norms as well as experience in community planning approaches for inclusion; Setting targets for gender balance amongst project staff; giving youth preferential access to project-generated employment; recruiting full-time officer for advocacy for youth. and women
Single households (in particular elderly/widowed women and single mothers with young children) cannot fully participate as they cannot cope with the workload involved for transport water	Most vulnerable will not be able to (fully) participate in the project activities	Identify vulnerable households and provide special mentorship (positive discrimination)

C. Measures for environmental and social risk management

Table 6. Environmental and social risk management

Risk description	Risk Type[8]	Implications & Rating. Likelihood (L) & Impact (I) (1=low;5=high)	Mitigation	Contingency
1. **Proposed site fails EIA**	Environmental	Undeveloped site not suitable for relocation of village Likelihood = 2 Impact = 5	An EIA will be undertaken as the first activity prior to project commencement.	Alternative site sought within the land owning unit and consideration given to the use of the already-excavated terraced area.
2. **Water security and health and sanitation dropped as a political issue**	Political	Attention focused elsewhere, away from the issue of relocation. Likelihood = 1 Impact = 4		
3. **Change in law, government policy or protocols**	Political	Termination of project Likelihood = 1 Impact = 5		

[8] See section 6.7 Risk Management in The Guide for a list of suggested risk type categories.

Risk description	Risk Type[8]	Implications & Rating. Likelihood (L) & Impact (I) (1=low;5=high)	Mitigation	Contingency
4. Force majeure	Environmental/ political/ security	Natural catastrophe, political conflict Likelihood = 2 Impact = 5		
5. Delay to internal government approval	Political	Internal government approval not received in a timely manner Likelihood = 2 Impact = 3	Clear communications between Ministries re. requirements and timelines.	
6. Change to equipment selection or specifications at design stage	Resources / management	Key agents change equipment specifications Likelihood = 1 Impact = 2	Seek consent on equipment selection/specifications prior to order.	Advice from alternative suppliers sought.
7. Change of key personnel at the MISE	Management (internal)	Key personnel leaves with short or no notice. Likelihood = 1 Impact = 3	Essential to keep knowledge-management scheme up-to-date, and to ensure MISE informed of monitoring and evaluation targets and progress.	Shadow handover for new personnel. Develop succession plan.
8. Quality and availability of supplies/ equipment/ materials/ personnel	Times	Activity schedules slip because of technical delays in the arrival of supplies/equipment/materials/ personnel. Likelihood = 2 Impact = 3	Regular internal project meetings. Allow sufficient time for the completion of activities, including a time buffer. Project GANTT chart updated regularly.	Agile supply-chain management – suppliers selected on agility.
9. Financial difficulties of suppliers unable to deliver supplies/ equipment/ materials	Resources	Suppliers unable to deliver supplies/ equipment/ materials because of financial difficulties. Likelihood = 1 Impact = 3	Check individual supplier's financial arrangements/ procedures. Project GANTT chart updated regularly.	
10. Geography of distance	Environmental/ resources/ management	Supply chain disruption because of distance – late delivery of orders/ materials Likelihood = 2 Impact = 3	Realistic time and financial buffers to allow for distance delays, including communications delays.	Agile supply-chain management – suppliers selected on agility.
11. Under-budgeting for activities	Resources (capacity)	Activity delays because of insufficient funds owing to construction costs higher than estimated. Likelihood = 2 Impact = 4	Regular progress meetings with construction project team. Regular finance reports submitted. Realistic finance allocation for activities. Project GANTT chart updated regularly.	Assignment of contingency budget.
12. Inflation above	Resources	Price escalation owing to unexpected inflation, and	Realistic financial buffers to activity costs.	

Risk description	Risk Type[8]	Implications & Rating. Likelihood (L) & Impact (I) (1=low;5=high)	Mitigation	Contingency
estimations		therefore cost overrun. Likelihood = 1 Impact = 2		
13. Adverse weather	Environmental	Injury/death to community members. Likelihood = 2 Impact = 3-4	Convene regular disaster management committee meetings. Simulation exercise and identification of safe zone. Cyclone-resilient evacuation centre.	Well-stocked and secure evacuation centre. Check on elderly and vulnerable groups.
14. Equipment break-down	Resources	Delays caused by faults or break-down of equipment at site. Likelihood = 2 Impact = 3	Regular maintenance checks of equipment. Supplier ships spares of essential components with equipment. Reputable suppliers selected.	
15. Insufficient space/ land for water source and early warning system establishment	Environmental	Inability to set up water source systems. Likelihood = 2 Impact = 3	Engineers to assess site.	Alternative sites
16. Contamination	Environmental	Contamination of ecosystem. Likelihood = 3 Impact = 4	Drafting of new site stabilisation plan. Soil stabilisation and planting of incline vegetation – planting of hedgerows (vetiver grass). Training of villagers to enable regular, on-going monitoring of site for signs of instability.	
17. Potential social disruption to community	Social	Conflicts arising from excess time spent in external communications as a result of better telecommunications at new site. Likelihood = 3 Impact = 3	Awareness raising of the issue among villagers and the pastor.	Creation of additional village bylaws.
18. Tsunami	Environmental	Injury/death to villagers. Destruction of school and current Narikoso site. Likelihood = 1 Impact = 4-5	Convene regular disaster management committee meetings. Evacuation drills, and simulation exercises, and training to spot early-warning signs. Awareness of zone of safety and route.	Early warning and evacuation plans put in place. Post-event, disaster management plans put in action.
19. Water security	Environmental	Insufficient water supply, leading to water shortage	Ensure installation of water-capture techniques	Rationing of water supplies. Water management awareness

Risk description	Risk Type[8]	Implications & Rating. Likelihood (L) & Impact (I) (1=low;5=high)	Mitigation	Contingency
		within village. Likelihood = 2 Impact = 2	at new site.	and training.
20. Contamination of watershed	Environmental	Contamination of water supply to village. Likelihood = 2 Impact = 3	Buffer water source that's prone to farming and/or piggery waste nearby. Monitoring of water quality.	
21. Continued coastal erosion	Environmental	Erosion of foreshore. Likelihood = 3 Impact = 4	Drafting of coastline rehabilitation plan. Mangrove rehabilitation. Use of groynes, and wave-breakers (piling up of rocks seaward, 4-5m from properties.	

D. Monitoring and evaluation arrangements.

The Project Management Unit (PMU) will manage and coordinate the day to day implementation of the project, on the basis of a consolidated Annual Work Plan and Budget (AWPB) that will cover the activities for each financial year of the Government of Kiribati, which spans from January to December.

AWPBs for the single components will be prepared by each component manager. They will be based on the project design, project M&E reports and lessons learned from communities and staff during implementation on the islands. Plans will be consolidated by the PMU Director. They will then be submitted to the Project Steering Committee (PSC) and SPREP for approval.

The overall responsibility for project M&E and for reporting on the project's physical progress will rest within the PMU Coordinator. They will obtain up-to-date information on the physical progress as measured against the activities planned in the AWPB through collaboration and regular communication with the PMU Officer. The PMU Coordinator and Officer will also liaise directly with field staff. They will provide updated M&E reports to the PMU Manger on a monthly basis, and within 3 weeks of the closing of each reporting period. On the basis of information collected the PMU Coordinator will prepare semi-annual and annual progress reports for submission to the PMU Manager, Government of Kiribati and SPREP (Climate Change Resilience and Project Coordination Unit).

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government[9] *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

(Enter Name, Position, Ministry)	Date*: (Month, day, year)*

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans including the Kiribati Development Plan, National Capacity Self-Assessment (NCSA) report; National Adaptation Program of Action (NAPA); National Framework for Climate Change and Climate Change Adaptation; Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management (KJIP); and Pacific Adaptation Strategies Assistance Programme – Kiribati National Stocktaking and Stakeholder Consultations Report and subject to the approval by the Adaptation Fund Board, commit to implementing the project in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project.	
Mr. Roger Cornforth Implementing Entity Coordinator	
Date: Aug/06/2018	Tel. and email: +685 21929 Ext. 205 rogerc@sprep.org
Project Contact Person: Manasa Katonivualiku	
Tel. And Email: +685 21929 Ext. 333 (manasak@sprep.org)	

[6] Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

GOVERNMENT OF KIRIBATI

MINISTRY OF FINANCE AND ECONOMIC DEVELOPMENT
P.O. Box 67, BAIRIKI, TARAWA

Telephone: 686 74021806 Ext 212. Fax: 686 74021307.

6 August 2018

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Sustainable water supply and sanitation in outer islands concept note

In my capacity as designated authority for the Adaptation Fund in Kiribati, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Kiribati.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the Secretariat of the Pacific Regional Environment Programme and executed by the Ministry of Infrastructure and Sustainable Energy.

Sincerely,

Honorable Dr Teuea Toatu
Minister