



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL SIZED

TYPE OF TRUST FUND: LDCF

PART I: PROJECT IDENTIFICATION

Project Title:	Enhancing national food security in the context of global climate change		
Country(ies):	Kiribati	GEF Project ID: ¹	TBD
GEF Agency(ies):	UNDP	GEF Agency Project ID:	4570
Other Executing Partner(s):	Ministry of Fisheries and Marine Resources Development (MFMRD), Ministry of Environment, Lands and Agriculture Development (MELAD),	Submission Date:	April 12, 2013
GEF Focal Area (s):	LDCF	Project Duration (Months)	60
Name of parent program (if applicable): For SFM/REDD+ <input type="checkbox"/>		Agency Fee (\$):	422,390

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK²:

Focal Area Objectives	Trust Fund	Indicative Amount (\$)	Grant	Indicative Financing (\$)	Co-
Objective CCA-1 - Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level	LDCF	1,110,000		3,180,250	
Objective CCA-2 - Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level	LDCF	3,336,210		5,209,750	
Total Project Cost		4,446,210		8,390,000	

B. INDICATIVE PROJECT FRAMEWORK

Project Objective: To build the adaptive capacity of vulnerable Kiribati communities to ensure food security under conditions of climate change						
Project Component	TA / INV	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Financing (\$)	Indicative Cofinancing (\$)
Institutional capacity development to reduce vulnerability to climate change-induced food shortages	TA	National and local institutions in the fisheries, agriculture, trade and commerce, health and culture sectors with enhanced knowledge and capacities on climate risk and enabled to assess, forecast and plan for food and nutritional security, measured by: <ul style="list-style-type: none"> production of vulnerability assessments in key sectors and 	1.1 Development of Climate Early Warning and Information System, and the capacity to use the system nationally including (i) Extended meteorological and hydrological observations by National Meteorological Service; (ii) identification of critical areas for agro-ecological, hydrological and coastal services in relation to livelihoods, and overlay of likely climate change impacts under modelling scenarios; (iii) development of coastal fisheries spatial database and GIS including predicted impacts of	LDCF	1,000,000	2,970,500

¹ Project ID number will be assigned by GEFSEC.

² Refer to the reference attached on the Focal Area Results Framework when filling up the table in item A.

		<p>integrated land use plans for at least eight atolls</p> <ul style="list-style-type: none"> • systems in place nationwide to disseminate climate risk information <p>Improved national policy and planning framework for maintenance of food security through adaptation to climate change in place, measured by:</p> <ul style="list-style-type: none"> • Improved system in place in at least eight islands for storage of surplus food • New national agriculture and fisheries legislation and guidelines in place • Regular application of the Adaptation Monitoring and Assessment Tool (AMAT) 	<p>climate on species population and distribution; and (iv) Use of state radio and TV for dissemination of climate risk information, seasonal forecasts related to food production, and warning of extreme events.</p> <p>1.2 National policy and planning framework and capacities emplaced to integrate decision making tools to increase adaptation to changed climatic conditions and preparedness for extreme events, and to deploy funds and human resources as needed, including: (i) Training of officials and community groups in the Tarawa Atoll and seven main outer islands to use climate risk information to undertake vulnerability assessments, integrated land/ marine resource-use planning taking into account climate risks, development of management framework for inshore/lagoonal ecosystems under changing climate, prioritization of adaptation actions for fisheries and food security; and (iii) Review and amendment of fisheries legislation and guidelines to implement measures that enhance resilience to climate impacts, including draft community protocols or by-laws for community-sanctioned set-asides to protect refugia and recruitment areas.</p>			
Component 2: Implementation of community adaptation measures to increase food security	INV	<p>Enhanced food security measured by:</p> <ul style="list-style-type: none"> • recorded increase in distribution of surplus food to outer islands in periods of shortage over project period, in comparison with pre-project baseline (to be determined) • Increase in aquaculture production of climate resilient fish species <p>Enhanced ecosystem</p>	<p>2.1 Demonstration of climate resilient fishery practices, including, including i) public works to restore vegetative cover in degraded coastal areas to reduce erosion and siltation of coral reefs under changing climate conditions, and monitoring of coral reef siltation levels in pilot sites; (iii) building artificial coral reefs in pilot sites; (v) training community members to participate in monitoring lagoon and coastal ecosystems</p> <p>2.2 Increasing effective processing and storage to act as food buffer during times of</p>	LDCF	3,226,210	5,000,000

		management protecting key ecosystem services threatened by climate change, measured by <ul style="list-style-type: none"> Increased population of key fish species Coral reef restoration operations successfully established in seven outer islands 	shortages at community level because of drought or disruption of transport by storms, including: (i) constructing storage and processing facilities where needed on the seven main outer islands; (ii) feeding information from the Climate Early Warning and Information System into the surplus food collection and distribution system; and (iii) undertaking extension work with communities to promote traditional local preservation methods			
Sub-Total					4,226,210	7,970,500
Project Management Cost					220,000	419,500
Total Project Costs					4,446,210	8,390,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
National Government	Government of Kiribati	Grant	7,000,000
GEF Agency	UNDP	Grant	140,000
Bilateral Agencies	To be confirmed	Grant	1,250,000
			8,390,000

D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF AGENCY	TYPE OF TRUST FUND	FOCAL AREA	Country name/Global	Grant amount (a)	Agency Fee (b) ²	Total c=a+b
UNDP	LDCF	Climate Change	Kiribati	4,446,210	422,390	4,868,600
Total				4,446,210	422,390	4,868,600

² Please indicate fees related to this project as well as PPGs for which no Agency fee has been requested already.

E. PROJECT PREPARATION GRANT (PPG)³

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grants:

	Amount Requested (\$)	Agency Fee for PPG (\$) ⁴
• (upto) \$150k for projects up to & including \$6 million	120,000	11,400

PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF PROJECT ONLY

TRUST FUND	GEF AGENCY	FOCAL AREA	Country Name/Global	(in \$)		
				PPG (a)	Agency Fee (b)	Total c = a + b
LDCF	UNDP	Climate Change	Kiribati	120,000	114,000	131,400
Total PPG Amount				120,000	114,000	131,400

³ On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁴ PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

PART II: PROJECT JUSTIFICATION⁵

A. PROJECT OVERVIEW:

A.1. Project Description

This project will assist Kiribati to implement urgent adaptation actions to effectively address climate variability and change related to global climate change impacts on its people's food security. Kiribati's people are some of the most vulnerable in the world to climate change impacts. This is because the country is mostly composed of small and mostly low lying coral islands spread widely over a wide distance in the Pacific Ocean, which have naturally low land fertility. In addition, the overall low per capita income of the people makes them vulnerable to global fluctuations in food prices. Thus the challenge for Kiribati is to firstly maximize its own resources availability, storage and distribution systems for food to meet the dietary needs of its people. The project will strengthen Kiribati's food security context by supporting effective management and harvesting of its marine resources. In addition, the project will also strengthen the country's capacities on early climate change warning.

A.1.1) The global environmental problems, root causes and barriers

Country Overview & Context:

The people of Kiribati (called "I-Kiribati") –with an estimated population of around 100,000 persons - live on twenty-one islands in the Central Pacific Ocean. The capital of Kiribati – South Tarawa – is located on this Atoll. This atoll hosts around 60% of the nation's population. Kiribati is one of the Least Developed Countries in the world, and is also one of the Small Island Developing States. Its overall Human Development Index value for 2011 is 0.624, positioning the country at 122 out of 187 countries and territories globally⁶. Most of the population in Kiribati is dependent on subsistence agriculture, fisheries and small trade for their livelihoods and for their food security. The country's economy is heavily dependent on overseas development assistance, fees from international fishing license within its EEZ, remittances and export of copra.

Kiribati has extremely limited land area. Its total land area is 771square kilometres, which consist of several archipelagos of coral atolls and one raised coral island (Banaba). Most of these islands are low lying (between 3-4 meters on average above mean sea level) and are extremely small in size (generally less than 2 km wide). They are located at some considerable distance from each other and travel services between them are irregular and expensive and thus most island groups are effectively quite isolated from each other and also from Tarawa atoll. By comparison, it has extremely large and abundant marine resources as the islands are spread across the equatorial zone within the country's vast EEZ of around 3.5 million sq km. As significant food source for I-Kiribati are the resources from the sea, lagoons and coral reefs. Kiribati has the highest per capita fish consumption amongst the Pacific Island nations, with an average of 115 kg fish consumed per person per year. Fishery resources provide the most significant protein source – and are mostly contributed by subsistence fishing. An estimate suggests that at least 58% of households sell fish for some income as well. Nationally, about 42% of the GDP is provided by fisheries.

Predicted impacts of climate change on Kiribati are expected to have significant negative impacts on the country's food production – particularly through significant decline in food production from intertidal zones, lagoons, coral reefs and seas. The predicted changes in in ambient temperatures, changes in rainfall patterns, rise in sea level, and changes in frequency of storm events are all likely to have negative impacts (IPCC, 2007). A recent report "Climate Change in the Pacific: Scientific Assessment and New Research (Volume 2: Country Reports)⁷" has noted the following predicted impacts over the course of the 21st century in region, including Kiribati to include several negative impacts on the marine areas such as

- Ocean acidification is projected to continue (very high confidence).
- Mean sea-level rise is projected to continue (very high confidence).

⁵ Part II should not be longer than 5 pages.

⁶ <http://hdrstats.undp.org/images/explanations/KIR.pdf>

⁷ http://www.cawcr.gov.au/projects/PCCSP/Nov/Vol2_Ch6_Kiribati.pdf

An analysis suggests that access to fish in Kiribati would fall below the recommended level of 35 kg per person per year for all climate change scenarios in future due to a combined impact of climate change and population growth. A report on projected impacts on food security⁸ in the Pacific also notes that coastal fisheries harvests could be reduced by 50% by 2100 in the Pacific, leaving only a few countries able to obtain half their daily protein needs from such sources. It notes that main causes, in the near term, will be increased overfishing and coastal pollution. In the medium and long term, the direct effects of global warming and ocean acidification will have additional negative impacts on fish and invertebrate species, and indirectly through climate change impacts on their habitats (coral reefs, mangroves, seagrasses and intertidal flats).

Climate change impacts are likely to be exacerbated under the current context of heavy selective fishing pressure, sewage pollution from rising human population, and toxic algae out breaks – particularly around the heavily populated Tarawa atoll. These pressures have already resulted low coral cover in Southern Tarawa. In addition runoff of sediments from island and dredging of coral for construction are also having negative impacts on reef areas. Under increased intensity and amounts of rain, as predicted under climate change scenario, increased turbidity of lagoons due to erosion from islands, increased sea temperatures will cause stresses on coral reefs and fish species and will hinder coral reef recovery in cases of seasonal or annual variations in temperatures causing coral bleaching. Increases in storm frequencies are also likely to affect coral reefs negatively. There are also predications of possible increase of ciguatera fish poisoning, which is already present in Kiribati, due to elevated temperatures associated with climate change.

A.1.2 the baseline scenario and any associated baseline

The government is undertaking a number of actions to bolster food production and availability in the country. The Government of Kiribati currently spends around 900,000 US dollars annually through its Ministry of Environment, Lands and Agriculture Development (MELAD), which includes some work to support research and extension work on agriculture development. Some major activities have included screening salinity tolerant giant swamp taro cultivars and promotion of production of nutrient rich foods - local fruits and vegetables for consumption. A SPC/USAID regional project worth USD4 million and covering 6 Pacific countries (including Kiribati) has commenced implementation in 2012. The project will be implemented in two selected communities in Kiribati, and will work closely with the Agriculture Division through the Ministry of Environment, Lands and Agriculture (MELAD). The amount allocation for Kiribati and detailed actions are currently being discussed. The project has three outcomes (i) Improved understanding of present and future climate related constraints on sustainable food production in various Pacific Island agriculture ecosystems, and the adoption of innovative adaptation responses that contribute to maintaining or increasing food security: this will include implementation of capacity building, on-farm training, and pilot demonstration activities in selected communities in each country; the application of GIS land-use, forestry and soil mapping techniques (including training and national capacity building activities) as a tool to guide decision making; and the production of support materials and knowledge products that can support the wider application and scale-up of successful techniques across the region. (ii) Strengthened national and community capacity to build food security and respond proactively to climate change and climate variability: this will include engagement of farming communities, and national level counterparts, in project activities; development and implementation of appropriate adaptation response options that reduce the risks to food production and agricultural ecosystems (iii) Improved integration of successful approaches into national and sector climate change adaptation strategies : this will include engaging national and local counterparts in project activities, providing training and technical support the integration of successful approaches into sector wide and national adaptation strategies and programmes; the development of national capacity to utilise GIS systems to support adaptation decision making. Similarly, another project SPC/GIZ Coping with climate change in the Pacific Island Region is also in early stages of planning investment in Kiribati on strengthening adaptation capacities – including selected activities on agriculture sectors. The tentative focus of this project will be on promoting some selected crop varieties and on soil fertility management. In addition, the project will also help undertake research, culture and introduction of resilient and tolerant strains of fish species through aquaculture.

⁸ <http://www.spc.int/images/publications/en/Corporate/en-food-security-pacific-east-timor-vulnerability-climate-change.pdf>

There is currently also considerable investment on improving transport infrastructure in Kiribati to improve its linkages to the wider world. This should strengthen trade and acquisition of food materials from outside of the country, helping in promoting food security through improved access. The Government of Japan is supporting the expansion of the Betio Port. A grant of JPY 52 million (approx. Aus\$630,000.00) was made available for the initial design and following completion of detailed design, further aid assistance of JPY 3 billion and 52 million (approximately Aus \$36 million) is expected to be provided. This is expected to lead to improved capacity of the port to deal with an increased volume of imported containerized cargo transported by medium-sized container ships. The New Zealand government is supporting, through a NZ\$13 million grant, the upgrade of Cassidy Airport Runway. This airport is located north of Banaba, a settlement on Kiritimati (also known as Christmas Island). This is being channelled through the Kiribati Aviation Infrastructure Investment Project, led by the World Bank. As part of a World Bank implemented Climate Change Adaptation Program, funded by the GEF and co-funded by Australian funds is helping Kiribati to protect the quality of scarce freshwater supplies from the underground fresh water lens.

The Ministry of Fisheries and Marine Resources Development also spends annually approximately 900,000 dollars per year to support coral reef monitoring, fisheries management and marine resources management. An activity that is supported through this is milkfish farming, where annual investment worth 28000 dollars annually. The New Zealand's International Aid & Development Agency is supporting Fisheries Training Strengthening Programme in Kiribati. This project is designed to develop Kiribati fisheries training capacity and infrastructure in order to increase international and domestic employment and fisheries revenue. This NZ funded project focuses its activities on the followings: Fisheries Training Centre Redevelopment which includes the designing and upgrading of facilities, equipment, curriculum and teaching resources and Fisheries management and Employment which includes the whole government approach to development and delivery of fisheries training, observers and officers trainings and the development of the Ministry of Fisheries and marine resources (MFMR) foreign fishing access negotiation and management capacity.

Long term solution and barriers to the solution

The long term solution this project seeks to contribute to is “Kiribati’s food security is ensured, even in the context of global climate change”. Key barriers to achieving this long term solutions are:

1. Limited institutional and individual capacity to plan and implement actions to reduce the impacts of climate change-induced impacts on food and nutrition security

The overall low capacities in Kiribati continue to be a major concern in the country. The Country’s NCSA (2009) has noted several elements contributing to this low capacity, which are intimately related to the country’s capacities to address climate change related vulnerabilities. It has noted that insufficient data and information on Climate Change for Kiribati is one of the key concerns in Kiribati. The National Meteorological station’s lack of equipment, training and ability to obtain, synthesize and disseminate timely information on climate and forecast that is tailored to different sectors (such as agriculture) is one contributor to this. Secondly, an overall poor understanding amongst the general public, policy makers and different government departments on the climate trends, forecast and possible impacts on Kiribati due to an absence of communication, training has also been highlighted by the NCSA. There have not been any concerted efforts to build partnerships and knowledge systematically by learning from national and international experiences to deal with CC related vulnerabilities in similar context as Kiribati. The low capacity is both reflected in, and is compounded by, lack of collaboration between government institutions, NGOs and grassroots people to address a cross-sectoral and multi-dimensional phenomenon of climate change. Most ministries develop their Ministry Operational Plan (MOP) and in accordance to their budgetary allocations without taking into consideration cross sectoral and multi-sectoral concerns such as climate change impacts. There is limited capacity of different sectors to undertake V&A assessment within sectors and. There is a limited cooperation and co-management between national government and local communities in most areas of community development, including community based management of natural resources. In most cases, local communities are not involved in making plans and decisions and the top-down approach has been not effective in catalyzing local ownership or actions.

2. Limited support to community-based adaptation measures to increase human, natural and productive livelihood capital in affected communities

As already noted in the previous barrier, most government activities in Kiribati have tended to be top-down in its approach. There have been limited efforts to strengthen community knowledge and actions to improve their adaptive capacities to climate variability and predicted climate change impacts. There have not been sufficient capacity building and incentives for local communities to manage their agricultural lands effectively, and to rehabilitate land. Most local households do not have the knowledge, capacity or investment ability to adopt improved fisheries management practices, including coral reef management to ensure that availability of marine food resources are maintained or enhanced in the context of climate change. Thus, there is uncontrolled fishing around reefs and in lagoons, (and uncontrolled harvesting of invertebrates such as sea cucumber and trochus) and subsistence and small-scale commercial fishing targeted mainly at selected demersal species, putting them at risk of being locally extinct. Local communities do not have the equipment to access small and large pelagic or near shore species species to substitute such demersal species. The country is also not able to maximize the use of low-value tuna and bycatch from commercial fishing vessels. The current pond aquaculture of milkfish is extremely limited so has little contribution to the overall food security in the country.

A.1.3) the proposed alternative scenario, with a brief description of expected outcomes and components of the project and; A.1.4) Incremental cost reasoning and expected contributions from the baseline, the GEFTF, LDCF/SCCF and co-financing:

This project will help Kiribati overcome the barriers mentioned under Section B1 and to meet its priorities as identified in its NAPA. The project objective has been defined as “to ensure food security of small atoll island communities in a changing climate”. The project will have two Components and will produce a number of Outputs and Outcomes that are described below.

Component 1. Institutional and individual capacity development to reduce the impacts of climate change-induced food shortages

Baseline: The total baseline investment relevant to this Component by the Government of Kiribati is around 800,000 US dollars per year. This includes baseline investment capacity building actions in Kiribati from government resources is around 485,000 US dollars annually (based on 2012 budget figures). This is used for local training and development courses, workshops, seminars on issues related to each sectoral Ministry’s mandated work for human resources development on a broad range of issues. The Ministry of Communication, Transport and Tourism manages the Meteorological Office. The Ministry annually spends around 320,000 US dollars annually to support the work on timely collection and release of meteorological information to national, regional and international bodies. In addition, donor support on capacity building also includes overseas capacity building support from different international governments such as by New Zealand, the Republic of Korea and Australia, whose value exceeds 1 million US dollars annually.

However, there have been extremely limited efforts at systematic awareness raising or capacity building at the national level on climate change, variability and vulnerabilities of communities and adaptation options and actions. Kiribati National Meteorological Service’s instruments have been upgraded and some capacity has been built but they are still not adequate to provide the wider communities in Kiribati with climate related information and decision making tools to plan adequately to deal with climate variability and change. The Kiribati National Food and Nutrition Committee, an inter-sectoral body, was set up in 1982 and was involved in drafting the Nutrition Policy and the Plan of Action. The Committee has the task of reviewing the National Nutrition Policy and also has responsibility for the implementation, monitoring and evaluation of the Plan of Action. However, the inclusion of climate change impacts and adaptation measures has not been a focus of the work of this committee. Similarly, the Marine Department’s work does not fully integrate climate change considerations in their plans and actions. There is limited overall coordination and cooperation between all relevant government agencies to addressing climate change issues –especially as they related to food and nutritional security.

Additionality: The project will strengthen coordinated national approach by government institutions on the fisheries, trade and commerce, health sector enabled to assess, forecast and plan for food security (including nutritional security) in the context of increasing climate variability and other impacts related to climate change in Kiribati. It will support the development of Climate Early Warning and Information system for climate and specifically related to food production (with close cooperation between the MET service and sectoral users) based on similar work being done in Samoa and other nations in the Pacific. This will ensure that timely and accurate dissemination of climate risk information and seasonal forecasts to rural communities through radio programmes, TV and other communication methods. Opportunities for improved monitoring and assessment of consumption and nutrition trends to identify climate impacts will be identified and remedial steps implemented. The project will assist in improving the understanding on how present environmental problems, overexploitation of resources and pollution exacerbate the likely climate resilience of food production capabilities. Public and media support facilities to improve public awareness, sharing and dissemination of information on coastal fisheries will also be supported, as well as collation and publication of traditional fishing knowledge and skills (in English and local language) to ensure sustainable fishing practices and skills. This will be supplemented by the development of communication strategy for coastal fisheries. The project will also strengthen policy – particularly on fisheries legislation and guidelines, and will further promote coordination between sectors on national-level planning to procure, store and distribute food items to cope with extreme weather events and the associated disruption of transport/shipping routes that are linked to climate variability and change. Systematic knowledge management capacity on climate change and exchange of adaptation know-how to maintain food security in a changing climate between Kiribati and other Pacific, Indian Ocean and Caribbean SIDS will be built within the Ministry of Environment to learn from and contribute to global adaptation knowledge. The project will strengthen collaboration of MFMRD with concerned sectors to promote eco-tourism, demonstration of protected species and sites in coastal and marine areas, and will also strengthen information system, including coastal fisheries spatial database and GIS, storage facilities and backup systems. The project will also support in the analysis of impacts of climate change on both coastal and oceanic fisheries resources, and will ensure its use by coastal fisheries institution within the Fisheries Division. The project will also support the development and implementation of management plan to address diversification of coastal fisheries production to deepwater fisheries (coastal) resources (Policy and Development Division of MFMRD).

Component 2: Implementation of community adaptation measures to increase food security

Baseline: Current baseline investment in food production and distribution related activities in Kiribati total annually around 600,000 US dollars annually. This includes the investment the Government makes on the promotion of maximizing sustainable income for Kiribati from copra, and the promotion of efficient and economically viable local production of fruit, vegetables and livestock productions, which amounts around 350,000 US dollars annually. Additionally, the investment in the Ministry of Fisheries Marine Resources Development’s work to promote production of fisheries and marine resources for export, and diversification of the production base; encouraging consumption of nutritious local food – fish and marine products and the transfer of technology in fish farming, fishing techniques and prototype boats is around 250,000 USD.

Kiribati’s people depend on the production of traditional crops such as pandanus, coconut, bwabwai (giant taro), breadfruit and banana. Households plant food crops in home gardens that include wide range of species including breadfruit, coconut trees, taro etc. around the homestead and also raise chicken and pigs. However, given the limitations of land and its productivity, significant productivity gains from traditional agriculture will probably not be as cost effective as improving fisheries management. However, the coral reefs and lagoonal ecosystems are used for fishing and collection of other marine species such as sea cucumbers, shellfish etc. The normal practices of fishing include households fishing in lagoons and coastal areas using small canoes. Local fishermen catch flying fish at night using light attraction and scoop nets. Some shallow-water FADs have also been deployed in the southern reef islands. Deep-water snapper fishing is conducted on an ad hoc basis by small-scale private sector fishermen. Such species caught by the rural fishing centres and re sold to Central Pacific Producers (CPP) Limited for marketing in Tarawa. CPP has two major facilities with ice plants, freezers and processing areas, one on Tarawa and the other on Christmas Island. There are 6 islands with rural fishing centres. Two of these centres sell their catch locally of airfreight small amounts of fillets to CPP for marketing.

Milkfish farming is being done on both Tarawa and Christmas Island for food in especially constructed ponds. As noted earlier, several local threats include heavy selective fishing pressure, sewage pollution from rising human population, toxic algae out breaks and possible spread of exotic seaweeds from aquaculture exist that undermine resilience of fisheries. The fisheries department has formulated coastal management plans and regulations, which includes restriction of destructive fishing methods but it also does not effectively integrate the issues of climate change or effective management of the wider landscape/ seascape to enhance resilience of the production systems. It has also promoted diversification of fishing effort to aquaculture activities and also undertaken some coral monitoring activities but these have also been extremely limited in scale and scope. Under business as usual scenario, the work on promoting food security through community based agriculture and fisheries management will continue at a small scale and mostly based in Tarawa and not fully internalize possible climate change impacts on the current production systems.

Additionality: The project will strengthen the management of fisheries in Kiribati to ensure that productivity and food productions from these under context of increased climatic variability and change are viable and are sustainable. Participatory vulnerability assessments integrating anticipated climate risks will be undertaken at community level. Training of community groups and farmers on climate impacts and adaptation options; as well as on the use of climate early warning and information system will be undertaken using government extension agencies. The project will support community-based in-shore/lagoonal ecosystem management framework to increase the resilience of coral reefs, sea grass beds and mangroves for increased food production and to strengthen additional ecosystem services (such as buffering from storms) to aid community and ecosystem resilience in context of climate variability and change. Formulation of community protocols or by-laws for no-take and buffer zones, and ecosystem monitoring plans and their implementation will also be supported. Capacity building and training opportunities on specific aquaculture species will also be done to ensure long term programs on food security.

To restore and sustain fisheries in the context of climate change, the project will support community based ecosystems approach to fisheries management. The project will help identify and protect “connectivity” between coral reefs, so that the resilient coral reefs can supply recruits to ‘downstream’ reefs to help these reefs recover after coral bleaching or damage by cyclones. Actions to improve local stock of depleted products, such as moratoriums to rebuild sea cucumber numbers (as they have declined significantly due to over harvest) will be supported. A more robust sea-cucumber population is expected to have a greater resilience to increased water temperatures and ocean acidification. The project will also assist communities to change their target fish species so that they can increase the production of demersal fish and invertebrates, whose populations are expected to be less impacted by climate change. Training will be undertaken for fishing communities to optimize catches on such species – especially as there may be change in the abundance of some species not currently harvested and an increase in herbivorous species is expected due to changes coastal habitats from climate change. However, harvesting of herbivorous fish will be promoted such that they available in enough numbers to remove the algae that inhibit the survival and growth of corals, thereby enhancing the resilience of corals to increases in sea water temperatures. Additionally, the feasibility of develop coastal fisheries for small pelagic fish will also be undertaken. Diversification of coastal fisheries to catch small pelagic species (mackerel, anchovies, pilchards, sardines, scads, fusiliers and squid), through with the training and equipment required, may also increase fish availability for many communities. Catches of tuna and other fish species may also be aided by promotion of low-cost, inshore Fish Aggregating Devices (FADs). Store and distribute tuna and by-catch from industrial fleets to. Negotiating with industrial vessels operating within their EEZ to land a proportion of their tuna catch on a regular basis to supply the local market will also be considered, especially low-value tuna and bycatch, which now retained by industrial vessels transshipping their catch, would also provide additional fish supply to urban centres. Additionally, training will be provided to communities to improve traditional methods for smoke curing, salting and drying fish. The table below summarises current practices and the new adaptation measures that will be promoted.

Current Practice	Climate Change Vulnerabilities / Opportunities	Adaptation Measure	Justification
Uncontrolled fishing around reefs and in lagoons, (and uncontrolled harvesting of invertebrates such as sea cucumber and trochus)	Decline in demersal fish stocks projected because of increased sea surface temperature, changes in ocean currents bringing juveniles, and degradation of coastal nursery habitats – through erosion by increased storm surges, and effects of warming and acidification on coral reefs	Controlled production of coastal demersal fish (and invertebrates) across islands of Kiribati through new community-based ecosystem approaches to fisheries management	Primary fisheries management can reduce pressure on overfished species to help replenish stocks, to counteract projected decreases due to climate change
Subsistence and small-scale commercial fishing targeted mainly at selected demersal species, and not at other demersal species	Changed ocean currents resulting in greater abundance of some demersal species, changed coastal habitats resulting in increase in herbivorous species	Diversified catches of coastal demersal fish, increased targeting of herbivorous fish (while maintaining enough to control reef algae) across islands	Awareness of changes in the relative abundance of species as a result of climate change impacts can enable optimization of fishing strategies and catches
Subsistence and small-scale commercial fishing targeted mainly at selected demersal species, and not at small pelagic species	Decline in some demersal fish stocks because of climate change projected. Likely impacts of climate change on primary productivity of small pelagic species are not fully understood – increased stratification from sea surface temperature increases could cause decline, but this could be offset by increases in nutrients from coastal runoff (partly from more intense rainfall events)	Diversified coastal fisheries to catch small pelagic fish, supplying community with necessary equipment and training	Small pelagic fish such as mackerel, anchovies, pilchards, sardines, scads, fusiliers and squids may be less threatened by climate change than demersal species currently being fished, and can be sustainably fished to offset losses in demersal stocks
Subsistence and small-scale commercial fishing targeted mainly at selected demersal species, and not at large pelagic nearshore species	Eastward shift in distribution of skipjack tuna projected as a result of climate change impacts, resulting in significant increases in stock in central Pacific, including Kiribati, projected to last until 2035	Transfer of some coastal fishing effort from demersal fish to nearshore large pelagic fish, esp. skipjack and yellowfin tuna, installing a network of low-cost Fish Aggregating Devices (away from small pelagic species around reefs)	FAD technology is well established, the devices can be placed at a manageable depth and distance from shore for a reasonable cost, and, if used appropriately after training and well maintained, can significantly increase catches
Pond aquaculture of milkfish is practised but not on sufficient scale to enhance food security significantly	Increases in air temperature (estimates for 2050 between 1 and 2 degrees) and rainfall (overall estimated increase in annual rainfall of 7% by 2050) for Kiribati are likely to be favourable for aquaculture	Develop pond aquaculture in coastal communities across islands and peri-urban areas of Tarawa, with milkfish and potentially carp and Nile tilapia	This is a simple, proven technology that can significantly enhance food security given infrastructural investment, training and good maintenance by the community (risks relating to increased malaria, availability of feed, effluent impacts and impact on

		biodiversity need to be considered)
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A.1.5) Global environmental benefits (GEFTF, NPIF) and adaptation benefits (LDCF/SCCF)

Adaptation benefits

The project's overall objective is to enhance overall socioeconomic resilience of I-Kiribati in the context of climate change. It is expected that the project will primarily directly impact livelihoods of at least 70% households nationally. By enhancing food and nutritional security, it is expected that health and wellbeing of households will be enhanced. By promoting community based ecosystem approach to coastal fisheries and coral reef management, the project will also strengthen "social capital" within the communities. Additionally, the strong focus the project has on developing national awareness and capacities on climate change and adaptation to climate change will also benefit local households directly by enabling them to understand and plan adaptation actions now and in future – such as through access to knowledge and information on climate, and through linkages with experiences and actions worldwide. The project will pursue a gender-sensitive approach whereby women's participation in training workshops, demonstration activities and management committees will be strongly promoted. Gender and other social inclusion issues will be considered in all stages of project development and implementation. Some examples of strengthening women's involvement and access to resources will be through supporting actions to preserve and market food (including marine resources) for women's groups.

Innovativeness, sustainability and potential for scaling up

The focus of this project on linking improved marine ecosystems resilience and productivity in the context of climate change will be innovative for Kiribati. By linking different sectors working on foods security, ecosystems management and planning as well as early warning systems, the project will have a wider institutional collaboration and actions to address very important climate change related vulnerability in the country. This inter-sectoral approach to address the concerns on food security and climate change issues is innovative in Kiribati's context. This approach is expected to leave an important legacy of such cross sectoral collaboration in Kiribati, which will also ensure its long term sustainability.

A.2 Stakeholders: Identify key stakeholders (including civil society organizations, indigenous people, gender groups, and others as relevant) and describe how they will be engaged in project preparation:

Key stakeholders for the proposed project are found as below. However, the implementation arrangements and implementation agency will be assessed during the PPG phase, after a more detailed capacity assessment and a well-founded analysis. Ministry of Environment/Climate Change Management Division will remain the coordinating agency of this project.

Key Stakeholders	Roles
National Adaptation Steering Committee: housed in the office President, can serve for project assurance purposes	This inter-sectoral committee will be primarily responsible to ensure that the project design and implementation is in accordance with national priorities and is coordinated well with other adaptation projects nationally.
Government Agencies: Fisheries/ Environment/ Agriculture and land management/ Internal affairs/ Health/ Trade and Commerce/ Climate Change Office under the President's Office; Kiribati Meteorological Services	The Ministry of Environment, Lands and Agriculture Development (MELAD) and the Ministry of Fisheries and Marine Resources Development are the lead Ministries for this project and will be joint executing agencies under UNDP's NIM guidelines. These Ministries will be key in promoting food security through agriculture (MELAD) and fisheries/ aquaculture (MFMRD). The Health sector is also important in their role in ensuring nutritional security in the country. Given the focus on inter-sectoral policy and action on ensuring food security, the other government agencies that will be important include Trade and Commerce and Internal Affairs (as they deal with trade of food items internationally, storage and

	distribution).
CBOs/ NGOs	<p>The project will work with existing community groups including the following:</p> <ul style="list-style-type: none"> • Fishermen Association • Youth groups • Women's groups <p>They will be the main targets for awareness and capacity building under component 1 and will also be involved in planning and implementation of activities under Component 2. Additionally, the project will also involve Kiribati Climate Action Network and NGOs (such as through the NGO federation KANGO) in both Components 1 and 2 as appropriate</p>
Kiribati National Council of Churches	Kiribati is a deeply religious country and the Churches of different denominations and church groups under them at community level are active in community planning and implementation. They will also be involved in relevant awareness raising and implementation actions (to be identified during PPG).
Private sector	The private sector role in procurement, storage and distribution of food stuff within Kiribati is very important. Regional companies such as Punjas and also national entrepreneurs will be encouraged to buy and supply food produced locally as well as in other issues for food security.

A.3 Risk. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable):

Risk	Level	Mitigation Measures
Current poor linkages between outer islands and Tarawa will hamper participation by and benefit to communities living outside Tarawa Atoll	High	The wide spread of islands across the Pacific Ocean makes communication and outreach to outer islands from Tarawa extremely expensive. The Project will help institute mechanisms for regular contact and communication/ support to such islands through use of internet communication and invest appropriately in their support so that there are equitable benefits to all communities.
Existing low capacities in Kiribati will lead to poor project implementation	Medium	The project will help build management and implementation capacities both at government level and at community level. More complex activities will be planned to be implemented after capacity activities are undertaken. Use of NGOs/ Private sector will also be encouraged in project implementation.
Uptake of adaptation measures may require extra efforts or inputs by local communities	Medium	The project will primarily focus on promoting adaptation practices that are relevant for now as well as for future. Where additional costs or inputs are required by the communities, the project will help find ways to offset such costs.
Extreme natural climatic variations during project implementation/ including disasters affect community interest and participation in project actions	Low to Medium	The issue of ensuring food security in times of extreme climatic variations will be critical and since the key thrust of the project is to ensure that, this will provide the project an opportunity to test and refine approaches, methodologies and capacity building. The project will ensure that it works with the country's DRR team in case of severe climatic variations during the lifetime of the project.

A.4. Coordination.

Outline the coordination with other relevant GEF financed and other initiatives:

The proposed LDCF financed project will be complimentary to the Government of Kiribati led initiative under the GEF Ridge to Reef Programme. Under the R2R programme, Kiribati intends to explore the issue of community based environmental management with local communities in the outer islands (the exact location of which will be based on a key biodiversity areas study that is currently on-going). In addition, activities under the R2R programme will also focus on exploring the issue of developing the enabling environment for establishment of community based protected areas and protected species. It will explore capacity building at the formal and informal level, outreach for environmental sustainability at all levels of society in Kiribati. The initiative will entail community mobilization and participation in environmental management including understanding what is currently being done and identifying gaps with respect to enforcement of the environment legislation. The R2R initiative will inform the government to better understand the current status of biodiversity at national and outer islands levels and also entry points for advancing resiliency to expected climate change.. During the preparatory phase, detailed discussions will take place with all relevant partners to ensure that the R2R initiative is complimentary to this LDCF project.

The project will also ensure strong coordination and collaboration with the recently approved project “Integrating Global environmental priorities into national policies and programmes”. This Cross Cutting Capacity Development project will assist Kiribati to establish an Environmental Management Information System (EMIS), and to implement Environmental Indicators and Compliance Monitoring System (CMS). Such systems can help in maintaining environmental health and productivity in the country, and hence will be directly relevant to ecosystems productivity (and hence food production).

National Adaptation Steering Committee will be the main mechanism for coordination between different ongoing projects in Kiribati that are related to adaptation as well as specifically on food and nutrition related issues. The project will have strong linkages with the World Bank –LDCF KAP III project that is dealing with water security as well as coastal areas management. The lead government agency for this project – the Climate Change Office under the President’s Office will be included in this UNDP-LDCF project board. Periodic joint meetings will be organized for effective coordination and cooperation between these two projects. Additionally, strong coordination and cooperation will also be built with other relevant initiatives that have been described under the baseline project section. The coordination mechanisms will be further outlined during the PPG. As noted in the project baseline, a number of initiatives are planned or under preliminary implementation in Kiribati. This project will build on these and ensure coherence and effective coordination. This will specifically include strong coordination with the World Bank – LDCF project KAP, which is supporting water resources management, which is also important in terms of food security. Promotion of agriculture will take into consideration water requirements so that there is equitable use of available resources and that this does not cause additional stress on limited freshwater on the islands. The project will also build on coral reef monitoring protocol that has been supported by this project, taking into consideration the species important for food species and management practices that emphasize resilience of coral reefs.

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

B.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

Kiribati’s National Adaptation Programme of Action (January 2007) has highlighted the Kiribati’s vulnerability to climate change. It has noted the vulnerability of settlements, land and coastal areas to impacts of climate change due to the low lying nature of the atolls; and also the vulnerabilities of the fisheries sector; agriculture sector, water resources, physical assets, biodiversity and human health. The report concludes that “with warmer temperatures, sea level rise, increased storm surges, climate variability and the increase of associated adverse effects such as erosion, past adaptation practices in Kiribati are no longer found to be effective.” The Kiribati Adaptation Plan has identified several priority actions to be implemented. This project will directly support the following priorities identified by the NAPA through this project’s Components 1 and 2:

1. Strengthening Environmental, Climate Change Information and Monitoring

2. Coral Reef Restoration, monitoring and stock enhancement

The project's first component will directly address the priority 1 listed above through the development of Climate Early Warning and Information system and the capacity to use the system nationally. The priorities on coral reef restoration above will be addressed directly under Components 2. The reason both these priorities have been selected are because the people in Kiribati depend very significantly on both marine resources for their household level food security and the vulnerabilities related to food production cannot be addressed by just focusing on one issue. The project is also fully aligned with the Kiribati Development Plan: 2008-2011, which has identified the need to protect and replenish natural resources and to monitor and control coastal erosions as some of its key priorities.

B.2 GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

This project will assist Kiribati in the implementation of several key priority interventions identified in its NAPA (2007). In doing so, the project is directly aligned with LDCF Objective 1 on reducing vulnerabilities and LDCF Objective 2 on increasing adaptive capacities. In line with LDCF Objective 1, the project's Component 2 will target actions to reduce vulnerability of local communities to impacts of climate change on food production on land and from the sea. This is aligned with LDCF Outcome 1.2: Reduced vulnerability to climate change in development sectors. The key sectors in question here will be fisheries sectors. In line with the LDCF Output 1.2.1, the project will support urgent actions to mitigate impacts of climate change and variability on vulnerable natural assets – particularly land and coastal fishery areas. The project's Component 1 is well aligned with the LDCF Outcome 2.2 Strengthened adaptive capacity to reduce risks to climate-induced economic losses; and the Output 2.2.1: Adaptive capacity of national and regional centres and networks strengthened to rapidly respond to extreme weather events. In line with these, the project will strengthen the national early warning system on climate, its use and the strengthening of national capacity, policy and planning to integrate decision making tools to increase preparedness for extreme events, and to deploy funds and human resources as needed. Further capacity building will also be achieved through active learning and sharing of lessons and experiences from Kiribati to other relevant regions of the Pacific and the world.

B.3 The GEF agency's comparative advantage to implement this project:

UNDP's work in the Kiribati is supported primarily through its Multi-Country Office based in Fiji. UNDP has been active in Kiribati and has supported several on-the ground efforts to improve local resource use and livelihoods. It has supported at least 10 island communities in better agroforestry and livestock management through the UNDP-GEF SLM Project and promotion of community/ NGO actions through the operation of UNDP-GEF Small Grants Fund. UNDP has also supported several national policy works – such as strengthening the parliament, and supporting to the development of NAPA and NCSA with GEF funding. The multi-country office is also supporting several other adaptation projects development and implementation in the Pacific – such as in Tuvalu, Fiji and Tonga through different sources. The project will benefit from the experience from these projects. UNDP has also implemented several adaptation projects globally on small island nations such as Maldives, which will also be relevant to the project in Kiribati. UNDP's comparative advantage in implementing this project is underpinned by its Multi-Country Programme Document for the Pacific Sub-region for the current cycle (2008-2012) as well as the next cycle (2013-2017), in which enhanced decentralization of governance and participatory decision making targeting vulnerable groups, are given a particular emphasis. UNDP is playing a leading role in this area based on its long standing and established track record in Kiribati and the Pacific region in promoting local public administration reform and public service delivery. For strengthening the resilience of island communities to future climate risks, a necessary condition is to establish an environment conducive to greater autonomy within each island supported by technically capable staff and financial capacity.

This proposed project is fully aligned with UNDAF for the Pacific Sub-region for 2008-2012. It corresponds, inter alia, with UNDAF Outcome 2 “National and regional governance systems exercise the principles of inclusive good governance, respecting and upholding human rights; and resilient Pacific island communities


participate in decision-making at all levels” and Outcome 4 “The mainstreaming of environmental sustainability and sustainable energy into regional and national policies, planning frameworks and programmes; and Pacific communities sustainably using their environment, natural resources and cultural heritage.”

UNDP Multi-Country Programme Document operates within the broader framework of an UNDAF, and the new assistance framework cycle will begin from 2013. UNDAF and MCPD, by design, are set out to address the Government’s development priorities and thus high degree of conformity can be found between the proposed LDCF project and UNDP’s overall guiding framework. This project is aligned with MCPD Outcome 4.2 “Pacific communities effectively manage and sustainably use their environment and natural resources” and its subordinate Output 4.2.1 “Sustainable livelihoods of vulnerable groups, including women and youth, strengthened through institutional support and leveraging indigenous governance systems, to contribute to sustainable environmental management.” The UNDP Country Office and the Fiji MCO is sufficiently well resourced to provide the oversight and project assurance necessary to support the Government of Kiribati. UNDP deploys a Kiribati-based programme staff to enhance its in-country project implementation and policy support. The project will primarily engage the environment and climate change practice area and governance practice area, as well as the Deputy Resident Representative and Assistant Resident Representative for programming. The Fiji MCO has recently completed a recruitment of a long-term climate change policy advisor who will be making contributions to the project from the policy perspectives. A regional technical adviser on climate change adaptation based in Bangkok will provide ongoing implementation oversight and support throughout the project, as well as the UNDP lead adviser on adaptation, also resident in Bangkok.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES). RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter(s) with this template).

NAME	POSITION	MINISTRY	DATE(MM/DD/YYYY)
Mrs Nenenteiti Teariki-Ruatu	GEF OFP	Ministry of Environment, Lands and Agricultural Development	04/05/2013

B. GEF AGENCY(IES) CERTIFICATION

request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the /LDCF/SCCF criteria for project identification and preparation.					
AGENCY COORDINATOR, AGENCY NAME	SIGNATURE	DATE (MM/DD/YY YY)	PROJECT CONTACT PERSON	TELEPHONE	EMAIL ADDRESS
Adrian Dinu, Officer-in-Charge and Deputy Executive Coordinator, UNDP - GEF		April 12, 2013	Sameer Karki	+6623049100 ext. 2729	Sameer.karki@undp.org

