



# KIRIBATI

## National Biodiversity Strategies and Action Plan 2016 -2020



# Contents

- Executive Summary ..... i
- List of Acronyms ..... iii
- 1.0. Introduction ..... 1
- 2.0 Kiribati Background Information ..... 2
- 3.0 Biodiversity in Kiribati ..... 3
- 4.0 Analysis of the Causes and Consequences of Biodiversity Loss ..... 6
  - 4.1 Causes of Biodiversity Loss ..... 6
  - 4.2 Consequences of Biodiversity Loss..... 8
- 5.0 National, Constitutional, Legal and Institutional Framework ..... 8
  - 5.1 Legislation ..... 8
  - 5.2 Relevant Policies and Plans ..... 10
- 6.0. Achievements, Gaps & Lessons Learnt from the previous NBSAP ..... 11
  - 6.1 Achievements ..... 12
  - 6.2 Gaps and lessons learnt. .... 14
- 7.0 Process of NBSAP..... 15
- 8.0 Vision Statement ..... 17
  - 8.1 Guiding Principles ..... 17
- 9.0 CBD Aichi Targets ..... 18
- 10.0 Kiribati Biodiversity Action Plan 2016-2020 (costs are presented in thousands - k)..... 22
- 11.0 Application of the NBSAP to Sub-national entities ..... 59
- 12.0 Sectoral Action and Mainstreaming into Development, Poverty Reduction and Climate Change Plans ..... 59
- 13.0 Implementation Plans ..... 60
  - 13.1 Plan for Capacity Development for NBSAP Implementation, Including Technology Assessment. 60
  - 13.2. Communication and Outreach Strategy for the NBSAP ..... 60
- 14.0 Plan for Resource Mobilization for NBSAP Implementation ..... 61
- 15.0 Institutional, Monitoring and Reporting ..... 62
  - 15.1. National Coordination Structures ..... 62
- 16.0 Clearing House Mechanism ..... 63
- 17.0 Monitoring and Evaluation..... 64

17.1 National Biodiversity Planning Committee to monitor NBSAP Implementation.....	64
17.2 Review of the NBSAP.....	64
18.0 References: .....	66

## **Acknowledgements**

The development of this National Biodiversity Strategies and Action Plan 2016 – 2020 is genuinely the outcome of collaborative effort by the Environment and Conservation Division (ECD) and members of the National Biodiversity Planning Committee from key line Ministries, NGOs and private sectors. Appreciation goes to all of them for their time and effort on making the development of this document possible. We would express gratitude to MELAD for the great administrative supports during the course of the consultative process. This work was supported and funded under a Global Environmental Facility Fund through the United National Environment Programme (UNEP).

## Foreword

It gives me great honour on behalf of the Government of Kiribati, to endorse the National Biodiversity Strategic and Action Plan for Kiribati 2016 - 2020. This NBSAP identifies priorities for biodiversity conservation and it provides guidance on the priority program for the next four years until 2020.

The outputs of NBSAP 2016-2020 contribute significantly to the Kiribati Integrated Environment Policy with a sustainable Environment's vision "*The people of Kiribati continue to enjoy their natural biodiversity that is resilient to the impacts of climate change and supports the socio-economic livelihoods*"

To understand the important niche of the Biodiversity in the context of Kiribati, it is important to understand the traits of Kiribati as a nation. The driving force of the three pillars of sustainable development - social, environmental, and economic, were taken into account during the development of this document.

The Government of Kiribati is looking forward for the collaborative work between key ministries, non-governmental organizations, church groups and local communities to implement plans and prioritized actions for biodiversity conservation for the benefit of this generation and the next. The formulation of this national document will be a milestone for efficient and effective conservation on biodiversity in Kiribati

A handwritten signature in black ink, appearing to read 'Tebao Awerika', written over a horizontal dotted line.

Honourable Tebao Awerika

Minister for Environment, Lands and Agricultural Development

## **Executive Summary**

Biodiversity in Kiribati has always been challenged economically, politically, socially and even judicially. Capacity constraints emanating from limited financial and human resources, limited technical capacity, limited scientific based data and poor monitoring and evaluation of the progress of the national biodiversity action plans have undermined the country's effort to protect and conserve biodiversity effectively. As a nation with very limited resources, Kiribati cannot afford to sit back and allow the serious degradation to continue.

Kiribati is a small country with a total land area of 811 sq km. It is also the least developed country with limited resources. With the challenges it continues to face with its conservation, compounded with the impacts of climate change and sea level rise which Kiribati is very vulnerable to, there is a strong need to act to address the issues.

This NBSAP 2016 – 2020 is developed with the main purpose to identify the Kiribati Biodiversity priority action plans for the next four years until 2020. It is also a means to meet Kiribati's obligation under the Convention on Biological Diversity which Kiribati is party to, to achieve the Aichi Targets set by the Convention for parties to work towards until 2020. This document was developed in consultation with the different Government sectors, NGOs and the local communities.

To address the issues which Kiribati continue to face regarding the protection and conservation of biodiversity and to contribute to the international Aichi targets set, collective efforts were made to identify national priorities. Nine priority areas of national concern were identified in this document to which the government with support from the NGOs, communities, regional and international partners would work and focus on from now until 2020. Different action plans were outlined under each priority area that would support the improvement and enhancement of the biodiversity. The nine priority areas are as follows;

1. Protected and conservation areas
2. Ecosystem Management
3. Species Conservation and sustainable use
4. Communication and education
5. Capacity building
6. Invasive alien species/biosecurity
7. Traditional knowledge and practices
8. Environmental governance
9. Research and Information

This document was developed with a vision statement, “The people of Kiribati continue to enjoy their natural biodiversity that is resilient to the impacts of climate change and supports the socio-

economic livelihoods” and guided by the these guiding principles; Good governance and leadership, Food security and nutrition, Collective responsibility, Respect for traditional knowledge, practices and skills and Integration of biodiversity in economic development aspirations.

Despite the many issues Kiribati continue to face in its conservation efforts/initiatives, Kiribati has taken a big step in declaring a large protected area, the Phoenix Islands Protected Area (PIPA) which covers 408 250 sq km. The PIPA embodies Kiribati’s move towards conservation of its most valuable commodity, through which there should be greater management and control over the extraction of marine resources that would benefit not only the future generations but the world as a whole. In 2013, the protected marine areas in Kiribati has exceeded the marine targets set out under CBD Aichi Target 11 with 12% territorial waters protected. In January 2015, the entire PIPA area comprising of lagoons, corals reefs, channel and deep open sea was officially closed to commercial fishing.

The monitoring and evaluation of the progress of this NBSAP is one important component that is included to track the progress of the action plans. The Monitoring and Evaluation was planned to be conducted in the mid-term and after 2020 when this NBSAP is due for updating.

## List of Acronyms

ALD	Agriculture and Livestock Division
CBD	Convention on Biological Diversity
CBFM	Community Based Fisheries Management
CBMMP	Community Based Mangrove Management Plan
CHM	Clearing House Mechanism
DCC	Development Control Committee
DRM	Disaster Risk Management
ECD	Environment and Conservation Division
ENSO	El Nino Southern Oscillation
EL	Environment License
ESA	Environment Significant Activities
EYC	Environment Youth Club
FD	Fisheries Division
GHG	Greenhouse Gases
GEF	Global Environment Facility
GIS	Geographical Information System
IAS	Invasive Alien Species
IPR	Intellectual Property Rights
IRA	Import Risk Assessment Analysis
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
JET	Joint Enforcement Team
KBA	Key Biodiversity Area
KDP	Kiribati Development Plan
KFHA	Kiribati Family Health Association

KIEP	Kiribati Integrated Environment Policy
KJIP	Kiribati Joint Implementation Plan
KNISSAP	Kiribati National Invasive Species Strategic and Action Plan
KNTO	Kiribati National Tourism Office
KOFA	Kiribati Organic Farmers Association
KPA	Key Policy Area
KPPS	Kiribati Prison and Policing Services
LB	Language Board
LG	Local Government
LGD	Local Government Division
LMD	Land Management Division
MCIC	Ministry of Commerce, Industry and Co-operative
MEA	Multilateral Environment Agreements
MELAD	Ministry of Environment, Lands and Agricultural Development
MFEP	Ministry of Finance and Economic Planning
MIA	Ministry of Internal Affairs
MLPID	Ministry of Line Phoenix Island Development
MoE	Ministry of Education
NBSAP	National Biodiversity Strategic Action Plan
NGO	Non-Government Organization
OAG	Office of Attorney General
OB	Office of Te Beretitenti
PA	Protected Area
PIPA	Phoenix Island Protected Area

PS	Protected Species
RDD	Rural Development Division
SNC	Second National Communication
SST	Sea Surface Temperature
TA	Technical Assistant
TC	Tropical Cyclone
TK	Traditional Knowledge
TTM	Taiwan Technical Mission
UNCCD	United Nation Convention on Combating Desertification
UNCLOS	United Nation Convention on Law of the Sea
UNESCO	United Nations Educational Scientific and Cultural Organization
UVC	Underwater Visual Census
VIP's	Very Important People
VCO	Virgin Coconut Oil
WCU	Wildlife Conservation Unit
YCA	Yellow Crazy Ants

## **1.0. Introduction**

Kiribati, being a party to the Convention on Biological Diversity (CBD) on the 16<sup>th</sup> of August 1994, developed this document to fulfill her obligation under the CBD in reviewing its National Biodiversity Strategy and Action Plan (NBSAP) developed in 2005. The Government recognizes the importance of biodiversity conservation and has identified environment which includes biodiversity as one of its national priorities. Biodiversity conservation has also been included in several sector plans such as the Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management and Fisheries Policy. Kiribati is also party to other biodiversity related conventions and agreements such as Ramsar Convention (Wetland), International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the World Heritage. Biodiversity carried out to meet the obligations under the CBD has been contributing to the other biodiversity related conventions, even conventions that Kiribati is not party to such as the Convention on Migratory Species and the Convention on International Trade in Endangered Species of Wild Fauna and Flora. This NBSAP presents Kiribati's action plan on biodiversity conservation in the next four years. As always, the programs in this plan will contribute to the biodiversity related conventions as earlier mentioned to some extent.

This report is the second Kiribati NBSAP which builds on from the first NBSAP that was submitted to the CBD in 2005. It is designed for a four year period (2016-2020) and is a comprehensive framework for achieving the nation's' goals and targets to conserve the biodiversity of Kiribati.

The document is prepared by the technical working group with members drawn from the National Biodiversity Planning Committee and staff of the Environment and Conservation Division (ECD). The revision of the NBSAP includes exercises on stocktaking and inventory assessment, National Action Plans, National Implementation plan and National institutional, monitoring and reporting plans.

The status of biodiversity in Kiribati is poorly documented hence undermining the ability to provide evidence, facts, and compelling examples and cases of loss of biodiversity. Main forms of examples used in the analysis are based on projections, observations, and perceptions from reports of studies from a number of islands in Kiribati.

## **2.0 Kiribati Background Information**

Kiribati is situated in the Central Pacific Ocean and consists of 33 atolls with a total land area of 811 sq km. The atolls exist in three separate groups – the Gilberts, Line and Phoenix. Each group has a separate Exclusive Economic Zone (EEZ), with the total EEZ for Kiribati being around 3.5 million sq km. The atolls have a maximum height of 3 to 4 m above mean sea level, except Banaba which is a raised limestone island and all islands are scattered making communication between each island very hard and expensive. Not all of the atolls are inhabited, and some are not capable of being inhabited.

Most of the islands are located in the dry belt of the equatorial oceanic climate zone, an area of frequent prolonged droughts. The quality of the soil in Kiribati is considered to be one of the poorest in the world due to its alkaline coral composition and high porosity. Atolls are typically low-lying islands where there is no surface water, except Teraina (Washington Island) in the Northern Line Island Group. The only water supply is ground water, which is replenished by rainfall percolating through the porous surface soil. Agriculture activity is therefore considered poor.

The total population of Kiribati during the 2015 census is 110, 136. The majority depends on the natural environment resources for subsistence living while monetized socioeconomic systems are predominating in urban Tarawa and on Kiritimati Island.

Biodiversity is prone to over-exploitation on land due to the scarcity of land space. Unlike the terrestrial fauna, however, the marine fauna is considered to be highly diverse, rich and productive. In 2010, Kiribati became the world leader in marine conservation after declaring Phoenix Islands a marine protected area. It is a demonstration of Kiribati commitment to Blue growth, where as part of the Pacific region, Kiribati has a special role as one of the custodians of the last remaining healthy ocean in the world.

With the increase in population coupled with climate change impacts, sea level rise and other social, economic, political and judicially impacts on biodiversity, Kiribati continue to face a great challenge in conservation and for ensuring sustainable development. The geographical features of the islands do not make things easy due to its poor soils, scattered locations of the islands and the low lying atolls. However, it is acknowledged that it is with the assistance and dedication from its dedicated nationals and support from the bilateral, regional and international partners that Kiribati can manage to steadily reduce and counter the issues faced on its biodiversity conservation.

### 3.0 Biodiversity in Kiribati

In Kiribati, biodiversity is often divided into two, mainly the terrestrial and marine biodiversity. In the terrestrial biodiversity, avi-fauna is included. It is understood that these two main areas of biodiversity could be further categorized taking into account their characteristics and other distinct values that are different from each other.

Terrestrial biodiversity in Kiribati is not particularly rich or endemic and what exist is threatened by human development and expansion activities across a limited land area. Its indigenous land-based flora and fauna are limited and among the poorest on earth. Much of this has to do with its soil quality as it is composed mainly of alkaline coral with high porosity. As reported in the Kiribati 5<sup>th</sup> National Report, there is a declining in number of some traditional staple food crop species.

The declining traditional staple food crop include the Pandanus (*Pandanus tectorius*), breadfruit (*Artocarpus mariannensis*, *A. altilis*, *A. mariannensis*), giant swamp taro (*Cyrtosperma merkusii*), native fig (*Ficus tinctoria*) and coconut (*coco-nucifera*). Other important plants were observed to have declined and these are Te Kiaiai (*beach hibiscus*), te ukin (*beach almond*), te uri (*Guettarda*), te ren (*tree and beach heliotrope*) and Te mao.

With Avi-fauna, according to the *Kiribati National Invasive Species Strategy and Action Plan 2016*, by far the most conspicuous group ashore are the seabirds comprising at least 21 breeding species. These include petrels (6 species), frigatebirds, boobies and tropicbirds (7 species), and terns and noddies (8 species). The petrels are best represented at the PIPA and Kiritimati with 6 and 5 species respectively. These include most of the world's largest populations of the Te Ruru or Phoenix petrel and Te Bwebwe Ni Marawa or White-throated storm-petrel both of which have an IUCN classification of Endangered. The frigatebirds, boobies and tropicbirds are represented throughout the nation but globally important populations of all these birds occur in the PIPA and Line Islands. The terns are all common species beyond Kiribati except for but the Te Raurau or blue noddy which is confined to the central Pacific where the PIPA and Kiritimati have globally important populations.

Shorebirds include a few migrant species from their breeding grounds in Alaska, notably Te Kewe or bristle-thighed curlew which is a vulnerable species, while Te Kun or Pacific golden plover, Te Kirikiri (wandering tattler) and Te Kitibwa (ruddy turnstone) make up the balance. The sea coasts of Gilbert Islands also support a breeding population of Te Kaai (Pacific reef heron).

Land-birds are now relatively few in Kiribati. The only common native species are Te Bitin (Pacific pigeon) of the Gilbert Islands, long-tailed koel (a migrant from New Zealand to the Gilberts and southern PIPA) and the only endemic bird, Te Bokikokiko or Christmas Island reed-

warbler, which is confined to Kiritimati and Washington Islands. Introduced species include Te Kura (Rimatara Lorikeet) present on Kiritimati and common on Washington Island and which is an IUCN Vulnerable species, plus rock pigeon at Kiritimati and Tarawa. Many vagrants have been detected from time to time, including waterfowl, gulls, waders and incursions of two invasive myna species in the Gilbert Islands (Kiribati Government, 2016, *Republic of Kiribati National Invasive Species Strategy and Action Plan*, Ministry of Environment, Lands and Agricultural Development, Kiribati).

With the marine biodiversity, Kiribati has a highly diverse, rich and productive marine and coastal ecosystem that supports hundreds of coral species, 500 species of fish, 20 marine mammal species and 2 IUCN Red-listed turtle species. The table below summarizes the status of key coastal and artisanal fishery species in Kiribati (Campbell, B., Hanich, Q. (2014). *Fish for the future: Fisheries development and food security for Kiribati in an era of global climate change*. WorldFish, Penang, Malaysia. Project Report: 2014-47).

<b>Species</b>	<b>Stock assessment status</b>
<b>Oceanic tuna</b>	
Skipjack tuna <i>Ati, Atiwaro</i>	Underexploited, not overfishing, not overfished (WCPO-wide)
Yellowfin tuna <i>Baiura, Baitaba, Ingimea</i>	Fully exploited, not overfishing, not overfished (WCPO-wide) Overfishing possible in Western WCPO
Bigeye tuna <i>Matawarebwe/ Matabubura</i>	Overexploited, overfishing, not overfished (WCPO-wide)
<b>Coastal finfish</b>	
Shark <i>Bakoa</i>	Stock levels of some species low in some areas Oceanic whitetip heavily overfished
Bonefish* <i>Ikari</i>	Heavily depleted in coastal lagoons, particularly Tarawa
Milkfish <i>Baeneawa</i>	Depleted, particularly in South Tarawa
Goatfish <i>Maebo and Tewe</i>	Depleted in Betio

Spangled emperor <i>Morikai</i>	Depleted in Tarawa lagoon
Snapper ( <i>Lutjanus</i> spp. and <i>Etelis</i> spp.) <i>Ikanibong, Bukiuaaki,</i> <i>Aratabaa</i>	Populations healthy in Abaiang, Abemama, Kuria, Kiritimati
Grouper ( <i>Epinephelus</i> spp.) <i>Kauoto</i> (and others)	3 species listed as endangered in the KNBSAP 2005
Flame angel <i>Bakaurantaake</i>	Heavily exploited for aquarium trade in Kiritimati, harvest declines
<b>Coastal Invertebrates</b>	
Bêche-de-mer <i>Romamma</i> (and others)	Significant overfishing is occurring Surveyed stock levels very low on many islands
Ark shell <i>Bun</i>	Heavily exploited Stocks functionally collapsed in South Tarawa
Giant clam <i>Were</i>	Heavily fished Recruitment overfishing on some islands <i>T. maxima</i> only lightly impacted on Abemama <i>T. gigas</i> extirpated from some islands KNBSAP 2005 lists 3 species as endangered
Pearl Oyster <i>Baeao</i>	Stocks have been reduced to low levels and wiped out in some islands
Spider conch	
(Spiny) lobster <i>Nnewe</i>	Some species are threatened

## **4.0 Analysis of the Causes and Consequences of Biodiversity Loss**

In the context of Kiribati, biodiversity loss is mainly caused by human induced direct drivers namely climate change, overexploitation, pollution, land use change, and invasive alien species. Indirect drivers can also significantly contribute to biodiversity loss and these include population growth, change of economic activities and lifestyle, limited awareness of biodiversity importance, inadequate commitment from the public towards conservation initiatives, and weak enforcement of law.

### **4.1 Causes of Biodiversity Loss**

In Kiribati, over-harvesting and unsustainable use of natural resources are the major direct drivers of biodiversity loss, especially at the marine jurisdiction. At the community and national level, fisheries form the basis of socioeconomic development and sustainable livelihoods. Fish as a primary component of local diet and fishing license as major revenue of the government implies that as population continues to grow and as the nation strives for robust economic growth and food security, over-harvesting and unsustainable use of marine resources will be increasing. Results and findings of artisanal survey<sup>1</sup> showed that based on fisheries statistic data for South Tarawa; certain species undergo catastrophic decline in diversity as well as in size distribution and density which results in the decline of catch per year. Abaiang and Kiritimati are the two islands which heavily rely on fishing for their foods and for source of income. Species groups of clam, bech-de-mer, and lobster undergo overexploitation and are reported to decline at these islands. Reports showed that their unsustainable use and overexploitation associate with their high economic values. There are also other marine species overharvested for subsistence purposes such as ark shell, locally known as ‘te bun’ (PROC fish Kiribati Report 2008).

Land use change directly affects biodiversity through degrading natural habitats and species diversity existed within those habitats. Increased change of land use mainly occurred in urban and growth centers such as South Tarawa, Kiritimati and Tabiteuea North, respectively, where the majority of the population resides. This is marked by concentrated developments in infrastructure, residential, commercial and public social services. Apart from these centres, land use change is minimal confining to settlement expansion and agricultural purposes. The traditional farming and cleaning methods such as slash and burn, complete weeding and massive removal or cutting of trees with no replacement are major destructive habits to terrestrial biodiversity.

Pollution from land based and ship based sources directly impact the biodiversity through creating unfavorable local environment conditions in the marine and terrestrial ecosystems. Limited enforcement on pollution control exacerbates the issue mentioned. For instance, iron released from wrecked vessels had caused black reefs on certain islands in the PIPA, in particular

---

<sup>1</sup> In 1996 to 2006, artisanal survey data for South Tarawa indicate the decline in catch per year. (Fisheries Statistic Data)

at Nikumaroro (Norwich City shipwreck), Kanton (President Taylor shipwreck), and Orona (Algae Corner site). Iron enrichment in these low-nutrient open ocean waters would further spread and may result in poisoning of corals and most other reef invertebrates if these shipwrecks are not removed (Obura D et al Jan, 2016, Phoenix Islands Protected Area Climate Change Vulnerability Assessment and Management).

Introduction of Invasive Alien Species (IAS) is another threat to terrestrial and marine biodiversity in particular avi-fauna. IAS can be intentionally or inadvertently introduced to Kiribati. IAS include cat fish, ship rats, taro beetle, scale insects, bed bugs, and Yellow Crazy Ant (YCA). YCA is a newly introduced invasive species which is to date established in Kiritimati Island only and it is still monitored for its devastating impacts on the environment. On McKean (PIPA Island) ship rats invaded the island in 2011 when a Korean fishing vessel got wrecked on the reef. A weak border control at main ports (wharf and airports), lack of resources and limited awareness contribute to the increase of IAS in Kiribati.

In the early 1990s, Kiribati's attention was initially drawn to climate change and sea level rise threats to the environment. To date, there are projections of its potential to amplify the effects of other drivers to environmental degradation. There is still uncertainty about the extent and speed at which climate change will impact biodiversity and ecosystem services, and the threshold of climate change above which ecosystems can no longer function in their current form (ECORYS, 2009).

Climate change including extreme weather events are threats to terrestrial and marine ecosystems. Observations from Agriculture division on climate change impact on pests and diseases severity confirmed that with warmer temperature scale insect infestation is found to be severe. Extreme weather events affect traditional food crops such as breadfruit, coconut trees, and pandanus trees. It is approximated that 30% of breadfruit trees destroyed at Bakaka village only during TC PAM in 2015. (Situation Report: Impact of Storm Surge from TC PAM and Tropical Storm BAVI on Tamana Island, 2015).

According to Siaoisi et al, 2011, demersal fisheries, intertidal and sub-tidal invertebrates are projected to decline in productivity due to both direct (Sea Surface Temperature) and indirect (changes of fish habitat) climate change impacts.

For instance, the El Nino/Southern Oscillation caused yearly variability in sea surface temperatures and rainfall and this would normally impact significantly on the shallow and deep water ecosystems. Recently, PIPA suffered the most severe thermal stress event but the reefs rapidly rebounded within a short (6 year) period, due in part to the lack of human population. Normally, corals would usually recover after 12-15 years. Because PIPA is regarded as ENSO Ground Zero (origin of an increasingly frequent ENSO), it could become an important site as a natural laboratory (or a control site) to examine the science of resilience and recovery.

Ocean acidification contributes to accelerating coral bleaching which is a threat to the coral ecosystem, which plays a role of providing livelihood to the people (ibid, 2011)

## **4.2 Consequences of Biodiversity Loss**

Biodiversity loss has environmental, social-cultural and economic consequential impacts in the society and humanity.

Social-cultural impacts\_of biodiversity loss include depriving people from accessing their resources that are vital for sustainable livelihood, social well-being, cultural practice, and traditional way of living. As biodiversity declines, sources of food, fuel, and fodder, amongst others will be reduced and thus poverty, food and nutrition insecurity issues increased.

In addition, degradation of ecosystems will result in the loss and erosion of traditional knowledge associated with different forms of life at marine and terrestrial environment. For example, a few varieties of pandanus are confirmed to be extinct, valuable genetic resources from these cultivars as well as traditional knowledge associated with these cultivars are slowly eroding.

The economic impacts of biodiversity loss results in the limited economic opportunities. Degradation of marine and terrestrial environment will deprive local people with range of services that are vital for their economic well-being, resilience, and development such as fisheries and farming.

## **5.0 National, Constitutional, Legal and Institutional Framework**

### **5.1 Legislation**

Kiribati has developed legislations and policies to ensure the country's environment is protected and that there is conservation and sustainable use of natural resources. The most prominent legislation that promotes the protection, sustainable use and conservation of natural resources is the Environment (Amendment) Act 2007. However, it is noted that not all biodiversity issues are addressed in the Act and there are gaps that need to be addressed. For example, although protection for sea-grass, mangroves and coral reef was provisioned for under the Act, it did not provide detailed information on how these could be protected from any activity which is not categorized or recognized under the Act as an Environmentally Significant Activity (ESA). Although not all issues are addressed, the Act however makes provisions for the precautionary principle, sustainable use, implementation to meet the Multilateral Environment Agreements' (MEA) obligations and the power of the Minister to develop regulations for the effective implementation of the Environment Act.

It is important to note though that there are other legislations that address certain components of biodiversity that are not covered under the Environment Act. One of the important legislations

that also supports and promotes the conservation and management of biodiversity is the Wildlife Conservation Ordinance (CAP 100). This legislation was developed in the 1970s and it is still being implemented due to its usefulness in protecting biodiversity, particularly in Kiritimati Island. However, there are gaps found in the Ordinance during implementation. For example, the protection of the protected islets under the Wildlife Ordinance does not provide a clear guidance for the landing of boats on such islets. To date, the court still has issues in prosecuting cases related with landing of crafts on such islets because of the gap in the provision.

Other legislations were developed for specific purposes that allude to the portfolio of the administrator and implementing agencies, but were found to provide for biodiversity protection to some extent. This includes the Fisheries Amendment Act 2010 and its Amalgamated Coastal Fisheries Regulation, to name a few.

It is crucial to state that the Kiribati Constitution 1979, which is the foundation of all laws in Kiribati, stressed the power of the people and the government where natural resources are vested in. Elements of natural resources conservation are spelled out in the Constitution which may provide limitations of the freedom of movement and residence and the protection from deprivation of property.

The following legislations address the issues of biodiversity to a certain extent;

1. Recreational Reserves Act 1996; the Act make provision in relation to the declaration of land for public purpose in particular for recreational reserves. Regulation under this Act includes prescribing conditions and restrictions to consider the protection, preservation, management of natural and historical features of the reserve.
2. Fisheries Amendment Act 2010; the Act make comprehensive provisions in relation to the development of fisheries resources. The Act stipulates the legal provisions applied to the development and conservation of fisheries thus contribute to marine environment protection.
3. Protected Area Ordinance 1957; the legislation provides for certain islands and their territorial waters to be protected and set aside for conservation purposes. It forbids the entries into the areas without permission thus enhance the conservation of the environment.
4. Biosecurity Act 2011; the main aim of this Act is to protect the health, environment and agriculture by preventing the entry of animal, plants, pests and diseases into the country and to facilitate and manage the trade of animals and plants product.

5. Land Planning Ordinance 1972; the Ordinance apply for the control over land use and development within designated areas. Land use planning has important implication on development and environment conservation and management.
6. Marine Zones (Declaration) Act 1983; the objective of this law is to demarcate Kiribati marine areas and determine the extent of its jurisdiction. The implication of the act is to give the right of the national government to implement control and protect its marine environment falls under its jurisdiction.
7. Foreshore & Land Reclamation Ordinance 1977; the ordinance make provision in relation to the ownership and management of foreshore and land reclamation.
8. Shark Sanctuary Regulation; the legislation regulates a ban on shark harvesting for commercial purpose.
9. Phoenix Islands Protected Area Regulation 2008; the objective of this legislation is to protect the marine and terrestrial resources in the Phoenix Islands.

The overall observation and conclusion of the existing legislations that may provide provisions to address certain aspects of biodiversity conservation and protection indicated that certain legislation need review and update because they did not address new and emerging issues.

## **5.2 Relevant Policies and Plans**

Notably in the past decade or so, integrating and mainstreaming of environment management and protection, in particular, biodiversity conservation and protection are minimal as reflected in the national plans and sector plans. With the increase awareness on the importance of the environment, the KDP, a four year plan which provides the overarching strategy to guide the national actions, along with other sector policies and plans, have now slowly mainstreamed environment and biodiversity. For instance, the present KDP identified the Environment as one of the key policy areas for Government to address. Although it is identified as a key priority area, the funding allocation toward it is insufficient. However, the inclusion of the Environment in the national plans and policies has notably attracted external funds and aids to supplement the budget allocated for Environment. The KDP, sector policy and plans were the best guiding principles to development partners for attracting external aid.

Other policies and strategic plans were developed under different government ministries, NGOs and state-owned and private companies which address the issues of biodiversity to some extent. To name a few, the following play an important role in biodiversity conservation, protection, management and sustainable use.

1. Kiribati Integrated Environment Policy (KIEP); this policy provides guidance and direction for government and local communities in protecting, managing and utilizing the natural resources and enhances environment protection.
2. Kiribati Joint Implementation Plan; It's a national policy that aimed at increasing resilience through sustainable climate change adaptation and disaster risk reduction using a whole of island approach. It also addresses plans for mitigation. Under the Strategy 4 of the KJIP, it stresses the need for local communities to preserve and promote local food, sustainability of marine and water resource management.
3. Kiribati National Fisheries Policy 2013-2023; the policy provides guidelines on the protection, conservation and management of Kiribati fisheries resources through sustainable practices. The policy will enhance food security, sustainable livelihood and build climate resilience fisheries.
4. Agriculture Strategic Plan: the plan aimed at developing and promoting sustainable crop production and livestock system, improved biosecurity and enhancing capacity building for stakeholders.
5. Line and Phoenix Islands Sustainable, Integrated Development Strategy 2016 – 2036; This strategy was recently developed with three main objectives; Sustainable Development of the LPI's economy, Sustainable Inclusive Social Development and Sustainable Environmental Conservation and Management.
6. Kiribati National Tourism Action Plan; the plan is aiming at promoting the eco-tourism to align with climate change, and resilient economy schemes for sustainable development.
7. PIPA Management Plan 2011-2014& 2015-2020 with a vision: “to conserve the natural and cultural heritage of the Phoenix Islands Protected Area for the sustained benefit of the peoples of the Republic of Kiribati and the world.

## **6.0. Achievements, Gaps & Lessons Learnt from the previous NBSAP**

It has been eleven years since the first NBSAP was published and submitted to the CBD. The first NBSAP identified five main strategic objective goals as follows:

- Create incentives and mechanisms that would form the basis of establishing community based environmental protection and management
- Increase the number of conservation areas under effective management and planning
- Protect species, viable populations and associated habitats of ecological, natural heritage and cultural significance
- Improve and enhance knowledge and understanding of the status of biological diversity amongst different sectors of society and the general public
- Eliminate destructive actions and activities that degrade viable populations of species and their associated habitats, ecosystems.

## 6.1 Achievements

Over the span of the eleven years, significant progresses have been made (thus far) on the strategic objective goals aforementioned and extended beyond to respond to emerging issues. As highlighted in the Kiribati 5<sup>th</sup> National report, the network of the protected area has been up-scaled since the establishment of the first NBSAP. The establishment of the Phoenix Island Protected Area (PIPA) in 2008 with its management plan as well as its full closure to commercial fishing in 2015 is one of key milestones achieved significantly contributing to biodiversity conservation. The PIPA trust fund Act was established a year after to sustainably finance the operation of the PIPA. Following the PIPA establishment, local communities on a number of islands in the Gilbert group were incentivized to establish their community based management plans in which the marine protected area is embedded in those plans.

The control and management of the invasive species has been increasingly effective over the years. The Kiribati National Invasive Species Strategic Action Plan (KNISSAP) developed in 2015 and endorsed in 2016 provides the guiding framework in addressing the issues associated with the invasive species. The plan has been implemented to some extent where invasive species found in the Gilbert and Line and Phoenix group, to name a few, pacific rats, black rats (*rattus rattus*), myna birds, yellow crazy ants, rabbits, feral cats have been eradicated to a certain degree while taro beetle is controlled.



Figure 1. Yellow crazy ant: eradication underway



Figure2. DNA extraction from Myna Bird

A wide range of environmental management practices have been continuously undertaken through fisheries, agricultural and environment programs, although disparate, they are predominantly contributing to the management and conservation of biodiversity resources. To state a few programs include restocking of marine resources through coral replanting in Kiritimati Island, translocation of bivalves to a number of lagoon-oriented islands in the Gilbert group, sea cucumber and clam culturing and mangrove replanting schemes at the national level. The sustainable use of biodiversity resources becomes prominent in recent years as depicted by local communities' concerted efforts in recognizing the importance of biodiversity to their livelihoods. The declaration of one of the outer islands in the Gilbert group as an organic island

reflects the image of an innovative sustainable use of biodiversity resources through the promotion of certified organic products. In addition, a number of outer islands have declared their policies within their jurisdiction to cease harvesting of certain marine species during spawning period.

Improvement and enhancement of knowledge on biodiversity has also been obviously noted over the past years as indicated by the increased production and sharing of biodiversity information, the number of biodiversity related capacity buildings undertaken, as well as the increased participation of local communities in biodiversity initiatives.

The Key Biodiversity Area Report, the directory of RAMSAR potential sites, community based management plans (fisheries and mangrove management plans), environment educational materials to name a few have been produced and communicated to the general public through informal and formal education. These information have been collated and stored through the newly established database which is called the Environmental Management Information System which is still under construction. A number of capacity building opportunities related to biodiversity, to name a few; turtle and tuna tagging, mangrove demarcation and fisheries surveys, e.g. creel survey, coral monitoring, socio-economic survey, amongst others had been continuously undertaken. Stakeholders involved in the capacity building undertakings include Government officials, NGOs, tertiary institutions and local communities.

Mangrove planting which is viewed as one of the success activities in Kiribati has produced a total of 33,611 mangroves planted to date in 14 islands<sup>2</sup> in the Gilbert group and the number will continue to grow as this planting is an ongoing activity. Community participation in this mangrove planting activity is successful as many local communities, primary schools, church youths and women, parliamentarians, visiting VIPs and other groups from outside Kiribati, to name a few have participated. To date, the ECD continues to receive requests from registered groups, church groups and others for assistance and guidance on the mangrove planting. Mangroves are vital for our coastal protection and marine resources enhancement and at the same time, they are also crucial in their contribution to the carbon sequestration. In the Kiribati Intended Nationally Determined Contribution, mangrove was also identified as one of the contributing factors to our national efforts in reducing our GHG emission.

---

<sup>2</sup> Makin, Butaritari, Marakei, Abaiang, Tarawa, Maiana, Kuria, Aranuka, Abemama, Nonouti, Tab-North, Tab-South, Onotoa and Beru.



Fig 3. Photo source ECD: Turtle conservation (tagging)



Fig 4. Mangrove planting

The review and introduction of biodiversity related legislation as well as the development of the environment policy reflect the bolstered effort of the Government of Kiribati in addressing the biodiversity issues in Kiribati.

## 6.2 Gaps and lessons learnt.

There has been neither an assessment nor an evaluation undertaken to determine the effectiveness of the previous NBSAP 2005, however, achievements highlighted in the above section sufficiently reflects the progresses being made on biodiversity in general.

A number of gaps/challenges were confronted during the development and the implementation of the previous NBSAP 2005. The geographical setting of Kiribati, in particular, the wide scattering of islands even further impeded the effort to implement the NBSAP 2005 on a wider scale.

The NBSAP 2005 was intermittently executed or implemented via the project-based deliverables financially supported from external funds until the Biodiversity Conservation Unit was formally established in 2013. Despite the existence of the Unit which is directly responsible for enhancing the delivery of biodiversity initiatives, financial and technical capacities remain a constraint.

The effective implementation of the NBSAP requires the strong commitments from key players and stakeholders ranging from local communities up to the higher level in the Government structural organization. The active participation of these stakeholders in the planning, designing and implementation phases of the NBSAP is highly required to ensure its effective delivery. The NBSAP document needs to be widely disseminated and communicated via effective communication tools across all level of stakeholders to enhance knowledge on biodiversity at the national level. The knowledge based management on biodiversity issues provides the platform for effective communication; however, this has not been formally established.

The mainstreaming of biodiversity into national and sector policies and plans, including NGOs' programs is an effective way to a wider understanding and acceptance of the importance of

biodiversity for the livelihood. It is also an effective way to improve the collective action on biodiversity conservation at the community level.

The achievements on biodiversity as aforementioned were mostly presented in qualitative information due to the inadequate quantitative baseline data that can act as indicators of biodiversity and trends. This issue undermines the ability to determine the trend or status on biodiversity at the national level and to present a tangible and meaningful story for biodiversity in Kiribati.

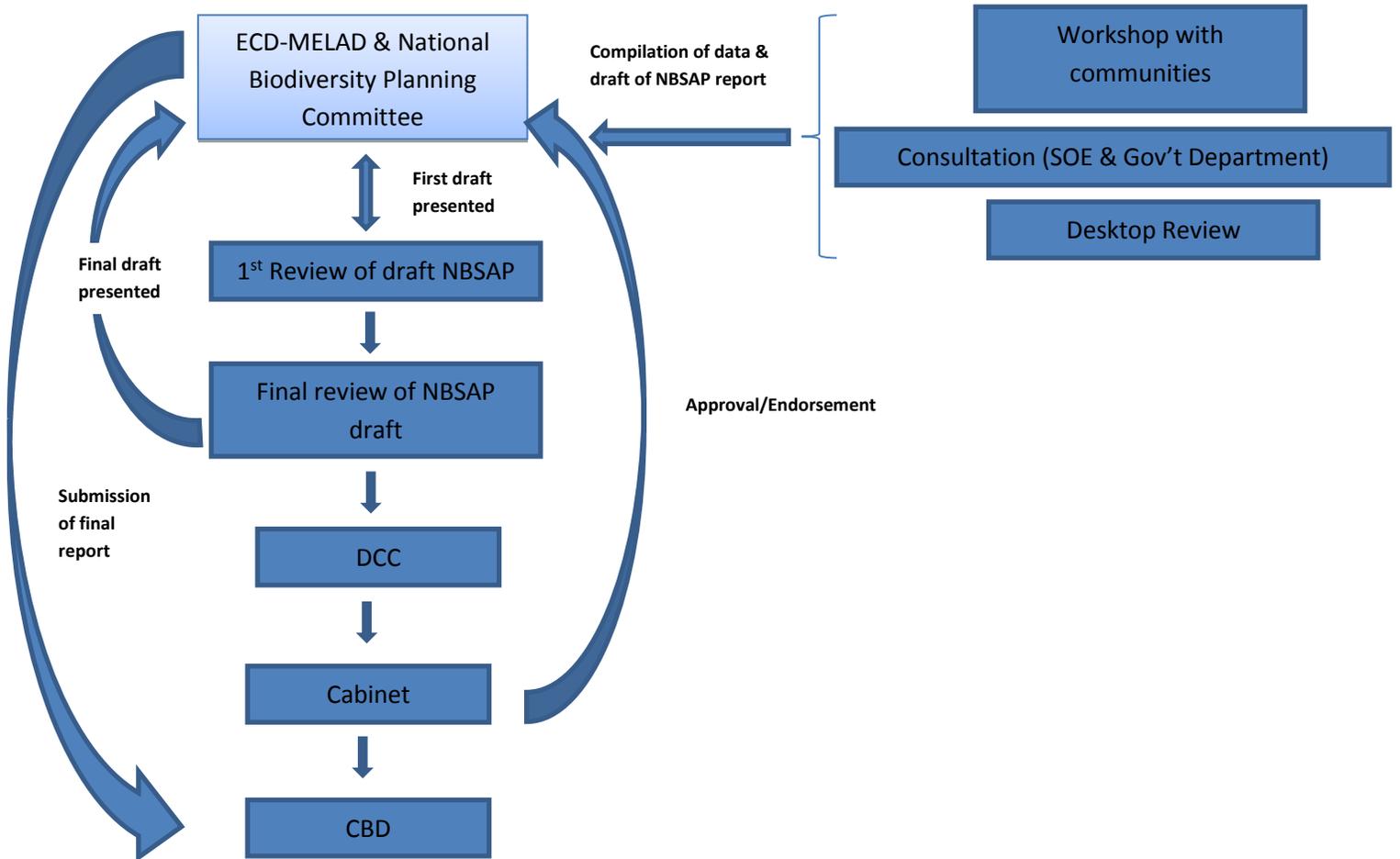
## **7.0 Process of NBSAP**

The process of updating and reviewing the NBSAP 2005 has gone through a series of consultations between communities, NGOs and government departments. Consultations were conducted through workshops, meetings and emails. The three different groups (communities, NGOs and government departments) have to be given credit in shaping up this NBSAP as it is from the communities' information on their resources and how they live with it, their traditional knowledge and skills, the issues they face and their recommendations for improvement, the NGOs' contribution to the report on their conservation programs and the government departments' desktop review and technical knowledge that forms up this NBSAP.

Two review sessions were held to focus on finalizing this NBSAP after the draft was developed. The first review was held to visit the 1<sup>st</sup> draft and the second review was held closer to the submission date to CBD to finalize the document. The final draft NBSAP document was then put forward to the Development Coordinating Committee for approval before it was sent to Cabinet for endorsement.

Figure 5 below shows the steps taken in shaping and forming up this NBSAP.

**Process/Steps involved in developing the NBSAP**



## **8.0 Vision Statement**

“The people of Kiribati continue to enjoy their natural biodiversity that is resilient to the impacts of climate change and supports the socio-economic livelihoods”

## **8.1 Guiding Principles**

The formulation and implementation of this NBSAP is guided by the following principles;

### **1. Good governance and leadership**

This principle implies upholding good governing practices of transparency, accountability, shared responsibility and equity in the consideration of environment requirements in development practices. It respects everyone’s rights to a clean and healthy environment.

It also recognizes that the Government will lead national efforts to protect and promote the sustainable use of biodiversity and will always consult the local community.

### **2. Food security and nutrition**

This principle recognizes that biodiversity plays a critical role in meeting the food needs of people, reducing hunger and improving individual health. It emphasizes the need to promote staple local food and sustainable use of our land and marine resources.

### **3. Collective responsibility**

It is generally accepted that to effectively manage, protect and sustainably use the environment and its goods and services, everyone has a responsibility. This principle recognizes that each individual holds a key responsibility in managing its environment. It also recognizes critical roles of different government sectors and institutions in sustaining the good health of the environment.

### **4. Respect for traditional knowledge, practices and skills**

I-Kiribati people have valuable indigenous knowledge and practices that can contribute to the sustainable use and effective management of their natural resources and the environment. The traditions and practices are important elements of their culture and heritage that forms their national identity.

### **5. Integration of biodiversity in economic development aspirations**

This principle recognizes the challenge in reconciling and balancing the need to protect and conserve biodiversity and the development needs. This emphasizes the critical importance of credible, relevant and legitimate scientific investigations and information to the integration of biodiversity into the development planning and implementation

## 9.0 CBD Aichi Targets

Of the 20 Aichi Biodiversity Targets, all targets are adopted in this NBSAP. The targets were retained as they were developed by the CBD, but some may not correspond well to the action plans for the next four years until 2020 as could be seen in the action plan under the Kiribati Biodiversity Action Plan in section 7.0. For example, Target 16 was addressed in the action plan, however, given the fact that Kiribati has not ratified the Nagoya Protocol, the planned activities focused mainly on the preparation for Kiribati towards ratification through the regional project that Kiribati is part of. Additionally, this revised NBSAP may not be submitted in 2015 as reflected in Target 17, but some of the action plans reflected in this NBSAP are currently implemented. For the remaining targets, the action plans may address each target fully or partly.

For ease of reference, below are the CBD strategic goals and targets Kiribati adopted for its NBSAP 2016-2020. These targets guide the action plan developed for Kiribati in the next four years.

<b>Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society</b>	
Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.
Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international	Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

obligations, taking into account national socio economic conditions.	
<b>Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use</b>	
Target 5: By 2020, the rate of loss of all natural habitats, including forest, is at least halved and where feasible brought close to zero, and degradation and fragment is significantly reduced.	Target 6: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.
Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	
Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity	Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	

<b>Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity</b>	
Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.	Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.
Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	
<b>Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services.</b>	
Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and wellbeing, are restored and safeguarded, taking	Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

<p>into account the needs of women, indigenous and local communities, and the poor and vulnerable.</p>	
<p>Target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.</p>	
<p><b>Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building</b></p>	
<p>Target 17: By 2015, each party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan</p>	<p>Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.</p>
<p>Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.</p>	<p>Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resources needs assessments to be developed and reported by Parties</p>

### 10.0 Kiribati Biodiversity Action Plan 2016-2020 (costs are presented in thousands - k)

Biodiversity Threats	National Targets	National Action	Aichi Targets	indicator	Output	Responsible Agency	Cost
<b>Protected and Conservation Areas</b>							
Decline in marine and terrestrial resources	Establish at least one marine protected area and expand protected areas program to other islands in Kiribati by 2020	Identify potential protected areas in Kiribati community & stakeholder consultation for prior consent  Develop a national list of priority sites for inclusion in the List of Wetlands of International Importance under the Ramsar Convention on Wetlands  Mapping biodiversity areas such as terrestrial plant species, marine habitats	Target 11	Number of protected areas established  Number of Ramsar Sites designated  Number of consultations undertaken and participants involved.  Number of biodiversity sites identified and mapped  Cabinet approval is secured.	Local community's agreement secured for establishing protected areas and Ramsar sites  Protected area(s) and Ramsar sites finalized and established  GIS map for biodiversity sites is available  M & E	Leading agency ECD  Supporting agencies FD, LMD, ALD, MLPID,	60k

		and substrate distribution					
		Seek Cabinet endorsement					
	Establish at least 3 community based management plans for coastal resources (Fisheries and Mangroves) by 2018	Stock Assessment and mapping (fisheries surveys)  Identify potential sites and resources requiring management plans	Target 7, 10 & 14  Target 11	Number of sites surveyed and mapped  Number of sites and resources identified needing management plans  Number of management plans formulated on both Fisheries and Mangroves Plans	Report on the sites surveyed and mapped produced  Community based management plans (CBFM, CBMMP) developed, finalized and implemented  M & E	Leading agency FD  Supporting agencies; ECD, PIPA	50k
	Develop and implement at least one or two PA management plan by 2020	Seek Cabinet endorsement of PA and PS regulations  Raising awareness on PA & PS regulations  Formalized and	Target 11	PA & PS regulations finalized and endorsed by Cabinet  Number of Public Awareness carried out  Finalized the list of PAs and PS for	PA & PS regulations endorsed & enforced  Increased number of PA and PS  Management	Leading agency WCU-, ECD  Supporting agencies; FD, LMD, MLPID,	250k

		<p>legalized the status of Cook Islet, Motu Tabu and rat free inland motus on Kiritimati island as Protected Areas (including their lagoons as MPAs) under the PA &amp; PS regulations.</p> <p>Develop management plans for Cook Islet, Motu Tabu, rat free inland motus on Kiritimati Island.</p> <p>Seek Cabinet endorsement for management plan and inclusion of Cook Islet, Motu Tabu, and rat free inland motus on Kiritimati island.</p> <p>Implementation of Management</p>		<p>Cabinet endorsement</p> <p>Number of Management plans developed, finalized and endorsed by Cabinet</p> <p>Number of actions implemented as part of the Management Plan .e.g. eradication and control of IAS, monitoring &amp; surveillance of PAs</p> <p>Total amount of revenue collected from license/permit fees to enter/landing at PAs e.g. research permit, bird watching, etc.</p> <p>Number of community members/association involved in the development of Management plan &amp;</p>	<p>Plans developed and implemented.</p> <p>Increase community awareness on PA &amp; PS</p> <p>Biosecurity improved</p>	PIPA	
--	--	--	--	--	--	------	--

		plans at Island level.  Implementation of Management Plan for the existing Ramsar Site, Nooto-North Tarawa.		implementation  Number of IAS eradicated and control as part of the Management Plan			
Decline in the turtle nesting beach	Turtle nesting beach enhancement by 2018	Establishing and strengthening the turtle conservation network (local counterpart) at the community level  Designation of turtle nesting beaches under the Environment Act 1999  Establishing and putting in place Memorandum of Agreement (MOA) between ECD and the community for	Target 11&12	Turtle conservation network in place and operational  Number of turtle nesting beaches designated under the Environment Act  Memorandum of Agreement (MoA) between ECD and the community (local counterparts) established  Number of coastal vegetation species replanted at the turtle nesting beaches	M & E	Leading agency ECD  Supporting agencies; Designated villages, village counterparts	50k

		turtle habitat enhancement program		Number of monitoring carried out on beach mining			
		Replanting of coastal vegetation					
		Managing and monitoring the beach mining					
<b>Ecosystem Management</b>							
Coastal erosion	Develop Coastal Management Plan and Policy by 2017  Identify the vulnerable coastal areas (flooding, hazard risks) that need protection taking into considering the existing key biodiversity areas (KBA) in Kiribati  Expanding soft	Engaging the TA to develop the Coastal Plan and Policy  Conduct consultation with stakeholders and communities on the coastal policy  Seek Cabinet endorsement on the coastal policy  Identification of the most vulnerable areas for possible/best	Target 5  Target 5  Target	Number of consultations with stakeholders and communities conducted  The coastal policy is developed and finalized  Number of reports on eroded sites received by the office (through telephone, consultation, etc)  Number of surveys	The Kiribati coastal policy produced  Report on the assessment studies on vulnerable areas is produced  Report of types of soft measures applied  Report on sites protected with	Leading agency ECD  Supporting agencies; LMD, Mineral Division, MWPU	300k

	measures (coastal vegetation, mangroves, buibui) for coastal protection by 2019	<p>protections measures (buibui, mangrove planting)</p> <p>Undertake survey to determine change in shoreline</p> <p>Construct soft measures (coastal vegetation, mangroves, buibui) for coastal protection on specific islands or sites,</p> <p>Acquisition of lands at imageries that also includes shallow water areas.</p>	10 & 14	<p>carried out to verify the reports received and to identify vulnerable sites</p> <p>Number of assessment studies</p> <p>Number of types of soft measures applied and adopted</p> <p>Number of sites protected with soft measures</p> <p>Combine shoreline change map and flooding with biodiversity information to estimate the impact on biodiversity</p>	soft measures M & E		
Degradation of habitat from pollution	Clean-ups in Urban areas – South Tarawa and Christmas Island	<p>Engaging the community in cleanup activities</p> <p>Conduct clean ups at least 2</p>	Target 8	<p>Number of communities engaged in cleanup activities</p> <p>Number of in land</p>	Sites selected for clean ups are well organized and cleaned	<p>Leading agency ECD</p> <p>Supporting agencies; MLPID,</p>	40k

		times a month Conduct coastal clean ups at least 4 times a year		clean ups conducted Number of coastal clean ups conducted in a year	Less % of wastes lying around attended	TUC, BTC, KUC and the Local community	
Degradation of habitat from mammalian invasive species	Eradication of invasive species on the PIPA infested islands.	Activity on Eradication of Invasive species forms part of the PIPA Management Plan 2015-2020	Target 9	% Recovery of vegetation growth and increase in bird species population after the eradication.	Habitat improved supporting terrestrial life including avi-fauna.	Leading agency PIO, Supporting agencies; Kanton PIPA Coordinator, ALD.	Over 1m
Degradation of marine habitat from wrecked vessels producing black reefs.	Removal of the rusted wrecked vessels impacting on the corals and marine life.	Collaborative work with PIPA partners in the removal of the ship wrecks.	Target 5, 8	% on recovery of the black reefs.	Improved habitat supporting coral growth and marine life.	Leading agency PIPA scientists Supporting agencies; PIPA Kanton Coordinator, FD.	Over 1 m
Over-harvesting of terrestrial and marine	Reduce the use of unsustainable fishing practices by 2020 by 30%	Conduct community awareness and education on the use of	Target 1,2,12	Number of awareness and education programs conducted with communities	The regulation is endorsed Data and report on the number	Leading agency FD Supporting agencies;	15k

resources  Change of economic activities and lifestyle		<p>unsustainable fishing practices</p> <p>Revive and promote the role of traditional knowledge and practices on wise use of fish resources</p> <p>Endorse the draft fisheries (protection of marine resources) regulations 2014 that incorporates the control on the use of unsustainable fishing practices with Cabinet</p> <p>Conduct enforcement on the provisions for unsustainable fishing practices</p>		<p>Number of local communities re-introduced traditional practices on wise use of fish resources</p> <p>The approval of the draft regulation is secured</p> <p>Number of cases found breaching the provisions of the fisheries (protection of marine resources) regulations 2014 on the use of unsustainable fishing practices</p>	<p>of cases found on the use of unsustainable fishing practices showing effectiveness of the awareness raising and education programs</p>	ECD, OAG KPPS	
	Reduce the overharvesting practices of	Revised, updated and finalized for endorsement and	Target 1,7	Revised and updated protected areas and protected species	The protected areas and protected	Leading agency ECD	10k

	terrestrial resources by 2018	<p>implementation the Protected areas and protected Species Regulation</p> <p>Consult Attorney General's Office for finalization of the regulation</p> <p>Conduct outreach programs (communication, awareness and education) at different levels on the protected areas and protected species regulation</p>		<p>regulation is finalized</p> <p>Consultation with Attorney General's Office is conducted</p> <p>Number of outreach programs has been carried out to the public at different levels</p>	<p>species regulation is endorsed and implemented</p> <p>% coverage of public at different levels reached through outreach programs</p>	Supporting agencies; FD, AGO	
Habitat Loss	Restoration and rehabilitation of marine and terrestrial habitats by 2020	<p>Assessment of destructed marine and terrestrial habitats</p> <p>Identify marine based and land based destructive activities</p>	Target 14	<p>Number of assessments conducted</p> <p>Number of marine based and land based destructive activities identified</p>	Stock assessment report on destructed marine and terrestrial habitats produced	<p>Leading agency FD</p> <p>Supporting agencies; PIPA, ECD, ALD</p> <p>Island Councils</p>	40k

		Conduct rehabilitation and restoration of marine and terrestrial habitats (coral planting, mangrove planting, medicinal, crop)		Number of marine and land habitats restored and rehabilitated	Report on the destructive marine based and land based activities produced  Types of marine and terrestrial habitats restored and rehabilitated  M & E		
Heavy Pressure on coastal resources for commercial purposes	Rehabilitation and restoration of ponds for aquaculture development by 2018	Conduct training on milkfish culturing to communities involved with aquaculture activities  Conduct training on seaweed farming to local exporters	Target 6, 14	Number of milkfish pond rehabilitated  Number of trainings conducted  Increase in seaweed production and exportation	Community and household ponds rehabilitated and active  Local farmers and communities involved with aquaculture activities  M & E	Leading agency FD  Supporting agencies; Island Councils	20k

Unsustainable farming practices	60% of local growers/farmers practiced organic agriculture in Kiribati by 2020	<p>Conduct training on organic farming to local farmers</p> <p>Conduct training on participatory guarantee organic certification system</p> <p>Conduct awareness raising and education on organic agriculture principle</p> <p>Establish organic farming associations in the outer islands</p> <p>Incorporate organic agriculture provision in at least two islands' bye laws</p>	Target 1, 8, 14	<p>Number of islands with organic agriculture bylaws</p> <p>Number of organic certified products</p> <p>Number of established organic farmers associations in the outer islands</p> <p>Number of bye laws incorporating organic agriculture</p>	<p>Islands' organic bylaw developed, endorsed, and implemented.</p> <p>Organic certified products are readily available at local and international markets</p> <p>M &amp; E</p>	<p>Leading agency ALD</p> <p>Supporting agencies; ECD, NGO – Kiribati Organic Farmers Association (KOFA), Local Government</p>	22k
	Develop and increase adoption	Conduct training on compost	Target 1, 7, 8,	Number of farmers using improved and	Farms with improved soil	Leading agency;	13k

	of sustainable atoll soil management technologies by 2020	making and use by farmers  Conduct awareness raising on the use of cover and other nitrogen fixing trees  Conduct surveys on soil health status	4	new technologies of soil management  Number of awareness conducted  Number of surveys and studies on soil health status conducted	management technologies established  Reports of soil health analysis produced  M & E	ALD Supporting agencies; Organic Farmers Association Local Government - MIA	
Absence of national guidelines and policies for the development and management of ecotourism activities	By 2017, national guidelines and policies for the development and management of ecotourism activities will be developed and ready for implementation and use	Tender out nationally and regionally for TA to develop national guidelines and policies.  Conduct consultations, meetings and awareness.  Promote exchange of best practices and experiences between Pacific	Target 4, 20	National Guidelines and Policies developed, completed, endorsed and ready for implementation.	M & E	Leading agency; KNTO,  Supporting agency; ECD	25k

		Island Countries and Territories.					
Unsustainable use and destruction of ecotourism resources	Identification, assessment and mapping of ecotourism resources by 2017	Conduct survey and mapping of ecotourism resources	Target 1,18,20	Number of islands visited for survey, assessment and mapping	Report on survey and mapping produced and submitted to Cabinet for updates and information.	Leading agency KNTO	\$50k
	Restoration of destroyed ecotourism resources by 2017	Assessment on destroyed ecotourism resources and conduct awareness and outreach program to educate communities on the benefits derived from ecotourism development	Target 1, 14	Number of assessments on ecotourism resources damaged per island and awareness conducted	Damaged site assessed and restoration and rehabilitation of ecotourism resources done		
	Develop regulation on the protection of Ecotourism Resources	Engage TA to draw up Regulations on the Protection of Ecotourism	Target 4,12	Number of consultations with stakeholders and communities conducted			

		<p>Resources</p> <p>Consultations and awareness with stakeholders and communities</p> <p>Seek Cabinet endorsement before submission to Parliament for first reading of the bill</p> <p>Second reading of the bill.</p>					
--	--	--	--	--	--	--	--

**Species Conservation and Sustainable use**

Increasing number of endangered, threatened, and extinct species	Identification of endangered, threatened, rare, extinct and protected species, by 2020	<p>Creating and updating the list of endangered, threatened extinct and protected species in line with Regional and international identification</p> <p>Conducting</p>	Target 12	<p>Number of endangered, threatened, extinct and protected species identified</p> <p>National list of endangered, threatened, extinct and protected species is updated in</p>	The list of endangered, threatened, extinct and protected species is in place and nationally endorsed.	<p>Leading agency; ECD</p> <p>Supporting agencies; FD, ALD, PIPA</p>	250k
--	--	--	-----------	---	--	--	------

		National consultation for species conservation and sustainable use		accordance to regional and international identification category	M & E		
	Development and implementation of at least two turtle species community based management plan by 2019	<p>Consultation with communities</p> <p>Recruitment of TA to conduct refresher course</p> <p>Refresher course on turtle species conservation with local counterparts in communities</p>	Target 18	<p>Number of consultations conducted with communities</p> <p>Number of refresher courses conducted on turtle species conservation with local counterparts</p>	<p>The community based management plan for turtle species established</p> <p>TA recruited</p> <p>Number of local counterparts trained</p> <p>M &amp; E</p>	<p>Leading agency; ECD</p> <p>Supporting agencies; FD, regional partners and TA</p>	40k
	Marine stock enhancement program by 2020	Translocation of Ark shell, giant clam and sea cucumber	Target 6	Number of ark shell, giant clam and sea cucumber translocated	<p>Increase abundance of ark shell, giant clam and sea cucumber</p> <p>Report on translocation program</p>	<p>Leading agency; FD</p> <p>Supporting agency; ECD</p>	10k

					produced		
Decline in native food crops and plant diversity	Establishment and extension of gene-banks of traditional plant food crop species by 2018	<p>Conduct community and stakeholder consultation</p> <p>Identify suitable site/land for gene banks establishment</p> <p>Seek Cabinet approval for site/land to use</p> <p>Collection of rare varieties or sub species of traditional food plants</p> <p>Establishment and extension of gene banks</p>	Target 12, 13,19	<p>Number of established gene banks of traditional food crop species</p> <p>Site/Land suitable for gene banks establishment identified</p> <p>Cabinet approval for site/land to use secured</p> <p>Number of rare varieties or sub species of traditional food plants conserved</p> <p>Number of sites/lands used for gene banks</p>	Gene banks established and maintained	<p>Leading agency; ALD</p> <p>Supporting agency; ECD, PIPA</p>	23k
	Expanding nursery centers to include native food crops and plants on a number of outer	Include at least 3 native food crops and plants in established nurseries	Target 7	<p>Number of nurseries holding native food crops and plants.</p> <p>Number of native</p>	<p>Nurseries for native food crops and plants established</p>	<p>Leading agency; ALD</p> <p>Supporting</p>	10k

	islands by 2018			<p>food crops and plants seedlings mobilized and planted.</p> <p>Number of islands involved</p>	<p>Data/record of distributed or planted native food crops and plants</p> <p>Improve nutritional standard of living for outer islands communities.</p>	agencies; ECD, PIPA	
	Restoration of at least 2 overharvested plants and trees species in at least 2 islands by 2018	<p>Identify and create the list of overharvested plants and trees</p> <p>Replanting of overharvested plants and trees</p>	Target 5, 14	<p>List of overharvested plants and trees created</p> <p>Number of overharvested plants and trees replanted per island</p> <p>Number of overharvested plants and tree species replanted per island</p>		<p>Leading agency; ECD</p> <p>Supporting agencies; ALD, TTM Extension Officer, KFHA</p>	30k
Lack of legal framework that will protect and conserve bonefish	By beginning of 2017, Bonefish Bye Law for selected islands (e.g. Nonouti Island)	Consultation with stakeholders and Nonouti community	Target 2, 4, 17	<p>Number of consultations and meetings held.</p> <p>The bye law on</p>	People of Nonouti Island are consulted.	<p>Leading agency; KNT0</p> <p>Supporting</p>	15k

species for the purpose of ecotourism development on some Islands	will be ready for implementation.	Review and finalization of Bye Law  Island Council only		bonefish is endorsed by the local council	Bye Law finalized and endorsed by Island Council  Implementation of Bye Law  M & E	agencies; Selected Island Council, FD, MIA, AG's Office, ECD	
<b>Communication and Education</b>							
Limited awareness, understanding and knowledge on the contribution of biodiversity to food security, production resilience, and health	By 2018, knowledge and understanding on value of agrobiodiversity improved at the national and local levels.  By 2020, knowledge on the importance of marine environment and impacts from human induced	Conduct national and community trainings and workshops on agrobiodiversity and biodiversity  Incorporate agrobiodiversity in education system  Incorporate marine science	Target 1  Target 1, 19	Number of trainings and awareness workshops conducted  Number of households/communities and schools with diversified agricultural production  Number of awareness and information materials on agrobiodiversity	Households/communities/schools with diversified agricultural production established  Agrobiodiversity information and awareness materials published  Revised school curriculum for upper classes	Leading agency; FD  Supporting agencies; ALD, ECD, MoE	20k

	activities	topic in school curriculum for upper classes		published/produced Number of levels/classes having marine science topics	M & E		
Limited awareness, understanding and knowledge on the contribution of conserving bonefish to production resilience and health.	Revisit Nonouti Island by 2017 for consultations and awareness on importance and value of bonefish conservation.	Conduct community consultations and awareness workshops on Bonefish Game Fishing  Conduct awareness programs with JSS and Primary Schools  Develop awareness materials for students	Target 1	Number of consultations and awareness workshops conducted  Number of schools and communities visited  Number of awareness and information materials published	Community consulted  M & E  Schools visited  Awareness and Information materials published	Leading agency; KNTO  Supporting agencies; FD, MOE, ECD,	20k
Limited outreach on biodiversity	Implementation of environment/biodiversity communication	Revise, update and implement the communication	Target 1,2, 3,4, 17	Number of equipment and staff trained for use  Number of trained	A number of specific biodiversity campaign	Leading agency; ECD	100k

	strategy by 2017	<p>strategy</p> <p>Pooling available resources for outreach</p> <p>Conduct specific training on communication, awareness and education for biodiversity</p> <p>Establish the Biodiversity TOT team on communication, awareness and education</p> <p>Conduct the Training of Trainers</p>		<p>participants with high confidence level</p> <p>Number of biodiversity related days observed</p> <p>Number of communities/target audience visited</p>	<p>material sets</p> <p>Necessary equipment acquired</p> <p>On-going celebration of biodiversity days</p> <p>M &amp; E</p>		
<b>Capacity Building</b>							
Limited skills in assessing and monitoring of biodiversity status (terrestrial and	Baseline data of biodiversity for food and agriculture established by	Establish a List for existing datasets of biodiversity for food and	Target 19	Number of existing datasets on biodiversity for food and agriculture collected	Trainings and capacity building programs conducted	Leading agency; ALD Supporting agency;	32k

aquatic resources)	2018,	agriculture  Identify information and knowledge gaps and training needs for capacity building on baseline data collection  Identify key or appropriate personnel (technical working group) to be trained  Engage international/regional expert to conduct training		Number of baseline data collection and trainings conducted  Number of national and local staffs trained	M & E	ECD, FD, LMD	
	Strengthen the capacity on fisheries surveys	Conducting training on fisheries surveys (SCUBA dive training, UVC, etc)	Target 1,4	Number of trainings conducted  Number of people trained	Certified divers (level of achievement)	Leading agency; FD  Supporting agency; ECD	15k
	Upskilling of technical capacity	Conduct training to establish KBA	Target	TA identified and recruited		Leading agency;	25k

	to implement, assess and monitor the Key Biodiversity Areas (KBA) by 2020	<p>database</p> <p>Identify TA to conduct training on KBA implementation, assessment and monitoring and sustainability</p> <p>Establish KBA database to provide trends in future reports such as vegetation coverage, mangrove mapping, coral reef health status and other ecosystems status, and cultural significant sites,</p>	1, 4,	<p>Number of trainings conducted</p> <p>Database on KBA is established</p> <p>Number of people of different levels and background trained</p>		ECD	Supporting agencies; ALD, FD, local community
Adverse impacts of major developments on	To strengthen the capacity of the National DRM committee, Local Government staff	Training of National DRM committee, Island Council staff, (local	Target 15	Number of trainings with Island Council staff, island communities on environmental/biodi	Minimal adverse impact of negative environmental/biodiversity	Leading agency; ECD	Supporting agencies;

environment/biodiversity in the face of climate change in Kiribati (national, island and village level)	and local communities in environment/biodiversity integrations in development activities in at least one island by 2019	communities (including youth and women in environmental/biodiversity considerations and to mitigate impacts of development projects		iversity safeguards, ELs and ESA in the context of climate change	impacts of development undertakings M & E	FD, Mineral Division, ALD	
	To strengthen institutional capacity to assess and monitor the development projects in at least one outer island by 2019	Training of institutions (national, island and village level)	Target 1	Number of trainings conducted  Number of people trained  Number of institutions trained		Leading agency; ECD  Supporting agencies; FD, ALD, Mineral Division, MIA - RDD, LGD, Island councils, local community	30k
Wide spread and incursions of high risk introduced animal and	Commodity pathway analysis strengthened by 2020	Training in import risk assessment analysis (IRA), and import	Target 1, 4	Number of training on quarantine, IRA and biosecurity inspections	Updated national pest list database	Leading agency; ALD  Supporting agencies;	50k

<p>plant pests and diseases,</p> <p>Incursion of marine and terrestrial invasive species</p>		<p>specification, accessing markets, updating national pest lists, and issue of phytosanitary and animal health certificate for exported and imported commodities.</p>		<p>Number of national surveillance on pests and diseases</p> <p>Number of staff trained in different aspects of quarantine and biosecurity</p>	<p>M &amp; E</p>	<p>ECD, Environmental Health Unit</p>	
	<p>Border security strengthened by 2018</p>	<p>Training in pest and disease identification diagnostic skills and control treatment of incursion pests and diseases.</p> <p>Equipping and refurbishing of mini laboratory at main ports (Kiritmati and Tarawa)</p> <p>Conduct refresher training course on biosecurity</p>	<p>Target 9, 19 &amp; 9</p>	<p>Number of trainings conducted</p> <p>Number of biosecurity staff trained</p> <p>Number of biosecurity mini laboratory refurbished</p>	<p>Biosecurity mini laboratory refurbished</p> <p>Report on identified agricultural pests and diseases (existing and introduced)</p> <p>M &amp; E</p>	<p>Leading agency; ALD</p> <p>Supporting agency; ECD</p>	<p>50k</p>



					M & E		
Limited enforcement on biodiversity related legislation	Strengthen the institutional and human resource ( ECD, JET, EYC with local communities) capacity to enforce biodiversity related legislation in at least one island by 2019	Recruit TA to conduct training  Enforcement training on biodiversity related legislation  develop the manual for enforcement on biodiversity related legislation  Trainings conducted for enforcement officers under the Fisheries Act	Target 20, 17, 20	Number of trainings conducted  Number of people trained  TA is identified and recruited  Enforcement manual is developed	M & E	Leading agency; ECD  Supporting agencies; OAG, KPPS	10k
Limited knowledge and skills on sustainable fishing game techniques for fishing guides of selected Islands	By early 2017, refresher training for Fishing Guides including Catch and Release Fishing Techniques conducted	Refresher training conducted	Target 1	Number of refresher trainings conducted  Number of people trained	M & E	Leading agency; KNTO  Supporting agencies; ECD, FD, selected Councils	10k

Lack of appropriate skill based training in developing biodiversity-ecotourism related products and packages	Identify potential islands to conduct training on Development of products and packages by 2018  Marketing of products and packages	Pilot islands to conduct training selected  Training to communities in selected islands conducted  Products and packages developed  Marketing campaign conducted	Target 2, 3    Target 1	Number of trainings conducted  Number of products and packages developed  Number of marketing campaign conducted	Local communities trained  Types of products marketed and sold	Leading agency; KNT0,  Supporting agency; Community	50k
Increase in bio-piracy	Preparation of Kiribati for ratification to the Nagoya Protocol through implementation of the regional project in Kiribati by 2017	Conduct workshops/consultations to government stakeholders, NGOs and the communities  Conduct workshops to the parliamentarians  Conduct awareness raising and informal	Target 16	Number of workshops conducted  Number of awareness raising and education conducted  Methods for awareness raising employed	Government partners, NGOs and communities informed about Nagoya Protocol  Parliamentarians informed about Nagoya Protocol	Leading agency; ECD  Supporting agency; SPREP	125k

		education to the public					
<b>Invasive Alien Species/Biosecurity</b>							
Limited eradication and containment measures for Invasive Alien Species	The KNISSAP is implemented and sustained in at least 3 islands by 2018	Eradicate/control/ manage IAS	Target 4	Number of IAS eradicated, controlled and managed per island		Leading agency; WCU –ECD  Supporting agencies; ALD, FD	190k
Agricultural pests incursion and outbreak	Pest and disease problems identified and control methods developed and used by 2019	Identification of pest and disease problems  Development of control methods on pest and disease  Development and review of Emergency response plan for pest incursion and disease outbreak  Establishing and	Target 8, 9, 17	Number of control measures developed and used  Number of pest and diseases identified  Number of well-equipped and operated laboratories	Emergency Response Plan for pests incursion produced and revised  Diagnostic laboratories refurbished and build.  M & E	Leading agency; ALD	38k

		refurbishing of laboratories at main ports of entries (Betio wharf, Bonriki airport, and Christmas ports)					
<b>Traditional Knowledge (TK) and Practices</b>							
Absence of language review board to officially translate biodiversity terms to Kiribati language and dialects	By 2017, Biodiversity registers accepted by Language Board (LB) and used nationally	MELAD prepare draft submissions to LB for agreed terms	Target 18	Official translated biodiversity registers are standardized and nationally disseminated  Number of biodiversity registers translated to Kiribati language and dialects	The glossary for Kiribati biodiversity registers is produced	Leading agency; ECD  Supporting agencies; MoE, OB, FD, ALD	5k
Incomplete and fragmented documentation of origin and ownership of biodiversity related Traditional Knowledge	By 2018, completion (75%) of documentation of TK in relation to environment/biodiversity	Acquisition of necessary equipment and tools, state-of art techniques in recording, preserving and presentation  Participation in	Target 18	Types of tools, equipment and state of art techniques acquired  80-100 % participation in NBSAP outer island		Culture Division, ECD, ALD  FD	80k

(TK)		NBSAP visits to outer islands		visits			
No legal back up to protect traditional knowledge, skills and practices	By 2020, the preparatory phase for appropriate legal mandate to protect traditional knowledge, skills and practices will have been undertaken	Review existing legislation related to Intellectual Property Rights (IPR)  Undertake consultation with appropriate authorities on IPR in relation to biodiversity  Undertake consultation, awareness and education with local communities	Target 11, 18	The legislation related to IPR has been conducted  Number of consultations conducted with appropriate authorities on IPR in relation to biodiversity  Number of consultations, awareness raising and education programs with local communities conducted		Leading agency; ECD  Supporting agencies; FD, ALD, MCIC, Culture Office	30k
<b>Environmental Governance</b>							
Limited coordination in implementing and reporting to biodiversity related	By 2017, the Biodiversity Planning Committee, in particular focal points of all	Produce synergies of environmental and biodiversity related programs at the national	Target 3, 4, 17	The program of actions under all biodiversity related conventions is harmonized and coordinated and	M & E	Leading agency; ECD	5k

conventions	biodiversity related conventions have enhanced synergies and harmonization of their national actions harmonizing their national actions	level  Focal points of all biodiversity related conventions harmonized their reporting obligations under the different conventions  Programs of different biodiversity related conventions are harmonized and coordinated by the National Biodiversity Planning Committee		contribute to national reporting under the different conventions  Biodiversity related programs at the national level are synergized and harmonized			
Weak law enforcement on provisions for biodiversity	Review the draft protected areas and protected species regulation by 2017	Development of the enforcement manual for the biodiversity	Target 1, 18	Two trainings on the effective enforcement of the biodiversity provisions in the Environment Act	Biodiversity resources covered under the Environment Act are more	Leading agency; ECD  Supporting agencies;	50k

		provisions in the Environment Act		have been conducted  Enforcement manual on biodiversity provisions in the Environment Act has been developed and implemented	protected, managed and sustained.  Confidence of staff increased in the enforcement of biodiversity provisions in the Environment Act.  More cases on breach to provisions for biodiversity are found and prosecuted  M & E	AG's Office and National Biodiversity Planning Committee	
Poor monitoring on the implementation of the biodiversity related policies	Undertake the evaluation and review of biodiversity related policies implementation by	Recruit TA to undertake evaluation and review biodiversity related policies	Target 3, 14, 17,	TA has been recruited  Desktop review conducted  Consultation with appropriate	An effective monitoring mechanism is endorsed	Leading agency; ECD  Supporting agencies; FD, ALD,	60k

to determine success and failure rates	2019	implemented  Undertake desktop review and consultation with appropriate authorities on all biodiversity related policies and their status of implementation  Develop and present the report on findings and key recommendations		authorities conducted  Report on the review and way forward  Completion and presentation of report		National Biodiversity Planning Committee	
Absence of national legal framework for the development and management of ecotourism activities	By beginning of 2018, Act and Regulations for the development and management of ecotourism activities is ready for implementation	Tender for TA at the national and regional level to develop legislation  Consultations and awareness program to communities  Submit to cabinet for endorsement before	Target 4, 17	TA recruited  Number of consultations and awareness conducted  Cabinet endorsed the proposed bill to progress to Parliament  Bill read by Parliament	Act and regulations developed, completed and ready for implementation	Leading agency; KNT0  Supporting agencies; ECD, TA	\$72k

		submission to Parliament  1 <sup>st</sup> Reading of the bill  2 <sup>nd</sup> Reading of the Bill						
<b>Research and Information</b>								
Absence or poor biodiversity information monitoring system	Biodiversity information monitoring system established by 2020	Improve the information and database facilities (ALD)  Updating and validating data	Target 19	Number of monitoring and assessment of components of biodiversity within different production systems and islands	Functional information and data facility established and updated from time to time	Leading agency; ALD		10k
Data analysis	Staff are able to analyze fisheries data by 2020	Support capacity in analyzing fisheries data	Target 17, 6	Number of trainings conducted  Number of staff trained	Analyzed data established	Leading agency; FD  Supporting agency; ECD		10k
Biodiversity data and information scattered	Biodiversity database is established by 2018	Set up a centralized database for biodiversity  Designing the	Target 17, 2, 19	Database is established and operational.  Biodiversity data is easily accessed to	Committee is established. Database is developed. Data is	Leading agency; ECD,  Supporting agencies;		60k

		<p>database to serve the national need</p> <p>Collection of data for the database</p> <p>Create a database using the raw data collected</p>		data on climate change.	centralized and available to public users	Biodiversity Planning Committee, MFEP	
Improve the information and database facilities (ALD)	Centralized all Agriculture and Livestock information and data facility established by 2018	<p>Capacity building for Information Officer at ALD</p> <p>Procurement of machines and materials</p> <p>Updating of Information and Data from time to time</p>	Target 19	Trained personnel to update Agriculture and Livestock Data/Information from time to time	Accessible and creditable Agriculture and Livestock Data/Information to support decision making on biodiversity	Leading agency; ALD	28k
Lack of Documented Agricultural Research to support and sustain biodiversity	Documentation of all atoll agriculture and livestock researches by 2020	<p>Establishment of ALD core team to coordinate all undertaken Agriculture and Livestock researches for documentation and publication</p>	Target 13, 19	<p>Number of Agriculture and Livestock researches/trials conducted</p> <p>Number of documented researches published</p>	<p>Documented atoll agricultural (crop, soil) and livestock (local feed) and Plant Health researches published for public use</p>	Leading agency; ALD	41k

		<p>Crop research on climate change adaptation</p> <p>Soil amendment research</p> <p>Livestock Feed trial and research</p> <p>Plant Health research on locally available pesticides</p>					
Lack of research on the possible threats of tourism development in Kiribati on biodiversity.	Conduct study on threats on tourism developments in Kiribati by 2019.	<p>Recruitment of TA to conduct study</p> <p>Conduct survey and study on threats on tourism in Kiribati</p>	Target 17, 19, 20	<p>TA recruited</p> <p>Survey and study conducted</p>	Report completed, tabled and circulated for information of involved stakeholders	<p>Leading agency; KNT0</p> <p>Supporting agency; ECD</p>	35k
Lack of research thus data and information on most suitable	Conduct research on Virgin coconut oil (VCO) by 2018	Recruitment of TA and local counterpart to carry out research on VCO	Target 14, 19	<p>TA and local counterpart recruited</p> <p>Research conducted</p>	Report completed, presented to and circulated to relevant	<p>Leading agency; ALD</p> <p>Supporting</p>	40k

variety of coconut for producing virgin coconut oil		identification			stakeholders	agencies; MCIC, ECD	
---	--	----------------	--	--	--------------	---------------------	--

## **11.0 Application of the NBSAP to Sub-national entities**

The NBSAP report is considered the national document after its endorsement by Cabinet. The Kiribati National Biodiversity Planning Committee which consists of key stakeholders from both the government and the NGOs were heavily involved in the development of the NBSAP report. They are also key players in the implementation of biodiversity related activities at the national level. Since it is a national document, the NBSAP is meant to be implemented at both the urban and the rural areas. The State government and the local government, along with local communities, all play an important role in the implementation of such. Local communities are vital in the implementation of the NBSAP at all levels.

## **12.0 Sectoral Action and Mainstreaming into Development, Poverty Reduction and Climate Change Plans**

Mainstreaming of biodiversity into national and sectoral policies, strategies and plans have taken place in Kiribati. The new Kiribati Development Plan 2016 - 2019, a national plan that reflects the national priorities and to which the government entities worked towards recognised biodiversity as vital to the people's livelihood. Biodiversity in Kiribati is considered one component of the environment as a whole and therefore whenever environment is mentioned; it meant everything in the environment, including biodiversity.

In the KDP, Key Policy Areas (KPAs) which provide guidance to the government were identified. Poverty reduction and Environment were two separate KPAs recognised as important for the national goals. Poverty reduction is tied together with Economic growth and under this KPA, it was acknowledged that environmental factors, including the challenge of climate change, and agricultural food production, impact people's daily lives and well-being. This shows how environment including biodiversity is vital to poverty reduction.

In terms of climate change plans, they have always been recognised at the national level that climate change plays a crucial part in the state and health of the biodiversity. Climate change impacts and disaster risks have always been a threat to the health of the biodiversity. The Kiribati Joint Implementation Plan (KJIP) for climate change and disaster risks management, a national document which was developed with the assistance of all relevant key stakeholders also recognised the importance of biodiversity and has mainstreamed biodiversity as reflected within its activities.

Overall, there is an increased knowledge and understanding of the importance of biodiversity at the national level. Mainstreaming of biodiversity into the national and

sector goals and plans clearly indicate how biodiversity is considered important by the government.

## **13.0 Implementation Plans**

### **13.1 Plan for Capacity Development for NBSAP Implementation, Including Technology Assessment**

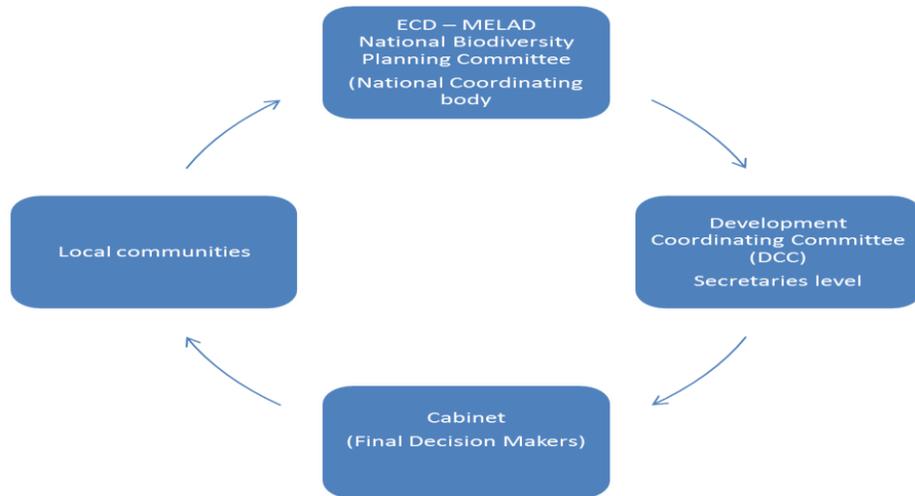
Different capacity needs have been identified by key stakeholders. Specific capacity needs were identified in the table under the section for the Kiribati Biodiversity Action Plan 2016 - 2020.

### **13.2. Communication and Outreach Strategy for the NBSAP**

The endorsement of the NBSAP has to go through a national process in order for it to be recognised as a national document. The NBSAP was developed with the assistance of the National Biodiversity Planning Committee which is composed of government departments, NGOs and private sectors. The development of the NBSAP serves as a way to promote biodiversity, defining roles and responsibilities of various stakeholders towards protecting and conserving biodiversity and how they can work together by mobilising their resources and saving costs. It is important to acknowledge the fact that local communities had a hand in shaping up the NBSAP as it is from their various issues, proposed solutions and other proposals about the protection and conservation of biodiversity obtained during the consultations that are now documented in the NBSAP.

The NBSAP has to go through the Development Control Committee (DCC) which mainly consists of Secretaries who are heading the Government ministries. This gives them time to comment on the document and recommend for further improvement before it goes to the final stage for approval. The DCC, after being content with the document, will recommend to Cabinet who are the final decision makers in the process. It is important that Cabinet is well versed with the NBSAP prior to adoption. Given the complexity and the technicality of the NBSAP report, a briefing paper on the NBSAP has to be prepared to accompany the cabinet paper and the report. The briefing paper will serve as a means to put across the message on the key contents of the NBSAP in a simplified and non-technical way. After the NBSAP endorsement, it is also crucial that Cabinet is well updated with implementation stages of the NBSAP and to be involved also to some extent in the implementation.

Therefore a flow of information across decision makers, and key players on the implementation including progress is developed as illustrated in Figure 2 below.



**Figure 2: Flow of information across decision makers**

#### **14.0 Plan for Resource Mobilization for NBSAP Implementation**

It has always been a practice that NGOs and youths were involved in the national biodiversity activities on a voluntary basis. This is how the government has mobilised its resources, in this case, human resource in carrying out activities. The opportunity obtained from this arrangement was the NGOs and Youths’ get experience from government activities, including awareness raising in the biodiversity issues, amongst others. It is the government’s plan to continue to include them in the NBSAP implementation using the same arrangement. Funding mechanisms which are allocated to local communities, such as small grants, could resource the communities’ efforts in biodiversity conservation and its sustainable use.

It is understood that the plans of the NBSAP need financial and technical assistance to be rolled out. In the action plan, government ministries (responsible agencies) are identified to implement the activities. This is how the government will mobilize its human resources to implement the NBSAP through their own programs. Annually, the government allocates a budget to all government ministries to support the implementation of their programs. This budget allocation also contributes to the NBSAP implementation in one way or another through the line ministries.

The establishment of the Environment Fund is also an avenue the government of Kiribati is exploring. The source of the environment fund will come from fees prescribed under the environment national legislation, such as fees from environment research fees, licence fees, and from fines imposed. There is a plan that this fund will also contribute to the implementation of the NBSAP.

It is the government's plan to reach out to international bodies, regional bodies and bilateral as well as major funding mechanisms including GEF to tap available resources for the NBSAP implementation. Biodiversity is one of the government's priorities and it is imperative that to achieve its national goals, plans and programs for such is implemented to the highest effort.

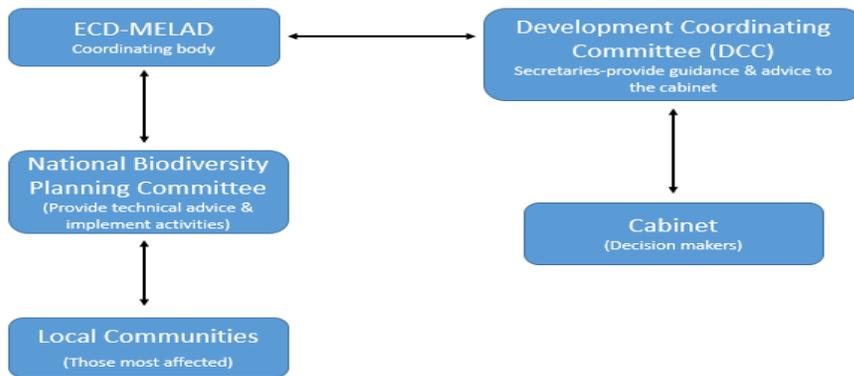
The PIPA Conservation Trust was established with its secondary goal to utilize its assets to support among others, activities relating to the conservation of the environment, cultural and historical resources. There may be potential to utilize the PIPA Trust to provide the long term financing of the nation's conservation activities.

## **15.0 Institutional, Monitoring and Reporting**

### **15.1. National Coordination Structures**

ECD under its portfolio has been the leading and coordinating agency on the NBSAP implementation and other biodiversity related activities. ECD also chairs the National Biodiversity Planning Committee and serves the committee through its secretarial work. ECD calls the committee whenever there is an issue or activity planned to be implemented and it is through this committee that ECD built its close relationship with the different government departments and NGOs. It is also through this committee that different stakeholders/sectors share their knowledge and expertise and assist in the implementation of biodiversity related activities.

The Committee serves as a forum that provides technical advice to Cabinet through the DCC on national biodiversity issues. They are also implementing and executing bodies of the national plans. It is through this committee that national biodiversity proposed plans are put up to the DCC for approval before they are submitted to the Cabinet. Figure 3 below illustrates the coordination and information flow on the NBSAP implementation.



**Figure 3 Coordination and Information flow on NBSAP implementation**

ECD's main role as a coordinating body is to monitor the progress of the implementation of the NBSAP and reports to the Convention. It also ensures that implementation activities are not duplicated. ECD would be working closely with the committee on the implementation of the NBSAP and preparing reporting requirements.

## 16.0 Clearing House Mechanism

The development of national clearing house mechanisms (CHMs) and biodiversity database to support the implementation of the CBD and NBSAPs is mandated by Article 18.3 of the Convention.

Kiribati acknowledged that Biodiversity CHM is an important tool for CBD and NBSAP implementation. It is the primary tool for making biodiversity information available and easily accessible to all NBSAP stakeholders. The CHM serves as a platform to establish the network online between key stakeholders who are primarily the NBSAP implementers, potential funders, researchers, amongst others. The Biodiversity CHM also provides services to the public, in particular students who continuously need information for research. It is an invaluable source of information on Kiribati biodiversity for raising awareness to the public.

Currently, the Kiribati Biodiversity CHM is under construction through the NBSAP Update project fund. Upon completion, there is a need to regularly update it to ensure that it is readily available and accessible to the public. It is acknowledged that the existence of the Kiribati Biodiversity CHM needs to be widely promoted and advertised to the public.

Responsibilities for the regular upkeep and maintenance of the CHM in terms of its content lies with ECD as a focal point, however, the National Biodiversity Planning

Committee has an important role in providing information that need to be posted in the CHM.

The Kiribati Biodiversity CHM will be linked with the ECD's official website. This will enable the public to easily access the CHM and obtained assistance from there on. The need to strengthen capacity on CHM to continuously support its upgrade, update and enhancement has been identified as one of the priorities. Kiribati will continue to seek assistance through technical and funding mechanisms available.

Specific actions for improving the CHM are prescribed under Target 19 of the NBSAP. Actions calling for enhancing and updating the CHM are proposed as important priorities that should be implemented as soon as possible. Being a GEF funded add-on enabling activity to this NBSAP updating exercise, there may be resources for its immediate implementation, however, a separate GEF funded EA could be requested as alternative as soon as practical.

While the Kiribati CHM is under construction, the ECD's official website is acting as an information sharing platform on Biodiversity through the sharing of national reports related to Biodiversity. In addition, the development of the Environmental Management Information system which is currently underway will also serve as a primary tool for making biodiversity crucial information available and easily accessible to all NBSAP stakeholders when completed.

The existing PIPA website ([www.phoenixislands.org](http://www.phoenixislands.org)) could also be utilized where possible in hosting and disseminating information to the nation and overseas.

## **17.0 Monitoring and Evaluation**

### **17.1 National Biodiversity Planning Committee to monitor NBSAP Implementation**

The National Biodiversity Planning Committee is responsible for monitoring progress in the NBSAP implementation. ECD as a coordinating body is a crucial player in ensuring the proper functioning of this mechanism and in setting up and implementing an NBSAP monitoring and reporting protocol. It is important that monitoring and reporting are regular and frequent based on indicators and timelines proposed.

### **17.2 Review of the NBSAP**

A midterm independent assessment and review of NBSAP implementation is necessary. The assessment and review will provide guidance and report on how the government with its different sectors and the NGOs have progressed towards achieving their targets. The

review would also serve to keep a continuing focus and scrutiny of implementation, particularly on areas where implementation is lagging behind.

Additionally, it is also recognised that a full and independent review of the NBSAP is proposed after 2020 when the NBSAP is due for updating.

MELAD is responsible for ensuring both interim and full reviews are carried out.

## 18.0 References:

Australian Bureau of Meteorology, 2011,. Climate Change in the Pacific: Scientific Assessment and New Research. Volume 1: Regional Overview. Volume 2: Country Reports, <http://www.pacificclimatechangescience.org/wp-content/uploads/2013/09/Volume-2-country-reports.pdf>

Awira. et.al, 2004, *Pacific Regional Oceanic and Coastal Fisheries Program- Kiribati Country Report, Profiles and Results from Survey Work at Abaiang, Abemama, Kuria and Kiritimati*, Secretariate of the Pacific Community, Noumea.

Catala,R.L.A, 1957 *Report on the Gilbert Islands: Some aspect of human ecology, Atoll Research Bulletin*, The Pacific Science Board. Washington D.C, [http://www.reefbase.org/pacific/pub\\_A0000000375.aspx](http://www.reefbase.org/pacific/pub_A0000000375.aspx)

Campbell, B., Hanich, Q. (2014), *Fish for the future: Fisheries development and food security for Kiribati in an era of global climate change*, WorldFish, Penang, Malaysia. Project Report: 2014-47.

K.Teuriaria. K, 2015, *Situation Report: Impact of Storm Surge from TC PAM and Tropical Storm BAVI on Tamana Island*, Ministry of Environment Lands and Agricultural Development, Tarawa, Kiribati.

Kiribati Government, 1999, *Kiribati Initial National Communication to the Conference of Parties of the Convention on Biological Diversity*, Ministry of Environment and Social Development, Kiribati 1999.

Kiribati Government, 2013, *Second National Communication Report*, Ministry of Environment Lands and Agricultural Development, Tarawa – Kiribati.

Kiribati Government, 2014, *Kiribati Fifth National Report to the Convention on Biological Diversity*, Ministry of Environment Lands and Agricultural Development, Kiribati.

Kiribati Government, 2016, *Kiribati Development Plan 2016-19*, Ministry of Finance and Economic Development, Tarawa, Kiribati.

Kiribati Government, 2016, *Republic of Kiribati National Invasive Species Strategy and Action Plan*, Ministry of Environment, Lands and Agricultural Development, Kiribati.

Obura .D etal Jan, 2016, *Phoenix Islands Protected Area Climate Change Vulnerability Assessment and Management Report the New England Aquarium*, New England Aquarium and Conservation International Boston, USA .

Secretariat of the Pacific Regional Environment Program, 2013, *State of Conservation in Oceania : Key Findings*, SPREP, Samoa.

Siaosi.et.al, 2011, *Climate Change Baseline Monitoring Report- Abemama Atoll, Coastal Fisheries Science and Management Section*, Secretariat of the Pacific Community, Noumea,

[https://www.pacificclimatechange.net/sites/default/files/documents/SPC\\_12\\_KIR\\_Climate\\_Change\\_Baseline\\_Report.pdf](https://www.pacificclimatechange.net/sites/default/files/documents/SPC_12_KIR_Climate_Change_Baseline_Report.pdf)

Slingenberg.et.al, 2009, *Study on Understanding the causes of Biodiversity loss and the policy Assessment Framework : Final Report*, ECORYS Research and Consulting, Netherlands,

<http://www.fondazionevilupposostenibile.org/////////f/sharing/Causes%20of%20biodiversity%20loss%20and%20the%20policy%20assessment%20framework%20EU%20comm.pdf>