



Pacific Community (SPC)

Government of the Republic of Kiribati

**GLOBAL CLIMATE CHANGE ALLIANCE PLUS: SCALING UP
PACIFIC ADAPTATION (GCCA+ SUPA) PROJECT**

PROJECT DESIGN DOCUMENT

Output 3

Version 2

**Enhancing sustainable water security measures to adapt
to climate change and disasters in vulnerable remote islet
communities in Kiribati.**

October 2020

**Enhancing sustainable water security measures to adapt to climate change and disasters
in vulnerable remote islet communities in Kiribati**

Project Summary

This project design document (version 2) describes the framework for Kiribati's activities under Output 3 "Scale up resilient development measures in specific sectors" of the Global Climate Change Alliance Plus - Scaling up Pacific Adaptation (GCCA+ SUPA) Project. The Output 3 activities, described here for Kiribati, will be implemented in conjunction with related activities under Output 1 "Strengthen strategic planning at national levels" and Output 2 "Enhance the capacity of sub-national government stakeholders to build resilient communities" of the GCCA+ SUPA project.

Scaling up in the context of the GCCA+ SUPA Project is about enhancing, expanding, replicating and/or adding a complementary approach to existing, successful climate change adaptation interventions. Lessons learnt from previous demonstration projects will be applied to scale up sector resilience.

The government of Kiribati selected water security as their focus sector for Output 3. The island of Beru has been selected as the geographical location for the project. This was confirmed during two community consultations in 2019. The overall objective of the project is building national capacity in desalination systems' operation and maintenance. The specific objective is securing improved water resources in Beru Island. The project will directly benefit the 2,051 persons (2015 Census) in the atoll communities of Beru, and indirectly the entire population of Kiribati.

Given the ongoing travel restrictions due to the COVID-19, which are likely to continue into 2021, the activities listed in the first version of the project design document (signed in May 2020) have been revised to accommodate these changed circumstances.

The activities are now divided into two phases. Phase 1, from the date of signing to the end of 2021, includes those activities that can be accommodated within the framework of the existing international travel restrictions. Key Result Area (KRA) 1 involves the purchase three solar powered desalination plants and a pilot installation in South Tarawa with remote guidance from the supplier; KRA 2 includes site assessments and consultations in Beru and other islands. KRA 3 covers the recruitment and employment of a national coordinator based at the Ministry of Infrastructure and Sustainable Energy (MISE).

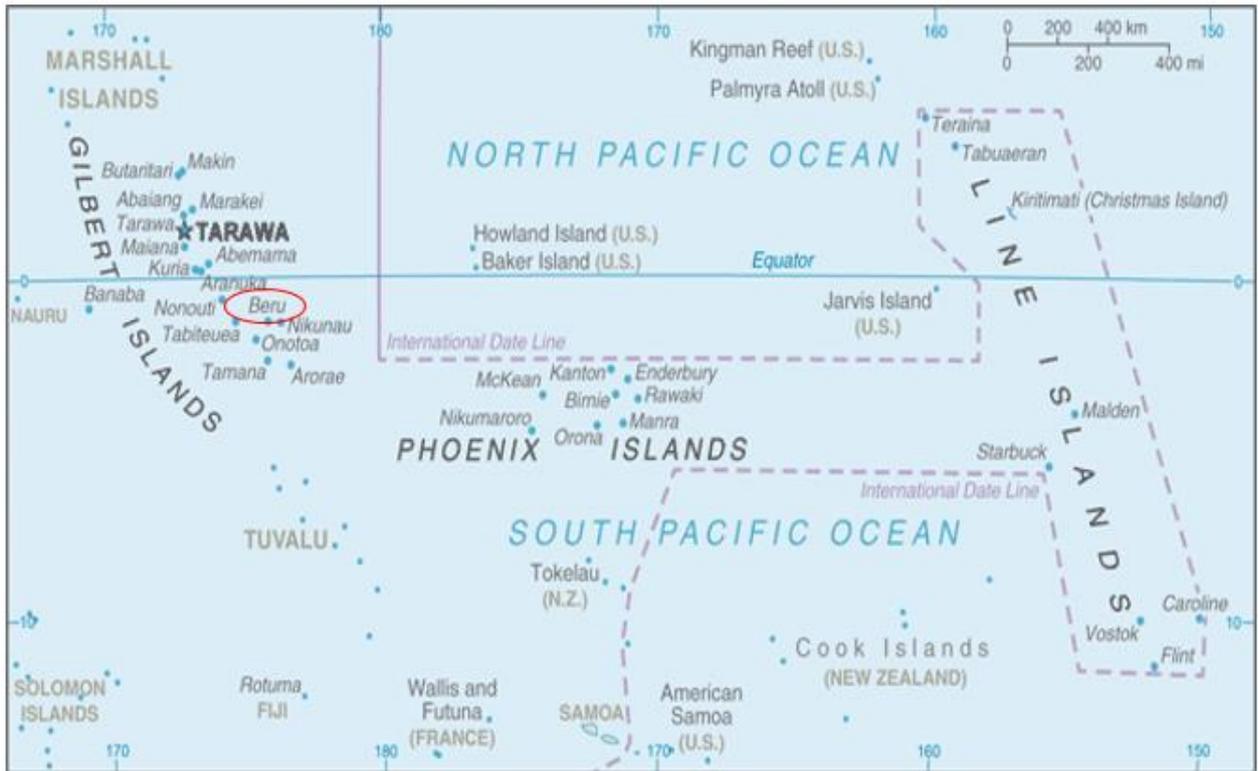
A provisional design for Phase 2 has been included in this document. However, the activities proposed for Phase 2 will be reviewed and likely revised towards the end of 2021 when it is anticipated that international travel will resume. Phase 2 covers KRA 4, which includes a second pilot installation in South Tarawa, with onsite guidance from the supplier's technical team, and involvement of all the water technicians from the Southern Gilbert Islands; as well as the full installation of one desalination plant in Beru Island with onsite guidance from the supplier's technical team.

The project will involve the national government agencies and wherever possible non-government organizations and the private sector. The project is about enhancing the resilience of people and communities, and in this respect a participatory and community-led approach is adopted throughout the design and implementation with a particular emphasis on applying a people-centred approach.

The project will purchase three desalination plants compatible with the existing plants already supplied under the Disaster Fund and from the same supplier. This will ensure compliance with the request from the Government of Kiribati to standardise their desalination systems to facilitate maintenance, repair and the supply of parts. One plant will be installed in Beru while the installation sites for the remaining two units will be determined later by the Government of Kiribati.

The implementation period for this project will commence on the date of signature of this Project Design Document and end on 31 December 2022. The project will be implemented by MISE in collaboration with the Office of Te Beretitenti (OB). The project is consistent with the Kiribati Development Plan 2016-2019, Kiribati Climate Change Policy, Kiribati Joint Implementation Plan 2014-2023 and Kiribati 20-Year Vision 2016-2036.

Map of Kiribati



Map showing Kiribati SUPA project site circled in red namely Beru.

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List of Abbreviations

ACP	Africa, Caribbean, Pacific countries
ACSE	Adapting to Climate Change and Sustainable Energy
ADB	Asian Development
BSRP	Building Safety and Resilience in the Pacific
CSIRO	Commonwealth Scientific, Industrial Research Organisation (Australia)
CCCCDR	Cabinet Committee on Climate and Disaster Risk
COVID-19	Corona Virus Disease Pandemic 2019
DRM	Disaster Risk Management
EPS	Ecological Purification System
EU	European Union
EUR	Euros
FRDP	Framework for Resilient Development in the Pacific
GDP	Gross Domestic Product
GCCA: PSIS	Global Climate Change Alliance: Pacific Small Island States project
GCCA+ SUPA	Global Climate Change Alliance Plus: Scaling Up Pacific Adaptation
KNEG	Kiribati National Experts Group on Climate Change & Disaster Risk Management
KJIP	Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management
MISE	Ministry of Infrastructure and Sustainable Energy
M&E	Monitoring and Evaluation
NDMO	National Disaster Management Office
NGO	Non-governmental organisation
OB	Office of Te Beretitenti (the President)
PAN	Protected Area Network
R2R	Ridge to Reef
RENI	European Union – North Pacific - Readiness for El Niño project
RO	Reverse Osmosis
SDG	Sustainable Development Goal
SPC	Pacific Community
SPC-GEM	Pacific Community Geosciences, Energy and Maritime Division
SPC-LRD	Pacific Community Land Resources Division
SPC-RRRT	Pacific Community Regional Rights Resources Team
SPC-SDP	Pacific Community Social Development Programme
UN	United Nations
UNDP	United Nations Development Programme
USAID	United States Agency for International Development

Signature Page

The contents of this Project Design Document are endorsed by:

For Ministry of Finance and Economic Development

Name & Position	Signature	Date

For Ministry of Infrastructure and Sustainable Energy

Name & Position	Signature	Date

For Office of Te Pahi (the President)

Name & Position	Signature	Date

For Pacific Community

Name & Position	Signature	Date

All parties signed by 12 November, 2020

1. INTRODUCTION

This project design document describes the framework for Kiribati’s activities under Output 3 “Scale up resilient development measures in specific sectors” of the Global Climate Change Alliance Plus - Scaling up Pacific Adaptation (GCCA+ SUPA) Project. The Output 3 activities, described here for Kiribati, will be implemented in conjunction with related activities under Output 1 “Strengthen strategic planning at national levels” and Output 2 “Enhance the capacity of sub-national government stakeholders to build resilient communities” of the GCCA+ SUPA project. The government of Kiribati has selected water security as their focus sector for Output 3.

This section of the design document describes the background to Kiribati and the background to the SUPA Project.

Background to Kiribati

Geographical setting

The Republic of Kiribati is located in the central Pacific Ocean and is the only country that is situated within all four hemispheres. The islands are divided into three groups: Gilbert, Phoenix and Line Islands (see map). It consists of 32 low-lying atolls that rise to no more than two meters above sea level, and Banaba, a raised coral island with highest point of 81m. Banaba was once a rich source of phosphates, but mining was exhausted before independence in 1979. The rest of the land in Kiribati consists of atolls comprising sand and reef rock islets. The soil is thin and calcareous.

The capital of Kiribati is South Tarawa, which consists of a number of islets, connected by a series of causeways. Kiribati has a total land area of 811 km² dispersed over 3.5 million km² of the Pacific Ocean and an Exclusive Economic Zone of 3,441,810 km². Kiribati’s total population is 110,136 (2015 Census), 51% of which live in urban areas. Around 56,388 people live in South Tarawa alone.

Kiribati has a subsistence economy with copra, seaweed and fisheries being the main sources of foreign exchange earnings. Revenue from the sale of fishing licenses for foreign vessels in the Kiribati exclusive economic zone contributes some AUD 2–3 million per annum. The public sector dominates Kiribati’s economy. It provides two-thirds of all formal sector employment and accounts for almost 50% of the GDP. Remittances and earnings from the Revenue Equalization Reserve Fund are also important. Tourism plays a fairly modest role in the Gilbert Islands but for the Northern Line Islands, especially Christmas Island, tourism has a high priority. The country’s GDP was USD 227 million in 2017.

Kiribati is highly exposed to external economic shocks, particularly surges in food and fuel commodity prices, due to its limited revenue base and high dependency on imports. High rates of population growth in urban centres stress water and sanitation infrastructure, causing high incidence of water-borne disease.

Achievement of Kiribati’s development aspirations lie in maximising the development benefits from fisheries and key productive sectors. The development of these sectors is expected to

stimulate the development of other sectors through backward and forward sectoral linkages. The contribution of fisheries and tourism sectors to the country's development aspirations is expected to directly contribute to achieving the Sustainable Development Goals (SDGs) for Kiribati by 2036.

Vulnerability and climate change projections for Kiribati

Climate projections for Kiribati based on the global climate models show that for the period to 2100:

- There is very high confidence that El Niño and La Niña events will continue to occur in the future, but there is little consensus on whether these events will change in intensity or frequency;
- There is very high confidence that annual mean temperatures and extremely high daily temperatures will continue to rise;
- There is high confidence that average rainfall will increase, along with more extreme rain events (high confidence);
- There is medium confidence that frequency of droughts will decline;
- There is very high confidence that ocean acidification will increase;
- There is very high confidence that the risk of coral bleaching will increase in the future;
- There is very high confidence that sea level will continue to rise; and
- There is low confidence that wave height will decrease in December–March, and that waves may approach from a more southerly direction in October.

(These climate projections are based on the 2014 Australian Bureau of Meteorology and CSIRO Report: Climate variability, extremes and changes in the Western Tropical Pacific: New science and updated country reports).

These changes in climate are likely to exacerbate water security issues in Kiribati.

National policies and strategies

Climate change and disaster risk management, coastal protection, food and water security, and social inclusion are among the key priorities for Kiribati and critical to achieve various policy and strategic objectives to achieve sustainable development. Among the key policies are the following:

- Kiribati Development Plan 2016-2019
- Kiribati 20-Year Vision 2016-2036
- Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (KJIP) 2014-2023
- Kiribati Climate Change Policy

Related projects and activities

Listed below are some of key related projects and activities that are presently ongoing in Kiribati.

Project/Activity	Status
Global Climate Change Alliance Plus Intra ACP – Pacific Adaptation to Climate Change and Resilience (GCCA+ Intra ACP PACRES)	Ongoing
Institutional Strengthening in Pacific Island Countries to Adapt to Climate Change (ISACC)	Ongoing
GEF/Ridge to Reef (R2R): Regional component focuses on demonstrations, governance and knowledge management. The national component aims to improve biodiversity conservation and landscape level management	Ongoing
UN Women, Increasing Community Resilience through Empowerment of Women to Address Climate Change and Natural Hazards Programme.	Ongoing
EU-GIZ/ - Adapting to climate change and sustainable energy (ACSE) – Kiribati Solar Boarding Schools Project and Coastal Risk Assessment Project.	Ongoing
EU Intra ACP/NDMO/SPC, Building Safety & Resilience in the Pacific (BSRP) – Planning for community-based disaster risk resilience	Ongoing
Adaptation Fund, Enhancing the resilience of the outer islands of Kiribati – Water and Sanitation Project	Ongoing
Kiribati Disaster Fund, Seawater Reverse Osmosis (SWRO) Project	Ongoing

About the SUPA Project

Description of the overall SUPA project

Climate change and natural disasters are among the greatest challenges jeopardising and undermining the ability of all countries, in particular Pacific countries, to achieve the sustainable development goals and reduce poverty. The Global Climate Change Alliance Plus – Scaling Up Pacific Adaptation (GCCA+ SUPA) project falls under the GCCA+ flagship initiative, which has three priorities: (i) mainstreaming climate change issues into poverty reduction and development efforts; (ii) increasing resilience to climate related stresses and shocks; and (iii) Supporting the formulation and implementation of concrete and integrated sector-based climate change adaptation and mitigation strategies.

The GCCA+ SUPA project is about scaling up climate change adaptation measures in specific sectors supported by knowledge management and capacity building. The 4.5-year project (2019 – 2023) is funded with EUR14.89 million from the European Union (EU) and implemented by the Pacific Community (SPC) in partnership with the Secretariat of the Pacific Regional Environment Programme (SPREP) and the University of the South Pacific (USP) in collaboration with the governments and peoples of Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Republic of the Marshall Islands (RMI), Nauru, Niue, Palau, Tonga and Tuvalu.

The overall objective is to enhance climate change adaptation and resilience within ten Pacific Island countries. The specific objective is to strengthen the implementation of sector-based, but integrated, climate change and disaster risk management strategies and plans.

The three key outputs for the GCCA+ SUPA project are:

1. Strengthen strategic planning at national levels;
2. Enhance the capacity of sub-national government stakeholders to build resilient communities; and
3. Scale up resilient development measures in specific sectors.

The activities will adopt a gender-sensitive and rights-based approach throughout and will take into account lessons learnt and wise practices from the regional, national, sub-national and community-based projects and programmes implemented over the last decade.

The Action will contribute to the *Framework for Resilient Development in the Pacific (FRDP)*, the *Sendai Framework for Disaster Risk Reduction*, the *Paris Agreement to the United Nations Framework Convention on Climate Change*, and the *Sustainable Development Goals*, especially Goal 2: zero hunger, Goal 3: good health and well-being, Goal 6: clean water and sanitation and Goal 13: climate action, Goal 14: life below water and Goal 15: life on land.

The SUPA project in Kiribati

Kiribati is experiencing acute adverse impacts of climate change and related natural disasters. These impacts exacerbate the vulnerability of local communities' health, food security and in particular water security among others. It is affecting the quantity and quality of water available to the communities in the small island atolls of Kiribati.

Following two consecutive national consultations in June and November 2019, the Kiribati SUPA project key stakeholders determined that the SUPA project will focus on water security, and the island atoll of Beru in the Southern Gilbert Islands was identified as the SUPA project site. Version 1 of the Project Design Document (PDD) signed in May 2020 focused on capacity building and enhancing the infrastructure for the storage and supply of potable water. Proposed measures for consideration included solar powered desalination units, rainwater catchment systems and sustainable groundwater extraction systems in communities with limited access to potable water. However, in September 2020, and due to the travel restrictions imposed by the COVID-19 pandemic the project was redesigned by SPC and Kiribati stakeholders. Based on the best information available, it was clear that travel for overseas technical experts for the purpose of building local capacity was not going to be feasible until late 2021 and possibly not until early 2022. Given this scenario, the project was re-focused.

The activities have been designed in two phases. Phase 1, from the last quarter of 2020 to whenever overseas travel is feasible (likely end of 2021 or beginning 2022) will focus on the purchase of three solar powered desalination units similar to those already purchased by the Kiribati Disaster Fund for Outer Islands in 2019/20 and from the same supplier. This is in line with the strong recommendation expressed by the Government of Kiribati to standardise their desalination plants to facilitate maintenance, repair and the supply of parts. A pilot installation will be conducted in South Tarawa, with remote guidance and support from the supplier. Other activities scheduled for Phase 1 include community consultations and rapid water assessments in Beru Island and other islands, and the recruitment and employment of a National Coordinator.

A provisional design for Phase 2 has been included in this document. However, the activities proposed for Phase 2 will be reviewed and likely revised towards the end of 2021 when it is anticipated that international travel will resume. Phase 2 covers KRA 4, which includes a second pilot installation in South Tarawa, with onsite guidance from the supplier's technical team, and involvement of all the water technicians from the Southern Gilbert Islands; as well as the full installation of one desalination plant in Beru Island with onsite guidance from the supplier's technical team. The placement of the other two desalination units to be purchased by the project will be determined by the Government of Kiribati and depending on the project's budget their installation costs may or may not be beyond the scope of this project.

The project aims to enhance community resilience to water security challenges brought about by climate change and disasters. The project contributes to addressing health and social issues relating to water needs for the more vulnerable rural areas.

The project objective is also consistent with the goals and strategies of the Government of Kiribati as identified in the Kiribati Development Plan (KDP) 2016-2019 and Government Party manifesto or "Te Motinnano" that calls to "*improve access to quality climate change resilient infrastructure in urban and rural areas*" with specific objective "*to explore and promote the use of water desalination from reverse osmosis technology using solar energy for isolated communities.*" The goal is to "*provide 75% of the population with access to potable water by the end of 2020.*" The KJIP calls for the identification and implementation of most appropriate technological and sustainable management measures to increase water safety

(quantity and quality) at the village level based on assessments of groundwater resources and assessment of rainwater catchment capacity on outer islands. This includes the most appropriate water sources and technological actions such as filtration galleries; protection of household wells from wave overtopping, contamination and heavy rain; rainwater harvesting; and desalination plants.

Kiribati's disaster risks are almost entirely climate-related and of these the main concern is drought. Droughts, usually associated with La Niña events, are occasionally severe in Kiribati. The *Climate Change in the Pacific: Scientific Assessment and New Research* report for Kiribati, noted that only 205 mm of rainfall was received over the 18-month period from July 1988 to December 1989, and over the six months from August 1998 to February 1999 total rainfall was only 95 mm. These figures are very much lower than the mean annual rainfall of approximately 2100 mm, and the dry season average of just over 900 mm between May and October.

The report notes, the recent drought from April 2007 to early 2009 severely affected water supplies in the southern Gilbert Islands and Banaba Island. During this period ground water turned brackish and the leaves of most plants turned yellow. Copra production, the main income source for people in the outer islands, declined. During the 1970/71 drought, rainfall suppression was significant across the southern islands of the Gilbert Group. At Kenna on Abemama the drought was severe enough for hardy coconut trees to die.

In 2011, The European Union, in partnership with the Pacific Community, UNICEF and the Government of Kiribati, initiated the Water and Sanitation in the Outer Islands of the Republic of Kiribati (KIRIWATSAN I) as a way of reducing water, sanitation and hygiene related diseases. The EU funded project had two phases, with the second phase of the project, KIRIWATSAN II, targeting 35 villages across the 16 islands of the Gilbert Group and ending in 2019. The islands benefitting from KIRIWATSAN II project included Makin, Butaritari, Marakei, Nikunau, Maina, Beru, Abaiang, and Nonouti.

The objectives of KIRIWATSAN II was to improve access to clean drinking water and appropriate sanitation, and local capacity building. The project included the implementation of various water security measures for each of the 35 villages identified. These measures included installation of rainwater harvesting systems, communal wells or enhancing individual and village wells using low yielding solar submersible powered pumps to provide water.

Since Cyclone Pam in 2015, the Government of Kiribati has embarked on an extensive programme to install solar powered desalination plants in the Southern Gilbert Islands with the support of the Kiribati Disaster Fund. Four units have been installed and ten units were purchased in 2019/2020. This approach is at least partly a response to the very dry climate of the Southern Gilbert Islands and has been incorporated into Government policies such as the KDP 2016 – 2019 and KJIP 2014 - 2023.

Community based impact assessments, using a methodology developed under the RENI project, will be conducted for two of these existing desalination plants, and the findings will contribute to the proposed installation of a desalination unit in Beru Islands.

The project site of Beru in the Southern Gilbert islands has been selected based on Integrated Vulnerability Assessments (IVA) made by MISE and the Office of Te Beretitenti, which include projections of annual rainfall, vulnerability to drought, seawater intrusion, inundation hazards, and water security projects previously implemented on the site and in the Southern Gilbert Islands as a whole. In addition, Beru Island was one of the only two islands that submitted follow-up requests to the national government through the Islands Mayor and Clerks Office prioritising the need for improving drinking water availability and accessibility for the island.

The SUPA project will conduct community consultations and basic water assessments in Beru to guide site selection of the installation of the desalination unit. This will provide important information on the operations, benefits and issues with desalination units faced by communities.

Capacity building and maintenance training will be a key component of the proposed Phase 2 of the SUPA project and will be designed specifically for the outer island water technicians and those based in South Tarawa. The training will address the installation, operation and maintenance of the desalination units. The training will be delivered by the supplier of the units purchased by the Kiribati Disaster Fund for Outer Islands in 2019/20 (the same units and supplier will be utilised for the GCCA+ SUPA project's units). The supplier will provide solar and desalination experts to provide installation, operations and maintenance training remotely and on onsite to MISE staff and the water technicians. Onsite training is provisional to the reopening of flights to Kiribati.

The 2015 population estimate for Beru where prioritised water security infrastructure will be built are shown in the table below. These include direct and indirect beneficiaries. It is anticipated that the wider population of Kiribati will benefit indirectly from the SUPA project's water technicians capacity building and maintenance trainings.

Population figures (2015 census) for the direct and indirect beneficiaries of the SUPA Project

State	Total population 2015 census	Number of households 2015 census
Direct beneficiaries		
Beru	2,051	458
Indirect beneficiaries		
Kiribati	110,136	17,772

Under Key Result Area (KRA) 1 of the Kiribati SUPA project, three desalination plants will be procured, purchased and delivered to South Tarawa. One plant is to be installed in Beru (Under Phase 2) while the installation sites for the remaining two will be decided upon by the Government of Kiribati and confirmed at a later stage. A pilot installation in South Tarawa will

be conducted using remote training from the desalination unit supplier for MISE staff and water technicians on South Tarawa.

KRA 2 will involve community consultations and basic water assessments in Beru to inform site selection for the installation of the desalination unit. A community-based impact assessment will also be conducted for communities benefitting from the existing TRUNZ desalination units in two of the outer islands, (Riboono islet, Tamana, Arorae and Onotoa Southern Gilberts) in 2015 in response to Cyclone Pam.

The third KRA will focus on the recruitment and employment of a SUPA project National Coordinator based in MISE to help in coordination of the various project activities.

Phase 2 and KRA 4 is entirely dependent on the opening of international flights to Kiribati and is therefore flexible for change to suit conditions. This fourth KRA will involve a pilot installation on South Tarawa which will be led by the supplier's solar specialist and the desalination specialist. The activity will bring in the water technicians in the outer islands to participate. The specialist(s) will then travel to Beru island to oversee the installation of the desalination plant on the island. The installation training covers operations and maintenance of the desalination units.

The SUPA project will adopt a gender-sensitive/rights-based approach throughout the design and implementation period with the assistance of SPC's Human Rights and Social Development Division. The Ministry of Infrastructure and Sustainable Energy will lead in the implementation of the Kiribati SUPA project, in partnership with the Office of Te Beretitenti.

Rationale

Based on the foregoing the justification and rationale for the SUPA project in Kiribati is as follows:

- The sector selected by Kiribati is one of the five sectors identified in the EU Delegation Agreement as priority sectors needing scaling up interventions for the SUPA project.
- The identified scaling up measure is an effective and tested measure that has elements of sustainability and can be implemented within the timeframe of the SUPA project.
- The selected scaling up measure has socio-economic benefits for the communities and can be implemented using an evidence-based gender-sensitive and rights-based approach
- The selected scaling up measure fits within the scope of the SUPA project budget.
- The geography and location of Kiribati makes its people highly vulnerable to disaster and climate risks.
- Future projections for climate changes show a very high confidence in the El Niño/La Niña patterns continuing through to 2100; added to which there is a very high confidence in the projected increase in annual mean and daily extreme temperatures, and in sea level rise. These projections will continue to increase the vulnerability of persons living in Kiribati.
- The government of Kiribati, through its policies, strategies and plans, places a high priority on upscaling water security infrastructures.

- The SUPA project will provide tangible outcomes that will help the people of Kiribati cope with future water security challenges.
- Adopting a gender-sensitive/rights-based approach will ensure that the principles of equality and equity are provided to rights holders in Kiribati.

2. PROJECT SELECTION PROCESS

This section provides a timeline of the planning activities that have led to this Project Design Document. Activities are listed below in chronological order.

March 2019: The SUPA Planning and Inception Meeting was held in Suva from 4-6 March 2019. The project was introduced to various stakeholders and partners including representatives from SUPA project countries namely Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Republic of the Marshall Islands (RMI), Nauru, Niue, Palau, Tonga and Tuvalu. Participants contributed to the development of the draft criteria for scaling up climate change adaptation interventions under Output 3 of the project.

July 2019: During an initial consultation, water security was selected as the focus sector by the Kiribati National Expert Group (KNEG) and the four islets of Bangai, Aiwa and Tenatorua in Tabiteuea North, and Takuu in Tabiteuea South was identified as the specific location.

September 2019: A concept note was submitted by Kiribati and was approved by EUD with some concerns expressed about long-term maintenance and the overall sustainability of desalination units. SPC proposed modifying proposed the outputs to Kiribati in light of EUD comments.

November 2019: A project design workshop was held in Tarawa, Kiribati on 19 November 2019. Participants came from the Ministry of Health and Medical Services, Ministry of Infrastructure & Sustainable Energy, Ministry of Environment, Lands and Agriculture Developments, University of the South Pacific (USP) and Kiribati Local Government Association (KILGA). Discussions focused on the SUPA project activities and sites. The objectives, KRAs and budget were discussed and agreed. Representatives from other government ministries were not able to attend due to various reasons.

February 2020: A third visit was made to Kiribati, 10-13 February 2020, to hold further discussions with MISE, Office of Te Beretitenti (The President) and the Ministry of Finance and Economic Development.

March-April 2020: Discussions between MISE and SPC about the selection of the sites and the training in desalination. Finally, MISE confirmed the selection of Beru Island, and the replacement of the short-term consultancies for desalination training with a one-year placement of a technical advisor experienced in desalination at MISE.

April 2020: The full Project Design Document was submitted for review and signature.

May 2020: Version 1 of the Project Design Document was signed.

August to September 2020: Due to the ongoing COVID-19 border closures, the 12-month placement of the technical advisor in desalination in Kiribati was deemed impossible for this project. The PDD was revised to reflect new activities and submitted for review and signature.

3. DETAILED PROJECT DESCRIPTION

This section describes the overall objective, specific objective and outputs, as well as the logical framework that is used to monitor progress. The section also includes the project budget and the schedule.

Overall Objective

Building national capacity in desalination systems operation and maintenance

Specific Objective

Securing improved water resources in selected communities in Beru Island.

Key result areas and activities

PHASE 1

KRA 1: Purchase 3 solar powered desalination units and complete a pilot installation in South Tarawa

1.1 Design, procure, purchase and deliver to South Tarawa three solar powered desalination units (22,710 litres/24hr)

This will involve confirmation of the full specifications of the units, the procurement of the three units from the supplier already identified by the government of Kiribati. SPC will work closely with MISE to procure three units using SPC's procurement policy.

1.2 Remote training for pilot installation in South Tarawa

The desalination unit supplier as identified in KRA 1.1 will provide remote training for the pilot installation of one unit in South Tarawa. Water technicians and MISE other staff based in South Tarawa will participate in the pilot installation and training. The scope and content of training will be discussed with and agreed upon by MISE and SPC prior to the training. The supplier to provide training materials to MISE and SPC in advance. The training materials and services to be provided by the supplier will include (i) Manual for installation, operation and maintenance, (ii) trouble shooting manuals and (iii) real time, online responses to queries and concerns relating to the desalination units.

1.3 Training logistics for pilot installation (materials, local travel, catering arranged by MISE)

The training logistics including the materials needed for the pilot installation, travel and catering will be arranged by MISE in consultation with SPC.

KRA 2: Site assessments in Beru

2.1 Identify the site for the desalination unit, conduct basic water assessments and community consultations in Beru Island.

MISE and the National Coordinator will conduct basic household water assessments and community consultations in Beru to identify the site for the installation of the desalination unit, and will take into considerations lessons learned from Disaster Fund project site selection process.

2.2 Conduct community-based impact assessments of two existing desalination units.

MISE and the National Coordinator, in collaboration with SPC, will conduct community-based impact assessments with communities benefitting from two existing TRUNZ desalination units previously installed after Cyclone Pam (2015) in the outer islands of Riboono islet, Tamana, Arorae and Onotoa Southern Gilberts. The assessment should provide a situation analysis report on the operations, benefits, challenges of a desalination unit from a community perspective.

KRA 3: Recruitment and employment of a National Coordinator based in MISE

3.1 Recruitment and employment of a National Coordinator to be based at MISE

A SUPA Project National Coordinator will be hired by the MISE for a period of 2 years to be housed at the MISE. The National Coordinator will help coordinate, report and support implementation of SUPA project activities in Kiribati by the implementing government agencies and partners. The National Coordinator will hold quarterly meetings with the EU-funded Technical Assistant based in the Ministry of Finance and Economic Development in Tarawa and attend the WASH related coordination meetings.

3.2 Support for National Coordinator

The SUPA project will provide funds to cover the National Coordinator's workstation including laptop, office furniture and office supplies.

PHASE 2

The activities under KRA 4 are provisional (depending on re-opening of international flights) and flexible to change as deemed appropriate by the Government of Kiribati and SPC. These activities will be reviewed during the second half of 2021 and likely revised.

KRA 4: Install one desalination unit in Beru Island and provide capacity building on desalination systems for water technicians.

4.1 Supplier to provide onsite training for one pilot installation in South Tarawa

The desalination unit supplier will provide one solar specialist and one desalination specialist to oversee training and installation of one unit as a pilot on South Tarawa. The solar specialist to spend at least one week in South Tarawa and the desalination specialist to spend at least 2 weeks or more as required. The trainings and installations will be done in close collaboration with MISE and SPC and to be delivered to the MISE and its water technicians including those based in the outer islands.

4.2 Travel, logistics, catering and materials for outer island water technicians to participate in the pilot installation in South Tarawa.

MISE and the National Coordinator, in close consultation with SPC, to arrange logistics for the installation training in South Tarawa to be attended by the outer island water technicians. This includes the flight or boat transport and accommodation arrangements for the water technicians based in the outer islands to travel and stay in South Tarawa for the duration of training. All procurement will be done in accordance with SPC's procurement policy.

4.3 Supplier to oversee the installation of one desalination unit in Beru Island.

The specialists identified in KRA 4.1 will travel to Beru Island and oversee the installation of the desalination unit on the island. The mission will include a team from MISE and the National Coordinator. The solar specialist is expected to spend 2 weeks (for this mission and the desalination specialist 4 weeks. (The duration on their stay may be expanded where necessary).

4.4 Travel, logistics, catering and materials for MISE and National Coordinator to assist with installation in Beru Island.

MISE and the National Coordinator, in close consultation with SPC, to arrange logistics for the installation of the desalination unit in Beru Island. This includes the flight and accommodation arrangements from Tarawa to Beru for the MISE team and the National Coordinator. All procurement will be done in accordance with SPC's procurement policy.

4. INSTITUTIONAL ARRANGEMENTS, RISK MANAGEMENT AND EXIT STRATEGY

Institutional arrangements

Implementation

Implementation of this project in Kiribati will be the responsibility of the Ministry of Infrastructure and Sustainable Energy in collaboration with the Office of Te Beretitenti (Office of the President). The SUPA project in Kiribati is being implemented under the ambit of the Co-Delegation Agreement, Global Climate Change Alliance Plus – Scaling Up Pacific

Adaptation (GCCA+ SUPA), CRIS number: ENV/2018/398237, which was signed by representatives from the European Union Delegation to the Pacific, SPC and SPREP on 27th December 2018.

Project Oversight Committee

A Project Oversight Committee will be established consisting of representatives from the Ministry of Infrastructure and Sustainable Energy, Office of Te Beretitenti, Ministry of Internal Affairs, Island Councils, local government, and the Ministry of Finance and Economic Development. The EU-funded Technical Assistant based in the Ministry of Finance and Economic Development in Tarawa will also participate. Other members from other relevant government ministries including the Ministry of Health and Medical Services, NGO's and private sector may be added as required.

The Kiribati SUPA National Coordinator will be responsible for establishing and providing administrative support for this Committee. It is expected that the Project Oversight Committee will meet quarterly and more often as required. Minutes will be kept. The Kiribati SUPA National Coordinator will provide regular (quarterly) updates on progress with the project and raising any concerns or problems that have been encountered. The committee will provide advice on how problems and issues may be addressed. Their main responsibility is guidance and oversight during project implementation.

Reporting

The Kiribati SUPA National Coordinator will be responsible for providing quarterly narrative and financial progress reports to the SUPA project team in SPC in Suva. A template for reporting will be provided. Short monthly progress reports will also be prepared.

Day to day implementation of the project

The Kiribati SUPA National Coordinator situated in MISE will have the responsibility for overall coordination of the SUPA activities, including regular financial and narrative reporting to Kiribati government and to SPC as required. The National Coordinator is also responsible for day-to-day coordination of the delivery of the KRAs. The National Coordinator reports to the MISE Water and Sanitation Unit and the SUPA Project Manager in SPC. The National Coordinator is expected to liaise very closely with the Office of Te Beretitenti.

In addition, the National Coordinator will have quarterly meetings with the EU-funded Technical Assistant based in the Ministry of Finance and Economic Development in Tarawa and will attend the WASH Coordination meetings to improve coordination and complementarity of the SUPA and MISE WASH Project.

Risk management

Risk	Risk level	Mitigating measure
Procurement challenges		
Procurement delays	High	<ul style="list-style-type: none"> • Programme in sufficient time for procurement procedures • SPC to directly procure large items.
Extreme events		

Project implementation delayed by an extreme weather event e.g. cyclone, ocean surge, severe El Niño drought, or major social/cultural events.	High	<ul style="list-style-type: none"> • Ensure planning of activities contains sufficient buffering for minimum one severe and disruptive weather event. • Despite the above mitigating measure, a severe drought or cyclone will likely delay full and timely delivery of all activities.
COVID-19 pandemic delays may further impeded delivery of activities	High	<ul style="list-style-type: none"> • Work closely with partners including WHO, SPC Public Health Division and Health authorities in Kiribati. • Reschedule activities and work plans
Challenges with Implementation in outer islands		
Logistical challenges of implementing activities in outer islands become overwhelming	Moderate	<ul style="list-style-type: none"> • Build on lessons learnt about scheduling and logistics from previous projects; adopt flexible and back-up planning approaches such that alternatives (e.g. moving activities to a different location) can be prioritised if and when necessary. • Consider chartering vessels to deliver all the equipment at the start of implementation so that shipping delays do not impede delivery of activities
National capacity and challenges to full stakeholder involvement		
Countries have insufficient capacity to fully implement the project activities	Moderate	<ul style="list-style-type: none"> • Obtain assistance from island councils and local government to identify persons who will be committed to the project. • Obtain assistance from Ministry of Internal Affairs. • Ensure full commitment of local government.
Assumptions <ul style="list-style-type: none"> • There are many uncertainties around the ongoing COVID-19 pandemic, which represents a serious constraint to project implementation. As more information becomes available, further mitigation measures will be developed • Global economic conditions and national governance do not prevent economic growth. • Global support for the Paris Agreement and Sendai Framework is maintained. • Continual high-level national government commitment to prioritising climate change and disaster risk management in the national development agendas. • Social and political stability is maintained. • Continuous collaboration amongst development partners occurs and is documented to ensure coherence, complementarity and efficiency amongst climate change and disaster risk management interventions. 		

Exit strategy

Strategy: Mainstreaming

The concept and practice of scaling up water security measures rather than delivering individual demonstration projects will contribute to the strategies and plans of the water sector and strengthen the sector beyond project life. The SUPA project will be conducting water resources assessments and community consultations using a participatory, rights-based and gender sensitive approach. It will incorporate current and future climate and disaster risk challenges and projections. In keeping with the Framework for Resilient Development for the Pacific (FRDP), the integration of measures that address climate risk and disaster risk within a sector is another example of a mainstreaming approach that contributes to sector resilience beyond project life. Lessons learnt in applying a gender-sensitive/rights-based approach from the RENI project will be applied.

Strategy 2: Further funding

Identifying alternative sources of grant funding or loan finance, or national government funds in order to continue a project's activity is a second exit strategy. SUPA also provides an opportunity for local stakeholders to voice their concerns directly to National Government, as was done during the Project Design Consultation in June and November 2019.

SUPA is working closely with a number of climate change adaptation and disaster risk management projects being implemented by SPC, as well as other projects implemented by regional and international organisations. Throughout the course of the project, routes to create synergies with other longer running activities will be pursued and where appropriate, developed.

Strategy 3: Private enterprise

Developing an alternative business and/or operational model, through commercialising aspects of the project, is a third exit strategy. Within the scope of SUPA, community and private sector involvement in disaster risk management and climate change adaptation interventions will be encouraged where appropriate. Discussions with the MISE, Island Councils and other avenues will be pursued.

Strategy 4: Project closure

Winding down a project's activities as efficiently and effectively as possible in order not to impact adversely on the project's staff and its stakeholders, and to capture the benefits and any lessons learned is a fourth exit strategy. The project will work to efficiently wind down the activities as the end date is approached.

Lessons learnt from the Global Climate Change Alliance: Pacific Small Island States (GCCA: PSIS) and RENI project will be applied and include allowing sufficient time and staff for an efficient and complete closure process, complete documentation of all narrative and financial

materials, and perhaps most importantly the compilation and sharing of lessons learnt through interactive discussion sessions with national stakeholders and regional partners.

Annex 1 Indicative Logframe Matrix SUPA Activities in Kiribati

The activities, the expected outputs and all the indicators, targets and baselines included in the logframe matrix are indicative and may be updated during the implementation of the action. Note also that indicators will be disaggregated by sex whenever relevant

Intervention logic	Indicators	Baselines (2020)	Target 2022	Sources and means of verification	Assumptions
<p>Overall objective: Building national capacity in desalination operations and maintenance.</p>	<p>Number of persons benefitting from improved access to water on Beru Island. Number of water technicians with enhanced understanding of operations and maintenance of desalination units.</p>	<p>2-5 water technicians (to be verified)</p>	<p>+20 technicians trained</p>	<ul style="list-style-type: none"> • Questionnaire survey • Reports from previous water security projects, KIRIWATSAN Disaster Fund projects • Reports of community meetings • Media reports • Newspaper and other media reports. • Progress reports 	<ul style="list-style-type: none"> • Kiribati government continues to prioritise water security • Flights reopen and desalination specialists are able to conduct onsite installations and trainings to the water technicians in Kiribati.
<p>Specific objective: Securing improved water resources in Beru Island.</p>	<p>Number of persons benefitting from improved access to water on Beru Island.</p>	<p>Not available</p>	<p>2,051 persons</p>	<ul style="list-style-type: none"> • Community pre and post project questionnaire surveys. • Reports from previous water security projects • Reporting on SDGs especially 3, 5, 6, 13. 	

				<ul style="list-style-type: none"> • Reporting on national and sector policies & plans. • 	
<p>KRA 1: Purchase 3 solar powered desalination units and complete a pilot installation in South Tarawa.</p>	<ol style="list-style-type: none"> 1. Number of desalination units purchased and installed. 2. Number of remote pilot desalination installations with remote training on South Tarawa 	<ol style="list-style-type: none"> 1. 3 desalination units installed in Arorae, Onotoa and Ribono (Abaiang), 10 purchased by Disaster Fund 2. 0 remote training on pilot installation 	<ol style="list-style-type: none"> 1. +3 desalination units purchased 2. +1 pilot installation with remote training 	<ul style="list-style-type: none"> • Meeting reports • Reports on consultation • Impact assessments • Water assessment technical reports • Water technician reports • MISE reports on installation and maintenance of existing RO plants • MISE annual reports • Kiribati Disaster Fund Reports • Census data 	<ul style="list-style-type: none"> • A remote training on installations of desalination units is possible.
<p>KRA 2: Site assessments in Beru and other islands</p>	<ol style="list-style-type: none"> 1. Number of people consulted on water security 2. Installation site identified 3. Number of community-based 	<ol style="list-style-type: none"> 1. 0 2. 0 site identified 3. 0 community-based impact assessments conducted 	<ol style="list-style-type: none"> 1. +100 community members consulted. 2. 1 installation site identified for installation. 3. +2 community-based impact assessments 	<ul style="list-style-type: none"> • Meeting reports • Reports on consultation • Impact assessments • Water assessment technical reports 	<ul style="list-style-type: none"> • Beru Island agrees to have the desalination unit installed and assist to identify a

	impact assessments of existing reverse osmosis installation in the Southern Gilbert Islands		of existing RO plants.	<ul style="list-style-type: none"> Water technician reports MISE reports on installation and maintenance of existing RO plants MISE annual reports Kiribati Disaster Fund Reports Census data 	location for installation.
KRA 3: Recruitment and employment of a National Coordinator based in MISE	<ul style="list-style-type: none"> Number of quarterly narrative and financial reports submitted by SUPA National Coordinator 	<ul style="list-style-type: none"> 0 	<ul style="list-style-type: none"> 8 reports 	<ul style="list-style-type: none"> Quarterly narrative and financial reports Payment receipts and assets register 	<ul style="list-style-type: none"> SUPA National Coordinator is recruited by Q4 2020
KRA 4: Install one desalination unit in Beru Island and provide capacity building on desalination systems for water technicians.	<ol style="list-style-type: none"> Number of pilot installation on South Tarawa with onsite training. Number of water technicians trained Desalination unit installed in Beru Island. Number of people trained in desalination installation on Beru island. 	<ol style="list-style-type: none"> 0 0 0 0 	<ol style="list-style-type: none"> +1 installation +15 water technicians trained +1 desalination installed in Beru island. +5 people in Beru trained in desalination installation, operations and maintenance 	<ul style="list-style-type: none"> Training needs assessment reports Training reports for water technicians New and revised operational manual Assessment reports of uptake of training course MISE reports Media releases Trip reports 	<ul style="list-style-type: none"> Qualified trainers are available and are able to travel to Beru island to undertake desalination installation and training.

Annex 2 Project Activities and Indicative Budget

Activity	Item Cost Euros	KRA total Euros
Phase 1		
KRA 1: Purchase 3 solar powered desalination units and complete a pilot installation in South Tarawa		
1.1 Design, procure, purchase and deliver to South Tarawa 3 solar powered desalination units (22,710 litres/24hr)	180,000	
1.2 Supplier to provide remote training for a pilot installation in South Tarawa	5,000	
1.3. Training logistics for pilot installation in South Tarawa	10,000	
KRA 1 Total	195,000	195,000
KRA 2: Site assessments in Beru and other islands		
2.1 Identify site for desalination unit, conduct basic water assessments and community consultations in Beru island	15,000	
2.2 Conduct community-based impact assessments of two existing desalination units in other islands	10,000	
KRA 2 Total	25,000	25,000
KRA 3: Recruitment and employment of a National Coordinator based in MISE		
4.1 Employment of a National Coordinator to be based at MISE	60,000	
4.2 Support for National Coordinator	5,000	
KRA 3 Total	65,000	65,000
Phase 2 PROVISIONAL - WHEN TRAVEL OPENS		
KRA 4 Install one desalination unit in Beru Island and provide capacity building on desalination systems for water technicians		
4. 1 Supplier to conduct one onsite pilot installation in South Tarawa	30,000	
4.2 Travel, logistics, catering and materials for outer island water technicians to participate in the pilot installation in South Tarawa	40,000	
4.3 Supplier to oversee the installation of 1 desalination unit in Beru Island	80,000	
4.4 Travel, logistics, catering and materials for MISE and National Coordinator to assist with the installation in Beru	20,000	
KRA 4 total	170,000	170,000
Total KRA 1-4	455,000	
Contingencies	45,000	
Grand total	500,000	500,000

The modalities for implementation will be direct procurement by SPC, Grant Agreements or Service Contracts.

All procurement will be based on SPC's Procurement Policy

- SPC Procurement Policy



SPC procurement
Policy.pdf

Other information

The Government of Kiribati will oversee accurate and regular records and accounts of the implementation of the Action. The following conditions will also apply:

- Fixed assets (equipment): All fixed assets (equipment) will remain the property of SPC until the closure of the project. On closure of the project, the assets will officially be handed over by SPC to the respective stakeholders in Kiribati. An asset register of all assets purchased should be maintained by the SUPA Project National Coordinator and kept in the Ministry of Infrastructure and Sustainable Energy.

Annex 3 Schedule of Activities

Activity	M 1-6 2020	M7-12 2020	M1-6 2021	M7-12 2021	M1-6 2022	M7-12 2022
Phase 1						
KRA1: Purchase 3 solar powered desalination units and complete a pilot installation in South Tarawa						
1.1 Design, procure, purchase and deliver to South Tarawa 3 solar powered desalination units (22,710 litres/24hr)						
1.2 Supplier to provide remote training for a pilot installation in South Tarawa						
1.3. Training logistics for pilot installation in South Tarawa						
KRA 2: Site assessments in Beru and other islands						
2.1 Identify site for desalination unit and conduct a basic water assessment and community consultations in Beru island						
2.2 Conduct community-based impact assessments of two existing desalination units in other islands						
KRA 3: Recruitment and employment of a National Coordinator based in MISE						
4.1 Employment of a National Coordinator to be based at MISE						
4.2 Support for National Coordinator						
Phase 2 PROVISIONAL - WHEN TRAVEL OPENS UP						
KRA 4 Install one desalination unit in Beru Island and provide capacity building on desalination systems for water technicians						
4.1 Supplier to undertake 1 onsite pilot installation in South Tarawa						
4.2 Travel, logistics, catering and materials for outer island water technicians to participate in the pilot installation in South Tarawa.						
4.3 Supplier to oversee the installation of 1 desalination unit in Beru Island						
4.4 Travel, logistics, catering and materials for MISE and National Coordinator to assist with the installation in Beru						