

NATIONAL CAPACITY SELF ASSESSMENT PROJECT: Assessing the capacity of the Republic of Kiribati to implement the United Nations Convention on Biological Diversity (UNCBD), United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change (UNFCCC)

Project funded by GEF, implemented through the UNDP and executed by the Ministry of Environment, Lands and Agriculture Development of the Government of Kiribati

FINAL REPORT

Executive summary

This final report of the Kiribati National Capacity Self Assessment (NCSA) Project presents an overview of the self-assessment approach taken, the main findings of the stock-take and thematic assessments, the cross-cutting assessment findings and a strategy for developing capacity to address needs and gaps identified during the assessments. The report is the concluding part of a series of reports produced under the Kiribati National Capacity Self Assessment (NCSA) Project funded by the GEF. The aim of the NCSA is for countries that are Parties to the UNCBD, UNCCD and UNFCCC, to assess their own capacities and capacity development needs to address the requirements of the three conventions and identify measures to address these needs. The report builds on previous three stock-take and thematic assessment reports targeting each of the three conventions and presents the findings of a national cross-cutting assessment exercise to identify environmental as well as capacity issues that cut across the three conventions and their thematic areas. The aim of the assessment is to; identify cross-cutting issues, identify opportunities for synergies and strengthening integrated and coordinated approach to environment management and sustainable development.

The assessment began after an inception phase with the engagement of a national coordinator and three national consultants to facilitate and conduct the stock-take and thematic assessments. The same consultants also develop reports recording the main findings of the stock-take and thematic assessments as well as the cross-cutting environmental and capacity issues. These were presented to a series of national consultation meetings and eventually during a national retreat on the islet of Biketawa, for further refinement.

The cross-cutting assessment report identifies environmental and capacity issues that are closely linked to and cut across each of the three conventions and their thematic areas. The cross-cutting assessment looked at two types of cross-cutting issues. Firstly the environmental cross-cutting issues, being those that are linked to all three conventions, involve more than one sector of the national economy and require coordinated and integrated action. The main cross-cutting environmental issues identified during the assessment include those caused by climatic factors as well as those that are anthropogenic. These are very closely interlinked and include; the high level of vulnerability of the country's land, water and marine resources, people and economy to the negative impacts of climate change, rising levels of water in-security, unsustainable land management, loss of marine and terrestrial habitats leading to decline in ecosystem services and biodiversity needed to address basic needs for food, shelter and housing.

The national consultations identified 'increasing population pressure on resources' and 'limited alternative livelihood opportunities' as important root causes to many of the environmental cross-cutting issues. This is more prevalent on South Tarawa, the hub of government and commercial activities where about a third of the total population resides and giving rise to a population density recently estimated at 5,400 persons per square kilometer compared to the national average of 1,610. Urban drift is a key contributor to this and is putting extreme pressures on coastal resources and the sustainable use of the underground water resources.

Closely linked to these are the capacity issues that cut across the conventions assessed under the NCSA project and also across the various environmental issues. They include; inadequate information management, limited financial resources, limited capacity to communicate, educate and raise awareness on key issues and influence behavioral change, limited coordination and integration amongst agencies and stakeholders to address environmental issues, weak enforcement of laws and regulations, limited capacity development opportunities, limited mainstreaming of environmental issues into national strategies, plans and programmes, limited use of traditional knowledge and practices in environmental management and limited capacity to cope with reporting requirements of the conventions.

The report ends with a presentation of a capacity development strategy to address the capacity needs identified in the thematic as well as cross-cutting environmental and capacity issues. Specific capacity development actions are incorporated as Annexes to this final report.

Acknowledgement

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The Environment Division of the Ministry of Environment, Lands and Agriculture Development wishes to thank the many national stakeholders who participated in and contributed to the development of the NCSA reports and the local consultants engaged to facilitate national consultations and write up the reports. Acknowledgement and thanks is also given to the Secretariat of the Pacific Regional Environment Program for assisting with technical advice and in-country training.

The NCSA findings will go a long way to assisting the Government of Kiribati to plan and implement capacity development programs and activities aimed at strengthening the country's capacity to implement Multilateral Environment Agreements (MEAs) particularly the UNCBD, UNFCCC and UNCCD.

Kam rabwa and thank you to one and all!

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Acronyms

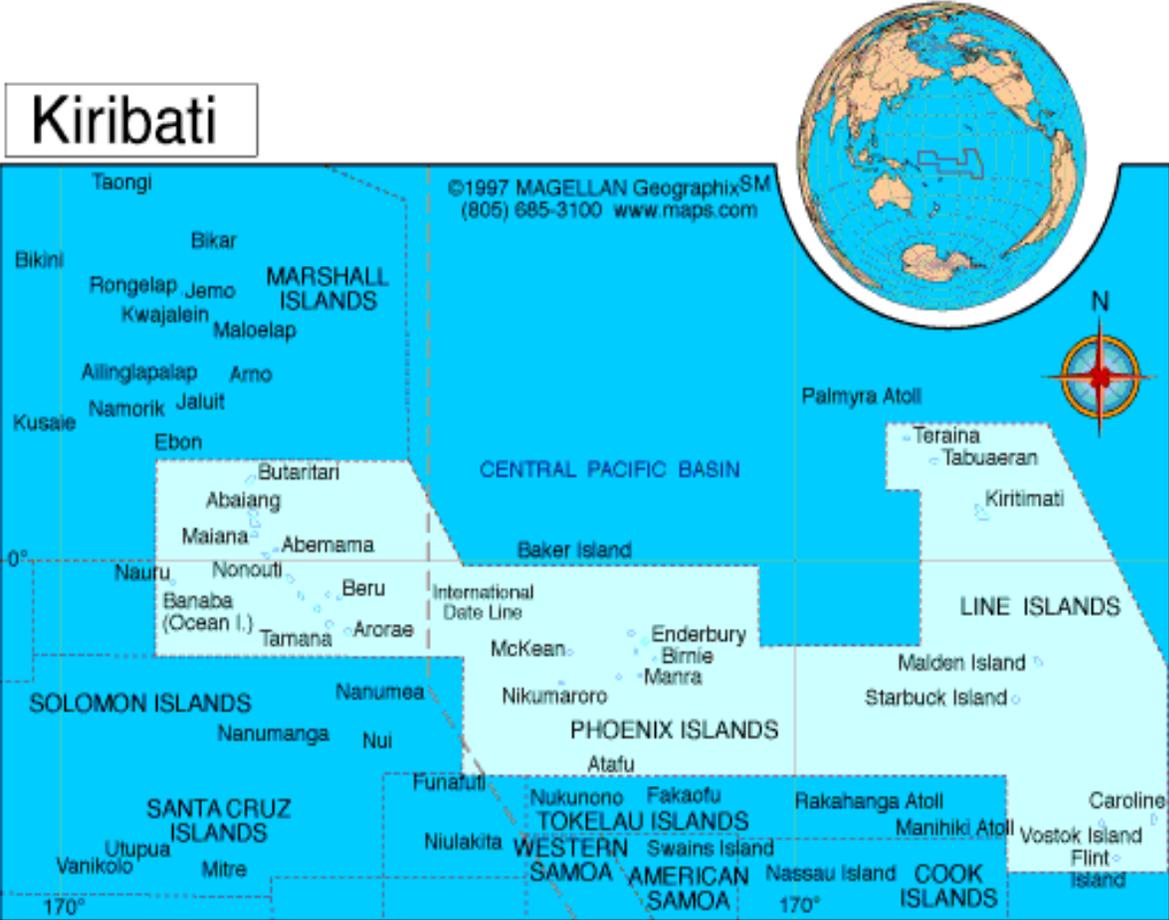
DPRRM	Disaster Preparedness and Risk Reduction Management
ECD	Environment and Conservation Division
EDB	Equatorial Doldrums Belt
EIA	Environmental Impact Assessment
ENSO	El Niño Southern Oscillation
FCCC	Framework Convention on Climate Change
FSP	Foundation of the Peoples of the South Pacific
FTC	Fisheries Training Centre
GEF	Global Environment Facility
GoK	Government of Kiribati
GLUP	General Land Use Plan
HEIS	Household Expenditure Income Survey
ITCZ	Inter-Tropical Convergence Zone
KAP	Kiribati Adaptation Programme
KHC	Kiribati Housing Corporation
KTA	Key Thematic Area
LMD	Land Management Division
MDG	Millennium Development Goal
MEA	Multilateral Environment Agreements
MELAD	Ministry of Environment Land and Agricultural Development
MFED	Ministry of Finance and Economic Development
MHMS	Ministry of Health and Medical Services
MISA	Ministry of Internal and Social Affairs
MPWU	Ministry of Public Works and Utilities
MTC	Marine Training Centre
NAP	National Action Plan
NAPA	National Adaptation Plan of Action
NBF	National Biosafety Framework
NBSAP	National Biodiversity Strategic Action Plan
NDS	National Development Strategy
NEMS	National Environmental Management Strategy
SOPAC	South Pacific Applied GeoScience Commission
SPC	Secretariat of the Pacific Community
SPCZ	South Pacific Convergence Zone
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
USP	University of the South Pacific
WSSD	World Summit on Sustainable Development

1.0 INTRODUCTION

1.1 National Context - A small and very vulnerable oceanic nation

Straddling the equator in the Pacific, the oceanic nation of Kiribati comprises 33 atolls spread out across a vast Economic Exclusive Zone area of 3.5 million square kilometers with a total land area of just only 800 sq km. The country is divided into three groups of atolls namely; the Gilberts, Line and Phoenix (See Map in Figure 1). Across the atolls the very small strips of land are a few kilometers at its widest sections and, on average are less than two meters at its highest point above sea level. Climate variability and weather continue to influence natural systems and socio-economic activities in Kiribati. Most of the country experiences modest levels of rainfall of up to 3,000mm per annum in the Southern Gilberts, however certain parts of the country such as central and southern Gilbert Islands, most of Phoenix islands and Kiritimati are drier and prone to periods of drought.

Figure 1: Map of Kiribati



Source: www.infoplease.com/atlas/country/kiribati.html

Land in Kiribati is an extremely precious resource given their very limited area and the critical ecosystem services they provide in sustaining the environment, people and economy of the country. The very thin soils of Kiribati are derived from coral limestone, coarse textured and deficient in most essential nutrients. The average depth of the soil layer is twenty five centimeters with a relatively high pH of between six and ten. Their porous nature provides for very good drainage but if not enriched with organic matter will retain its high pH levels, be susceptible to high levels of leaching and generally not suitable for cultivation of many types of food crops. In terms of land space and potential for taking some pressure off South Tarawa, the island of *Kiritimati* (Christmas) has been recently targeted due to its relatively bigger area of land and small population. It is said to be the largest atoll in the world and contains more than half of the total land area of the country.

Kiribati is blessed with rich marine resources that has sustained its people since time immemorial and has influenced its culture, traditions and way of life. The inshore fisheries continue to be a main source of food and livelihood while oceanic fisheries particularly tuna resources provide the country with much needed revenue from fishing licenses and catch sales. Land and in-shore marine ecosystems and resources are intimately linked and also very vulnerable to disturbances from human activities, climate variability and climate change. Small disturbances do not take long to have knock-on effects resulting in degradation in habitats and ecosystem services that people and species rely heavily on.

Figure 2: Images of atoll environment in Kiribati



Coastal scene on North Tarawa

Building of sea walls – North Tarawa

The country's very vulnerable situation given its geographic characteristics and setting is exacerbated by the increasing human population pressure on natural resources and government services and the rising threat of extreme weather conditions due to the impacts of climate change. The total population in 2006 was estimated at 105,432. In terms of human impacts the main area of concern is South Tarawa, the hub of government and commercial activities, where the population has risen from 1,671 in 1947 to 40,311 in 2005 and is expected to double in fourteen years time. The rise in population has been attributed to high fertility rates and increasing influx of people from the outer islands seeking employment, livelihood opportunities and basic services. This is placing extreme pressures on the limited land with

beach mining and uncontrolled removal of coastal vegetation causing coastal erosion and loss of land. The high level of pollution from human activities is affecting the quality of the surrounding marine environment and underground water resources and posing serious risks to human health.

Another dimension of Kiribati's vulnerability is its relatively high diseconomies of scale and exposure to world market fluctuations. The narrow production base renders the national economy susceptible to external shocks. The majority of its national income is derived from offshore investments, fishing license fees and remittances from seafarers that make up the majority of i-Kiribati people working overseas. The public service is the biggest employer and there is a marked income disparity between South Tarawa and outer islands with limited reach of government services in remote areas. There is an increasing reliance on imports with rice being a major staple and cost item in family budgets.

Kiribati is extremely vulnerable to the predicted negative impacts of climate change. Rising sea levels and extreme events such as storm surges and king tides are a real threat to terrestrial biodiversity, quality of underground water resources and peoples very survival given the very low lying nature of the atolls and islands. There are already cases of flooding due to storm surges and king tides, attributed to gradual increases in sea level. Salinization of the underground water is also a growing problem. Increases in the intensity of storm surges coupled with mining of beach aggregate and removal of coastal vegetation is causing accelerated erosion of coastlines.

1.2 Addressing national interests within a global environmental management framework

Over the years the government of Kiribati has demonstrated its commitment to the global environmental and sustainable development agendas as it continues to struggle with addressing national issues and priorities. In addition to its commitment to the MDG, the Mauritius Strategy and the Pacific Plan, Kiribati has also ratified and acceded to a number of MEAs including the UNFCCC, UNCBD and UNCCD.

On the national front the Kiribati government has recently developed the Kiribati Development Plan (KDP 2008 – 2011). With the theme; 'Enhancing economic growth for sustainable development' the KDP places special emphasis on growing the economy and also recognizes and emphasizes the importance of environmental management as one of its Key Policy Areas (KPA). The KDP is the national guiding and leading document which underpins key policy areas and institutional framework for government ministries including the Ministry of Environment, Lands and Agricultural Development (MELAD). Specifically, KDP addresses priority issues as KPAs such as protection and replenishment of natural resources, protection of island biodiversity, minimize and control of waste and pollution, improve and expand quality and supply of ground water, monitor and control coastal erosion, mitigate urbanization in particular South Tarawa and on Kiritimati, and combating and controlling impacts of development projects. In response to these KPAs, MELAD reports to the Ministry of Finance and Economic

Planning (MFEP) on a six monthly basis, using a standard format to indicate and update achieved and in-progressed strategies and activities.

The 2007 amendments to the Environment Act 1999 provides an overarching legal framework, governing the environment and natural resources in Kiribati. It provides a comprehensive tool toward environmental assessments, prevention and pollution control, and the protection and conservation of natural resources and ecosystems. A number of regulations have also been developed in conferment to the Environment Act 1999, including the Phoenix Island Protected Area (PIPA) Regulation which was endorsed in 2008.

MELAD has developed a number of national environment strategies and plans that addresses its obligations under various MEAs. These are summarized in Table 1 below:

Table 1: National strategies and plans developed by Kiribati that addresses its commitments to various MEAs.

Strategy / Plan	MEA	Year completed
National Biodiversity Strategic Action Programme (NBSAP)	UNCBD	2007
National Action Program to address Land Degradation	UNCCD	2007
National Adaptation Programme of Action (NAPA)	UNFCCC	2007
National Profile of Chemicals Management Infrastructure	Stockholm Convention SAICM	2007
1 st National Communication	UNFCCC	2004

2:0 The NCSA approach and methodology

Following the announcement by the GEF and UNDP on the NCSA project the Government of Kiribati formally indicated commitment to partake in the enabling activity in July 2006. Kiribati adopted the NCSA approach and methodology recommended in the UNDP NCSA Tool Kit (2005 version).

2.1 Purpose and outputs of the NCSA

The **purpose of the NCSA** is to enable each GEF eligible country to review its capacity needs to address priority national and global environmental issues mainly in relation to Climate Change, Conservation of Biodiversity and Land degradation, determine what actions are needed to strengthen management of these issues and to prepare a national capacity development strategy and plan of actions. The approach taken by Kiribati in implementing the NCSA project followed closely that which was recommended in the NCSA Guide (UNITAR) and includes the following main stages:

- 1: Inception
- 2: Stock-take and gap analysis

- 3: Thematic assessments (identify causes of gaps, capacity needs and capacity development actions within the scope of each of the three Conventions).
4. Cross-cutting assessment (identification of cross-cutting issues and potentials for synergies)
5. Development of a Final Report and a Capacity Development Action Plan.

2.2 NCSA Project Outputs

The main **NCSA Project Outputs** expected of countries include:

- i) A Stocktake Report identifying previous and current activities relating to capacity building (such as enabling activities) for each of the three sectors.
- ii) An account (report) of the process by which the NCSA was prepared, including stakeholder participation.
- iii) A description (inventory) of capacity building needs in the three sectors with prioritization to the extent possible, and other related capacity needs.
- iv) An identification of cross cutting issues and synergies
- v) A plan of action to meet prioritized needs and a mechanism for monitoring and evaluating progress made in meeting those needs.

2.3 Inception, stock-take and thematic assessment phases

The inception phase took place between 2007 and 2008. Prior to obtaining GEF funds from UNDP, the Director of Environment of Kiribati participated in a sub-regional workshop for Pacific Micronesian countries on the NCSA approach and methodology. This was organized and funded by SPREP. Following endorsement of the NCSA Project Document and receipt of funds from UNDP, the Environment Department recruited a Project Coordinator and arranged for in-country support from SPREP. Three thematic working groups were established to assist with the stock-take and thematic assessment of each of the Rio Conventions and three local consultants were recruited to work closely with the thematic working groups. Each consultant was contracted to focus on one of the three conventions covered in the NCSA. A national training workshop was held to introduce the thematic working groups and consultants to the NCSA. The training was conducted by SPREP Capacity Development Adviser, Frank Wickham. Each of the thematic working groups comprised members from government agencies and NGOs who contributed a lot to the stock-take and thematic assessment by way of providing information and participating in analysis and prioritization exercises. As a result of the inception workshop and following advice obtained from SPREP the thematic working groups agreed to combine the stock-take and thematic assessment exercise and reports. Three separate thematic assessment reports have been produced and their findings are summarized in this final report.

2.4 Stakeholder participation

During the course of the NCSA project there has been much work put into developing a capacity baseline information and analysis as a result of extensive consultation with and participation by many stakeholders throughout the country as well as abroad. Membership on the Thematic

Working Group (TWG) ensured representation from key government agencies and NGOs. Assistance from Pacific regional organizations was possible through the Pacific Regional Support Mechanism for the NCSA, coordinated by SPREP and international help was obtained through the NCSA Global Support Programme overseen by UNDP and UNEP and based in New York.

Through the NCSA the government of Kiribati and stakeholders were able review environmental issues, take stock of progress in addressing these issues as guided by the Conventions, identify gaps in implementation and meeting of obligations, identifying causes of these gaps and determining actions to enhance capacity and address the gaps. Capacity building activities undertaken during past GEF-funded Enabling Activities and the International Waters Project was also taken into account. The assessment of gaps in implementation and capacity needs was undertaken and capacity development actions recommended for the following three levels:

- i) Systemic capacity – the enabling environment including policies, regulations and coordination mechanisms
- ii) Institutional capacity – institutional mandates, strategies, resources, operational procedures
- iii) Individual capacity – human resource development

2.5 Cross-cutting assessment

The cross-cutting assessment began after information was gathered and analyzed during the stock-take and thematic assessment phase. There are a number of ways of defining cross-cutting issues;

- a) From the perspective of the Convention Articles and themes.

Some of the environmental and capacity themes and issues cut across two or all three of the conventions i.e. each of the conventions require Parties to address a similar or very closely related issue. E.g. Coastal zone management is important for Conservation (CBD), sustainable land management and mitigating the effects of drought (CCD) and mitigating the effects of climate change (CCC)

- b) From the perspective of national environmental management

Some of the environmental and capacity themes and issues cut across a number of national environmental issues e.g. unsustainable water resources management or water in-security affects biodiversity, water resources, habitats and ecosystem services, poverty levels, livelihoods and Kiribati's capacity to adapt (resilience) to the impacts of climate change. Such an issue cuts across sectors, mandates and roles of government agencies. In the Kiribati NCSA cross-cutting issues are viewed from the perspective of the conventions as well as that of environmental management and sustainable development at the national level.

As cross-cutting issues are complex and multi-dimensional they require effective coordination amongst agencies, coordinated information management, joint research, sustained collaboration, cooperation and integrated management approaches. It is recognized that the absence of a concerted and sustained effort to address cross-cutting issues can lead to problems that are also multi-dimensional in nature e.g. limited cooperation between Ministry of Works, locals councils, communities, Ministry of Health, MELAD and other government agencies and NGOs in the area of water resources management can result in limited awareness

of people on the causes and effects of human activity on quality of water resources, unchecked contamination of water sources, outbreak of diseases, removal of vegetation cover in catchment areas.

c) From the perspective of addressing national sustainable development challenges

This involved looking at wider social, political and economic issues that are also linked to environmental issues. E.g. Poverty levels and how it is affecting people and the environment. The Kiribati cross-cutting assessment gave consideration to all three considerations when identifying environmental and capacity cross-cutting issues.

Identification of cross-cutting issues related to the implementation of the three conventions is based on issues being highlighted in the three Thematic Assessment Reports that the Working Team have reviewed and analyzed.

2.6 Cross-cutting assessment - stakeholder consultation approach.

The selected Working Group began its preliminary approach to the project by a training workshop in which they were introduced to the practicability of the capacity building needs assessment for the three specified thematic areas. The training workshop was designed to enhance and develop capacity of local consultants and participants to identify environment and capacity building problems, their causes and root causes, in relation to the three Rio Conventions. Following the training workshop and after the local consultants completed their first draft, the report was distributed to all members of the designated working group of the three conventions (UNCBD, UNFCCC and UNCCC) for constructive review and comments.

2.7 In-depth Analysis Approach.

Based on the three thematic assessments findings compiled by the local consultants the working group went into a deeper analysis and review of the reports concentrating on the synergies of the thematic environment cross-cutting issues across the three Conventions. They also looked at root causes of cross-cutting capacity issues and options to provide basis for workable plans and effective methodologies to address capacity development needs.

2.8 NCSA Retreat

A two day retreat was planned and convened on the islet of Biketawa on North Tarawa which enabled selected stakeholders to re-visit the draft findings of the Cross-cutting assessment report and identify areas for further refinement. The retreat was facilitated by the SPREP Capacity Development Adviser, Frank Wickham. In addition to revisions the retreat discussions also identified and elaborated on the cross-cutting environmental issues which are presented in this report.

3.0 Summary of Thematic Assessment Profiles

This section summarizes capacity building gaps as being identified in the thematic assessment reports of the United Nation Framework Convention on Climate Change, the United Nation

Convention to Combat Desertification and the United Nations Convention on Biological Diversity. The analysis of the thematic assessment provides baseline for the formulation of programs and workable plans to narrowing and filling up gaps existed in the three thematic areas. The gaps are considered specific to each thematic area, but there are also cross-cutting ones that would be analyzed later.

3.1 UNFCCC Profile.

3.1.1 Extreme vulnerability of underground water.

Taking into consideration the geographical formation and small size of islands in Kiribati the delicate underground water lens is likely to be easily affected by climatic changes or variations. Severe drought and long periods of low rainfall will reduce the supply of underground sources water. Rising sea levels and increasing storm surges is already causing salinization of the underground water lens on the smaller islands and is the biggest threat to the well being of inhabitants.

3.1.2 Poor design of private and community wells

This issue is ranked top priority; together with the preceding issue by NCCST, simply because well water is the major source of drinking and cooking purposes. Irrespective of the associated risks from well water, most households in Kiribati prefer to have their own wells. The situation are further aggravated by the traditional methods used in the construction of wells which is incapable of preventing surface water run offs getting into the well thus allowing occurrence of bacterial contamination. Most of the wells are not properly sited because owners hardly ask for the proper spot; hence nearby sources of contamination from humans and animals can be a threat to the quality of such wells.

3.1.3 Limited awareness of the adverse effects of constructing poorly designed causeways.

In the late 1970s and early 1980s most, if not all, Island Councils included the construction of seawalls to address coastal erosion and ranked it number one priority amongst their rural development projects. Extensive, unabated and progressive coastal erosion and circulation change in the lagoon has been experienced especially on islands with poorly designed seawalls. This is causing unwanted erosion and rendering the coastlines very vulnerable to storm surges, sea level rises and the occasional king tides. Because such sea walls can only be constructed by those with the

3.1. 4 Insufficient data and information on Climate Change for Kiribati.

Due to lack of information and data on Climate Change the Government of Kiribati recognized the need to establish information centre for Climate Change. It also encourages the sharing of information with other institutions, international, regional and even local source of information. To enhance Kiribati capacity to achieve its obligation under the convention, it is crucial that the grassroots people and those employed by the convention must have sound knowledge of climate change and its complexity.

3.1.5 Lack of collaboration between government institutions, NGOs and grassroots people

To address a cross-sectoral and multi-dimensional phenomenon as climate change there is an urgent need to have strong vertical and horizontal mechanisms of coordination and collaboration. It has been noted that one strong factor for Kiribati incapability is the the very limited coordination between government institutions, NGOs, and grassroots people at the national and local levels. Relevant ministries are required to include main activities required under the convention in their respective Ministry Operational Plan (MOP) and in accordance to their budgetary allocations.

3.1.6 Absence of well equipped Observatory Station.

The frequent delay of information transmission to the general public is always caused by the less reliable equipment used by the National Meteorological station. To improve the provision of meteorological services to the public Kiribati Government has approved the establishment of a new observation station with modern equipment. The only means of procuring a reliable and accurate data depends largely on the sufficiency of data collected. Observatory information from one source or station is not as good as that obtained from several stations. There is also insufficient and ineffective equipment in the outer islands with regular concerns that data obtained may not be as accurate as that obtained from the well functioning and sufficient equipment on Tarawa.

3.1.7 Limited agricultural skill in producing exotic and local food crop.

The quality of the soil is so poor that only indigenous plants can yield agricultural products. .To grow newly introduced crops requires modern agricultural methods and technique which the local people do not have. With a poor and unfertile soil of coral islands farmers need to put on extra energy and efforts. Growing exotic agricultural food crops will be a great challenge for agriculturists and the people at large. Skill and knowledge will be most crucial for the successful planting of exotic plants and the sustainability of high yields of indigenous plant high. Capacity building in this regard is seriously needed.

3.1.8 Decreased abundance of fish stock and culturally significant plants and trees.

As already mentioned, fish and copra are the two main exports for Kiribati. The quantity of copra now exported is not as much as those before the construction and operation of the national copra mill at Betio islet. The reduction in copra export and the stock reduction in fish implies significant impact on the economy of the country and the livelihood of the people.

3.1. 9 Poor design for causeway constructions.

Most of the islands in Kiribati have lagoons and are made up of small islets with passages in between. The passages provide good feeding ground for marine animal and allow fresh sea

water flow in and out following the tide movement. The construction of causeways without culverts have disrupted normal circulation of current in the lagoons causing coastal erosion and loss of marine habitat and resources. The local communities living near the causeways and who rely on the surrounding ecosystems are beginning to experience the negative impacts of such infrastructure mainly through accelerated coastal erosion and reduced fish catch.

3.1.10 Less participation at regional and international forums on Climate Change.

Due to the limited knowledge and the complexity nature of Climate Change science the people of Kiribati need more frequent opportunities to participate in meetings, high and low profile meetings, training workshop and even research initiatives. Climate change is a global concern that has adverse impact on the livelihood of the people. The Government of Kiribati recognizes that Kiribati is very vulnerable to Climate change and it is vital that Kiribati is given every possible chance to develop its capacity to accomplish its obligation under the UNFCCC.

3.2 *United Nations Convention to Combat Desertification*

The consultations to development the Kiribati National Action Program to address Land Degradation as well as the NCSA UNCCD Thematic Assessment has identified the following areas of capacity gaps that Kiribati needs to address in order to be able to achieve it's obligations under the Convention more successfully.

3.2.1 Inadequate policies covering issues of land degradation..

There is no specific or comprehensive policy for the control of land degradation currently available. However, there are relevant policies tend to address specific issues of land degradation such as the National Solid Waste Strategy, National Sanitation Policy and the alike. Fragmentation of such policies needs to be integrated into one, or a complete land degradation policy framework which can strengthen coordination and collaboration amongst the concerned sectors. A comprehensive policy review is fundamentally important to identify gaps, overlaps, and options to formulate and implement a proposed integrated policy on land degradation.

In addition, 2007 amendment to the Environment Act incorporated land degradation issues such as coastal protection, littering, pollution and Environment Impact Assessment. But the capacity in recognizing and transforming these important provisions into effective land degradation policies is weak. Effective implementation of policies at a sector level is also weak, thus needs to be strengthened through a monitoring and evaluation framework.

3.2.2 Increasing population pressure on land and sea environment.

An influx of population to urban areas in Tarawa (the capital) and Kiritimati (the second port of entry to the Republic, in the Line Islands) has given rise to enormous pressure on essential services such as solid waste collection, water supply, sewage disposal, health services and other community essential services. Land and sea resources are therefore exploited at a very fast rate

resulting in their rapid depletion. Excessive use of natural resources causes loss of biodiversity resulting in the loss of valuable plants and trees.

3.2.3 Increasing rate of coastal erosion due to the effects of wave action and currents.

Sea level rise has been observed by people living along coastal areas in Kiribati. Huge waves during high tides cause sea water flooding and coastal erosion. The receding coastline has resulted in the loss of valuable coconut trees, pandanus trees and substantial buildings and installations. In order to minimize the effect of coastal erosion sea walls are constructed along shores. The use of coral rock for the construction of sea walls will soon rid coastal areas and fringing reefs of rocks and stones and disturb habitats of fish species.

3.2.4 Improper disposal of waste and pollutants.

Rapid population growth, increase in imported packaged items, increase in business activities is creating a threat to the environmental status of atolls. Uncontrolled littering, indiscriminate dumping of solid waste and improper control and use of pollutants is a health risk to atoll dwellers.

Seepage or leachate from uncontrolled rubbish tips has been known to pollute lagoon waters and underground fresh water lens. The problem is more severe in Tarawa where solid waste disposal has not been successfully managed. Medical waste from the main hospital and village clinics consisting of used needles, chemical containers and expired pharmaceuticals have been disposed carelessly on roadsides and adjoining bushes. Chemical pollutants such as waste oil, pesticides and chemical solvents have been found on unoccupied land. Domestic laundry and dishwashing detergents are used in large quantities on South Tarawa and Betio.

Even though persistent organic pollutants (POPs) have not been identified in Kiribati, there is a belief that some forms of POPs might be present in addition to those originating from burning of rubbish and wood fires. Minute quantities of PCBs might be found in old electrical transformers on Banaba and Kanton. If this would be so, the problem has to be considered nationally in consultation with regional environmental organizations and neighboring countries to adequately solve the problem.

3.2.5 Uncontrolled mining of beach sand and aggregates.

There is a great demand for raw materials to be used in construction works and for development purpose especially on South Tarawa and Betio. Beach sand and gravel are among the most needed ingredients for construction of buildings and installations. Mining activities along coastal areas particularly on urban Tarawa are at an increasing rate that coastal erosion has been an everyday occurrence. Despite regular inspections by the staff of the Ministry of Environment, Lands and Agricultural Development mining of beach sand and gravel on commercial basis is still in progress.

3.2.6 Legislative and regulatory framework.

To date, there is no specific piece of legislation on land degradation, however land degradation issues are addressed in various legislation such as the Land Planning Ordinance, the Foreshore and land Reclamation Ordinance and the Environment Act. A legislative review to identify relevant national legislation to address land degradation indicated that certain laws may be applied to a certain extent to alleviate land degradation problems. Recommendations from the review need to be progressed and necessary legislative and policy changes made. As indicated earlier in 3.2.1, the 2007 amendments to Environment Act 1999 incorporated land degradation issues and currently being implemented and enforced . Whilst the General Regulation is still being drafted, it might be an opportunity to expand this Regulation so as to incorporate provisions that are either specific or relevant for land degradation issues.

3.2.7 Land clearing for development.

Development activities are accompanied by clearing of land. The building of domestic or commercial buildings is preceded by clearing, leveling and surveying a piece of land intended for the purpose. The removal of trees and vegetation rids the area of ground cover exposing the land to erosion of top soil. In urbanized regions of Tarawa, constant felling of trees and alteration of the topography of land by earth removal is a never ending process. Recent Government developmental projects implemented through bilateral and multilateral cooperation are taking their toll in the same direction. In spite of the recognition that deforestation is an unpreventable consequence of development, it must be controlled in a manner that it would not reach a state that will be regarded as strategic or threatening. Agricultural programmes pose the same problem but to a lesser extent. With modern agricultural practices introduced in the country, using organic material for improving soil fertility and mulching, agriculture programmes are now central to the control of land degradation.

3.2.8 Rubbish burning and bush fires.

Occasional bushfires are generally encountered during dry periods when most of the ground cover namely grass and low bushes are dying due to dehydration. When this happens, fires can be caused by lighted cigarettes deposited on dry grass or from picnic fires.

Bush fires deprive land of essential soil trace elements that support plant growth and destroy enormous numbers of trees within the affected areas. This scenario is noticed on Kiritimati resulting in the destruction of birds' habitat and loss of biodiversity let alone land degradation.

3.3 United Nations Convention on Biological Diversity

The UNCBD Stocktake and Thematic Assessment identified the following capacity gaps to be improved in order to improve the performance of the national implementing agency.

3.3.1 Lack of appropriate legal instruments to support designated conservation areas for the environment and biodiversity.

The current laws of Kiribati have limited provisions that can support and enforce regulations for conserving biological diversity. Kiribati needs to develop appropriate law on conservation of biodiversity and environment. The review and revision of the Act and associated regulations must be fully participatory in nature and should integrate traditional management practices of the natural environment and the resource.

3.3.2 Limited scientific research and studies being undertaken on the biodiversity in Kiribati

There is a strong need of more in-depth scientific research and study to be undertaken on the biodiversity and natural environment in Kiribati. Output of such studies and research can provide invaluable contribution to the establishment of biodiversity data-base and also contribute tremendously to developing the knowledge of community understanding through dissemination of information.

3.3.3 In sufficient incentives for local communities to rehabilitate land – replanting programs.

As reflected in the Kiribati NCSA stock-take and thematic assessment report there has been limited incentives for forestation/replanting of culturally and economically significant plants/trees species by local communities. There is also limitation and lack of appreciation of economic and cultural values of terrestrial atoll resources (e.g trees, shrubs, herbaceous, vines, grasses and sedges that have cultural and economic values including uses for traditional medicine). Public awareness programs and school curricula should incorporate information on the importance of trees and shrubs and incentive schemes devised to encourage their protection and expansion.

3.3.4 Scatter and isolation of islands coupled with high cost of travel and communication.

Kiribati is a small island nation that comprises of 33 small atolls including Banaba or Ocean Island the only uplifted phosphate limestone island, and Kiritimati, the largest atoll in the Pacific which is located in the Line Islands. The scattered nature of these atolls and islands poses difficulties in terms of communication, transportation and trading. Service delivery and MEA implementation costs are prohibitively expensive and often sea and air transport is unreliable.

3.3.5 Insufficient support and motivation by responsible officers and ministries.

There is a limited cooperation and co-management between national government and local communities in areas of community-based management of natural resources. In most cases local communities are not involved in making plans and decisions. The top-down type of approach has been considered the most appropriate approach in dealing with communal related issues regardless of its limited impact on the community and main objectives of projects.

3.3.6 Weak enforcement of environment act and policing/control of activities that have adverse impacts on the environment

The 2007 amendment to the Environment Act covers wider areas of environment concerns which were not reflected in the principal Act. Because the amendments have been approved by the *Maneaba ni Maungatabu (parliament)* in 2007. There is now the need to increase the number of Environment Inspectors and to expand the service to the outer islands. The development of such act has been fully participatory and integrated traditional management practices of both the natural environment and resources.

3.3.7 Inadequate capacity building in managing protected areas.

At the rural and community level, the public is becoming indifferent to the need to manage ecosystems and are beginning to lose sight of the value of conserving and managing biodiversity. Although, traditional conservation practices and knowledge have been in place since time immemorial these are now under threat of being lost as the modern society of Kiribati look towards westernized lifestyles. Traditional knowledge and practice is now more commonly practiced when dealing with resources that are culturally significant to families and society. The existing capacity for biodiversity management and conservation needs to be expanded to cover government and NGO field officers as well as community members. This can only be achieved through further training of the local staff at relevant and recognized local, regional institutions and even abroad. The local community who are the primary custodians as well as beneficiaries of ecosystem services should also be included in biodiversity training program.

3.3.8 Low priority status in the current National Development Strategy (NDS)

The seven years National Development Strategy which is currently approaching its expiry period in 2010 does not cover adequately the requirements of the three Rio Conventions. This is due to the lack of understanding of the planners who formulated the NDS and insufficient public awareness campaign on the conventions. For the UNCBD, there is a section on natural resource development and biodiversity conservation not having a mention.

3.3.9 Inadequate capacity in resource mobilization, project management and report writing.

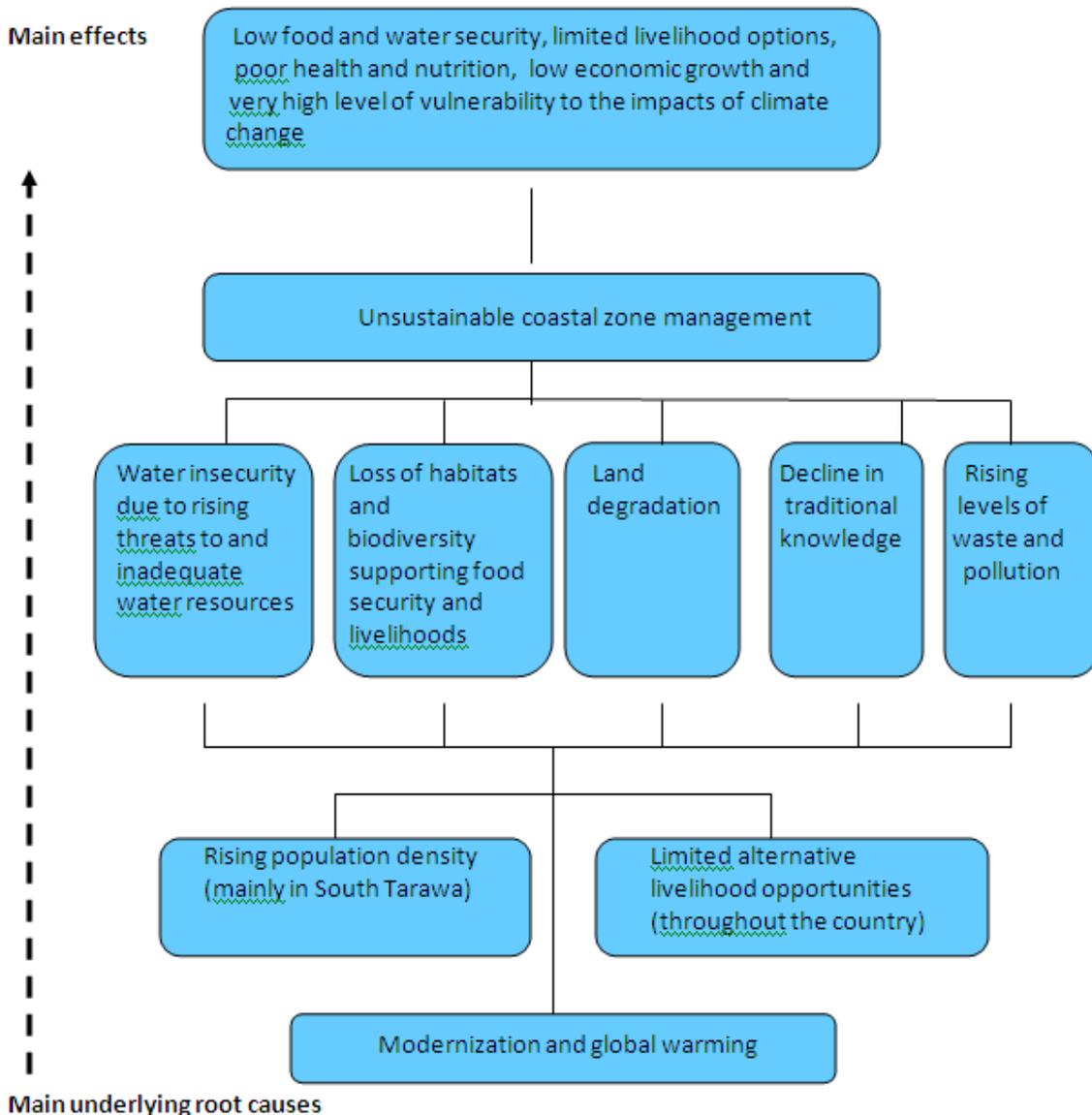
Resource mobilization and reporting are important requirements of the three Rio Conventions however the capacity of Kiribati officials to do this is very limited to the few who are well versed with donor and MEA requirements. The Kiribati government still depends a lot on foreign consultants who work in the country but do not also provide good counterpart training in project design and proposal development. Many young i-Kiribati graduates are getting involved in managing project but do not have prior experience or specialized training.

Reporting to the MEA Secretariats place added burden on government officers and at times local consultants are engaged to assist. These also need training to improve on information gathering and reporting.

4.0 Main Cross-cutting environmental issues

Through a range of stakeholder consultations and NCSA team discussions that analyzed the thematic assessment findings, a number of cross-cutting environmental issues were identified. Figure 3 below presents a diagram depicting an overview of these issues. In the context of the unique and vulnerable ecosystems of Kiribati these cross-cutting issues are very closely interrelated.

Figure 3: Overview of causes and effects of Kiribati main cross-cutting environmental and development issues



4.1 Vulnerability to climate change

Government sees climate change adaptation (and disaster risk management) as a cross-cutting and urgent developmental issue for Kiribati.

President of Kiribati, Hon. Anote Tong – quoted in the Aide Memoir on the Kiribati Adaptation Project (KAPIII), November 2008.

Vulnerability is commonly described as a function of exposure to the impacts of climate change and resilience or coping capacity of those affected (IPCCC 2004) Kiribati's high level of exposure can be attributed to its very low lying islands and very high dependence on the quality and quantity of underground water lens and rainfall and the growing recognition that the climate change scenarios predicting sea level rise and changing levels of precipitation over the next hundred years will negatively affect the quality of land and water quite significantly. The government of Kiribati has embarked on a mission to strengthen resilience and adaptive capacity and is being assisted by donor partners including the World Bank and the governments of Australia and New Zealand, UNDP, World Bank and the GEF. The impacts of climate variability and climate change will be far reaching for a nation with such a high degree of vulnerability. Adaptation in its broader sense does not only include strengthening coastlines and protecting water resources but also human health and development, enhancing livelihood opportunities and mobility of skilled human resources, reviving and enhancing traditional knowledge and introducing new technologies to improve agriculture, fisheries and land-use practices. This far reaching impact of climate change makes vulnerability and adaptation issues an important cross-cutting environment and sustainable issue for Kiribati. A National Adaptation Program of Action (NAPA) was completed and endorsed by government in 2007, setting out a framework of actions enhance the adaptive capacity of people, economy and environment in Kiribati to the anticipated impacts of climate change.

4.2 Unsustainable coastal zone management

All of the Kiribati islands and atolls can be classified as being part of a coastal zone. Coastal zone includes all low lying islands and atolls and their surrounding lagoons and fringing reefs. Their management entails planning the use of and managing coastal resources in a way that supports maintenance of biodiversity and ecosystem services and that support human wants and needs. The approach requires an integrated and well coordinated approach that can happen through effective collaboration and cooperation amongst actors. Past SOPAC studies on coastal structures and coastal processes, water resources have revealed that decisions have been made about siting and design of coastal structures and land use with limited understanding of the consequences to the coastal zone. The uncontrolled removal of coastal vegetation not only results in declining biodiversity but also renders the coastlines very vulnerable to erosion and loss of land and the underground water lens exposed to increasing levels of salinization. One can immediately appreciate that the challenge of managing the coastal zone aligns with and combines the intent of the three Rio Conventions covered in the NCSA i.e. enhancing adaptation to climate change, minimizing land degradation and protecting biodiversity.

At the national level coastal zone management poses special challenges for government agencies, community organizations and NGOs to work in concert to address a range of issues that are very closely interrelated. At the moment there is limited progress in this area and there is unsustainable management of coastal zones. It is this very challenge and nature of the issue that has prompted national stakeholders to regard it as an important cross-cutting environmental issue.

4.3 Water in-security due to rising threats to water resources

Rainfall and underground water supports habitats, species and people on the very small islands. However such a precious resource is now being overused or polluted because of the porous nature of soils and low lying nature of the islands. Water in-security is regarded as a very serious environmental threat requiring careful planning and management. Weather in Kiribati is controlled by the seasonal movements and annual variations of the Inter-tropical Convergence Zone and the Equatorial Doldrums Belt. The country has experienced long droughts of up to 16 months with an average frequency of 6 to 7 years. Average yearly rainfall in the Gilberts ranges from 1,300 mm in the south to 2,000 mm on Tarawa, near the equator, and to over 3,200 mm in the northernmost islands while it is less than 1000 mm in Kiritimati in the Line Islands.

ENSO events are common with an average frequency of 6 to 7 years. Drought emergencies have been declared in the past and some islands have also been abandoned. The government has designated four atolls as growth centers including; Beru, Butaritari, Tabiteuea North in the Gilberts and Kiritimati Island in Line Islands group. Except for Kiritimati the other atolls still require a survey of water resources and urgently need to be done. The natural variation in rainfall, the frequent prolonged droughts add to the difficulty imposed by the dispersed geography of the nation in managing water resources.

There has been no comprehensive study carried out of actual use in Kiribati from well, reticulated or rainwater storage systems. If a low estimate of consumption rate of 50 L/person/day of reticulated water is assumed for South Tarawa then demand has already exceeded the current estimated sustainable yield of Bonriki and Buota groundwater source reserves. In some of the Outer Islands and North Tarawa, there are relatively large fresh groundwater reserves capable of sustaining higher populations than currently, however, in most cases the actual quantities of water available for extraction remain to be ascertained. (SOPAC 2005)

Pollution levels due to human and animal waste have increased considerably in South Tarawa area due to increasing populations with groundwater and seawater testing showing increasing levels of e-coli bacteria. There is also a concern of increasing levels of pollution from chemicals and leachate from the rubbish dumps. Limited access to income opportunities have resulted in many families not being able to afford large rainwater tanks to supplement household water needs. Initiatives in the past to construct communal water tanks to be shared by families have not been very successful due to poor design and maintenance and there is renewed attempts to improve such systems. The national government with the assistance of donor agencies are providing water tanks to families in Tarawa and other communities and this should increase over time.

4.4 Loss of habitats and biodiversity (terrestrial and marine) species supporting food security and livelihoods

In South Tarawa and Kiritimati the increase in human populations is resulting in gradual loss of habitats and biodiversity. Areas of pandanus and coastal species are being cleared to make way for housing and increasing demand for fuelwood.

Kiritimati (Line Islands, Kiribati) supports globally important populations of many seabird species including the largest breeding populations of two threatened species – Te ruru (Phoenix petrel, *Pterodroma alba*; Endangered) and Te bwebwe ni marawa (white-throated storm-petrel, *Nesofregetta fuliginosa*; Vulnerable). These and other seabirds and one landbird species are increasingly being threatened by an increasing human population (5000+) and the impacts of mammalian pests, including the recent arrival of black rats (*Rattus rattus*). Poor planning of migration has led to widespread degradation of remaining habitats of the Kiritimati Reed-warbler (*Acrocephalus aequinoctialis*) due to habitat loss from fires, clearing for coconuts, development and habitat modification, e.g. proliferation of the weed *Pluchea indica* (shrubby fleabane, Asteraceae) following fire (Birdlife International, 2009)

4.5 Land degradation

In December 2008 the Kiribati government endorsed the country's National Action Programme (NAP) to address land degradation. The NAP identifies the causes and effects of land degradation and the main actions to address the root causes. Clearly, land degradation is one of Kiribati's main cross-cutting environmental issues. While Kiribati is blessed with a vast ocean area and rich marine resources, its land is extremely limited and fragile. Land degradation has been generally described as the loss of biological and economic productivity of land and soil. In Kiribati both land and soil is very scarce and being subjected to degradation due to development activities such as land clearing for housing, sand mining, removal of vegetation for fuel wood and pollution from petroleum products. With the increasing sea level and frequency of storm surges some areas of land are now being inundated with salt water.

A recent observation also is that land based activities are polluting the lagoon ecosystems with sedimentation, rising levels of bacteria from animal and human waste, oil runoffs and litter particularly plastics. Finally unregulated land development activities and improper waste disposal is polluting the underground water table that people rely so much on for water.

A sustainable land management approach by the government and people of Kiribati will contribute towards enhanced resilience to climate change (UNFCCC), maintenance of biodiversity (UNCBD) and maintenance of soil and land productivity (UNCCD).

4.6 Decline in traditional knowledge

Kiribati is rich in traditional knowledge developed, passed on from generation to generation and closely guarded by families. Various forms of traditional knowledge are more common and are used across and amongst communities for welfare, health and food gathering purposes while many others are well guarded secrets and belong to families. These are not easily shared and usually involve, inter-alia; marine and terrestrial practices products used on its own or in a mixture, chants to be used while preparing and applying traditional medicine, fishing techniques and knowledge about the use of stars and behavior of birds and fish in order to yield a good catch or harvest, navigational skills etc. The store house of traditional knowledge in Kiribati is said to be underutilized and losing significance as the Kiribati people turn to western values and methods for survival and livelihoods. There is an urgent need to ensure that the more commonly known traditional knowledge is passed on to the young generation through life skills training and that elders are encouraged to teach their young the closely guarded family

traditional knowledge. This is perhaps best approached through informal and non-formal education programs. Application of traditional knowledge can also be incorporated into design and management of marine and terrestrial protected areas as well as in projects aimed at enhancing the coping capacity of Kiribati people in light of the looming threats of climate change.

4.7 Increasing populations with limited alternative livelihood opportunities (throughout the country)

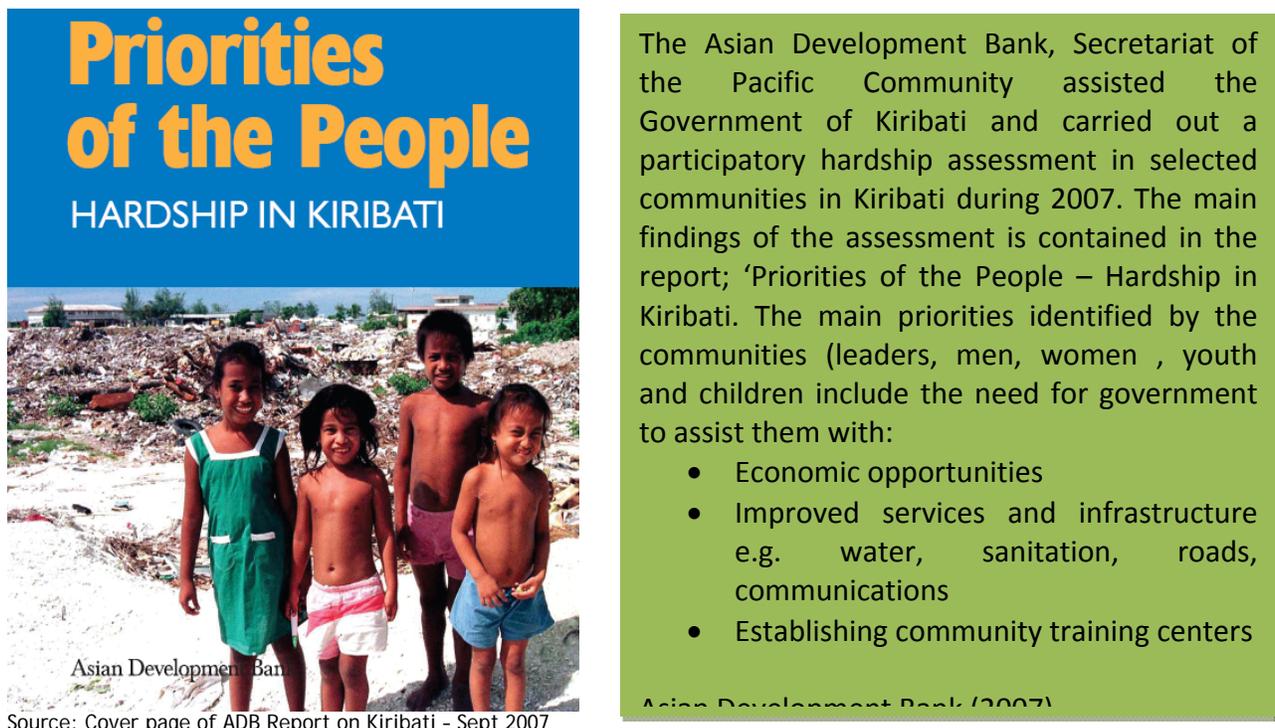
In the Kiribati context poverty is best defined as one's lack of access to opportunities and hardship, the so called 'Poverty of Opportunity'. According to the study carried out by the Pacific Regional Department there was general agreement that while poverty does not exist in Kiribati, hardship does with its most widespread definition of 'lack of access to opportunities'. This means lacking access to better educational and economic opportunities, social services, formal employment etc. Those facing the greatest difficulties include the unemployed, people with limited education, large families, elderly people who live apart from their families and those living in crowded conditions, (SPC/ ADB, 2004 cited in Republic of Kiribati MDG Report 2007 pp 10).

Figure 4 below summaries the livelihood and poverty situation in Kiribati. This situation places Kiribati in a grave situation in the context of the UNFCCC, UNCBD and the UNCCD. Increasing populations experiencing the 'poverty of opportunity' are very vulnerable to build resilience to the expected impacts of climate change, place more pressure on existing land and marine resources causing land degradation and loss of biodiversity.

Since 1963 the average exponential growth rate of the total population of Kiribati has been 1.8% while that of Outer Islands has been 0.9% and that of South Tarawa is 4%. These figures reflect the impacts of internal, inward migration from Outer Islands to South Tarawa. If these trends continue, the total population of Kiribati is expected to exceed 113,000 and South Tarawa is likely to have well over 60,000 people by 2020.

Families rely on wages, remittances from overseas workers mainly in the maritime industry, sale of copra and marine products and handicrafts. Only 20% of the labour force participates in the formal wage economy. 80% of paid employment is with government or SOEs with 64% of all cash jobs based in South Tarawa (UNDAF – Kiribati Report 2002). The traditional subsistence economy remains important for food and general livelihood security. This is likely to continue as the labour force is growing more rapidly than population. With the majority of the population aged twenty or below, high youth unemployment, and few new jobs, practical policies are needed to address improvements to the livelihoods of the growing numbers of young I-Kiribati who will remain in the informal sector.

Figure 4: Summary of the livelihood and poverty situation in Kiribati



Source: Cover page of ADB Report on Kiribati - Sept 2007

5:0 Main cross-cutting capacity issues

Based on the UNCBD profile above, the following cross cutting capacity building constraints are considered common to all three (3) Rio Conventions. The analysis of cross cutting capacity constraints provide and identify ways to effectively promote linkages and synergies to meet requirement of the three Conventions.

5.1 Low collaboration and integration by government ministries, institutions, local communities and private sectors whose mandates and work programmes are related to the three Rio Conventions.

Collaboration and co-management between national government sectors and stakeholder at the national level has been very low and often critical especially in areas of community-based management of projects funded by GEF. In most cases people are more attentive to their own agenda before attending something else. The local communities who are the sole beneficiaries of the projects are often not involved in the decision making process and thus create the habit of sitting-back listening without saying a word at all.

5.2 Limited availability of data and information related to the three Rio Conventions and their thematic areas.

There is lack of technical database and information on the three Rio Conventions and the thematic areas. Collection and dissemination of information to a wider community through targeted representatives of the grassroots people is always problematic due to scattered nature

of the islands. The community outreach programme is always costly and a time consuming exercise.

5.3 Continuous constraints on financial resources.

It has been stressed through series of community consultations that major cross-cutting problems for the implementation of the 3 Rio Conventions is the limited financial resources. The successful implementation of the Conventions depends entirely on the availability of financial resources especially with local communities at the national level. There is a real incremental cost brought about by the need to adapt to climate change. Inadequate funding resources and untimely receipt of funds could in some ways affects the timeframe implementation of the Conventions required activities and obligations.

5.4 Insufficient communication, education and public awareness programme.

Formal and informal community outreach program to raise public awareness and understanding on the three Conventions is restricted to more urbanized areas. This is due to high transportation costs between the capital and outer islands, that caused by the remoteness and isolation of the islands in Kiribati. Radio media and also weekly newspaper provide vitally important role in reaching out to the outer islands, provided that there is sufficient budget being allocated.

5.5 Inadequate strengthening and enforcement of policies and legal framework.

Kiribati is currently considering the formulation of legal framework related to and as required under the three conventions. The current Environment Act 1999 is being reviewed as part of NBSAP systemic assessment, with the intention to integrate other missing components of the three conventions. The current policies and legal framework do not imply much effect on all conventions.

5.6 Limited training opportunities and opportunities for on-the-job training.

On-going training for un-qualified as well as qualified staff members working under the convention is absolutely necessary. The effective implementation of the convention requires skillful commitment and capability of staff. On the job technical and administrative training are also important for the development of capacity building of staff members working under the convention and those fully involved with the implementation of the convention such as members of the selected Steering Committee.

Expand this para to cover staff/official including NGOs and other external institutions to better understand the relationship between the national and global environment.

5.7 Limited mainstreaming of environment issues into national plans.

Implementation of conventions without mainstreaming into the National Development Strategy (NDS) will prevent effective outcomes of the convention. Not all three conventions are fully reflected in the current Ministry Operational Plan which reached its expiry period (2007)

5.8 Limited utilization of traditional conservation practices and transfer of technology.

The Convention recognizes that traditional conservation practices and other intellectual property right have influence on the implementation of the three thematic areas on which capacity building assessment is based. With this recognition it is recommended that convention undertake exchange and repatriation of information in a more systematic manner and does not run counter to its objectives.

5.9. Untimely submission of reports and other documents required under the Convention.

Submission of Report is a very important requirement of the 3Rio Conventions which must be completed within a given time frame as set by GEF. The repeatedly belated submission of the report often caused late receipt of additional budget of the project and delayed completion of the project. The constraint can be applied also to Monitoring and Evaluation reports.

6:0 CROSS-CUTTING ANALYSIS

6.1 Cross-cutting capacity issues.

The following table demonstrates capacity building cross-cutting analysis based on the above cross-cutting environmental constraints in three levels of capacity that is Individual, Institutional and Systemic Levels. Some issues are not direct capacity building issue but contribute tremendously to the effects of capacity cross cutting issues. An example of this is population increase in Kiribati.

6.2 Setting priorities

The Working Group agreed to the application of the following criteria to use as judging tools for prioritizing the above identified cross cutting capacity building. The process of prioritization, therefore apply the following criteria: (i) promotion of Synergism, (ii) how sustainable the development goal is-the National Development Strategy, (iii) the scope covered-national, island, villages and communities, (iv) viability and sustainability, and (v) pro-community participation. Each criterion carries a range of 1-5 points to set their priority ranking.

7.0 National Capacity Development Strategy

This section presents a national capacity development strategy for Kiribati to address the findings of the stock-take, thematic and cross-cutting assessments. The strategy comprises;

- I. Institutional arrangements for implementing the findings of the NCSA

- II. Monitoring and evaluation arrangements
- III. Making use of linkages between proposed capacity development actions and current as well as planned environmental management and development projects
- IV. Capacity Development Action Plan Matrix

7.1 Institutional arrangements

The National Capacity Development Strategy to enhance capacity to implement the UNCBD, UNFCCC and UNCCD in Kiribati will be coordinated by the Environment and Conservation Division (ECD) of the Ministry of Environment, Lands and Agriculture Development (MELAD). The main tool for the implementation of the strategy which is the Capacity Development Action Plan (CDAP) Matrix identifies government agencies and other stakeholders that are responsible for implementing various actions in the matrix. The ECD shall report on progress with capacity development in the MELAD progress and annual reports, MDG progress reports as well as in the National Reports to the UNFCCC, UNCBD and UNCCD Secretariats.

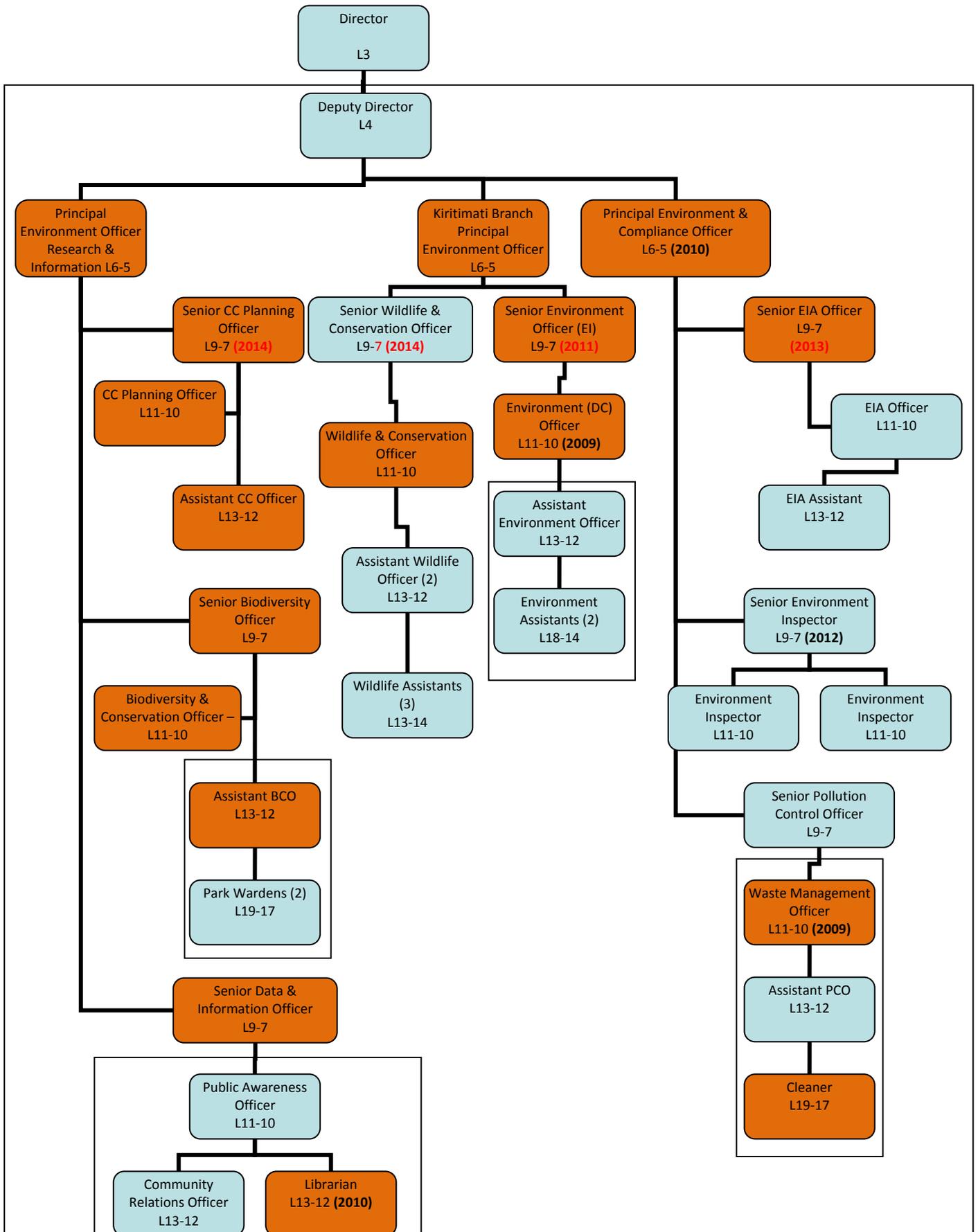
As the primary technical body providing advice to the national focal point of the three Rio Conventions, ECD needs institutional strengthening through expansion of its organizational structure so it could adequately shoulder obligations of these MEAs, such as developing national reports and coordinating implementation of programmes, to name a few. Figure 5 below is a proposed organizational restructuring to absorb the three thematic areas, while fulfilling national priorities.

The organo-gram in Figure 5, has 42 positions, out of which 22 (light blue shaded) are already existing. The remaining 20 (dark brown) posts need creation in phases, that is two or three positions every year till 2015.

In order for Kiribati to execute its obligations under the three MEAs, ECD will require multi-stakeholder Steering Committees comprising of relevant Government entities, civil society, including the private sector and church groups, to oversee the various thematic areas. The climate change programmes and implementation will be assisted by the Climate Change Study Team which is comprised of technical officials from Government, while the NBSAP (Biodiversity) Committee will continue to assist ECD in joint implementation of programmes, including finalizing National Reports. The Land Degradation will still be guided by technical planning teams (lands, agriculture and environment) and a Stakeholders Committee.

Although there is a proposal to create an overarching Advisory body to oversee all environmental programmes and issues, difficulties with getting the right membership from various Government entities and NGOs remains a problem.

Figure 5: Proposed ECD Structure



7.2 Monitoring and evaluation

Monitoring and evaluation will be the responsibility of the Department of ECD primarily through its Enforcement and Compliance Section (ECS or EME) using the CDAP Matrix which includes performance indicators and means of verification for each of the actions identified.

7.3 *Resource mobilization*

The ECD and other government agencies and NGOs shall make use of all current and planned national programs and projects to mobilize resources to address the capacity development actions in the CDAP Matrix, including establishment of a national environment trust fund to act as co-finance to partly funded investment programmes. The CDAP will also be used to plan and incorporate capacity development activities in future national projects.

7.4 *Capacity Development Action Plan Matrix*

The CDAP Matrix is presented in Annexes 1 to 4 in this report.

ANNEX 1A

Table 2: Kiribati Cross-Cutting Capacity Issues - Prioritization Matrix

Priority High, Medium, or Lower)	Cross-cutting Issue	Synerg- ism	NDS	Scope	Viability/ Sustainability	Pro- community participation	Score
M	Limited coordination between executing agent and government institutions, NGOs and other recognized organizations.	5	2	4	3	5	19
M	Unavailability of data and information related to the 3 Rio Conventions and their projects.	4	3	3	4	5	19
M	Continuous financial resources constraints.	4	5	4	3	3	19
H	Insufficient communication, education and public awareness program.	5	5	5	4	4	23
H	Inadequate strengthening and enforcement of policies and legal framework.	5	5	5	5	4	24
H	Limited formal training opportunities and on-the-job training.	5	5	5	5	5	25

H	Limited mainstreaming of environment issues into national and sector plans and strategies.	5	5	5	5	4	24
L	Declining and limited utilization of traditional conservation practices and transfer of technology.	2	3	3	2	5	15
L	Lack of experience and understanding in writing national reports for each of the three conventions.	3	1	2	3	3	15
H	Limited effort to reduce the high rate of population growth in Kiribati.	5	5	5	4	5	24
H	Limited ability of government to plan and implement alternative livelihood activities in the outer island to minimize urban migration.	5	5	5	5	5	25

Criteria applied;

- (1) Promotes synergisms
- (2) Alignment with Sustainable Development Goals
- (3) Scope (geographic coverage - national, island, village, community)
- (4) Level of Urgency
- (5) Pro-community participation

Annex 1B:

Table 3: Cross cutting issues Action plan Matrix

Capacity Output 1.1. Improved coordination between executing agencies, governments, NGOs and other recognized organizations.	
1.1.1 Review and identify current institutional, processes and cultural gaps and constraints impairing coordination between all stakeholders	OB, MELAD, MFED
1.1.2 Strengthen relationships and partnerships between stakeholders through improved communication and collaboration programs	OB, MELAD, MFED, KANGO
1.1.3 Develop coordination policy to improve motivation, participation and commitments of stakeholders	OB, MELAD, MFED, KANGO
Capacity Output 1.2. Improve data and information management, storage and sharing amongst stakeholders	
1.2.1 Improve individual, institutional and systematic capacity to manage, store, analyze and share environmental data and information	MELAD, all ministries
1.2.2 Conduct regular national awareness and training workshop to the general public, schools, private sectors, government sectors and NGOs to improve their knowledge and understanding in accessing environmental data and information	MELAD, all ministries
1.2.3 Set up a legitimate committee or team which oversees and integrate the collection, management and sharing of data and information between all stakeholders	MELAD, all ministries
Capacity Output 1.3. Improve educational and outreach materials for school and the general public	
1.3.1. Produce more suitable printed material and disseminate to all level of education and the general public	MELAD, Min of Education
1.3.2. Engage local consultants to translate both the Environment (amendments) Act 2007 and the 2008 General Regulation to local language version	MELAD, Local Translation Committee
Capacity Output 1.4. Improve human and funding resources to improve and support communication programs for the 3 Rio Conventions	

14.1 Development and implementation of the Communication Strategy for the 3 Rio Conventions	MELAD, all ministries
Capacity Output 1.5 Strengthening implementation and enforcement of policies and legal framework	
1.5.1 Building capacity of staff in investigation and prosecution, appointed as Environment Inspector through training and workshops.	MELAD
15.2 Drafting and finalizing regulations and policies to support enforcement of the Environment Act.	MELAD
1.5.2 Set up a system to improve environmental enforcement through court system. For example Environmental Court	Attorney General's Office, and MELAD
1.5.3 Coordination and cooperation between administering bodies of the legislation relevant to the 3 Rio Conventions	MELAD
Capacity output 1.6 Improve formal training opportunities and on-the-job training	
1.6.1 Strengthened individual and institutional capacities and improved ownership of programmes and initiatives	MELAD and key stakeholders
1.6.2 Improved networking amongst peers between countries of similar development contexts and between relevant line ministries.	MELAD and Key Stakeholders
1.6.3 Improved access to resources for environmental protection, management and reporting of convention and MEA obligations.	MELAD and key stakeholders
Capacity output 1.7 Mainstreaming environmental issues into national strategies and sector plans	
1.7.1 Mainstreaming of environment into Kiribati Development Plan, sectoral plans and allocations of appropriate budgets	MFED, MELAD and OB

1.7.2 Strengthened national and sectoral capacities and improved ownership of programmes and initiatives.	MFED, MELAD and OB
1.7.3 Improved access to national resources for environmental protection through establishment of revolving national trust fund.	MELAD, MFED and Attorney General's Office
Output 1.8 Encourage and improve utilization of traditional conservation practices and transfer of technology	
1.8.1 Restoration of traditional conservation practices and use them along with modern conservation technology	MELAD, MFMRD, ALD
1.8.2 Conduct research and document traditional conservation practices	MELAD, ALD, MISA
Output 1.9 Improve knowledge and understanding in writing national reports for each of the 3 Rio Conventions.	
1.9.1 Improve capacity in the project development processes and life cycle and reporting and monitoring processes for the 3 Rio Conventions	MELAD, all ministries
Output 1.10 Improve efforts and capacity to reduce the high rate of population in Kiribati	
1.10.1 To investigate and review means and options, and to develop effective policies to reduce high rate population in Kiribati	MELAD, MISA, MHMS
1.10.2 Resource mobilization to provide means for supporting and implementing policies	MELAD, MISA, MHMS
Output 1.11.1 To improve Government capacity to plan and implement alternative livelihood in the outer island	
1.11.1 budgetary supported outer island development plans.	MELAD, MISA, MFED
1.11.2 Strengthened outer island capacities (CC proofing, biodiversity conservation, sustainable land management) and improved ownership of programmes and community based initiatives.	MELAD, MISA, KANGO

1.11.3 Improved access to national resources (financial and traditional knowledge) for alternative livelihood activities.	MELAD, MISA
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ANNEX 2

Table 4: Action Plan Matrix to develop capacity to effectively implement the Framework Convention on Climate Change

Intervention Logic	Verifiable Indicator	Means of Verification	Assumption
Development Objective: People and environment of Kiribati adapting to the effects and contribute to mitigating the causes of climate change.			
<p>Environmental Outcomes</p> <p>Better adaptation through improved resilience and reduced vulnerabilities to the effects of climate change.</p> <p>Effective mitigation of the causes of Climate Change and use of clean and efficient energy sources (solar energy sources)</p> <p>Inclusion of climate change science in national education curriculum</p> <p>Capacity Output: Improved understanding of climate change across sectors of the population.</p> <p>Enhanced capacity at all levels to undertake V&A Assessments prioritize and implement adaptation actions</p> <p>Enhance capacity to undertake research and conduct systematic observation in areas of meteorology, hydrology and climatology</p>	<p>Number of adaptation activities planned and implemented at all levels, national and international</p> <p>GHG emissions maintained below national targets. Number of energy efficiency initiatives</p> <p>Number of primary and secondary schools teaching climate change in their science and social science subjects.</p> <p>Increase use of climate change information to guide decision-making at community and government levels.</p> <p>NAPA completed and endorsed by cabinet. No of stakeholders trained in V&A Assessments and no. of adaptation projects implemented.</p> <p>Meteorological information and data available to government agencies and public</p>	<p>Reports, regional and international agreements, national programs and activities undertaken.</p> <p>2nd National Communication, national reports. Research documents, renewal energy systems.</p> <p>School reports from all levels of education</p> <p>National education curriculum.</p> <p>Reports, documents, surveys and result of academic research being conducted on climate change in Kiribati.</p> <p>Reports, document, surveys. NAPA documents</p> <p>Adaptation project reports.</p> <p>Research reports 2nd National Communication</p> <p>Meteorology Dept Reports</p> <p>Water Dept Reports</p>	<p>Availability and increase in external funding. Kiribati/Community still want to adapt.</p> <p>Availability of activity, data, methodology from IPCC and training. Funding availability and government commitment to mitigation.</p> <p>% increase of knowledgeable people of the science of climate change and implement adaptation and mitigation activities, IPCC continues to exist and KMS continues to provide scientific data and information. Strong government support for climate change initiatives.</p> <p>Funding availability. Strong government and stakeholder support for climate change initiatives.</p> <p>Funding availability. Strong government support and availability of data and information on climate change</p>
Capacity Development Actions.		Responsible Agency	
Capacity output. 1.1 - Improved understanding of Climate Change across sectors of population.			
1.1.1	Effective awareness raising programs through radio	Environment Division at the Ministry of Environment, Lands	

developed and maintained.	and Agriculture Development (MELAD)
1.1.2 Suitable curriculum formulated for use in all levels of education throughout Kiribati.	Curriculum Development and Resource Centre at the Ministry of Education and Sport Development, Environment Division and Environment Division.
1.1.3 Training workshops for local communities and all stakeholders and implemented.	Environment Division. Island Councils, Churches, Unimwane and recognized organizations in communities including drama groups, Local Government Division
Capacity output 1.2 - Enhance capacity at all levels to undertake V&A assessments, prioritize and implement adaptation actions	
1.2.1 Training and up skilling of two Meteorological/Environment staff.	Meteorological Division , Environmental Division and P.S.Office
1.2.2. Reviewing regulations EIA regulations and incorporate climate change considerations.	Attorney General Office, Environment Division (MELAD) and Meteorological Division
1.2.3. Purchase equipment for Meteorological Division.	Meteorological Division, Ministry of Finance and Planning Office/Donors
1.2.4. Implement Vulnerable &Adaptation (V&A) projects.	Environment Division (MELAD) Island Council and local stakeholders. Local Government Division
Capacity Output 1.3. – Capacity to undertake research and conduct systematic observation in the areas of meteorology, hydrology and climatology enhanced.	
1.3.1. Invite expert to organize training workshops for MET officers and undertake research studies in meteorology, hydrology and climatology. 1.3.2. Disseminate data and information on meteorology. Hydrology and climatology to all schools in the country (Kiribati).	Meteorological Division. Environment Division and PSD at the Office of the Beretitenti. Local Experts. Meteorological Division, CDRC at the Ministry of Education and Island Councils through MISA.

Capacity Output 2.1 - Capacity to plan and to undertake inventories of Green House Gas Emissions technology Assessments scenarios development enhanced.	
2.1.1 Organize training workshop on the Assessment of GHG Emissions Technology for MET and ECD Staff. 2.1.2 Invite expert to set-up plans for the assessment of GHG Emissions.	Environment and Conservation Division and Meteorological Division.
Capacity Output 2.2 - Capacity to prepare for natural disasters including cyclone and drought and carry out disaster risk management strengthened.	

<p>2.2.1. Improve management efficiency of coastal areas on South Tarawa and outer-island.</p> <p>2.2.2. Involve local communities in the process of coastal management activities and in making decisions on coastal protection.</p> <p>2.2.3. Stengthen a Disaster Unit in the Environment Conservation Division in collaboration with Public Work Department.</p> <p>2.2.4. Improve water systems and establish sufficient water reservoirs on the islands.</p>	<p>Environment Conservation Division. Island Councils and Local communities.</p> <p>Environment Conservation Division, Agricultural Division, Local communities and Public Works Department.</p> <p>Environment and Conservation Division, Public Works Development and Local Government Unit at MISA.</p> <p>Public Works Department (PUB), Island Council and Local Communities.</p>
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Capacity Output 2.3 - Level of financial support for Renewal Energy (RE) initiatives and programs and national stakeholder have increased capacity to adopt and maintain clean and RE technology increased.

<p>2.3.1. Increased budgetary allocation to the Ministry concerned for developing RE initiatives by the local communities.</p> <p>2.3.2. Promote utility of solar energy and alternative renewable energy through written media and radio programs,</p> <p>2.3.3 Organize training workshops for local communities on the use of renewable energy.</p> <p>2.3.4 Demonstrate use of new solar technology (for cooking, lighting and etc) to the public.</p> <p>.</p>	<p>The Ministry of Communications, Transport and Tourism. Kiribati Solar Company, Environment and Conservation Division at MELAD and Broadcasting and Printery Authority.</p> <p>Kiribati Solar Company, Environment and Conservation Division</p> <p>As above.</p>
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Capacity Output 2.4 - Capacity to adopt and implement practices and technologies that are energy efficient enhanced

<p>2.4.1. Encourage members of the local communities to adapt themselves to new practices and environment through series of consultations and training workshops.</p>	<p>The Office of Te Beretitenti, Solar Energy Company, Environment and Conservation Division and Island Councils (MISA)</p>
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ANNEX 3

Table 5: Action Plan Matrix to develop capacity to effectively implement the Convention on Biodiversity Conservation

Intervention Logic	Verifiable Indicator	Means of Verification	Assumption
Development Objective: The people of Kiribati protect and manage biodiversity and utilized the natural resources in a sustainable manner. National Development goals achieved through effective protection and management of the environment.			
Environmental Outcomes	Verifiable Indicator	Means of Verification	Assumption
1. Marine biodiversity managed, protected and used sustainably	<p>15% increase in the number of Marine Protected Areas (MPAs) designated and established by 2012</p> <p>10% increase in co-managed MPAs</p> <p>Endorsement and enforcement of Protected Areas Regulation by 2010-11</p> <p>10% increase in the number of MPAs project proposals by 2012</p> <p>Implementation of the GEF PAS PIPA Project</p> <p>Implementation and completion of the POWPA Project by 2009-2010</p> <p>Implementation of the KAP II Mangrove Project in at least 3 outer islands</p> <p>On the ground implementation of the Kiribati National Biodiversity Strategies</p>	<p>Fisheries Annual Report</p> <p>PIPA Management Plan Progress Reports</p> <p>Implementation report on MPAs in Kiritimati</p> <p>Programme of Work on Protected Areas (PoWPA) Project's report</p> <p>ECD Ministry Operational Plan (MOP) & Annual Report</p> <p>Kiribati NBSAP reviewed</p> <p>Cases documented from the enforcement of Protected Areas regulation</p> <p>Number of relevant project proposals approved and resourced</p>	<p>Community commitment and support to maintain MPAs</p> <p>Voluntary participation and engagement of local communities in the establishment and management of designated MPAs</p> <p>Voluntary participation and engagement of local communities and Island Governments in enforcing the Environment Act 1999 (as amended 2007) and its relevant regulations</p> <p>Funds secured to establish and manage MPAs</p> <p>Support and cooperation of Island Governments in the designation and management of MPAs in outer islands.</p> <p>Cabinet's support for the enforcement of the Environment Act 1999 (as amended) and relevant</p>

	and Actions Plan through at least implementation of 3 biodiversity related projects (K-NBSAP)		regulations
Threatened island biodiversity protected and managed	<p>10% increase in coastal areas protected through the conservation and management of mangroves, seagrass and coral reefs ecosystems</p> <p>10% increase in the protection of threatened terrestrial/coastal vegetation</p> <p>15% increase in tagged turtle species</p> <p>Extension of turtle tagging and monitoring activities to at least 3 outer islands</p> <p>20% increase in the designation and endorsement of proposed Ramsar sites</p> <p>Kiribati become a Party to the Ramsar Convention by 2011</p> <p>Endorsement and enforcement of Protected Species Regulation by 2010-11</p>	<p>Programme of Work on Protected Areas (PoWPA) Project's report</p> <p>ECD Ministry Operational Plan (MOP) & Annual Report</p> <p>Kiribati NBSAP Report reviewed by 2011</p> <p>Turtle Tagging and Monitoring Reports and Database</p> <p>Cases documented from enforcement of Protected Species Regulation</p> <p>Number of relevant project proposals approved and resourced</p>	<p>Local communities are involved in management planning and participate in replanting programs. Voluntary participation and engagement of local communities in threatened island biodiversity programmes</p> <p>Voluntary participation and engagement of local communities and Island Governments in Governments in enforcing the Environment Act 1999 as amended and its relevant regulations</p> <p>Cabinet's support for Kiribati to become a Party to the Ramsar Convention</p> <p>Cabinet's support for the enforcement of the Environment Act 1999 (as amended) and relevant regulations</p>

	<p>10% increase in co-managed Protected Species</p> <p>Implementation and completion of the POWPA Project by 2009-2010</p> <p>Implementation of the KAP II Mangrove Project in at least 3 outer islands</p> <p>10% increase in the number of threatened island biodiversity projects proposals</p>		
3. Water resource maintained and protected	<p>Increased number and capacity of water storage systems.</p> <p>Reduction in water-borne diseases.</p>	<p>PUB annual report</p> <p>Report on chemical used for water purification</p>	<p>Government prioritizes water and provides or secures adequate resources.</p>
4. Invasive alien species (IAS) prevented, controlled and eradicated.	<p>Number and names of new IAS species being detected, controlled and/or eradicated</p> <p>IAS Strategic Action Plans for Gilbert and Line Islands finalized and endorsed at Cabinet level</p> <p>10% number of IAS controlled and eradicated which threaten ecosystems, habitats or species in the Gilberts, Line and Phoenix Groups</p> <p>Number of IAS research expeditions to PIPA undertaken</p>	<p>Programme of Work on Protected Areas (PoWPA) Project's report</p> <p>ECD Ministry Operational Plan (MOP) & Annual Report</p> <p>Kiribati NBSAP Report reviewed by 2011</p> <p>IAS Research Expeditions reports shared to MELAD</p> <p>ECD/WCU</p> <p>IAS project proposals approved and resourced</p> <p>Kiritimati Biosecurity Plan Report</p> <p>Northern Line Islands Kiritimati CEPF Project</p>	<p>Availability of eradicating tools</p> <p>Increase public awareness program</p> <p>Funds to address IAS issues secured</p> <p>IAS Stakeholders support and cooperation on South Tarawa, Kiritimati, other inhabited Line and Phoenix Islands Groups</p> <p>IAS is a national priority under the KDP 2008 – 2011</p> <p>Consistent external research interests on IAS control, prevention and eradication in the Line</p>

	<p>Number of ECD/WCU staff participating in IAS research expeditions to Line and Phoenix Islands Groups for technical capacity building</p> <p>10% number of IAS controlled and eradicated within Kiritimati</p> <p>Biosecurity Plan for Kiritimati finalized and endorsed by Cabinet by 2011</p> <p>5% increase in the number of IAS projects proposals Implementation of the Northern Line Islands Kiritimati CEPF Project by 2010 – 2011 (Restoration of the northern Line Islands, Kiribati)</p>	<p>Progressive and Annual Reports</p> <p>Experts performance assessment reports on staff participating in the expeditions</p> <p>At least 3 IAS under control</p> <p>IAS Strategic Action Plan Implementation Reports</p>	<p>and Phoenix Groups</p>
<p>Culturally and commercially important plant species protected and managed and populations recovered and increasing.</p>	<p>10% increase in types and numbers of species conserved through ex-situ and in-situ conversation</p> <p>5% number of staff trained to carry out species protection, management and population recovery</p> <p>5% number of consultants secured to assist with species</p>	<p>Agriculture Report</p> <p>DSAP Report</p> <p>NBSAP Report</p> <p>Programme of Work on Protected Areas (PoWPA) Project's report</p> <p>ECD Ministry Operational Plan (MOP) & Annual Report</p>	<p>Increase training opportunities for local communities on importance of plants and replanting endangered species. Voluntary supports and cooperation from local communities and other key stakeholders Interested consultants/key specialists on species protection, management and</p>

	<p>protection, management and populations recovery</p> <p>Recovery of threatened species through the development and implementation of plans/management strategies</p> <p>The Environment Act 1999 (as amended 2007) and its relevant regulations provisions that promote the protection of threatened species and populations, enforced effectively</p> <p>5% increase in the number of species recovery project proposals</p>	<p>Kiribati NBSAP Report reviewed by 2011</p> <p>Species recovery reports</p> <p>Consultants reports</p> <p>Environment Act 1999 (as amended 2007) and relevant regulations enforcement reports</p> <p>Proposals approved and resourced</p>	<p>populations recovery identified</p> <p>Enforcement of the Environment Act 1999 (as amended 2007) and its relevant regulations extended to the outer islands, Line and Phoenix Groups</p>
<p>Capacity Output</p> <p>1.1 Government and other relevant key stakeholders have the capacity to identify, plan, establish and manage marine protected areas.</p>	<p>Government and other relevant stakeholders able to implement the requirements for planning, establishing and managing protected areas.</p>	<p>Fisheries reports</p> <p>marine document for Kiribati</p> <p>Finding from marine scientific surveys conducted.</p>	<p>National budgetary allocation increased and overseas external funding is available. Support and cooperation from local community available.</p>
<p>2.1 Government and other relevant key stakeholders have the capacity to protect, manage and recover threatened island biodiversity</p>	<p>Government and other relevant key stakeholders able to implement the requirements for protecting, managing and recovering threatened island biodiversity</p>	<p>Annual progressive report of Environment and Conservation</p> <p>ECD MOP</p> <p>PoWPA Project Reports</p>	<p>Budgetary allocation increased.</p> <p>Improved understanding of local community on the important of marine protected areas</p> <p>Support and cooperation of grassroots people</p>

3.1 Enhance capacity to manage and protect water catchments, maintain water quality, improve storage facility and use.	Government and stakeholders able to implement the requirements for planning, establishing and maintaining water supply resources and catchments.	Report from Water and Sanitation Division.	Government places priority on supporting capacity building for water resources management.
4.1 Capacity developed and strengthened at all levels to prevent, control and eradicate invasive alien species.	Targeted capacity requirements for preventing, controlling, and eradicating invasive alien species are achieved.	Report from the Agriculture Division	Appropriate legislation on importation of alien animal species is in place and enforced.
5.1 Enhance capacity at all levels for culturally and commercially important species protection, management and populations recovery	By the year 2011, 2 botanical gardens established in Kiritimati and two on Tarawa.	Report on medicinal plants and herbs produced by Maurin Kiribati Association.	People plant medicinal plants in their backyard and surroundings.
Capacity Development Actions		Responsible Agency	
Capacity Output 1.1 - Government and relevant key stakeholders have the capacity to identify, plan, establish and manage marine protected areas.			
1.1.1 Conduct participatory and learning actions workshops for grassroots people on the importance of Marine Protected Areas (MPAs)		Fisheries Division, Environment and Conservation Division, The Ministry of the Line and Phoenix Development and Island Councils, NGOs.	
1.1.2 Establish a working group to produce formal and informal outreach materials suitable for all sectors of society that promote the importance of marine protected areas		Curriculum Development and Resource Centre (CDRC), Environment and Conservation Division; WCU; SPREP, NGOs	
1.1.3 Design and launch appropriate and suitable campaign materials that promote the importance of MPAs to all sectors of society		Broadcast and Publication Authority (BPA), Environment and Conservation Division and Newair FM 89 and all other media outlets in the country, NGOs.	
1.1.4 Establish at least 3 Marine Protected Areas (MPAs) in the Line Islands and the Gilbert Group.		Fisheries Division, Environment and Conservation Division, WCU, and Island Councils through MISA.	

1.1.5. Provide support for effective local surveillance of designated marine protected areas through the provisions of surveillance equipments and personnel	Fisheries Division, Environment and Conservation Division, WCU, Police and Immigration Office
Capacity Output 2.1- Government and other relevant key stakeholders have the capacity to protect, manage and recover threatened island biodiversity	
2.1.1. Translation of suitable material to local vernacular on the importance of coastal protection	Ministry of Education and Ministry of Environment, Lands and Agricultural Development, existing Local Translation Committee.
2.1.2. Identify priority sites and important populations of rare, threatened and endangered species, and identify and prioritize the management of threats to recover them.	External Technical counterparts (e.g. CI, SPREP, etc); MELAD – ECD, ALD; MFMRD – Fisheries Division
2.1.3. Ban indiscriminate burning and felling of flora (plants and trees) important to the livelihoods of people through the enforcement of the Environment Act 1999 (as amended 2007) and relevant regulations	MELAD – ECD, ALD; Attorney General’s Office, MISA,
2.1.4. Implement general measures for in-situ and ex-situ conservation	External Technical counterparts (e.g. CI, SPREP, etc); MELAD – ECD, ALD; MFMRD – Fisheries Division;
2.1.5. Compile and publish a national red data book for Kiribati	Members of the Kiribati National Biodiversity Planning Committee; External Technical counterparts (e.g. CI, SPREP, etc);
2.1.6 Create a website on Biodiversity (Clearing House Mechanism)	TSKL . Environment and Conservation Division, (MELAD)
2.1.7. Develop and initiate actions to protect and recover at least 2 threatened species in each of the Gilberts and Line	ECD, WCU, Members of the Kiribati National Biodiversity Planning Committee; External Technical counterparts (e.g. CI, SPREP, etc); ALD
2.1.8. Establish and strengthen conservation networks, initiatives and partnerships between national government, private sector, civil society and external partners	ECD, WCU, Members of the Kiribati National Biodiversity Planning Committee; External Technical counterparts (e.g. CI, SPREP, etc);

Capacity Output 3.1 - Enhance capacity to manage and protect water catchments, maintain water quality and to improve storage facility and use)	
<p>Train local communities on the construction of better protected wells for use at home and in the community.</p> <p>Establish working team in the community to look after water supply and maintain good quality of drinking water for the community</p> <p>Construction of water catchment on all islands.</p>	<p>Water and Sanitaitaion Division, Public Work Department, Environment and Conservation Division at MELAD.</p> <p>Local Community, Ministry of Internal and Social Affairs, Ministry of Environment and Conservation Division.</p> <p>Local Community, PWD and Environment and Conservation Division.</p>
Capacity Output 4.1. Capacity developed and strengthened at all levels to prevent, control and eradicate invasive alien species	
<p>4.1.1 Review legislation on the control and eradication of alien invasive species and bio-security policy.</p> <p>4.1.2. Purchase suitable tools for IAS control and eradication activities.</p> <p>4.1.3. Increase budgetary allocations for the prevention, control and eradication of invasive alien species existing in the country.</p> <p>4.1.4. Produce fact-sheets on alien species present on the island and general information on their lives and adverse impacts on the biodiversity.</p> <p>4.1.5. Introduce effective bio-security measures for priority islands (Kiritimati & South Tarawa).</p> <p>4.1.6. Control and where possible, eradicate at least 2 island populations of priority alien invasive species that threaten viable populations of nationally ecologically and culturally significant rare, threatened and endangered species</p>	<p>AG's Office, Envronement and Conservation Division. Agricultural Division and Fisheries Division</p> <p>Environment and Conservation Division, Agricultural Division , Fisheries Division and Shipyard Boiler shop.</p> <p>Ministry of Finance and Economic Planning, Environment and Conservation Division</p> <p>Environment and Conservation Division. Fisheries and Agriculture Division.</p> <p>MELAD - ECD, ALD; AG Office; Kiribati Shipping Services Limited (KSSL); Kiribati Ports Authority (KPA)</p> <p>South Tarawa & Kiritimati IAS Strategic Action Plan stakeholders; MELAD – ECD, ALD; Members of the Kiribati National Biodiversity Planning Committee; External Technical counterparts (e.g. CI, SPREP, etc);</p>

Capacity Output 5.1 - Enhance capacity at all levels for culturally and commercially important species protection, management and populations recovery	
5.1.1. Conduct research on the number of trees, plants, herbs and shrubs that have cultural and commercial values to the community.	Agriculture Division, Environment and Conservation Division, Maurin Kiribati Traditional Herbal Medicine Association
5.1.2. Establish nurseries for commercially and culturally important plants and trees on the islands	Agriculture Division, Environment and Conservation Division and Island Councils
5.1.3. Organize four (4) Training workshops on traditional conservation skills/practices.	Agriculture Division. Environment and Conservation Division.
5.1.4. Produce booklet on traditional conservation methods.	Curriculum Development and Resource Centre, Environment and Conservation Division.
5.1.5. Replant endangered species of medicinal and commercially important plants.	Maurin Kiribati Organisation, Agriculture Division and Environment and Conservation Division

ANNEX 4

Table 6: Action Plan Matrix to develop capacity to effectively implement the Convention to Combat Desertification (Land Degradation)

Intervention Logic	Measurable Indicators	Means of Verification	Assumption
Development Objective: Enhanced livelihoods and achievement of sustainable development goals through good management of water resources and wise use of land.			
Environment Outcomes			
1.Coastline are stable and protected	Reports and no. of complaints launched from affected victims., mangrove,	Report on community Consultations, workshops and mwaneaba meetings	Decreased in sea level rise and protection of shoreline improved
2.Pollution minimized, controlled and good quality of water maintained	Less frequency of water-borne diseases. Two land filled waste dump site established on Kiritimati.	Report on Public Health Services, Water and sanitation report	Members of the public develop capacity on sustainable use and protection of water
3.Sustainable agriculture achieved and soil fertility improved.	% increased on home mixed garden and no. of barren areas reduced.	Report of Taiwan Mission Home Mixed Garden and Agriculture	More vegetable used in private houses and boarding schools.

4. Operational land system and policy are put in place.	Proper drainage system developed place and use of imported fertiliser abandoned.	% of homes mixed garden use organic manure for fertilizer.	People appreciate inclusion of vegetables as additional stable food.
5. People and biodiversity are able to mitigate and adapt to the effects of draught. Utilization of culturally important plant species used sustainably	No. of dependants on imported stuff reduced and sustainable use of the resource is in practice..	Report of Town Planning Authority and Statistic record on importation	The effects of draught is lessen through adaptation and mitigation.
Capacity Outputs.			
1.1 Government and stakeholders having improved capacity to protect coastlines and use them in a way that minimizes coastal erosion.	Appropriate design guideline on coastal protection. No of stakeholders trained, EIA,	Annual report from Land and Survey Division. Agriculture Report on the development of replanting program.	Coastline protected and erosion minimized.
2.1 Enhanced capacity to manage waste and minimize pollution of land and water resources.	Waste and water resource management plans established on the islands and No of individuals trained in waste minimization., Waste strategy, Sanitation Policy, Cleanup policy	Annual report from Island Councils and Water and Sanitation Unit.	The people have the capacity to manage water resource and waste.
3.1 Capacity developed and strengthened to promote and implement sustainable agriculture using modern and traditional technology.	No. of home mixed garden increased, importation of fertilizer ceased and the use of organic fertilizer is adopted by % of households. no of organic farming training, compost	Agriculture Annual Report. Custom annual report on imported chemical.	The people use modern and traditional technology for sustainable agriculture.
4.1 Capacity of Government and stakeholders	% area of waste land decreased, replanting programs for coastal	Agriculture Annual Report and DSAP Quarterly report.	The land is used sustainably and will be more productive.

strengthened to plan and use land for development purposes in a sustainable way.	trees and plants is progressing.		
5.1 Capacity enhanced at all levels for the protection and sustainable use of culturally and commercially important plant species.	At least 10 local communities established their own disaster risk reduction plans.	Island Council annual report and annual report from the Planning Office.	Communities recognize the importance of native plant species

Capacity Development Actions.

Capacity Output 1.1 - Government and stakeholders having improved capacity to protect coastlines and use them in a way that minimizes coastal erosion

1.1.1 Replant endangered species of important including mangroves and other coastal vegetation.	Agricultural and Livestock Division, Environment and Conservation Division.
1.1.2 Undertake public raising awareness programs on sustainable coastal protection	Environment and Conservation Division, Mineral Unit
1.1.3 Application of standard design and guideline on appropriate coastal protection	Environment and Conservation Division, Public Works Division
1.1.4 Improve coastal mapping tools	Environment and Conservation Division, Mineral Unit
1.1.5 Strengthen coastal enforcement procedures	Environment and Conservation Division, Kiribati Police Service, Lands Management Division
1.1.6 Enhance/Strengthen capacity to assess impacts of coastal development	Environment and Conservation Division, Public Works Division, Mineral Unit
1.1.7 Enhance capacity to explore other alternatives other than aggregates	Public Works Division, Mineral Unit, Environment and Conservation Division

Capacity Output 2.1 - Enhance capacity to manage waste and minimize pollution of land and water resources

2.1.1 Establish management mechanisms in villages on waste and pollution related activities.	Local Communities, Environment and Conservation Division.
2.1.2 Conduct training workshop on waste management	Environment and Conservation Division, Environment Health,
2.1.3 Monitor soil and water quality	Public Utilities Board, Public Work Division
2.1.4 Provide and demonstrate a more hygienic designed well for underground drinking water.	Public Works Division, Environment Health
2.1.5 Promote legal provisions of waste management and pollution	Public Works Division, Island Councils and Environment and Conservation Division.
2.1.6 Mobilize resources to enable implementation of waste management strategy related to land and water	Finance and Economic Planning, Foreign Affairs, Environment and Conservation Division
2.1.7 Provide specialised training on water and	Public Works, Environment Health, Environment

soil contamination assessments and remediation	and Conservation,
Capacity Output 3.1 - Capacity developed and strengthened to promote and implement sustainable agriculture using modern and traditional technology	
3.1.1 Conduct training workshop for communities on organic farming and agroforestry.	Agricultural Division, Environment and Conservation Division
3.1.2 Provide and support training attachments at regional level on sustainable agriculture	Agricultural Division. Island Councils and Environment and Conservation Division
3.1.3 Strengthen education on sustainable agriculture	Environment and Conservation Division, Local Community and Agricultural Division.
3.1.4 Identify through research sustainable agricultural applications suitable for small islands	National Government, Environment and Conservation Division and Planning Office.
Capacity Output 4.1 - Capacity of Government and stakeholders strengthened to plan and use land for development purposes in a sustainable way.	
4.1.1 Review and strengthen existing policy on land-use plan including urban management.	Lands Management Division, Environment and Conservation Division.
4.1.2 Incorporate sustainable land management principles into landuse planning.	Lands Management Division, Environment and Conservation Division.
4.1.3 Introduce other environmental assessment tools to improve landuse planning such as cumulative impact and strategic impact assessments	Land Management Division, Environment and Conservation Division
4.1.5 Improve enforcement on landuse planning	Land Management Division, Environment and Conservation Division
4.1.6 Emphasise the use of participatory method to engage target groups to promote local produce and to revive production of traditional food	Agriculture development, Land Management Division
Capacity Output 5.1 Capacity enhanced at all levels for the protection and sustainable use of culturally and commercially important plant species	
Capacity Output 5.1 Capacity enhanced at all levels for the protection and sustainable use of culturally and commercially important plant species	
5.1.1 Document the un-documented oral traditions that contain traditional conservation skills and cultivation methods.	Cultural Division, Environment and Conservation Division and Local communities.
5.1.2 Identify trees, plants, herbs and shrubs that are endangered but are culturally and commercially important.	Local Communities, Cultural Division and Agricultural Division.
5.1.3 Organise a three days workshop focused on the revival of important plant species that are extinct or becoming extinct.	Agricultural Division, Environment and Conservation Division
5.1.4 Seek for foreign aid funds for the workshop - transport and stationary.	Foreign Affairs, Planning Office and Environment and Conservation Division.



**NATIONAL CAPACITY SELF ASSESSMENT (NCSA) PROJECT;
Assessing the capacity of the Republic of Kiribati to implement the
United Nations Convention on Biological Diversity (UNCBD),
United Nations Convention to Combat Desertification (UNCCD) and
the United Nations Framework Convention on Climate Change
(UNFCCC)**

Project funded by GEF, implemented through the UNDP and executed by the Ministry of Environment, Lands and Agriculture Development of the Government of Kiribati

**THE KIRIBATI NATIONAL CAPACITY FOR SELF ASSESSMENT (NCSA) CAPACITY
DEVELOPMENT ACTION PLAN**

June 2011

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1.0 Introduction

The government of Kiribati has demonstrated its commitment to the global environmental and sustainable development agendas as it continues to struggle with addressing national issues and priorities. In addition to its commitment to the MDG, the Mauritius Strategy and the Pacific Plan, Kiribati has also ratified and acceded to a number of MEAs including the UNFCCC, UNCBD and UNCCD.

On the national front the Kiribati government has recently developed the Kiribati Development Plan (KDP 2008 – 2011). With the theme; ‘Enhancing economic growth for sustainable development’ the KDP places special emphasis on growing the economy and also recognizes and emphasizes the importance of environmental management as one of its Key Policy Areas (KPA). The KDP is the national guiding and leading document which underpins key policy areas and institutional framework for government ministries including the Ministry of Environment, Lands and Agricultural Development (MELAD). Specifically, KDP addresses priority issues as KPAs such as protection and replenishment of natural resources, protection of island biodiversity, minimize and control of waste and pollution, improve and expand quality and supply of ground water, monitor and control coastal erosion, mitigate urbanization in particular South Tarawa and on Kiritimati, and combating and controlling impacts of development projects. In response to these KPAs, MELAD reports to the Ministry of Finance and Economic Planning (MFEP) on a six monthly basis, using a standard format to indicate and update achieved and in-progress strategies and activities.

The 2007 amendments to the Environment Act 1999 provides an overarching legal framework, governing the environment and natural resources in Kiribati. It provides a comprehensive tool toward environmental assessments, prevention and pollution control, and the protection and conservation of natural resources and ecosystems. A number of regulations have also been developed in conferment to the Environment Act 1999, including the Phoenix Island Protected Area (PIPA) Regulation which was endorsed in 2008.

The NCSA Capacity Development Plan is a tool that will facilitate the NCSA Final Report Actions and focus on key government institution, the Kiribati Development Plan and related policies and instruments. Below are the contents of the Capacity Development Plan.

2.0 Purpose of the Capacity Development Action Plan.

The purpose of the Capacity Development Action Plan is to:

- 1 Enable and guide the national stakeholders to take ownership of and implement capacity development actions aimed at achieving targeted capacity outputs that in turn will lead to the achievement of environmental outcomes and goals. These in turn can contribute to the achievement of Kiribati SDP Goals.
- 2 Enable the National Government and agencies responsible for achieving KSDP Goals and environmental Strategies and Action Plans to seek ways and means to support the capacity development actions.
- 3 Provide capacity development targets and indicators so that progress with future capacity development work can be monitored and evaluated.
- 4 Enable donor partners as well as regional and international organizations to be aware of the capacity development actions needed to be taken by the government and the people of the Kiribati Islands so that they will be able to support the actions

3.0 Methodology for Developing the Action Plan Matrix.

The development of the Action Plan Matrix is based on the Thematic and Crossing Cutting assessment reports that were compiled by local consultants and reviewed by the Working Committee through series of mini workshops. The three sets of drafted Log-Frames were developed by the Working Committee through Community consultants and workshops. Professional assistance is provided by SPREP Secretariat in Samoa. They are presented in matrix similar to that outlined in a typical Logical Framework. If it is successfully implemented it will also contribute tremendously to the achievement of Capacity Outputs which in turn contribute to the achievement of Environmental outcomes and objectives.

4.0 Capacity Development Action Plan Matrix

The following Capacity Development Action Plan covers the three thematic reports and cross-cutting assessment reports mentioned above. They are presented in matrix similar to that outlined in a typical Logical Framework.

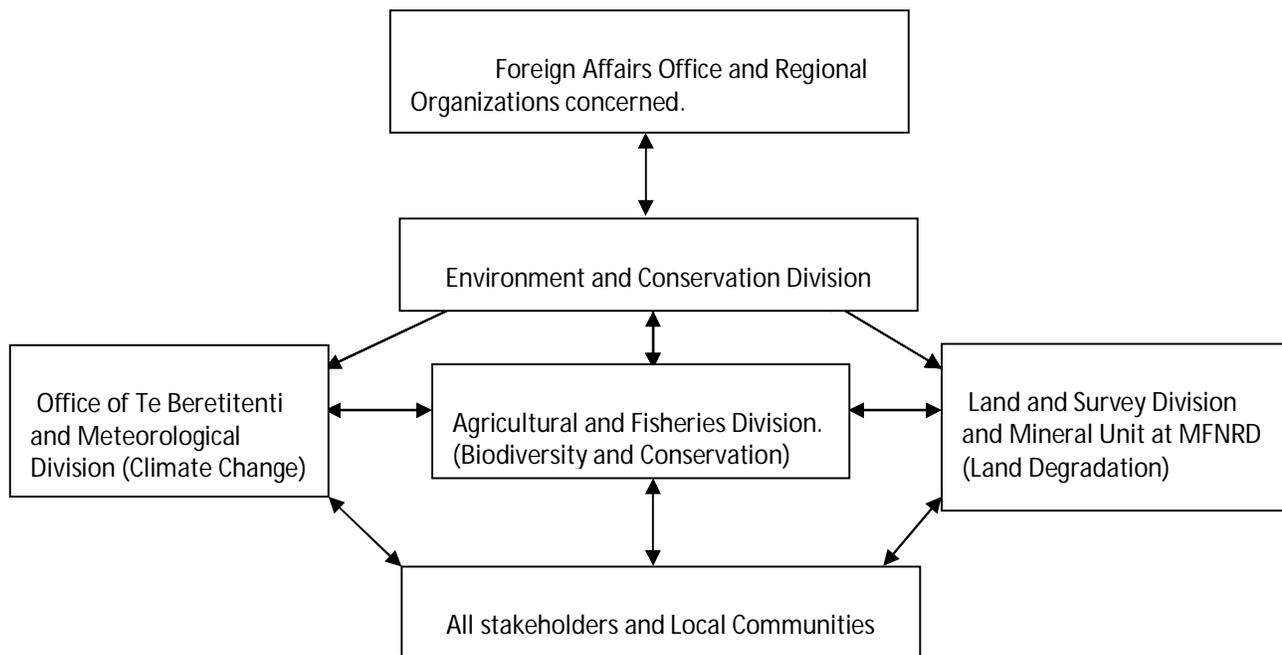
The Action Plan matrix is a tool for implementation, monitoring and evaluation the progress of the project. It is also used to present an overview of the national capacity self-assessment project, and identifies workable plans that would enable Kiribati to successfully achieve its obligations under the Rio-Conventions. The performance indicators and means of verification in the Action Plan Matrix are used only at the level of Capacity Outputs and Environmental Outcomes. *[The three sets of log-frames are appended as annex (i), (ii), (iii) & (iv)].*

5.0 Mainstreaming the Action Plan

The Action Plan identifies responsible agent for all activities listed in the work-plan. The Ministry of Environment Lands and Agricultural Development (MELAD) is a local implementation agency who plays a major role in the implementation of the action plan. There are governmental departments and units that would be engaged more directly in the implementation of certain components of the action plan such as the Fisheries Division to increase abundance of marine resources in the country; Meteorological Division, to provide data and information on climate change and weather forecast; Local Government Department, to improve participation of local communities in the implementation of projects on the islands through Island Councils; Lands Division, to protect land mass from further degradation; Agricultural Division, to increase **land** productivity and encourage reforestation activities; Attorney General Office, to formulate appropriate legislative framework to support the three conventions; Curriculum Development and Resource Centre, to design appropriate syllabus on the three conventions for use in all levels of education in Kiribati; Public Work Department, to produce suitable and more environmental friendly designs for seawalls, causeways and architectural plans; Public Utility Board, to encourage use of renewable energy and conservation of water and Ministry of Health and Medical Services, to maintain good health of the people on the islands and to prevent spread of epidemic from time to time.

5.1 Institutional arrangement.

It is inevitable that Capacity Development cannot be archived satisfactorily with a single handed performances, it is only through harmonious performances between all sectors in the government and communities. The following diagram presents the institutional arrangement to be put in place to coordinate and monitor progress in the implementation of the Capacity Development Action Plan.



5.2 Monitoring and Evaluation mechanism.

Monitoring and evaluation mechanism for measuring the progress in implementing activities involve a selected working group consist of representatives from key stakeholders, local counterpart, project officers, regional and local implementing agencies and government focal point for each convention.

5.3 Linkages with other national plans and strategies.

The Capacity Action Plan incorporated other plans and strategies being identified such as NBSAP, NAPA including Ministry Operational Plan and National Development Strategy concentrating on capacity improvement and enhancement. Some of these activities are common to all strategic plans stated and need no further explanation. It is vitally important that they are incorporated in the development of Capacity Building Action Plan.

6.0 Capacity Development Action Plan Matrix

The following Capacity Development Action Plan is based on the thematic assessment report and the cross-cutting analysis for the three stated conventions, United Nations Framework Convention on Climate Change (UNFCCC), United Nations Convention on Biological Diversity (UNCBD) and United Nations Convention to Combat Desertification (UNCCD) The proposed actions include specific need for the three conventions as reflected in the cross cutting analysis above. The actions will address common issue to conventions as stipulated in the Capacity Action Plan (Annex 1).

The Capacity Development Action Plan purpose since inception has been to: Enable and guide stakeholders to take ownership of capacity development actions; Enable the government agencies to be responsible for the KSDP Goals, Environmental Strategies, this NCSA Capacity Development Action Plan for development actions; Support Capacity Development Actions; Provide development targets and indicators for Monitoring and Evaluation; and to Enable Development partners to be aware of these Capacity Development Actions to be done by the Republic of Kiribati to enable support for these actions.

Annex 1 - Capacity Action Plan.

Intervention Logic	Measurable Indicators	Means of Verification	Assumption
Development Objective: The Government and the people of Kiribati acquire the capacity appropriate for the implementation of their obligations under the 3Rio Conventions.			
Immediate Objective: In 2010 the government of Kiribati accomplish its obligations under the conventions.			
Environment Outcome:			
1. Existing laws and policy reviewed.	New laws drafted and policy reviewed.	AG's Office Report and Local government gazettes.	The people aware of the adverse impact of human activities.
2. Capacity to plan and manage conservation and MPAs improved through training workshops	Two training workshops took place in Tarawa for local communities.	Project reports and work plan.	The local community plan and manage their own conservation and MPAs areas.
3. Capacity to collect data and information improved.	Easy access to reports and other documents on natural environment and resources.	Library report on the number of students and people using the documents.	The people take part in research and survey program at the local level.
4. The people gained better understanding of the conventions through public awareness program.	No. of people take part in the implementation of the action plan increased.	Project quarterly or annually progressive reports.	The people take active role in the implementation of the action plan.
5. National Budgetary allocation increased and overseas aid funds received.	Amount of budget granted increased	The Annual National Budget Document. Report on development projects approved.	Implementation of projects completed as scheduled.
6. The Capacity for writing report and project document acquired.	No. of quality reports produced.	New projects approved and implemented.	Local community receive benefit from the project.
7. Training opportunities available for officers involved in the implementation of the action plan	3 Officers take courses overseas on different specific areas	Report from Education, PSD and Foreign Affairs.	The officers concerned received further training to improve capacity building.
Capacity Output			
1.1 New Laws and Legislation for the protection of natural environment and resources completed.	Three new laws approved and enacted.	AG's Office report and Minute of Parliament sitting.	The people aware of the importance of the natural environment and sustainable use of the resources.
1.2 MPAs and Conservation Areas established.	Two conservation areas established in the Gilbert Group and eight MPAs	Report from the Fisheries Division, Agricultural Division and Environment and Conservation Division.	The local community manage and monitor their conservation areas and MPAs.
1.3 First hand information collected through intensive studies and research focused on the status of natural environment and resources.	First hand information and data available	Report from Education and Research Agencies in Kiribati.	The people take part in the collection of information and gain sufficient knowledge to undertake research later.
1.4 More effective public awareness programs initiated and	Two drama groups registered, effective radio programs produced every week and three	Report from BPA and the popularity of radio program and a play by drama groups.	The local community acquire better knowledge on the 3Rio Conventions

performed.	different types of publication published and distributed.		
1.5 Adequate overseas and local aid funds available	% of overseas aid increased and so to the National Annual Budget.	Report from the Planning Office, and national budget document	Project completed as scheduled.
1.6 Capacity to write reports and Project Document improved.	Report are complete on time as required.	Assessment report from donors.	More skillful report writers available on the island.
Capacity Development Actions			
<i>(Capacity output 1.1: New Law and legislations for the protection of natural environment and resources completed.)</i>			
Actions.		Responsible Agency	
1.1.1 Draft appropriate legislations for the protection of natural environment and resources.		AG's Office, Agricultural Division, Fisheries Division and Environment and Conservation Division.	
1.1.2 Island Council formulate bylaws suitable for the protection and sustainable use of the resources		MISA (Island Councils) and ECD.	
<i>(Capacity output 1.2: Conservation Areas and Marine Protected Areas established.)</i>			
1.2.1 Designate suitable sites for Conservation Areas in the Gilbert Group.		Agricultural Division, Island Council and Environment and Conservation Division	
1.2.2 Designate suitable sites for Marine Protected areas in the Gilbert Group.		Fisheries Division, Island Councils and Environment and Conservation Division	
1.2.3 Training Workshop for local communities focused on the importance of Conservation Areas and Marine Protected Areas		Fisheries and Agricultural Divisions and Environment and Conservation Division.	
1.2.4 Produce pamphlets and Facts sheets describing how to manage the protected areas on land and atsea.		Ministry of Education (CDRC) Environment and Conservation Division	
<i>(Capacity Output 1.3: First hand information collected through intensive research and studies on the status of natural environment and resources)</i>			
1.3.1 Conduct deeper research on the status of environment and natural sources in Kiribati		University of the South Pacific, Fisheries and Agricultural Division	
1.3.2. Publish report and finding of the study and make it available to the public and those involved in decision making.		Environment and Conservation Division, Publication Authority and National Library.	
<i>(Capacity Output 1.4: More effective public awareness programs initiated and performed)</i>			
1.4.1 Establish and register local drama groups and provide necessary training to improve their performing capacity.		Environment and Conservation Division	
1.4.2 Produce pictorial pamphlets to demonstrate main functions of the conventions.		CDRC, and Environment and Conservation Division	
1.4.3 Produce effective radio programs and air them through the media.		BPA. New Air FM and Environment and Conservation Division	
<i>(Capacity Output 1.5 Adequate oversea and local aid funds available)</i>			
1.5.1 Seek for funding agencies outside Kiribati and tap on any aid fund available.		Ministry of Environment Land and Agricultural Development and Planning Office	
1.5.2 Increase budgetary allocation in the National annual Budget		Planning Office and Ministry of Environment Land and Agricultural Development.	
<i>(Capacity Output 1.6: Capacity to write report and Project Document improved)</i>			
1.6.1 Organize training workshop on report writing.		Environment and Conservation Division.	
1.6.2 Organize training workshop on Project Document writing.		Planning Office and Environment and Conservation Division	
1.6.3 Seek external aid funding for workshops.		Environment and Conservation Division	

Annex 2 - Climate Change.

Intervention Logic	Verifiable Indicator	Means of Verification	Assumption
Development Objective: People and environment of Kiribati adapting to the effects and mitigating the causes of climate change.			
Immediate Objective: By the year 2012 the government of Kiribati completed regulation on mitigation and adaptation.			
<p>Environmental Outcomes</p> <ol style="list-style-type: none"> 1. Better adaptation through improved resilience and reduced vulnerabilities to the effects of climate change. 2. Effective mitigation of the causes of Climate Change and use of clean and efficient energy sources (solar energy sources) 3. Inclusion of climate change science in national education curriculum as an examinable subject. <p>Capacity Output:</p> <ol style="list-style-type: none"> 1.1 Improved understanding of climate change across sectors of the population. 1.2 Enhanced capacity at all levels to undertake V&A Assessments prioritize and implement adaptation actions 1.3 Enhance capacity to undertake research and conduct systematic observation in areas of meteorology, hydrology and climatology 	<p>Number of adaptation activities planned and implemented at all levels, national and international GHG emissions maintained below national targets. Number of energy efficiency initiatives</p> <p>Number of students gained high marks on climate change related subjects</p> <p>Increase use of climate change information to guide decision-making at community and government levels.</p> <p>NAPA completed and endorsed by cabinet. No of stakeholders trained in V&A Assessments and no. of adaptation projects implemented.</p> <p>Meteorological information and data available</p>	<p>Reports, regional and international agreements, national programs and activities undertaken.</p> <p>2nd National Communication, national reports. Research documents, renewal energy systems.</p> <p>School reports from all levels of education National education curriculum.</p> <p>Reports, documents, surveys and result of academic research being conducted on climate change in Kiribati.</p> <p>Reports, document, surveys. NAPA documents Adaptation project reports.</p> <p>Research reports 2nd National Communication Meteorology Dept Reports Water Dept Reports</p>	<p>Availability and increase in external funding. Kiribati/Community still want to adapt.</p> <p>Availability of activity, data, methodology from IPCC and training. Funding availability and government commitment to mitigation.</p> <p>% increase of knowledgeable people of the science of climate change and implement adaptation and mitigation activities,</p> <p>IPCC continues to exist and KMS continues to provide scientific data and information. Strong government support for climate change initiatives.</p> <p>Funding availability. Strong government and stakeholder support for climate change initiatives.</p> <p>Funding availability. Strong government support and availability of data and information on climate change</p>
Capacity Development Actions.		Responsible Agency	
<i>(Capacity output. 1.1 Improved understanding of Climate Change across sectors of population.</i>			
1.1.1	Develop effective awareness through radio programs.	Environment Division at the Ministry of Environment, Lands and Agriculture Development (MELAD)	
1.1.2	Formulate suitable curriculum for use in all levels of education throughout Kiribati.	Curriculum Development and Resource Centre at the Ministry of Education and Sport Development, Environment Division and Environment Division.	
1.1.3	Organize Training workshops for local communities and all	Environment Division. Island Councils, Churches, Unimwane and recognized organizations in communities including drama groups,	

stakeholders	
<i>(Capacity output 1.2 Enhance capacity at all levels to undertake V&A assessments, prioritize and implement adaptation actions)</i>	
1.2.1 Training of two Meteorological/Environment staff.	Meteorological Division , Environmental Division and P.S.Office
1.2.2. Reviewing Climate Change regulations.	Attorney General Office, Environment Division (MELAD) and Meteorological Division
1.2.3. Enforce Climate Change regulations.	Police Force, A.G. Office and Communities.
1.2.4. Purchase equipment for Meteorological Division.	Meteorological Division, Ministry of Finance and Planning Office/Donors
1.2.5. Implement Vulnerable &Adaptation (V&A) projects.	Environment Division (MELAD) Island Council and local stakeholders
<i>(Capacity Output 1.3. Enhance capacity to undertake research and conduct systematic observation in the areas of meteorology, hydrology and climatology.</i>	
1.3.1. Invite expert to organize training workshops for MET officers and undertake research studies in meteorology, hydrology and climatology. 1.3.2. Disseminate data and information on meteorology, Hydrology and climatology to all schools in the country (Kiribati).	Meteorological Division. Environment Division and PSD at the Office of the Beretitenti. Meteorological Division, CDRC at the Ministry of Education and Island Councils through MISA.
<i>(Capacity Output 2.1 Enhance capacity to plan and to undertake inventories of Green House Gas Emissions technology Assessments scenarios development.)</i>	
2.1.1 Organize training workshop on the Assessment of GHG Emissions Technology for MET and ECD Staff. 2.1.2 Invite expert to set-up plans for the assessment of GHG Emissions.	Environment and Conservation Division and Meteorological Division.
<i>(Capacity Output 2.2 Strengthened Capacity to prepare for natural disasters including cyclone and drought and carry out disaster risk management.)</i>	
2.2.1. Improve management efficiency of coastal areas on the island. 2.2.2. Involve local communities in the process of coastal management activities and in making decisions on coastal protection. 2.2.3. Establish a Disaster Unit in the Environment Conservation Division in collaboration with Public Work Department. 2.2.4. Improve water systems and establish sufficient water reservoirs on the islands.	Environment Conservation Division. Island Councils and Local communities. Environment Conservation Division, Agricultural Division, Local communities and Public Works Department. Environment and Conservation Division, Public Works Development and Local Government Unit at MISA. Public Works Department (PUB), Island Council and Local Communities.
<i>(Capacity Output 2.3 National government increase level of support for Renewal Energy (RE) initiatives and programs and national stakeholder have increased capacity to adopt and maintain clean and RE technology.</i>	
2.3.1. Increased budgetary allocation to the Ministry concerned for developing RE initiatives by the local communities. 2.3.2.Promote utility of solar energy and alternative renewable energy through written media and radio programs, 2.3.3 Organize training workshops for local	The Ministry of Communications, Transport and Tourism. Kiribati Solar Company, Environment and Conservation Division at MELAD and Broadcasting and Printery Authority.

Communities on the use of renewable energy. 2.3.4 Demonstrate use of new solar technology (for cooking, lighting and etc) to the public.	Kiribati Solar Company, Environment and Conservation Division As above.
<i>(Capacity Output 2.4 Enhance capacity to adopt and implement practices and technologies that are energy efficient.)</i>	
2.4.1. Encourage members of the local communities to adapt themselves to new practices and environment through series of consultations and training workshops.	The Office of Te Beretitenti, Solar Energy Company, Environment and Conservation Division and Island Councils (MISA)

Annex 3 - Biodiversity Conservation

Intervention Logic	Verifiable Indicator	Means of Verification	Assumption
Development Objective: The people of Kiribati protect biodiversity and the natural resources used in sustainable manner. .National Development goals achieved through effective environment protection and good management on environment.			
Immediate Objective: Eight marine protected areas and terrestrial conservation areas established and enforcement of conservation legislation on the outer island enforced in 2012. Conservation of biological diversity improved through strengthened capacity at all levels.			
Environmental Outcomes			
1. Marine biodiversity improved, protected and used sustainably	% increase in the numbers of MPA established in 2012	Fisheries Annual Report And Implementation report on MPAs in Kiritimati.	Community will help to maintain MPAs. Revenue increased from fishing licence fee.
2. Coastal erosion and loss of biodiversity minimized.	% increase in coastal areas protected and 6 conservation areas established in the country.	Lands management reports. Number of reclaimed areas occupied and number of coastal plants/tress planted.	Local communities are involved in management planning and participate in replanting programs.
3. Water resource maintained and protected	Increased number of water storage.. Reduction in water-borne diseases.	PUB annual report. Report on chemical used for water purification.	Availability of Water tanks., more water catchments are built for public use.
4. Invasive species prevented, controlled and eradicated.	Number and names of new species being detected and eradicated.	Wildlife Annual Report Findings of scientific research conducted.	Availability of eradicating tools. Increase public awareness program
5. Culturally and commercially important plant species protected and populations increasing.	% increase in types and numbers of species conserved through ex-situ and in-situ conversation.	Agriculture Report, DSAP and NBSAP Reports and strategies.	Increase training opportunities for local communities on importance of plants and replanting endangered species.
Capacity Output 1.1 Government and stakeholders have the capacity to identify, plan and manage marine protected areas.	3 marine protected areas established in Kiritimati and 5 in Kiribati including the Phoenix islands. Legislation for Marine Protected Areas enforced.	Fisheries reports, marine document for Kiribati and Finding from marine scientific surveys conducted.	Budgetary allocation increased and overseas funding is available. Support from local community available.
2.1 Government and local communities have the capacity to protect coastlines and identify, plan and manage terrestrial protected areas.	3 conservation areas established in Kiritimati and 5 in the Gilbert and Phoenix groups	Annual progressive report of Land Division and Environment and Conservation	Budgetary allocation increased. Improve understanding of local community on the important of conservation areas.
3.1 Enhance capacity to manage and protect water catchments, maintain water quality, improve storage facility and use.	Increase number of water catchment on Tarawa and a number of wells being constructed on the islands.	Report from Water and Sanitation Division.	More officers to undertake deeper studies on hydrology. People are getting better water quality and have easy access to main water supply.

4.1 Capacity developed and strengthened at all levels to control and eradicate invasive alien species.	Number of invasive alien species in the country decreased.	Results of scientific survey on livestock in the country. Report from the Agriculture Division	Appropriate legislation on importation of alien animal ispecies is in place and enforced.
5.1 Enhance capacity at all levels for the protection and sustainable use of culturally and commercially important plant species.	By the year 2010. 2 botanical gardens established in Kiritimati and two on Tarawa.	Report on medicinal plants and herbs produced by Maurin Kiribati Association.	People plant medicinal plants in their backyard and surroundings. Provide shade and greenish ground cover for barren places.
Capacity Development Actions		Responsible Agency	
<i>(Capacity Output 1.1 Government and stakeholders have the capacity to identify, plan and manage marine protected areas.</i>			
Conduct workshops for local communities on the importance of Marine Protected Areas (MPAs)		Fisheries Division, Environment and Conservation Division, The Ministry of the Line and Phoenix Development and Island Councils.	
Establish a working group to produce materials on marine resource suitable for all levels of schools and community at large.		Curriculum Development and Resouce Centre (CDRC), Environment and Conservation Division.	
Design and launch media campaign based on the importance of MPAs		Broadcast and Publication Authority (BPA), Environment and Conservation Division and Newair FM 89 and other newspapers in the country.	
1.1.4 Establish Marine Protected Areas in the Line islands and the Gilbert Group.		Fisheries Division, Environment and Conservation Division and Island Council through MISA.	
<i>(Capacity Output 2.1 Government and local communities have the capacity to protect coastlines and identify, plan and manage terrestrial protected areas.)</i>			
2.1.1. Translation of suitable material to local vernacular on the importance of coastal protection ,		Ministry of Education and Ministry of Environment, Lands and Agricultural Development.	
2.1.2 Create a website on Biodiversity (Clearing House Mechanism)		TSKL . Environment and Conservation Division, (MELAD)	
2.1.3 Designate and Establish Conservation Areas on Kiritimati and Gilbert group		Ministry of Environment, Land and Agricultural Development and Kiritimati Island Council.	
<i>(Capacity Output 3.1 Enhance capacity to manage and protect water catchments, maintain water quality and to improve storage facility and use.)</i>			
Train local communities on the construction of better protected wells for use at home and in the community. Establish working team in the community to look after water supply and maintain good quality of drinking water for the community Construction of water catchment on all islands.		Water and Sanitaaion Division, Public Work Department, Environment and Conservation Division at MELAD. Local Community, Ministry of Internal and Social Affairs, Ministry of Environment and Conservation Division. Local Community, PWD and Environment and Conservation Division.	
<i>(Capacity Output 4.1 Capacity developed and strengthened at all levels to control and eradicate invasive alien species.)</i>			
4.1.1 Review legislation on the importation of alien species and quarantine policy. 4.1.2. Purchase suitable tools for eradication activities. 4.1.3. Increase budgetary allocations for the control of alien species invading the country. 4.1.4. Produce fact-sheets on alien species present on the island and general information on their lives and adverse impacts on the biodiversity.		AG's Office, Environment and Conservation Division. Agricultural Division and Fisheries Division Environment and Conservation Division, Agricultural Division , Fisheries Division and Shipyard Boiler shop. Ministry of Finance and Economic Planning, Environment and Conservation Division Environment and Conservation Division. Fisheries and Agriculture Division.	

<i>(Capacity Output 5.1 Enhance capacity at all levels for the protection and sustainable use of culturally and commercial important plant species.)</i>	
5.1.1. Conduct research on the number of trees, plants, herbs and shrubs that have cultural and commercial values to the community. 5.1.2. Establish nurseries for commercially and culturally important plants and trees on the islands 5.1.3. Organize four (4) Training workshops on traditional conservation skills/practices. 5.1.4. Produce booklet on traditional conservation methods. 5.1.5. Replant endangered species of medicinal and commercially important plants.	Agriculture Division, Environment and Conservation Division Agriculture Division, Environment and Conservation Division and Island Councils Agriculture Division. Environment and Conservation Division. Curriculum Development and Resource Centre, Environment and Conservation Division. Maurin Kiribati Organisation, Agriculture Division and Environment and Conservation Division.

Annex 4 - Land Degradation

Intervention Logic	Measurable Indicators	Means of Verification	Assumption
Development Objective: The people live a better life through good management of water resources and wise use of land.			
Immediate Objective; Establish management mechanism for the protection of water and land, The wise use of land resources attained through collaborative enforcement of the existing regulations.			
Environment Outcomes			
1.Coastline are stable and protected	Reports and no. of complaints launched from affected victims.	Report on community Consultations, workshops and mwaneaba meetings	% of sea level rise decreased and protection of shoreline improved
2.Pollution minimized, controlled and good quality of water maintained	Less frequency of water-borne diseases. Two land filled waste dump site established on Kiritimati.	Report on Public Health Services, Water and sanitation report	Members of the public develop capacity on sustainable use and protection of water
3.Sustainable agriculture achieved and soil fertility improved.	% increased on home mixed garden and no. of barren areas reduced.	Report of Taiwan Mission Home Mixed Garden and Agriculture	More vegetable used in private houses and boarding schools.
4.Operational land system and policy are put in place.	Proper drainage system developed place and use of imported fertiliser abandoned.	% of homes mixed garden use organic manure for fertilizer .	People appreciate inclusion of vegetables as additional stable food.
5.People and biodiversity are able to mitigate and adapt to the effects of draught.	No. of dependants on imported stuff reduced and sustainable use of the resource is in practice..	Report of Town Planning Authority and Statistic record on importation	The effects of draught is lessen through adaptation and mitigation..
Capacity Outputs.			
1.1 Government and stakeholders having improved capacity to protect coastlines and use them in a way that minimizes coastal erosion.	No. of reclaimed areas increased. A number of coastal trees and plants planted.	Annual report from Land and Survey Division. Agriculture Report on the development of replanting program.	Coastline protected and erosion minimized.
2.1 Enhanced capacity to manage waste and minimize pollution of land and water resources.	Waste and water resource management established on the islands.	Annual report from Island Councils and Water and Sanitation Unit.	The people have the capacity to manage water resource and waste.
3.1 Capacity developed and strengthened to promote and implement sustainable agriculture using modern and traditional technology.	No. of home mixed garden increased., importation of fertilizer ceased and the use of organic fertilizer is encouraged.	Agriculture Annual Report. Custom annual report on imported chemical.	The people use modern and traditional technology for sustainable agriculture.
4.1 Capacity of Government and stakeholders strengthened to plan and use land for development purposes in a sustainable way.	No. of waste land decreased, replanting programs for coastal trees and plants is progressing.	Agriculture Annual Report and DSAP Quarterly report.	The land is used sustainably and will be more productive.
5.1 Strengthen capacity at all levels to prepare for and	10 local communities established their own disaster	Island Council annual report and annual report from the	The people are able to manage their own affairs during a severe

manage drought situations.	commissions.	Planning Office.	draught.
Capacity Development Actions. <i>(Capacity Output 1.1 Government and stakeholders having improved capacity to protect coastlines and use them in a way that minimizes coastal erosion)</i>			
1.1.1 Replant endangered species of important plants on coastal areas.	Agricultural Division, Environment and Conservation Division.		
1.1.2 Organise training workshop waste management on the islands.	Environment and Conservation Division, Technical Drawing Section and Island Councils.		
1.1.3 Provide standard design for the construction of private seawalls on the islands.	Environment and Conservation Division, Technical Drawing Division		
<i>(Capacity Output 2.1 Enhance capacity to manage waste and minimize pollution of land and water resources)</i>			
.2.1.1 Establish management mechanism in villages to take control over waste and human harmful activities.	Local Communities, Environment and Conservation Division.		
2.1.2 Provide a more hygienic designed wells for underground drinking water.	Technical Drawing Division		
.2.1.3 Organise a public demonstration for a new design for underground drinking water.	Technical Drawing Division, Island Councils and Environment and Conservation Division.		
<i>(Capacity Output 3.1 Government and stakeholders have the capacity to protect coastline and identify, plan and manage terrestrial protected areas)</i>			
3.1.1 Training workshop on the importance of Land conservation areas.	Agricultural Division, Environment and Conservation Division		
3.1.2 Establish Conservation areas at suitable sites on the islands	Agricultural Division. Island Councils and Environment and Conservation Division		
3.1.3 Establish a management group to control all activities for the Conservation Area.	Environment and Conservation Division, Local Community and Agricultural Division.		
3.1.4 Seek for foreign aid to meet cost of equipment and initial cost that will incur in the initial stage of the project.	National Government, Environment and Conservation Division and Planning Office.		
<i>(Capacity Output 4.1 Capacity developed and strengthened at all levels to prevent, control and eradicate invasive alien species)</i>			
4.1.1 Review and strengthen existing policy on the control of importation of alien species.	Quarantine Division, Custom Division and Environment and Conservation Division.		
4.1.2 Recruit TA to provide voluntarily assistance on eradication methodology.	Foreign Affairs Office and Environment and Conservation Division.		
4.1.3 Seek foreign aid for pay for the cost of proper tools to be used during eradication.	Foreign Affairs Office and Environment and Conservation Division		
4.1.4 Recruit a short term TA to assist identifying alien species and their possible adverse impact on land and sea.	Agricultural Division and Environment and Conservation Division.		
<i>(Capacity Output 5.1 Enhance capacity at all levels for the protection and sustainable use of culturally and commercially important plant species.)</i>			
5.1.1 Document the un-documented oral traditions that contain traditional conservation skills and cultivation methods.	Cultural Division, Environment and Conservation Division and Local communities.		
5.1.2 Identify trees, plants, herbs and shrubs that are endangered but are culturally and commercially important.	Local Communities, Cultural Division and Agricultural Division.		
5.1.3 Organise a three days workshop focused on the revival of important plant species that are extinct or becoming extinct.	Agricultural Division, Environment and Conservation Division		
5.1.4 Seek for foreign aid funds for the workshop - transport and stationary.	Foreign Affairs, Planning Office and Environment and Conservation Division.		