



**INTEGRATED COMMUNITY BASED
NATURAL RESOURCES MANAGEMENT
PLAN OF TE BAU N MAIANA AND COUNCIL
FOR MAIANA. 2020 - 2022**



SUMMARY

The formulation of this management plan was led by 'Te Botaki n Unimane' on Maiana known as 'Te Bau n Maiana' and Island Council with the guidance of the Kiribati Government through the Ministry of Environment, Lands and Agricultural Development (MELAD), and with the support of Ministry of Women, Youths, Sports and Social Affairs (MWYSSA). The first draft of this management plan was initially developed in November 2018 and it was finalized and endorsed in the 19th December, 2019. Financial assistance for the production, editing and finalizing of this management plan was provided by the Environment & Conservation Office through the LDCF Project for Enhancing national food security in the context of global climate change.

FOREWORD



I would like to express my gratitude with my fellow elders of Te Bau n Maiana for the people of Maiana, for all the assistance and support provided for the completion of our Integrated Community Based Natural Resources Management Plan for our island.

First of all, I would like to acknowledge the Minister and Secretary from the Ministry of Environment, Lands and Agricultural Development (MELAD) for their various support for the accomplishment of our Management Plan through financial support from the Least Developed Countries Fund (LDCF) Project to enhance food security in the context of global climate change which was administered under the Environment and Conservation Division (ECD).

Additionally, I also would like to show appreciation to employees from the ECD and MWYSSA for giving their time, their skills and hard work through cooperating with people on the Island to complete this Management Plan. Thank you for all that you've done for our island.

I strongly believe that this Management Plan will help us conserve and preserve our environment and it will be used wisely and widely on the island to enhance our natural resources significant for our daily livelihood means. I do not doubt that this Management Plan will also contribute to building our resilience against the impacts of Climate Change, of which we are facing now.

May the Kiribati traditional blessings of Health, Peace and Prosperity be upon us all.

Thank you very much.

A handwritten signature in blue ink, appearing to read 'Te Katumara', on a light blue background.

Te Katumara

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ACRONYMS

ALD	Agriculture & Livestock Division
CBMMP	Integrated Community Based Mangrove & Natural Resources Co- Management Plan
ECD	Environment and Conservation Division
KAP II	Kiribati Adaptation Program Phase II
LDCF	Least Developed Countries Fund for Enhancing food security in the context of global climate change.
LMD	Lands Management Division
MELAD	Ministry of Environment Lands and Agricultural Development
MIC	Maiana Island Council
MPA	Marine Protected Area
MWYSSA	Ministry of Women, Youths, Sports and Social Affairs.

MAP OF KIRIBATI

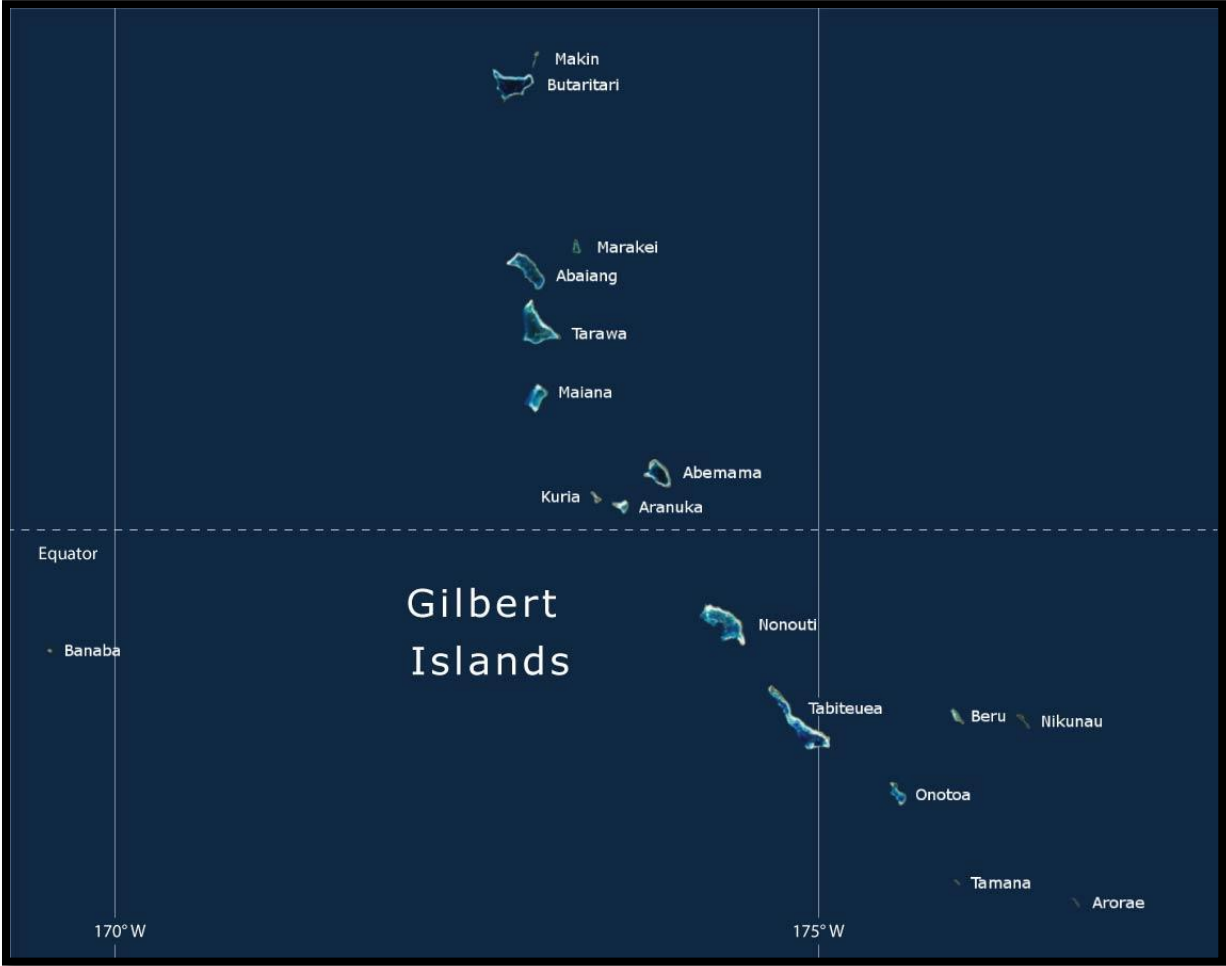


Figure 1: The map shows the Gilbert islands and the locality of Maiana, which is situated in the northern part.

MAP OF MAIANA

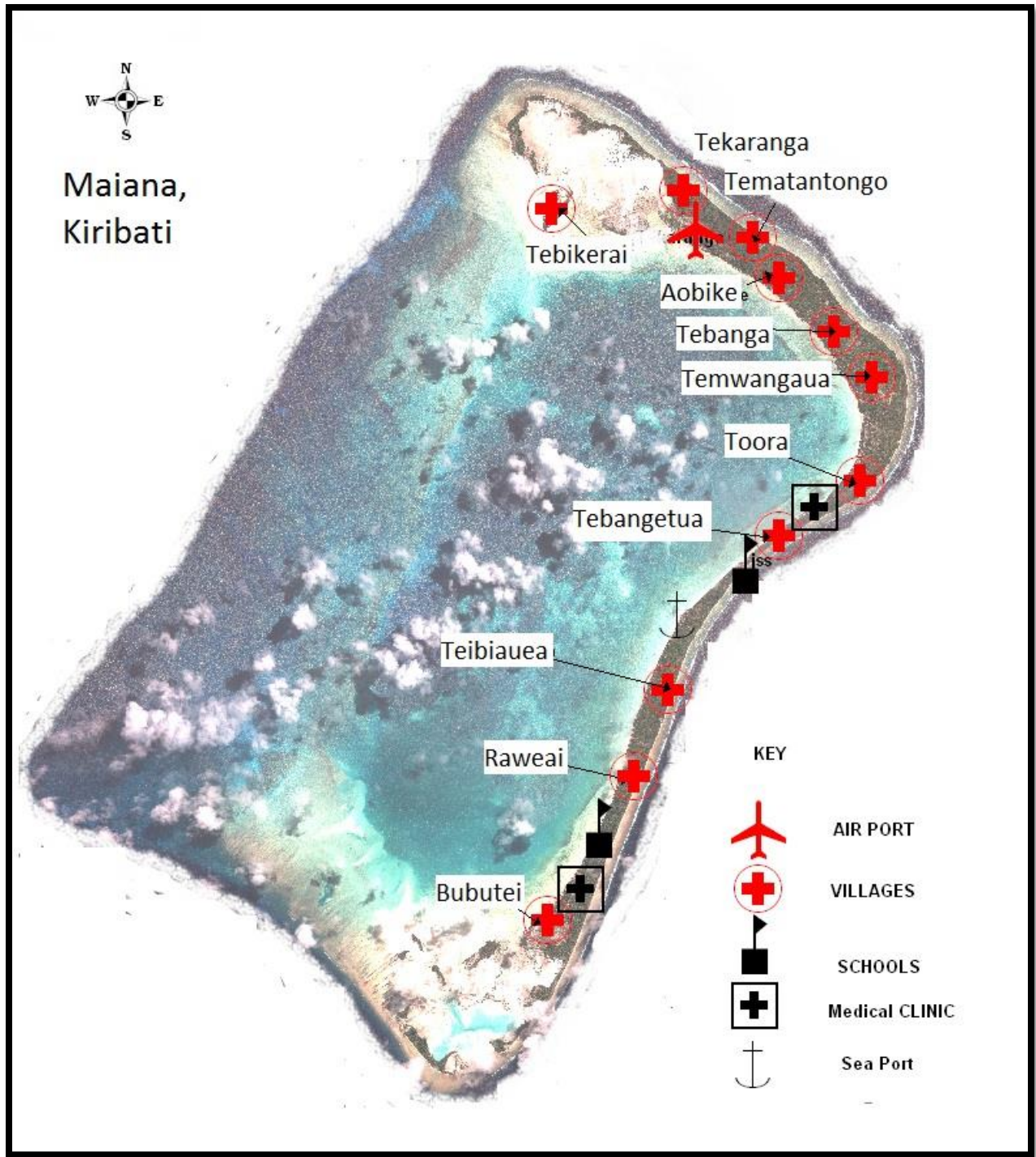


Figure 2: The map above indicates every village on Maiana.

AIMS & OBJECTIVES

1. To develop and enforce the constitution for protection and conservation of mangroves, marine and terrestrial resources.
2. To encourage every village people to plant and protect mangroves
3. Collaboration between people on Maiana in protecting the environment
4. To sustain marine resources abundance from promoting mangrove planting initiatives
5. To establish a conservation and inspection body on Maiana for safeguarding the Environment

VISIONS

- i. Maiana to be green and rich in its marine and terrestrial resources
- ii. Ensuring a healthy environment for mangrove growth on Maiana to increase productivity of marine resource and its diversity.
- iii. Maiana to be one of the islands that maintain the replanting activity for mangroves.
- iv. Protection and conservation of mangrove species on Maiana to be sustainable.
- v. To support the implementation of Management Plan and its constitution for enhancing protection and conservation of natural resources
- vi. To sustain replanting of food crops for sustainable living
- vii. Ensuring a sustainable diversity of natural resources on the island now and in the future.

INTRODUCTION

Maiana is well known among other islands of Kiribati as an island where mangroves and other marine and terrestrial resources are conserved and protected for the benefit of the island people. The official handing over (signing of the Management Plan, constitution and MOU) marks the recognition of Maiana's commitment and effort in supporting environment conservation.. The implementation of the Management Plan has to be coordinated by 'Te Bau' together with the Island council for successful implementation at the island level.

Maiana has developed its Management Plan in close collaboration with ECD since 2018 and had supported previous projects administered by ECD. Maiana used its own resources to work collaboratively with ECD in implementing various programs significant and relevant to LDCF 1 project- Enhancing Food Security in the face of Global Climate Change including past projects.

Visitors who came to Maiana from time to time expected to comply with this Management plan provisions

Background on the development of Maiana CBMMP

The steps taken in the development of Maiana's CBMMP followed a series of consultation processes that were undertaken during the visit to Maiana for the purpose of collecting information and consulting the islanders through te Bau n Maiana and the Island council on the issues and challenges faced by the islanders that affect their Marine and Terrestrial biodiversity. These consultations were facilitated by ECD through the support of Te Bau n Maiana and the Island Council where they conducted number of workshops/consultations for the initial development of Maiana's Integrated Community-based Natural Resources Management Plan. The workshops with Te Bau n Maiana and the Island Council focused entirely on brainstorming the major threats and challenges that were faced by the islanders on their existing marine and terrestrial biodiversity, and how have they managed and addressed these threats and challenges using their own available resources. The successful outcome of these workshops including useful information collected during the workshop were gathered by ECD thus formulating the management plan to be supported by the locals and enforced by the island council and Te Bau n Maiana. The drafting of the Management Plan was done by ECD based on information gathered. The final draft was handed down to Te Bau n Maiana and the Island Council for final review and finalization prior endorsement. The final stage of this process is the official handover that was made by MELAD-ECD and Te Bau n Maiana together with the Island Council, followed by implementation and monitoring.

SCOPE OF THE MANAGEMENT PLAN & ITS CONSTITUTION

The use and implementation of this management plan is restricted to Maiana, as shown on the map above in Figure 2. The map shows the island of Maiana and its importance recognition as a place where mangroves, marine and terrestrial natural resources were conserved and protected under this Management plan and its constitution. This Management plan contributes to lessen the load of the Island council in terms of addressing environment related issues that may negatively affect the wellbeing of the people of Maiana. The Management plan will also build the adaptive capacity for the island people to combat climate change challenges.

The implementation of this Management plan and its provisions is legally supported by the constitution which was developed by 'Te Bau n Maiana' and Island council with the assistance of MWYSSA. A copy of this constitution can be viewed in Annex 1. 'Te Bau n Maiana' and the Island Council are responsible for publicizing this constitution for effective and successful implementation at the village and island level while the Island Clerk, ECD and MWYSSA will assist in mainstreaming this Management Plan and constitution to other relevant Acts and regulations which will assist and provide support for effective implementation of the Island Management Plan and its constitution.

MANGROVE PROFILE ON MAIANA

Mangroves in Kiribati survived on land but mostly in the marine area, along the coastlines. In Maiana, there was only one type of mangrove that was found which was the common species throughout Kiribati, '**Te tongo**' – the red mangrove (*Rhizophora stylosa*). This is the dominant mangrove species grown in most of the islands. Mangrove planting has been part of ECD activity since KAP II and Maiana was one of the KAP II pilot islands. In the monitoring carried out in 2010 during KAP II, mangrove plantings were successful with only 3% of failure. However, with recent trips to Maiana under LDCF Project, it was observed that previous mangroves planted under 'Tebwangetua' back in 2010 were not survived. Hence, ECD through this project continues mangrove replanting effort to attain the project target which aims to increase mangrove habitat and to continue to replenish the marine and coastal environment.

Table 1: Record of mangrove planting on Maiana

(Date/Time)	Mangrove Species	Participants	Site	Number of Mangroves planted	Purpose of the Activity/trip
4 June 2010	Red mangrove	Community participants from Toora and Tebwanga 2018, ECD team	Tebwangetua under clinic	2124	KAP II program
24 th -29 th October 2010	Red Mangroves	Maiana Councillors and ECD staff joined the trip to Maiana	Bubutei and Tematantongo	2312	KAP II program
1 November 2018	Red Mangroves	ECD team & Reps from wards	Maiana - Tematantongo	649 – planted 60 – (transplanted using polly-bags)	Formulation of CBMMP
3 May 2019	Red mangroves	ECD team, Tewaiwai JSS F/3 students, Tekaranga youth	Tekaranga, under village Maneaba	865	ISP trip
20 December 2019	Red mangroves	ECD team, participants from every village	Tebwangetua, under church	1500	CBMMP follow up visit

MANGROVE COVERAGE AREA.

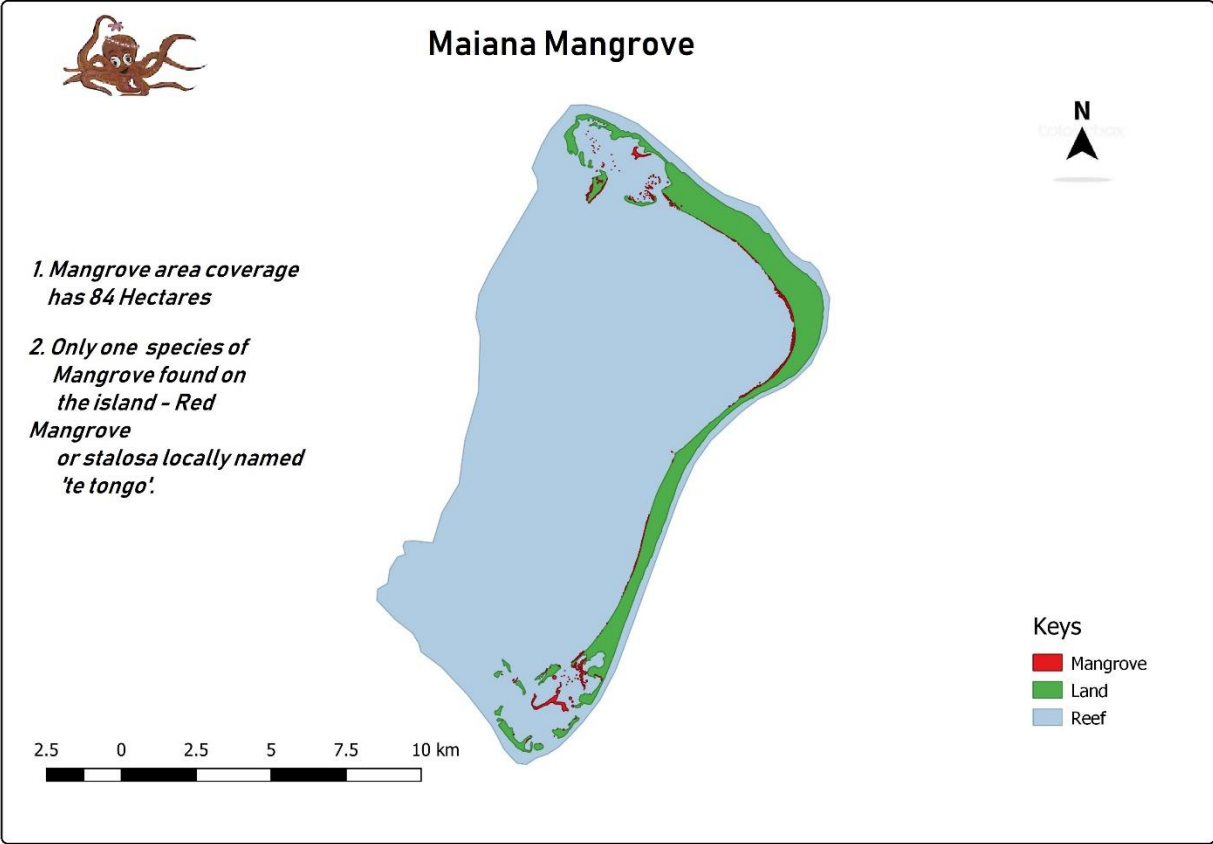


Figure 3: Mangrove coverage area on Maiana for 2012.

Integrated Community-Based Mangrove & Natural Resources Management Plan

ISSUES	SOLUTIONS	TARGET/EXPECTED OUTCOMES	RESPONSIBLE PERSON/BODY	REQUIRED TASKS
Declining of Coastal fisheries resources (Bonefish, Goatfish and the Mullet)	<ul style="list-style-type: none"> - Fishing during spawning seasons must be restricted (allowed only after spawning fish species had released their eggs) - Establishment of nursery areas through MPA 	<ul style="list-style-type: none"> - To restore coastal fishery resources 	<ul style="list-style-type: none"> - Elders/Old men - Family leader (Father) 	<ul style="list-style-type: none"> - Consultation/Awareness - Enforcing the law/constitution.
Sand mining along coastlines.	<ul style="list-style-type: none"> - To restrict sand mining along coastlines. Any person who contravenes this will be penalized 	<ul style="list-style-type: none"> - To restore coastlines/shorelines. 	<ul style="list-style-type: none"> - Elders - /Old men ' Te Bau' - Villagers - Council - Mayor 	<ul style="list-style-type: none"> - Wider consultation and awareness on the island regarding this. - Te bau (Old men body on Maiana) to enforce rules/standard procedure for sand mining.
Declining of mudflat based livelihood species	<ul style="list-style-type: none"> - To prohibit the fishing of 'te bun' from MPA - Fishing of mudflat species other than 'te bun' should be controlled. 	<ul style="list-style-type: none"> - Restoring the abundance of mudflat based livelihood. 	<ul style="list-style-type: none"> - Village - Elders - Island Council - Mayor - Fisheries Officer - Government 	<ul style="list-style-type: none"> - To fulfill and achieve the instructions/rules set by the whole Island.
illegal waste dumping at the sea (wastes from shops & gas stations	<ul style="list-style-type: none"> - Vessels should have their own bin to contain their own wastes. Dumping liquid fuel 	<ul style="list-style-type: none"> - Wealthy - Healthy - Hygienic 	<ul style="list-style-type: none"> - Te Bau - Council - Village - Home 	<ul style="list-style-type: none"> - Established law or constitution to regulate littering and spillage from vessels, - Report to the Island Council, FEA, AA, or the Environment

	<p>(oil/petrol/diesel) must be regulated under the law or any recognized legislation/constitution.</p> <ul style="list-style-type: none"> - Procuring truck for garbage collection for (Maiana te boboto) - Encourage/support the initiative on turning wastes into resource using the 3Rs.(making valuable products out of waste materials) 		<ul style="list-style-type: none"> - NGOs (Women group) 	<p>officers to seek advices according to the Environment Act</p> <ul style="list-style-type: none"> - Trainings on waste sorting and management - Encourage and support the re-use of waste materials to make valuable products out of them.
<p>Over fishing of under sized fish (ninimwai) Selling under sized fish (ninimwai)</p>	<ul style="list-style-type: none"> - Banning of fishing nets of 1 and half inches. - Banning the import of small sized fishing net and confiscating of undersize fishing nets. 	<ul style="list-style-type: none"> - Improved livelihood and wide-ranging benefit 	<ul style="list-style-type: none"> - Elders body 'Te Bau' - Council 	<ul style="list-style-type: none"> - Enforcement and Compliance to the regulation/constitution
<p>Dangerous fishing method such as Te Kabora, Te Taumata and scuba diving for fishing.</p>	<ul style="list-style-type: none"> - Going fishing in groups - Upgrading of Fishing boat for Scuba Divers to have CB and GPS etc. onboard 	<ul style="list-style-type: none"> - Avoid and reduced missing and adrift cases of fishers 	<ul style="list-style-type: none"> - Local Divers - Villagers - Islanders - Fishermen Association from village/island 	<ul style="list-style-type: none"> - Report those who breach rules and regulations - Apply for grants to fund communication and safety equipment including training of such.
<p>Disappearing of reef-flat at Tabontekai, Tebikerai (the fishing ground for fisherman at North of Maiana)</p>	<ul style="list-style-type: none"> - Controlling of destructive man-kind activities that may alter the natural process or appearance on land or at sea - Excavating of sand and huge stones from 	<ul style="list-style-type: none"> - To sustain the natural appearance of the reef, hence coastline beaches. 	<ul style="list-style-type: none"> - Villagers - Eldest men Association - Island Council 	<ul style="list-style-type: none"> - Report those that continues to excavate sand and stones from this reef or shoal (Tabontekai).

	the reef and coastal areas to be prohibited.			
Bashing / splash Fishing	<ul style="list-style-type: none"> - Banning of Bashing (Splash) fishing method 	<ul style="list-style-type: none"> - Sustain and enhance the abundance of fish in the lagoon 	<ul style="list-style-type: none"> - Household - Men - Island Council - Elders body 	<ul style="list-style-type: none"> - Penalizing those whose bashing fishing method - Reporting culprit to Elders body 'Te Bau' or Island Council
Fishing from neighboring islands such as Tarawa	<ul style="list-style-type: none"> - Banning fishers from neighboring islands - The constitution of Maiana should be announced on the radio so that people on Tarawa are well informed and aware of it. - People who fish around Maiana will be brought onto land along with their fishing gears for confiscation 	<ul style="list-style-type: none"> - Penance/retributions are collected and kept as benefactions or endowments to the council 	<ul style="list-style-type: none"> -Villages - Elders body 'Te Bau' -Council 	<ul style="list-style-type: none"> -Councilors and villagers should meet up with culprit(s) for their identity and to bring them to village/council for the final judgement.
Cutting down of trees without compensating through replanting (coconut, pandanus)	<ul style="list-style-type: none"> - Any village that violates this regulation will be penalized - People or villagers who cut down trees must compensate by planting at least 2 food crops/plants 	<ul style="list-style-type: none"> - To maintain the richness and diversity of food crops 	<ul style="list-style-type: none"> - Land owner - Villagers - Elders'Body 'Te Bau' - Committee 	<ul style="list-style-type: none"> - To patrol within villages - To collect penance/retribution
Less in productivity of coconut	Replanting of coconut trees should be undertaken in cases where present coconuts are not highly productive and infertile.	-To increase the production of coconuts	<ul style="list-style-type: none"> - Parents -Villages 	<ul style="list-style-type: none"> - To encourage the plantation of trees/food crops within villages - Requesting ALD to assist in increasing the production of coconuts and other plants

Depleted beach/coastal area at Aobike	<ul style="list-style-type: none"> - Mangroves should be planted around this area 	<ul style="list-style-type: none"> - to avoid issues in the future 	<ul style="list-style-type: none"> - Villages - Island - Mayor/Clerk 	<ul style="list-style-type: none"> - Mangroves should be planted at shorelines/coastal areas in this village or place
uncontrolled amount of fresh fish taken out from the island	<ul style="list-style-type: none"> - 2 buckets/30kg for one person (fresh fish) 	<ul style="list-style-type: none"> - To maintain the abundance of marine resources 	<ul style="list-style-type: none"> - Mayor - Clerk - Island people 	<ul style="list-style-type: none"> - Council should be responsible for this.
Cutting of mangroves	<ul style="list-style-type: none"> - Banning cutting of mangroves 	<ul style="list-style-type: none"> - to increase the abundance of marine species and sea shells - to protect shorelines from erosion 	<ul style="list-style-type: none"> - Elders - Village members - Councilors 	<ul style="list-style-type: none"> - Enhancing the security of place through protection of mangroves. - Conserving of mangroves and seagrass - Report to Elders in the village
Illegal taking of coconut	<ul style="list-style-type: none"> - Banning of this practice 	<ul style="list-style-type: none"> - Peace 	<ul style="list-style-type: none"> - Village wardens 	<ul style="list-style-type: none"> - Report - Penalizing those who still practice this
Destruction and extraction of corals	<ul style="list-style-type: none"> - corals should be well protected from any harms 	<ul style="list-style-type: none"> - To sustain wealth from marine environment 	<ul style="list-style-type: none"> - Village - Elders - Council 	<ul style="list-style-type: none"> - Penalizing those who against this.
Coastal erosion	<ul style="list-style-type: none"> - Construction of seawall, following government procedure for seawall construction 	<ul style="list-style-type: none"> - Less erosion impact - Healthy shorelines 	<ul style="list-style-type: none"> - Parents - Village members - Elders body ' Te Bau' 	<ul style="list-style-type: none"> - Seawall and buibui to be built along coastlines - To promote constructing seawalls that may not pose threat to neighboring lands.
Inundation (as a result of sea level rise and extreme waves)	<ul style="list-style-type: none"> - Buibui construction - Seawall construction - Mangroves planting 	<ul style="list-style-type: none"> - To be wealthy 	<ul style="list-style-type: none"> - House members - Old men of the village - Mayor and Clerk - Government of Kiribati 	<ul style="list-style-type: none"> - To encourage teamwork/collaboration - implementing mangroves planting and buibui construction at households level

Lack of coconut productivity from rat destruction.	<ul style="list-style-type: none"> - Covering coconut tree trunk with galvanized material 	<ul style="list-style-type: none"> - Wealth - Healthy living 	<ul style="list-style-type: none"> - Household - Village - Island - Mayor and Clerk 	<ul style="list-style-type: none"> - Need assistance from ALD.
Impact of Wedge-tailed Shearwater (to toddy flowers, bananas etc)	<ul style="list-style-type: none"> - Stoning at the spotted bird species - Eradication on the sport with the available tools 	<ul style="list-style-type: none"> - In order for breadfruit tree, banana etc to be fruitful and healthy. 	<ul style="list-style-type: none"> - Parents - Elders and men's association - Te Bau and Island council - Agriculture & Livestock Division 	<ul style="list-style-type: none"> - effective enforcement - Strengthen enforcement measures
Dog destructive behavior	<ul style="list-style-type: none"> - Eradication of dogs - to reduce number of female dogs - Removal of reproductive organ of dogs to control birth 	<ul style="list-style-type: none"> - Improved livelihood 	<ul style="list-style-type: none"> - Parents - men's association - Te Bau and Island council 	<ul style="list-style-type: none"> - effective enforcement - Strengthen enforcement measures
Poor management of in organic wastes (plastic, diaper etc)	<ul style="list-style-type: none"> - establishment of disposal areas in each village - Reusing of in organic/non-biodegradable waste into useful products - Encouraging wholesalers to import biodegradable diapers and other biodegradable products 	<ul style="list-style-type: none"> - Clean environment - Healthy environment - Improved livelihood 	<ul style="list-style-type: none"> - Parents and Guardians - Chairman of the village - Elders - Woman's organizations - Communities 	<ul style="list-style-type: none"> - Encouraging children and youths to maintain a clean and healthy environment by segregating biodegradable and non-biodegradable waste - Development of regulations in relation to waste disposal - Encouraging/Supporting the reuse of non-biodegradable waste - exploring ways to generate income from reusing non-biodegradable waste

Brackish water	-Building/construction of fences and shelters for wells -wells to be covered after use.	- Wealthy - Improved health	- Parents - Chairman - Old men	- To maintain/look after the fences and shelters for water wells - To look after wells by ensuring that it is well covered/sheltered
Using a beach and forest/bush for defecation	- Residents in each village should collaborate not to use beach and forest/bush as their defecation area - Construction of public toilet amenities in each division or each household - Penalties should be imposed to any person who continue to use beach and forest/bush as their defecation area	-Clean and healthy environment - Aids from government and non-government organizations for construction of toilet amenities -Improve living condition	-Parents and Guardians -Chairman of the village -Elders -Villagers/settlers -Council -Kamwengaraoi	- construction of toilet amenities in each household through aids received - seeking for external funds and small grant to support the establishment of toilet amenities - imposing penalties to any person who breach this law.
Poor protection of new replanted mangroves	- Every village to sustainably protect young mangroves	- Mangroves to be well grown, healthy and to help protect coastlines from erosion. - healthy living in every village - Sustainability of coastal areas.	- Village members - Elders body ' Te Bau' - Council - Government	- Protection - Strengthen enforcement of the local constitution
Insufficient effort in planting(Coconut tree, pandanus tree, native fig tree, breadfruit, and giant swamp taro)	- Encourage all to do planting	- Wealth and healthy living	- villagers - Family(household)	- Creating a schedule for planting trees and crops.
Open burning in forest/bush and other inappropriate areas	- Residents should collaborate to report any person who engage in open burning activities subject to be reprimanded	- To safeguard the richness and abundance of food crops for good health of everyone in the village	-Parents and Guardians -Chairman of the village -Elders -Mayor and Council -Policemen	-Any person who against this law should be reported and penalized -Any person who undertake open burning activity should ensure the safety of neighboring people and environment