



**SPC**  
Secretariat  
of the Pacific  
Community



**Secretariat of the Pacific Community**

**Government of the Republic of Kiribati**

## **GLOBAL CLIMATE CHANGE ALLIANCE: PACIFIC SMALL ISLAND STATES**

### **PROJECT DESIGN DOCUMENT**

#### **Improving Implementation of Environmental Health Surveillance and Response to Climate Sensitive Health Risks in Kiribati**

##### **Project Summary**

The overall objective of the project is to increase resilience of i-Kiribati to the adverse health impacts of climate change. The purpose is to contribute to the prevention and control of climate sensitive diseases by improving environmental health surveillance and response. The project will be implemented over the period starting on the date of signature of this project design document and finish on 19<sup>th</sup> November 2014 – although a request for extension of the entire Global Climate Change Alliance: Pacific Small island States project is currently being submitted by SPC to the European Union.

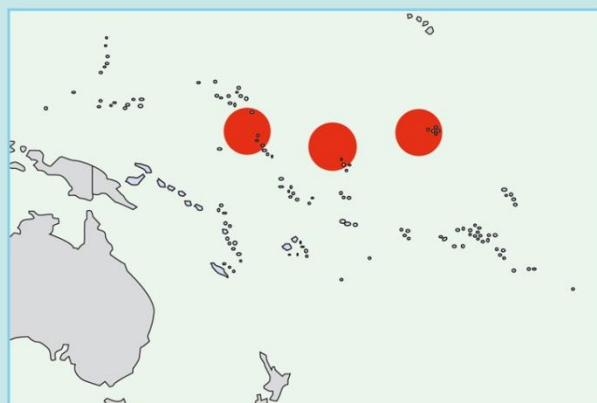
The key result areas (KRAs) are as follows: (i) information provided to communities to address health risks of climate change; (ii) routine systems for surveillance of environmental hazards and climate sensitive diseases supported; (iii) preparedness for response to outbreaks of climate sensitive diseases strengthened; and (iv) coordination, planning and budgeting mechanisms improved.

The project will provide the Ministry of Health and Medical Services (MHMS) with the necessary equipment and training so that the Environmental Health Unit (EHU) can monitor and respond to vector-borne diseases, especially dengue fever, and other climate sensitive health impacts on water, food poisoning, and ciguatera. Specifically, the project will enable the EHU to meet minimum standards in the areas of food and water safety and vector control, in parallel with an increase in the disease surveillance capacity within MHMS. The surveillance and other activities may be expanded to selected outer islands. Technical assistance and training, including in disease and vector surveillance will be provided to the key environmental health stakeholders in Kiribati, in collaboration with SPC Public Health Division, National Institute for Weather and Atmospheric Research (NIWA) and the World Health Organisation (WHO). The project will also provide for public education and outreach relating to water and food safety and vector-borne diseases and will especially target vulnerable groups such as women, children, the disabled and those with pre-existing illnesses.

This project is consistent with the climate change adaptation needs and priorities for Kiribati as identified in the 2011 National Climate Change Adaptation and Health Action Plan and the 2012 Climate Change Adaptation Framework and Kiribati Development Plan. Intensive participatory consultations have informed the development of the project.



# Kiribati



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Signature Page

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## INTRODUCTION

The Global Climate Change Alliance: Pacific Small Island States (GCCA: PSIS) project is a three-year project funded by the European Union and executed by the Secretariat of the Pacific Community (SPC). The overall objective of the GCCA: PSIS project is to support the governments of nine smaller Pacific Island States, namely Cook Islands, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Niue, Palau, Tonga and Tuvalu, in their efforts to tackle the adverse effects of climate change. The purpose of the project is to promote long-term strategies and approaches to adaptation planning and pave the way for more effective and coordinated aid delivery to address climate change at the national and regional level.

The GCCA: PSIS project is implemented by SPC as part of its 'whole of organization approach' and is one of the activities contributing to the SPC Climate Change Engagement Strategy. The four key result areas (KRA) of the GCCA: PSIS project are:

### *National Level Key Result Areas*

- KRA 1: Supporting national efforts to successfully mainstream climate change into national and sector response strategies.
- KRA 2: Identifying, designing and supporting the implementation of adaptation activities.

### *Regional Level Key Result Areas*

- KRA 3: Enhancing the contribution of regional organisations to national adaptation responses.
- KRA 4: Building regional capacity to coordinate

Kiribati, as one of the countries participating in this project, has highlighted many of its adaptation needs in official documents and at various regional and international fora. It has, during the last decade, been involved in a number of climate change projects which have helped shape how climate change adaptation is dealt with in the country. Kiribati's approach to climate change adaptation is based on a no-regrets approach and it will pursue a strategy for precautionary adaptation since it is difficult to predict far in advance how climate change will affect a particular site, sector or island community. The strategy ensures that implementing adaptation measures now would be justified even in the absence of climate change, as it would lead to better management of natural resources and sustainable development.

Given the foregoing, Kiribati has identified 'Improving Implementation of Environmental Health Surveillance and Response to Climate Sensitive Health Risks in Kiribati' as its focus for a national climate change adaptation project to be implemented under the GCCA: PSIS project.

This project design document (PDD) outlines the overall objective, purpose, key result areas and activities that comprise the project. The project design follows the logical framework approach. This first section of the PDD outlines the background to the project, its rationale and related projects. Section two describes how the project was identified. The third section describes the project's overall objectives, purpose, key result areas and activities using a logical framework approach while the fourth and fifth sections of the document provide a schedule and budget for the project activities. Institutional arrangements and risk management and exit strategies are the content of sections 6 and 7.

## **Background**

The Republic of Kiribati is made up of 33 scattered low-lying islands, dispersed over 3.5 million km<sup>2</sup> in the central Pacific Ocean. From north to south of the group the distance is only 800 km, but from east to west it is more than 3210 km. There are three main island groups: Gilbert, Phoenix and the Line Islands. Banaba, a raised coral island with a highest point of 81 m, was once a rich source of phosphate. The rest of Kiribati consists of 32 low-lying atolls that rise to no more than a few metres above sea level. Nearly half of its population of approximately 103,466 lives in Tarawa (in the Gilbert Islands), which has seen a 24% increase in population over the five years since 2005 and now has a population density of 3,173 persons/km<sup>2</sup>.<sup>i</sup>

The country has a subsistence economy with copra, seaweed and fisheries 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 Gross Domestic Product (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 Kiritimati Island, tourism has a high priority.<sup>ii,iii</sup>

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. Progress toward achieving the Millennium Development Goals (MDG) is slow particularly in certain aspects of health, water, and sanitation. It is unlikely that Kiribati will achieve the target of halving poverty by 2015. High rates of population growth in urban centres stress water and sanitation infrastructure, causing a high incidence of water-borne disease.

## **Climate and Climate Change Projections for Kiribati**

Overall, Kiribati has a hot, humid tropical climate. In the case of Tarawa, annual maximum and minimum temperatures are consistently high throughout the year with a range of less than 1°C. There is a large variation in mean annual rainfall across Kiribati. There is a strong relationship between the El Niño-Southern Oscillation and Kiribati's climate. El Niño is generally associated with above normal rainfall and strong westerly winds, while La Niña is associated with below normal rainfall. The impact of droughts, usually associated with La Niña, can be very severe in Kiribati.

Future projections of climate change for Kiribati<sup>iv</sup> generally show the following changes over the next 20 to 30 years: (i) average air temperature will increase by 0.3°C to 1.3°C; (ii) increase in the number of very hot days; (iii) decrease in the cooler weather; (iv) increase in average annual and seasonal rainfall; (v) increase in sea surface temperature; (vi) increases in ocean acidification; and (vii) sea level will continue to rise. Projections about the future behaviour of El Niño-Southern Oscillation are uncertain at the moment.

## **Rationale**

The health impacts of climate change are specifically noted in the Kiribati National Adaptation Programme of Action (NAPA, 2007): 'Human health is the recipient of all downstream effects of the impacts of climate change on other sectors, such as agriculture, fisheries, water supply, coastal areas, biodiversity resources and waste management'.

The country is faced with a 'double burden disease'. Communicable diseases are still not under control (especially in the very crowded areas on South Tarawa). Non-communicable diseases are taking an ever increasing toll on Kiribati's population. The 2009 Kiribati Demographic Health Survey found that about 90% of households now have access to an improved water source, but the sources of water require systematic monitoring and protection. Many houses have inadequate sanitation facilities and share toilets. According to the 2012 Pacific Regional MDG Tracking Report only 31% of the population use an improved sanitation facility. The national health information system (HIS) is still struggling to provide sufficient, accurate and timely information for decision making in planning, strategy and policy development. The national HIS is linked to the Pacific Public Health Surveillance Network (PPHSN). Disease surveillance and response systems in Kiribati need strengthening to meet international agreed standards.

In Kiribati's National Climate Change and Health Action Plan (NCCHAP, 2011), expert assessment and stakeholder consensus identified four key areas of health-related vulnerability in the context of climate change. (Wherever possible, the team drew on national health data. Though the records are not complete, there are sufficient baseline data to identify significant climate-sensitive health problems in Kiribati. For instance, outbreaks of typhoid and other diarrhoeal diseases are evident in records from outpatient clinics; childhood deaths from these diseases are more common in Kiribati than most other Pacific countries, and dengue fever has been present recently). The four key areas of health-related vulnerability are:

- **Water safety and water-borne diseases:** There is strong evidence that rising temperatures and changes in rainfall patterns increase the risk of diarrhoeal diseases, particularly in situations in which the sources of drinking water are unprotected and it is difficult to maintain high standards of food hygiene.
- **Food safety and food-borne diseases:** Many food-borne diseases are climate-sensitive, and, in general the risk of enteric infections transmitted by food increases as temperatures rise. Internationally, many studies have shown this relationship applies for illnesses caused by salmonella, campylobacter and a wide range of enteroviruses. In crowded conditions which make it difficult to maintain high levels of food hygiene, and

where there are limited supplies of clean water, the risks for disease is increased. Furthermore, studies indicate increasing sea water temperatures may influence the risk of ciguatera in fish.

- **Vector-borne diseases:** A number of vector-borne diseases are promoted by warmer conditions and changes in rainfall patterns. Other factors that influence the likelihood of outbreaks include the presence of vector breeding sites, population density, the immune status of the population, and effective health care. In South Tarawa the large numbers of abandoned vehicles and other solid waste in close proximity to settlements provide suitable sites for mosquito breeding. A major concern in Kiribati is dengue fever. This disease has spread widely through the region in the last 50 years. The most effective mosquito vector (*Aedes aegypti*) is prevalent in Kiribati, and outbreaks of dengue occurred in 2003, 2004 and 2008. In 2008, Kiribati had an outbreak of dengue with 831 reported cases and seven deaths. Very few cases were reported in 2009 and 2010, and none in 2011. In 2012, 243 cases of dengue were reported with no deaths. Chikungunya, also spread by *Aedes* mosquitoes, is another major current threat to the region. Papua New Guinea and New Caledonia are currently (2013) experiencing Chikungunya outbreaks.
- **Climate sensitive disease surveillance:** As climate change will provide more favourable conditions for many infectious diseases, a well-functioning disease surveillance system, which should be an integral part of the overall national health information system (HIS), is an important element of the national climate change adaptation plan.

The MHMS and its EHU is the first-line of defence against climate-sensitive diseases, with a mandated monitoring role, and is therefore an appropriate focus for improved resourcing and increased technical support.

At present the EHU has no properly equipped, functional laboratory, although a room to house a laboratory in the EHU building has been allocated. There are currently a number of initiatives underway or planned, supported by different donors aiming to improve water supply, sanitation infrastructure and service provision in South Tarawa and some outer islands, however none have directly addressed equipping the MHMS-EHU to deliver its mandate for providing baseline and monitoring information. Currently the MHMS has insufficient equipment, transport, and knowledge management systems to deliver on their monitoring and surveillance mandate.

This project aims to specifically address the areas identified in the NCCHAP 2011 which will contribute to protecting the health of i-Kiribati communities from climate-sensitive health risks.

## **Related Projects**

A number of climate change and health related projects are currently being implemented in Kiribati. The following list provides brief information about selected and specific projects



where opportunities for direct collaboration and building synergy exist and are being developed.

- 1) *The Pacific Public Health Surveillance Network (PPHSN)*: a voluntary network of countries/territories and institutions/ organisations, created in 1996 under the auspices of SPC and WHO to improve public health surveillance and response in the Pacific Islands in a sustainable way. PPHSN's core members and Governing Body are the Ministries and Departments of Health of the Pacific Island countries and territories. The network is further supported by allied members: regional agencies, laboratories and training institutions. A key strategy has been harmonisation of health data needs and development of adequate surveillance systems.

Kiribati has a National Health Information System (HIS) supported by National EpiNet Teams, the response arm of the PPHSN network, consisting of multi-disciplinary national/territorial outbreak response teams. Besides coordinated surveillance and response field activities, the role of the Kiribati nominated national EpiNet team is also to establish and maintain surveillance and response protocols. These include (but are not limited to) protocols for dengue, influenza, typhoid fever, and cholera outbreaks. In 2013 Australian Institute of Health and Welfare as part of their Policy Partnership Initiative Project are supporting Kiribati in conducting an assessment of their HIS, developing a strategic plan, and technical assistance with implementation. The work is also aimed at establishing a database to combine all their databases; improving data collection and providing training on data management/analysis. SPC PHD is liaising closely on this project.

- 2) *Integrated water quality monitoring programme for water and sanitation-related planning and operational decision-making in Tarawa 2012-2014*: funded by New Zealand's Aid Programme (NZAID), through the National Institute of Water and Atmospheric research (NIWA). This project aims to develop capacity and implement and sustain an integrated water quality monitoring network extended to cover lagoon/coastal-related water quality. The overall objective is focussed on providing baseline and regular data to better inform and prioritise water and sanitation infrastructure investment decision-making. The primary focus of the project will be on establishing and sustaining an in-country lagoon water quality monitoring programme. The project will also assist and improve processes and activities related to the wider water quality activities on South Tarawa.
- 3) *International Climate Change Initiative (ICCAI), SPC-AusAID, 2012 – 2013*: a regional activity with health components implemented through SPC-PHD including advancing Climate Change and Health Vulnerability Assessment and Synthesis Report for the Pacific, support for staff within SPC-PHD to provide technical assistance to Kiribati, provision of in country training, and information sharing activities, such as a regional symposium in September 2012, and publications/communications through Inform Action.
- 4) *Piloting Climate Change Adaptation to Protect Public Health, UNDP/WHO, 2010-2013*: MHMS with the World Health Organization (WHO) supported by a team of climate change and health experts from the University of Auckland to carry out a climate change and health vulnerability analysis. This has included stakeholder consultations, a review

of the health sector's capacity to deal with current and future climate-sensitive health risks, and analysis of the available data on climate and climate-sensitive diseases in Kiribati. The National Climate Change and Health Action Plan (NCCHAP) was the end product of this process. It describes the specific health risks posed by climate change in Kiribati, and outlines strategies to anticipate and avoid the most serious impacts of climate change on health. WHO is now exploring means to implement the NCCHAP in Kiribati and other Pacific Island countries.

- 5) *Kiribati Adaptation Project Phase III: 2011 - 2016*, improving the resilience of Kiribati to the impacts of climate change on freshwater supply and coastal infrastructure. Earlier phases of the multi-donor project produced a master plan for water supply for South Tarawa, and pilot projects for leakage reduction and rainwater collection. The third phase (KAP 3) contributes to (i) improving the use and management of water resources, including leakage reduction programmes, (ii) increasing coastal resilience, and (iii) strengthening the capacity of the government to manage its water resources and the effects of climate change and natural hazards.
- 6) *Pacific Adaption to Climate Change (PACC), 2013*: USAID funding through Secretariat of the Pacific Regional Environment Programme (SPREP) is supporting delivery of practical community-based adaptation measures and building capacity to adapt to climate change. There are two components: 1) Adaptation implementation in the water sector, particularly in the outer islands, 2) provision of capacity building for both national and community-based groups in Kiribati, including training on V&A assessments and communications.
- 7) *KIRIWATSAN project 2011-2014*: European Union EDF10 A-Envelope, water supply and sanitation and UNICEF Pacific Health and Sanitation Programme working through the Ministry of Public Works and Utilities (MPWU). It aims at improving reliability of dry-season and drought-period water supply to outer islands of the Gilbert group through rainwater harvesting and management, and protection of groundwater resources. The main objectives are to increase access to water supply and sanitation with some of the activities targeting primary schools and households near schools, and hygiene promotion.
- 8) *South Tarawa Sanitation Sector Improvement Project Loan and Grant commencing 2013* Asian Development Bank (ADB): Improving sanitation infrastructure, sewerage and maintenance capacity, and public hygiene in the densely populated islets of South Tarawa. The project will help reduce waterborne diseases, including diarrhea in babies, which contribute to Kiribati having one of the highest infant mortality rates in the world.
- 9) *Coping with Climate Change in the Pacific Island Region (CCCPIR) 2009–2015*: SPC-GIZ. In Kiribati CCCPIR focuses on supporting national coordination, in climate change and Disaster Risk Management (e.g. the Kiribati Joint Implementation Plan) and in particular sectors including education. Both curriculum development and technical vocational education and training (TVET) are being supported.
- 10) *Kiribati Joint Implementation Plan (KJIP) for Climate Change Adaptation and Disaster Risk Management 2013-2018*: Following a request by Kiribati in January 2013, CROP agencies are assisting Kiribati with the development of the KJIP.

## **1. PROJECT SELECTION PROCESS**

The project selection process involved a number of activities which are listed below in chronological order.

### **February – March 2012: Review of Background Information**

A literature review was conducted of the projects, programmes and activities relating to climate change that were ongoing or recently implemented in the country. Information from the review was compiled into a climate change profile for Kiribati now available at <http://www.spc.int/en/our-work/climate-change/gcca.html>. The document provided a useful background for identification of a focus area for the adaptation project in Kiribati.

### **March – April 2012 Consultative Mission to Kiribati**

A consultative mission with other SPC climate change projects was conducted to Kiribati 19 March – 3 April 2012. During this mission a number of stakeholders especially the Ministry of Environment, Lands and Agricultural Development (MELAD) highlighted the health sector as a gap and noted the recently completed NCCHAP prepared with WHO assistance. Consultations with WHO and SPC-PHD strengthened the case for working with the health sector.

### **May 2012: Discussions at GCCA: PSIS Steering Committee Meeting**

At the first GCCA: PSIS steering committee meeting, 28-29 May, 2012, specific consultations were conducted with country representatives to clarify adaptation needs and priorities. In the case of Kiribati, adaptation in marine resources, human health, agriculture and food security were discussed. The representative from the Office of the President indicated the need for further consultations.

### **June 2012: Confirmation from Government of Kiribati of the Health Sector as focus for GCCA: PSIS Adaptation Activity**

E-mail correspondence with Office of the President and discussions during other meetings with Kiribati representatives confirmed the selection of the health sector for the climate change adaptation project for the GCCA: PSIS project.

### **July – September 2012: Project Concept Note Preparation and Approval**

A consultative mission was conducted 20-30 August 2012. Following consultations with key stakeholders, including MELAD, MPWU, MHMS, WHO, NZAID, NIWA, ADB and KAP, a draft project concept was prepared on 'Improving Implementation of Environmental Health Surveillance and Response to Climate Sensitive Health Risks in Kiribati'.

The project concept outlined the key activities, implementing agencies and partners, estimated cost, objectives, justification/rationale and how the project fits with certain key criteria which include feasibility, scientific validity, cost, urgency, equity, replication, measurability, scope and supporting documentation. The MHMS submitted the project

concept note to the GCCA: PSIS Project and the European Union for approval. The Concept Note was approved in October 2012.

### **November 2012 – April 2013: Project Design Process**

From 17-24 January 2013 SPC's GCCA: PSIS project and PHD visited Kiribati to help develop the PDD. The process involved meetings, consultations, a participatory planning workshop, and collection of related documents.

The Kiribati Adaptation Project Planning Meeting was held from 22-23 January 2013 in Taboreo in South Tarawa and involved 25 participants from the Ministry of Education, MELAD, Ministry of Foreign Affairs; MHMS, MPWU; Kiribati Meteorological Services; Climate Action Network; NIWA; University of Fiji; and WHO.

The Project Concept Note was used as a starting point for project planning using the Logical Framework Approach. Participants worked to develop the overall objective, purpose, key result areas and specific activities. The workshop was extremely successful in providing an opportunity for different stakeholders to contribute to the planning process.

Further meetings and teleconferences were held to advance the PDD. A number of issues were highlighted in the consultations including the need to conduct a legislative review for health policies and agreement that the Medical Laboratory will continue to conduct the micro bacterial testing for a year after which it would be reviewed to see if the needs of the EHU were met.

Discussions on project oversight using existing national arrangements, where possible, were also conducted.

This visit was scheduled to coincide with a visit by the NIWA team, who are working on a water quality monitoring project, and opportunities for synergy were confirmed. For example, the opportunity to have laboratory equipment shipped directly from New Zealand with no freight charges (via a New Zealand navy ship) provides a significant cost saving.

## **2. PROJECT DESCRIPTION**

### **Overall Objective**

The overall objective of the project is **'To increase resilience of i-Kiribati to the adverse health impacts of climate change'**. The overall objective is in line with the high-level aspirations of the Government of Kiribati as outlined in the Kiribati Development Plan (KDP) 2012-2015. The current period of the KDP has six major outcomes which are consistent with the overall objective of the project: (i) human resource development, (ii) economic growth and poverty reduction, (iii) health, (iv) environment, (v) governance, and (vi) infrastructure. Implementation arrangements and monitoring and evaluation are also included in the development plan, especially as they relate to the MDGs.

The overall objective is also in line with the Climate Change Adaptation Framework 2012, Community Plans for all islands, sectoral development plans and the MHMS annual report,

budget plans and work programmes. Work plans are prepared by each ministry and line agency of government at the beginning of the fiscal year to facilitate the government's budget process.

## **Purpose**

The purpose is **'to contribute to the prevention and control of climate sensitive diseases through improving environmental health surveillance and response'**. The project will provide the MHMS with the necessary equipment and training so that the EHU can monitor and respond to vector-borne diseases, especially dengue fever, and other climate sensitive health impacts such as food poisoning, ciguatera, and contaminated water.

Specifically, the project, in collaboration with SPC PHD and other partners including NIWA and WHO, will enable the EHU to meet minimum standards in the areas of food and water safety and vector control, in parallel with an increase in the disease surveillance capacity within MHMS. The surveillance may be expanded to communities in selected outer islands where SPC is planning to focus on a 'whole of island' approach. Technical assistance and training, including in disease surveillance, will be provided to the key environmental health stakeholders in Kiribati. The project will also provide for public education and outreach relating to water and food safety and vector-borne diseases and will especially target vulnerable groups such as women, children, the disabled and those with pre-existing illnesses.

## **Key Result Areas (KRA) and Activities**

The KRAs identified for this project are as follows:

### **1) KRA1: Information provided to communities to address health risks of climate change.**

This component includes the following activities.

- 1.1. Communication plan – a communication plan targeted towards climate sensitive health issues in communities in Kiribati will be developed and implemented. The plan will include activities to enhance the understanding of monitoring results and will be linked to a broader climate change and climate risk communications plan currently (June-September 2013) being prepared through a related mainstreaming activity within the GCCA: PSIS project.
- 1.2. Preparation of communication materials – climate change and health related materials will be prepared collaboratively and used widely in the communities during the project. Regular updates of information and data relating to environmental health monitoring will be available via the web and radio. Additionally, a number of community noticeboards will be utilised in Tarawa and other atolls where regular factsheets, posters, updates, information on environmental health monitoring and resilience building activities will be displayed.

1.3. Preparation of health related materials that can be used in the ongoing school curriculum revision – this will involve the EHU working with the Curriculum Resource Development Centre to develop materials such as information packages, environmental health monitoring updates, lesson plans, and teacher professional development material. Having health officers communicate the information to outer islands schools may also be included.

1.4. Development of public/household awareness and education materials – preparation of awareness materials for communities and the public that will complement the existing household and community inspections conducted by Public Health staff and other project activities.

**2) KRA2: Routine systems for surveillance of environmental hazards and climate sensitive diseases strengthened.**

The project will strengthen existing environmental monitoring systems addressing the gaps and needs identified in the National Climate Change and Health Action Plan and other consultations and assessments and provide new systems if necessary for MHMS. The key activities are:

2.1 Train MHMS personnel to conduct environmental health monitoring, analysis and application of data - this will involve attachments, in-country and overseas courses, and on-the-job training of MHMS staff to analyse the data generated by the sampling programme so that trends and risk thresholds can be detected and plans formulated to address potential issues. MHMS-EHU to develop a work programme utilising the relevant technical assistance within SPC PHD and other divisions where appropriate. (Additional funding for training may be available through the SPC PHD AusAID ICCAI project).

2.2 Strengthen the environmental health information system and ensure this is integrated with the National Health Information System - a mechanism for collaboration and exchange of information between national and international experts and agencies will be developed building on the National Health Information System. Initially this will likely include data from the existing surveillance programme which has not yet been analysed. Information protocols will be established to safeguard sensitive data. This activity will strengthen, complement and encourage exchange of information and data on environmental health which is relevant for several Kiribati government agencies and programmes, including MHMS, MELAD and MPWU.

2.3. Refurbish and equip the environmental health laboratory including equipment, reagents and computers - the project will refurbish, procure, and install the necessary equipment to operationalize the laboratories to deliver on the existing EHU programme over and beyond the life of the project. This will focus principally on the laboratory in South Tarawa but may also extend to the laboratory in Kiritimati. This will be done on a

cost sharing basis with the NIWA-NZAID project entitled 'An integrated water quality monitoring programme for water and sanitation-related planning and operational decision-making in Tarawa'. A maintenance plan and a financing plan will be prepared to assist with sustainability beyond project life.

2.4. Procure vehicular transportation for environmental health monitoring and response - a vehicle for collecting and transporting samples, laboratory supplies will be procured and purchased. In addition, two motorbikes for errands related to environmental health monitoring such as collection and delivery of data forms, results, school visits, some surveillance inspections and general administrative tasks will be procured and purchased. (Currently staff are issued bus vouchers by MHMS and the quota has proven insufficient to implement the work programme. It is intended that the budget for bus vouchers will be transferred to the fuel costs of the vehicles).

**3) KRA3: Preparedness for response to outbreaks of climate sensitive diseases strengthened.**

The key activities are:

2.1 Review and strengthen processes and procedures of EHU and the National EpiNet team for responding to disease outbreaks - a consultative process with MHMS, and other members of the National EpiNet team will be conducted to develop processes and procedures to improve response to disease outbreaks in accordance with international guidelines.

2.2 Ensure EHU are equipped with response equipment - identification and procurement of appropriate response equipment for climate sensitive diseases (food, water and vector borne) will be undertaken e.g. purchase of vector control kits. Systems of stock control and distribution will be established to enable continuation beyond the life of the project.

2.3 Establish national outbreak preparedness and response plan - consultations with stakeholders (including island communities, island councils, community-based organisations and civil society) to discuss locally appropriate response strategies for climate sensitive disease outbreaks, including at least one outer island.

**4) KRA4: Coordinating, planning and budgeting mechanisms strengthened**

Under this KRA the following activities will be carried out:

4.1 Provision of two qualified staff, employed by MHMS - one staff member to be situated in Finance/Administration to support the finance and accounting aspects of the project and the other in EHU to coordinate the project with the Chief Health Inspector. The two staff will carry out day-to-day operations relating to project implementation.

4.2 Prepare an environmental health sector maintenance and financing plan for beyond project life, including legislative review outcomes - the activity will involve the

development of a maintenance and finance plan to provide for continuation of the EHU laboratory and regular monitoring beyond project life. This will include discussions with key stakeholders including MFED; a review of the extent to which past EHU work plans have been funded and implemented; analysis of past constraints; preparation of a 3-year work plan; and preparation of a budget submission for 2015/2016. This work will be linked to a planned review of public health legislation. (Should Kiribati require assistance with this legislative review, it can be supported by GCCA: PSIS separately as a mainstreaming activity).

The project log frame is presented below:



## Log Frame Improving Implementation of Environmental Health Surveillance and Response to Climate Sensitive Health Risks in Kiribati

Description	Verifiable Indicators	Verification Sources	Assumptions
<b>Overall Objective</b> To increase resilience of i-Kiribati to the adverse health impacts of climate change	<ul style="list-style-type: none"> <li>Information system for environmental health parameters and disease outbreaks in place by 06/2015*.</li> </ul>	<ul style="list-style-type: none"> <li>Government plans, policies and strategies</li> <li>Joint National Action Plan on CCA and DRM</li> <li>Community Plans</li> <li>MHMS annual report and business plan</li> </ul>	<ul style="list-style-type: none"> <li>Plans, policies and strategies have a stakeholder or community buy-in and willingness to implement.</li> </ul>
<b>Purpose</b> To contribute to the prevention and control of climate sensitive diseases through improving environmental health surveillance and response	<ul style="list-style-type: none"> <li>More than 50% of the population of Kiribati covered by an environmental health surveillance system by 06/2015.</li> <li>One laboratory equipped and functioning for environmental health monitoring by 06/2014</li> </ul>	<ul style="list-style-type: none"> <li>MHMS annual report</li> <li>Project progress reports</li> <li>Functioning environmental health laboratory</li> </ul>	<ul style="list-style-type: none"> <li>Communities receptive to information and willing to take proactive action.</li> </ul>
<b>Key Result Area 1</b> Information provided to communities to address health risks of climate change	<ul style="list-style-type: none"> <li>Environmental health education resources prepared collaboratively and incorporated into new curriculum for at least one grade level by 12/2014.</li> <li>At least 2 awareness campaigns on climate change resilience building activities and environmental health conducted by 12/2014.</li> </ul>	<ul style="list-style-type: none"> <li>Communications plan</li> <li>Annual reports MHMS and Ministry of Education</li> <li>Materials prepared by Curriculum Resources Development</li> <li>Copies of community health resources</li> <li>Quarterly Health Report</li> </ul>	<ul style="list-style-type: none"> <li>The ongoing Curriculum Review process is continued by the Ministry of Education</li> </ul>
<b>Key Result Area 2</b> Routine systems for surveillance of environmental hazards and climate sensitive diseases strengthened	<ul style="list-style-type: none"> <li>Environmental health database operational by 12/2014.</li> <li>4 persons trained in monitoring, data analysis and data application procedures for environmental</li> </ul>	<ul style="list-style-type: none"> <li>Annual reports on environmental health trends</li> <li>Equipment inventories.</li> <li>Project progress reports</li> <li>MHMS annual reports</li> </ul>	<ul style="list-style-type: none"> <li>Basic logistics: utilities, communications, and a suitable space available for a laboratory at EHU.</li> </ul>

Description	Verifiable Indicators	Verification Sources	Assumptions
	health risk and disease surveillance by 03/2015		
<b>Key Results Area 3</b> Preparedness for response to outbreaks of climate sensitive diseases strengthened	<ul style="list-style-type: none"> <li>National outbreak preparedness and response plan in place by 12/2014.</li> </ul>	<ul style="list-style-type: none"> <li>Annual MHMS reports</li> <li>Reports from Surveillance Committee</li> <li>Community plans</li> </ul>	<ul style="list-style-type: none"> <li>Willingness of government to publicly record disease outbreaks and adverse environmental health data.</li> </ul>
<b>Key Result Area 4</b> Coordinating, planning and budgeting mechanism improved	<ul style="list-style-type: none"> <li>Maintenance and financing plan for EHU prepared by 12/2014.</li> <li>Detailed work plan and budget submission submitted for 2015/2016 financial year.</li> </ul>	<ul style="list-style-type: none"> <li>Annual budget submissions</li> <li>Sectoral plan</li> <li>MHMS plans</li> <li>Sustainable development plans</li> </ul>	<ul style="list-style-type: none"> <li>Suitable staff available for timely recruitment.</li> </ul>
<u>Activities</u> 1.1 Develop and commence implementation of a communication plan for climate sensitive health issues. 1.2 Prepare communication materials e.g. community noticeboards with posters and updates 1.3 Develop health-related materials that can be used in the ongoing school curriculum revision. 1.4 Develop public/household awareness and education materials.  2.1 Conduct training in environmental health monitoring and data analysis (courses, attachments, on-the-job training) 2.2 Develop environmental health information system linked to National Health Information System 2.3 Refurbish and equip environmental health laboratory including equipment,	<u>Means</u>  Technical assistance Information sharing systems Missions to countries Meetings and consultations Training activities Procurement of equipment and transportation Partnership with NIWA-NZAID Media involvement Reporting and evaluation	Indicative cost €0.5 million	

Description	Verifiable Indicators	Verification Sources	Assumptions
<p>reagents and computers.</p> <p>2.4 Procure vehicular transportation for environmental health monitoring and response</p> <p>3.1 Review and revise processes and procedures of Environmental Health Unit and the Surveillance Committee for responding to disease outbreaks.</p> <p>3.2 Ensure Environmental Health Unit are equipped with response equipment e.g. vector control kits.</p> <p>3.3 Establish national outbreak preparedness and response plan.</p> <p>4.1 Employ two qualified staff to drive and implement the project.</p> <p>4.2 Prepare a maintenance and financing plan for beyond project life, including legislative review outcomes</p>			

\*The project finishes in December 2014, however SPC is requesting an extension of the project.

### 3. PROJECT BUDGET

Activity	Budget (AUD)
<i>KRA 1: Information provided to communities to address health risks of climate change</i>	
<i>KRA 2: Routine systems for surveillance of environmental hazards and climate sensitive diseases strengthened</i>	
<i>KRA 3: Preparedness for response to outbreaks of climate sensitive diseases strengthened</i>	
<i>KRA 4: Coordinating, planning and budgeting mechanism improved</i>	
<b>Sub-Total</b>	
Travel to outer islands for MHMS staff, freight costs for second equipment shipment in year 2, possible charter costs*	26,000
<b>Total</b>	
Contingency 8.4%	55,600
<b>Overall Cost</b>	<b>663,000</b>

\*An extra budget line has been built in for travel costs to outer islands. There is an Environmental Health Officer and basic laboratory on Kiritimati Island which is served by Air Fiji once a week, requiring overnight transit through Nadi, Fiji, and a fare cost of approximately AUD1000 per person. In addition sampling programmes in the outer islands which are part of EHU's work plan may require transport charters.

The sum allocated to Kiribati for this project is the Australian equivalent of €500,000. The detailed budget has been displayed above in Australian dollars, however there may be some slight adjustments required due to currency fluctuations.

The first tranche paid to MFED, Kiribati will be AUD 193,000. An additional amount of AUD 194,500 will be paid directly to suppliers for equipment and reagents and to SPC-PHD and other divisions for assistance as detailed in the above table.

The first payment will be made to Kiribati once this Project Design Document is signed by all parties. Payments shall be made into the Government's account. All payments will be made in the currency of the Government of Kiribati. The second payment can be requested once 80% of the first payment has been fully acquitted. Acquittals must be supported by copies of all receipts. Annual government audits will be sufficient unless any accounting or financial problems emerge. Any interest accruing from the advances paid by SPC shall be considered as income for the purpose of operating this project. It may be used to cover eligible costs of the operation.

The Government shall oversee accurate and regular records and accounts of the implementation of the operation.

- Financial transactions and financial statements shall be subject to the internal and external-auditing procedures laid down in the financial regulations, rules and directives of SPC.
- All original substantiating documents relating to each financial transaction shall form part of the monthly acquittal.
- Reimbursements of funds shall only be made on receipt of the proper acquittal of the funds already advanced.
- 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 be officially handed over by SPC to the respective stakeholders in the country. An asset register of all assets purchased should be kept in the office of the Government.

#### 4. PROJECT SCHEDULE

Key Result Areas/Activities	2013				2014				2015	
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q
	Jan	April	July	Oct	Jan	April	July	Oct	Jan	April
<b>KRA1. Information provided to communities to address health risks of climate change</b>										
1.1 Develop and commence implementation of a communication plan for climate sensitive health issues.										
1.2 Prepare communication tools, e.g. community notice boards with posters and updates										
1.3 Develop health related materials that can be used in the ongoing school curriculum revision										
1.4 Develop public/household awareness and education materials										
<b>KRA2. Routine systems for surveillance of environmental hazards and climate sensitive diseases strengthened</b>										
2.1 Conduct training in environmental health monitoring and data analysis (courses, attachments, on-the-job training)										
2.2 Develop environmental health information system linked to National Health Information System										
2.3 Refurbish and equip environmental health laboratory including equipment, reagents and computers.										
2.4 Procure vehicular transportation for environmental health monitoring and response										
<b>KRA3. Preparedness for response to outbreaks of climate sensitive diseases strengthened</b>										

<b>Key Result Areas/Activities</b>	<b>2013</b>				<b>2014</b>				<b>2015</b>	
	<b>1Q</b>	<b>2Q</b>	<b>3Q</b>	<b>4Q</b>	<b>1Q</b>	<b>2Q</b>	<b>3Q</b>	<b>4Q</b>	<b>1Q</b>	<b>2Q</b>
	<b>Jan</b>	<b>April</b>	<b>July</b>	<b>Oct</b>	<b>Jan</b>	<b>April</b>	<b>July</b>	<b>Oct</b>	<b>Jan</b>	<b>April</b>
3.1 Review and revise processes and procedures of Environmental Health Unit and the Surveillance Committee for responding to disease outbreaks.										
3.2 Ensure Environmental Health Unit are equipped with response equipment e.g. vector control kits.										
3.3 Establish national outbreak preparedness and response plan										
<b>KRA4. Coordinating, planning and budgeting mechanisms strengthened</b>										
4.1. Employ two qualified staff members in MHMS to drive and implement the project.										
4.2 Prepare a maintenance and financing plan for beyond project life, including legislative review outcomes										

## 5. INSTITUTIONAL ARRANGEMENTS

The project will be managed and implemented by MHMS and coordinated at the national level by the Office of the President through the Strategic Risk Management Unit. The GCCA: PSIS project is being implemented under the ambit of the Letter of Agreement signed on 5<sup>th</sup> September 2012 by SPC and the Government of the Republic of Kiribati. The Kiribati signatories to the Letter of Agreement are from the Office of the President, Ministries responsible for Foreign Affairs and Immigration, and for Finance and Economic Development.

### Project Oversight Committee

Project oversight will be provided by a Project Oversight Committee (name still to be confirmed) whose membership will comprise representatives from the Office of the President, MHMS, MFED and the SPC GCCA: PSIS Designated Climate Change Adviser. The Project Oversight Committee will be responsible for providing technical and policy

advice on the implementation of the project. The Oversight Committee will meet (face-to-face meetings and skype) once every quarter and/or on needs basis. The Oversight Committee will be chaired by the representative from MHMS. The SPC GCCA: PSIS Kiribati Coordinator, situated in the Office of the President, and/or the Project Officer to be based in EHU MHMS, will provide secretarial support to the Oversight Committees.

## Reporting

The SPC GCCA: PSIS Kiribati CC Coordinator and the EHU based Project Officer at MHMS will be responsible for overseeing the implementation of project activities and providing quarterly progress reports to the Oversight Committee. A template for the quarterly report is presented as Annex 1.

## Day to Day Implementation of the project

One project staff member will be based in MHMS Finance/Administration and the other in EHU to implement and manage the project activities. They will work closely with the SPC GCCA: PSIS Kiribati Climate Change Coordinator.

## 6. RISK MANAGEMENT AND EXIT STRATEGY

### Risk Management

Risk and mitigation measures are listed in the table below.

Risk and consequence	Likelihood	Seriousness (Impact)	Mitigation actions	Responsible Person
<b>1. Natural hazards</b>				
Droughts affecting water quality and water availability, resulting in focus shifts from regular monitoring to emergency response	Medium	Medium	A number of other projects and programmes are already in place to address water supply issues on Kiribati	
Disease pandemics affecting availability of Medical lab for analysis of biological samples	Medium	High	Systems and sectoral plans will aim to address this issue, including a review of the feasibility of establishing dedicated biological sampling capacity in EHU	MHMS - EHU
<b>2. Remoteness</b>				
Implementing project activities on other islands beyond Tarawa may be	High	Medium	Capacity building of Kiribati MHMS to continue work when	MHMS and EHU



Risk and consequence	Likelihood	Seriousness (Impact)	Mitigation actions	Responsible Person
delayed by transportation difficulties and costs; and delayed identification of islands for focus.			transport available  Extra funding and contingency provisions have been built into the project budget to cope with this risk  SPC and Government of Kiribati collaborate to identify outer islands for focused activities.	SPC, Kiribati Cabinet, Office of President
3. Funding for equipment maintenance				
Continuous operation and maintenance of the monitoring system and the need for financial resources beyond project life	High	Medium	Develop Operations and Management Plan and financing	MHMS, SPC-PHD
			MHMS to include environmental health monitoring in its annual business plan	MHMS, MFED
			Potential support from SPC-PHD Laboratory Strengthening Project after completion of GCCA: PSIS project and the NIWA project  WHO in-country programme support	SPC PHD – Sala Elbourne  Rohko/Andre
4. Lack of stakeholder involvement				
Unclear division of roles between in-country stakeholders and multiple climate change projects and relevant activities. Limited involvement of civil society  Staff turnover and loss of institutional memory	Medium	High	Ensuring key existing committees take on specific project related roles, and new working groups only be established as required  Involve all civil society in awareness raising activities; media	Office of the President, MHMS  Public Health Education Unit  MHMS and project staff.  SPC and

Risk and consequence	Likelihood	Seriousness (Impact)	Mitigation actions	Responsible Person
			<p>involvement.</p> <p>Training and capacity building provided for multiple MHMS personnel</p> <p>Documentation and record keeping for handover.</p> <p>Sectoral strategic plan development.</p> <p>Joint SPC/CROP whole of island approach to engage additional civil society stakeholders</p>	partners
<b>5. Duplication/Overlap with other ongoing development or climate change adaptation activities</b>				
Inefficient use of resources, limited sustainability of initiatives beyond project life	Medium	High	<p>GCCA:PSIS project focus on implementation of country health adaptation needs identified in the Kiribati NCCHAP and using existing systems, structures, and policies like the MHMS EHU Work Programme'</p> <p>Ensure project activities and results are shared widely with climate change funding partners</p> <p>Support for transparent budget planning through KRA4</p>	<p>Donors, SPC</p> <p>Office of the President and CROP agencies</p>

## **Exit strategy**

Increased capacity in the use and maintenance of environmental health monitoring equipment in MHMS as well as data analysis skills will have been strengthened thereby paving the way for continuation and sustainability of this type of monitoring in Kiribati. This will have been enhanced by collaboration with related projects, e.g. the ones supported by NIWA-NZAID, SPC-USAID Mapping for Food Security, SPC GIZ CCCPIR educational and vocational training.

It is envisaged that MHMS will hold the information, data and lesson learned on behalf of the Government and people of Kiribati. This information should be integrated into the existing National Health information management system. EHU MHMS will be responsible for making these data and information available through its web site. As a depository of information, MHMS will be responsible for documenting, archiving and storing relevant information, data and lessons learned. This information will be made available for teaching, learning, research and to the communities in Kiribati and elsewhere.

Incorporating environmental health issues into the ongoing school curriculum review and the public awareness activities will also contribute to the sustainability of the activities.

A broader part of the exit strategy is the integration of health into national investment strategies such as the Kiribati Joint Implementation Plan for Climate Change Adaptation and Disaster Risk Management, which will be monitored and reviewed beyond the project life.

## Annex 1 Quarterly Reporting Template

Activities	Progress in Quarter X	Planned Activities in Quarter X+1
<b>Key Result Area 1: Information provided to communities to address health risks of climate change</b>		
1.1 Develop and commence implementation of a communication plan for climate sensitive health issues		•
1.2 Prepare communication tools, e.g. community notice boards with posters and updates	•	•
1.3 Develop health related materials that can be used in the ongoing school curriculum revision	•	•
1.4 Prepare public/household awareness and education materials	•	
<b>Key Result Area 2: Routine systems for surveillance of environmental hazards and climate sensitive diseases strengthened</b>		
2.1 Conduct training in environmental health monitoring and data analysis (courses, attachments, on-the-job training)	•	
2.2 Develop environmental health information system linked to National Health Information System	•	
2.3 Refurbish and equip environmental health laboratory including equipment, reagents and computers.	•	
2.4 Procure vehicular transportation for environmental health monitoring and response	•	
<b>Key Result Area 3: Preparedness for response to outbreaks of climate sensitive diseases strengthened</b>		
3.1 Review and revise processes and procedures of Environmental Health Unit and the Surveillance Committee for responding to disease outbreaks.	•	
3.2 Ensure Environmental Health Unit are equipped with response equipment e.g. vector control kits.	•	
3.3 Establish national outbreak preparedness and response plan	•	
<b>Key Result Area 4: Coordination, planning and budgeting mechanism strengthened</b>		
4.1. Employ two qualified staff members in MHMS to drive and implement the project.	•	

Activities	Progress in Quarter X	Planned Activities in Quarter X+1
4.2 Prepare a maintenance and financing plan for beyond project life, including legislative review outcomes	•	

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