



# Kiribati National Coastal Fisheries Roadmap 2019–2036





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Noumea, New Caledonia,  
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# Foreword

I am very honored and privileged to introduce to you, the National Coastal Fisheries Roadmap 2019–2036. The National Coastal Fisheries Roadmap was developed to guide fisheries programs and actions and ensure the vision to sustainably manage coastal fisheries and maximize economic returns to our coastal communities is achieved.

Kiribati is made up of small atolls spread over more than 3.5 million km<sup>2</sup> of the central Pacific Ocean, forming one of the biggest exclusive economic zones (EEZs) in the world, which is also endowed with some of the world's most diverse and productive ecosystems.

Coastal fisheries extending from the shore baseline to 12 nautical miles play a vital role for food security and livelihoods to our coastal communities. These coastal fisheries are currently under threat from the growing population and in the longer term, from the impact of climate change. Our people's future depends heavily on good management and adaptive measures to ensure sustainable livelihood can be derived from these vital fisheries resources. The establishment of this Roadmap is an important step towards managing these resources sustainably and in a way that ensures our people continue to benefit from them.

I thank my colleagues and staff for their substantial input and leadership in developing the Roadmap. I would also like to thank the Australian Government through ACIAR project FIS/2016/300, for support and assistance. The Roadmap would not have been successfully completed without all of your contributions.

From this end, I wish to bestow upon all, the Kiribati blessings of Te Mauri (Health), Teraoi (Peace) ao te Tabomoa (Prosperity).

Kam rabwa

Sincerely,



Mr Tetabo Nakara

Honorable Minister

Ministry of Fisheries and Marine Resources Development

# Preface

The National Coastal Fisheries Roadmap is designed to guide sustainable management and development of our coastal fisheries for the benefit of Kiribati. The strategy supports the objectives of the Kiribati Vision 20 and Kiribati National Fisheries Policy 2013–2025 and, stresses the importance of coordination and collaboration among stakeholders and programs in the sector and among Ministries. The National Roadmap also provides a framework for Kiribati’s implementation of the principles and commitments set out in the ‘New Song’ policy on coastal fisheries in the Pacific region and in the Voluntary Guidelines for Small-Scale Fisheries, including commitments and support for community-based coastal resource management.

## Acronyms

CBFM	Community-based fisheries management
CBRM	Community-based resource management
CF	Coastal fisheries
CFD	Coastal Fisheries Division
EAFM	Ecosystem-based approaches to fisheries management
EIA	Environmental impact assessment
FAD	Fish aggregating device
GMP	Good manufacturing practices
HACCP	Hazard analysis and critical control points
M&E	Monitoring and evaluation
MCIC	Ministry of Commerce, Industry and Cooperatives
MCS&E	Monitoring, control, surveillance and enforcement
MELAD	Ministry of Environment, Land and Agriculture Development
MIA	Ministry of Internal Affairs
MFMRD	Ministry of Fisheries and Marine Resources Development
MHMS	Ministry of Health and Medical Services
MoA	Memorandum of agreement
MoU	Memorandum of understanding
MWYSSA	Ministry of Women, Youth, Sport and Social Affairs
OAG	Office of the Attorney General
PRP	Prerequisite program
SOP	Standard operating procedure
ToT	Training of trainers





# Background and justification

## Coastal fisheries in Kiribati

Kiribati's nearshore and coastal areas provide food, livelihoods, and nutrition, income and employment benefits. Fisheries play a critical role in local food security in Kiribati where the per capita consumption seafood is one of the highest in the world, ranging from 72 to 207 kg/person/year (Gillett, 2009).

Coastal fisheries also provide substantial employment and income benefits. In the most recent national population census, over half of all surveyed households and around 60% of rural households were engaged in fishing activities (Kiribati Census, 2010).

## Institutional context

Kiribati Coastal Fisheries Division (CFD), under the Ministry of Fisheries and Marine Resource Development (MFMRD) is the lead Government agency charged with ensuring sustainable management, development and conservation of fisheries resources in Kiribati. Other important agencies and institutions include the Environment and Conservation Division of the Ministry of Environment, Land and Agriculture Development (MELAD), the Ministry of Internal Affairs, Island Councils, 'Unimwane' associations and communities.

## Legislative context

The primary legal instrument for the sustainable management, development and conservation of fisheries resources in Kiribati is the Fisheries Act of 2010. Other relevant laws include the Environment (Amendment) Act of 2007, the Local Government Act of 1984, the Maritime Zones Act of 1983 and the Constitution of the Republic of Kiribati.

The purpose of the Fisheries Act is to conserve, manage and develop fisheries in Kiribati in order to ensure long-term sustainable use of fisheries resource for the benefit of the people of Kiribati. More specifically, the Act mandates MFMRD to control and regulate access to fisheries resources and to make regulations that ensure the sustainable utilization of fisheries resources. Within MFMRD, CFD is responsible for the sustainable management and use of coastal resources.

The Maritime Zones (Declaration) Act provide a clear definition of Kiribati waters as being all of the area comprising the internal waters, archipelagic waters, territorial seas and exclusive economic zone of Kiribati.

The Environment Act is the primary law governing general environmental concerns. Its purpose is to protect, improve and conserve the environment of Kiribati and introduces the legal regime for the creation and management of protected areas. Environmental legislation also provides and supports the making of regulations governing pollution, protected areas, species conservation and associated licensing and enforcement on environmentally significant activities. The Environment and Conservation Division (ECD) within MELAD is responsible for implementing the Environmental Act.

In accordance with the Local Government Act, Island Councils have direct jurisdiction over natural resource use through a warrant, which defines the limits of their area of authority. This includes land use, agriculture, and all fisheries located within the "waters adjacent" to it, extending 3 nautical miles seaward. Under this Act, all Island Councils have the authority to pass regulations for the management of the 'waters adjacent', and also regulate and control fishing activity targeting coastal resources. In relation to natural resources, the function of Island Councils is to improve and control fishing and related industries and not limited to prohibiting, restricting or regulating the hunting, capture, killing or sale of animals, reptiles, birds or fish or any specified kind of animal, reptile, bird or fish. The island council is responsible for implementing these management rules through specific bye-laws, which vary from island to island. To avoid any conflict of interest and encourage synergies there is a need to ensure that island council bye-laws are consistent with provisions provided under the Fisheries Act 2010 and Environment (Amendment) Act 2007.

## Policy context

Three national overarching policies are central to the development of sustainable coastal fisheries; namely the KV20: Kiribati Vision for 20 years 2016- 2036, Kiribati Development Plan (2016–2019) and Kiribati National Fisheries Policy 2013–2025 (Figure 1). The strategic policy objectives formulated in these documents lay the foundation for people-centred activities supporting rural development and fisheries management in Kiribati. Other policies outside the immediate domain of fisheries, particularly the Climate Change Policy, the Kiribati Integrated Environment Policy and from the health sector are important in informing the coordinated work of the National Fisheries Policy. The chart below illustrates the national policy context and identifies key linkages this coastal strategy has with relevant legislations, regional and national policies, strategies and specific work plans relevant to the coastal fisheries sector.

The Roadmap aligns with regional and international policy documents, most significantly those set out in the Pacific Community’s (SPC) ‘A New Song for coastal fisheries – pathways to change: The Noumea Strategy’ and the United Nations Food and Agriculture Organization’s (FAO) Voluntary Guidelines for Small Scale Fisheries. Table 1 presents details and an outline of the policy context.

Table 1. Regional and international policies relevant to coastal fisheries management in Kiribati

Regional policy	
<b>The Noumea strategy: A new song for coastal fisheries – pathways to change. 2015</b>	<p>Vision: Sustainable well-managed inshore fisheries, underpinned by community-based approaches that provide food security and long-term economic, social and ecological benefits to our communities. Overarching outcomes:</p> <ol style="list-style-type: none"> <li>1. Improved wellbeing of coastal communities and;</li> <li>2. Productive and healthy ecosystems and fish stocks</li> </ol>
<b>Future of Fisheries: A Regional Roadmap for Sustainable Pacific Fisheries 2015</b>	The Roadmap anticipates a 10-year timeframe for all Pacific Island countries to have put in place policies and legislation that provide for the involvement of coastal communities in the management of their fisheries resources. Communities will drive local management regimes with clear user rights, supported by national controls on export commodities.
International policy	
<b>Food and Agriculture Organization’s (FAO) Code of Conduct for Responsible Fisheries</b>	Article 6.18: ‘Recognizing the important contributions of artisanal and small-scale fisheries to employment, income, and food security, states should appropriately protect the rights of fishers and fish workers, particularly those engaged in subsistence, small-scale and artisanal fisheries, to a secure and just livelihood, as well as preferential access, where appropriate, to customary fishing grounds and resources in the waters under their national jurisdiction’
<b>FAO’s Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication</b>	Objective B: ‘to contribute to the equitable development of small-scale fishing communities and poverty eradication and to improve the socio-economic situation of fishers and fish workers’.
<b>Sustainable Development Goal –14</b>	‘[...] sustainably use the oceans, seas and marine resources for sustainable development’. We note the Roadmap contributes to other SDGs’.

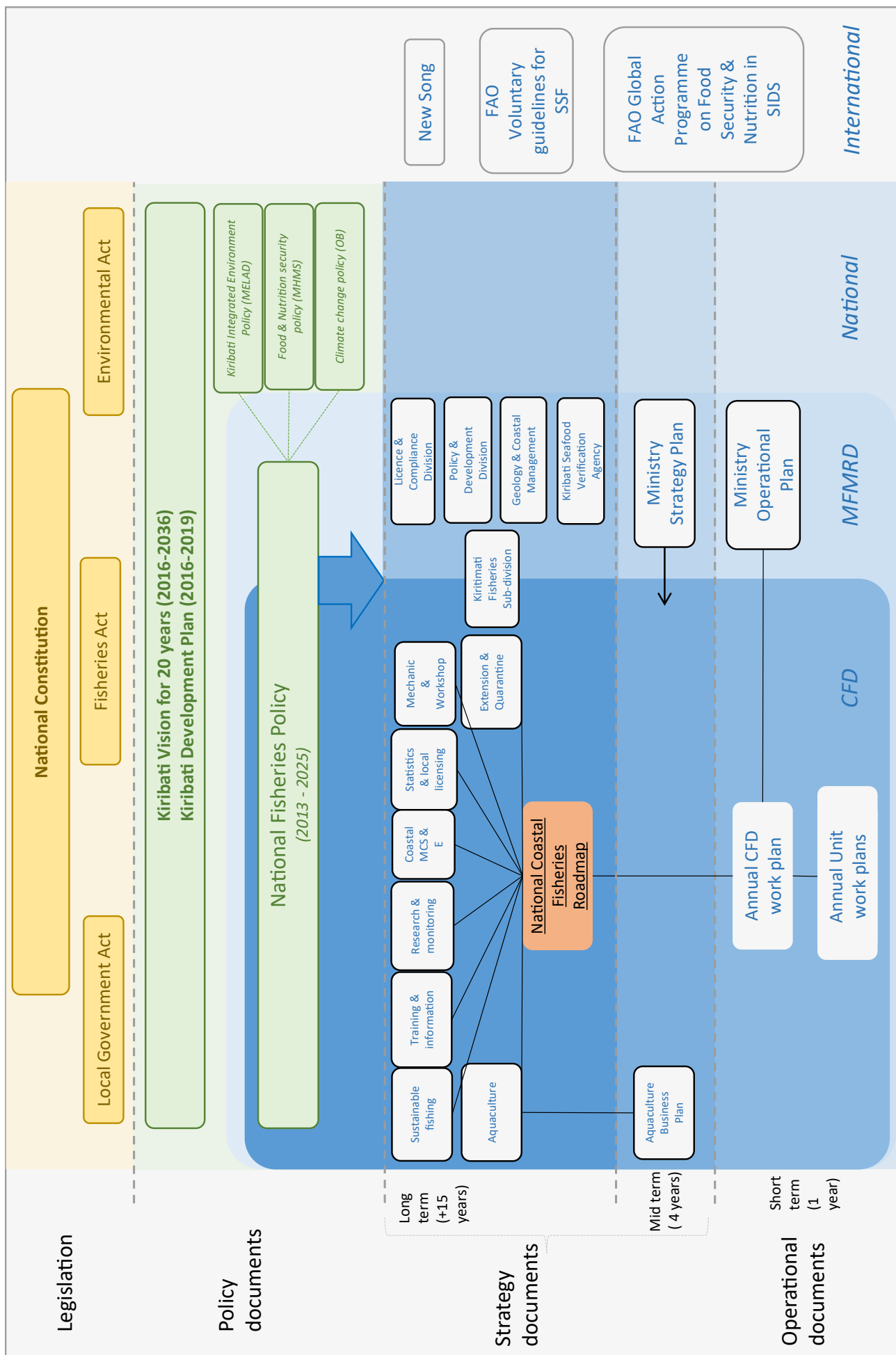


Figure 1. National policy context of the Kiribati Coastal Fisheries Division.





# Challenges to sustainable management and development of coastal fisheries

## Enforcement and compliance

The enforcement of fisheries laws, regulations and generating high levels of compliance visible to the public pose a significant challenge to coastal fisheries managers. There are currently limitations on institutional capacity, the capacity of available human resources, finances, and legal frameworks governing coastal fisheries. However, there is an urgency to boost areas in management regimes and institutional capacity to better address monitoring and enforcement and ensure that our coastal fisheries continue to be sustainable to support the Kiribati population.

## Institutional barriers

The primary barriers to decentralised coastal fisheries in Kiribati include the current institutional structure, policy orientation, and lack of clarity around local access rights and extent of equitable and inclusive local decision-making. Fisheries policy has historically been focused on the offshore sector, with less attention to coastal fisheries resources. Government resourcing of fisheries management and enforcement has followed this policy norm, which is biased, and often treats coastal fisheries as a lesser priority.

The introduction in the past of an open access regime over the top of customary access rights has generated confusion and conflict over management and control of coastal fisheries. This confusion is particularly evident in urban areas that have experienced significant population growth (e.g. such as Tarawa, through migration). There have also been instances where local communities have been discouraged from taking action to protect their own local marine environment because they are concerned that their efforts are not supported adequately on a national level.

Fragmentation of governmental responsibility is also an issue for the sustainable management of coastal fisheries in Kiribati. Key responsibilities are divided between national government and Island Councils, and at the national level, there are a number of ministries with responsibilities that affect coastal fisheries and coastal fishing communities. Key Ministries such as the Ministry of Fisheries and Marine Resource Development, in particular the Coastal Fisheries Division, the Ministry of Environment, Lands and Agricultural Development, the Ministry of Internal Affairs and Social Development, and the Ministry of Women, Youth, Sports and Social Affairs have aligned portfolios that tend to overlap with aspects of coastal fisheries governance. Understanding the various sectors' roles, ensuring that the actions of the various departments are coherent and mutually supportive of coastal fisheries governance is a continuing challenge, which requires strategic actions across all levels to build synergies and a greater collective understanding informing collaborations.



North Tarawa, ©Quentin Hanich

Island Councils have traditionally exercised their power to make bye-laws with respect to coastal fisheries. Many of these bye-laws are now outdated, and there is a need to support Island Councils to make bye-laws that are more up-to-date and embrace local community concerns as well as avoid inconsistencies with national regulations.

## Need for a national coastal fisheries Roadmap

In October 2018, CFD initiated a strategic planning process to formulate a vision for coastal fisheries and to develop a subsequent Roadmap that could operationalise that vision. An initial workshop involving CFD senior staff set out to define a vision and overarching outcomes needed to develop and ensure that coastal fisheries remain sustainable. The initial outcomes were further refined and expanded to include strategies, targets and operational activities through subsequent workshops with the Heads of Unit of CFD.

The resulting framework provides strategic guidance that is responsive to the existing policy landscape and operational guidance for implementation (figure 2). With an overarching vision for healthy coastal fisheries in Kiribati, the strategic planning process worked ‘backwards’ to articulate the high-level outcomes needed to achieve the vision. Working towards attaining these outcomes, focal areas were identified as well as five specific crosscutting, enabling environments and conditions needed to realise them. The following section outlines focal areas for on-the-ground implementation, an operational plan of activities, outputs and indicators important for monitoring and evaluation of activities supporting the Roadmap. These activities are classified according to their short-, mid- or long-term impact.



Tarawa, ©Quentin Hanich

# Kiribati National Coastal Fisheries Roadmap

## VISION

By 2036, A RESILIENT, HEALTHY AND PROSPEROUS KIRIBATI THROUGH SUSTAINABLE COASTAL FISHERIES, UNDERPINNED BY INCLUSIVE, COLLABORATIVE AND INNOVATIVE APPROACHES BETWEEN COMMUNITIES AND GOVERNMENT

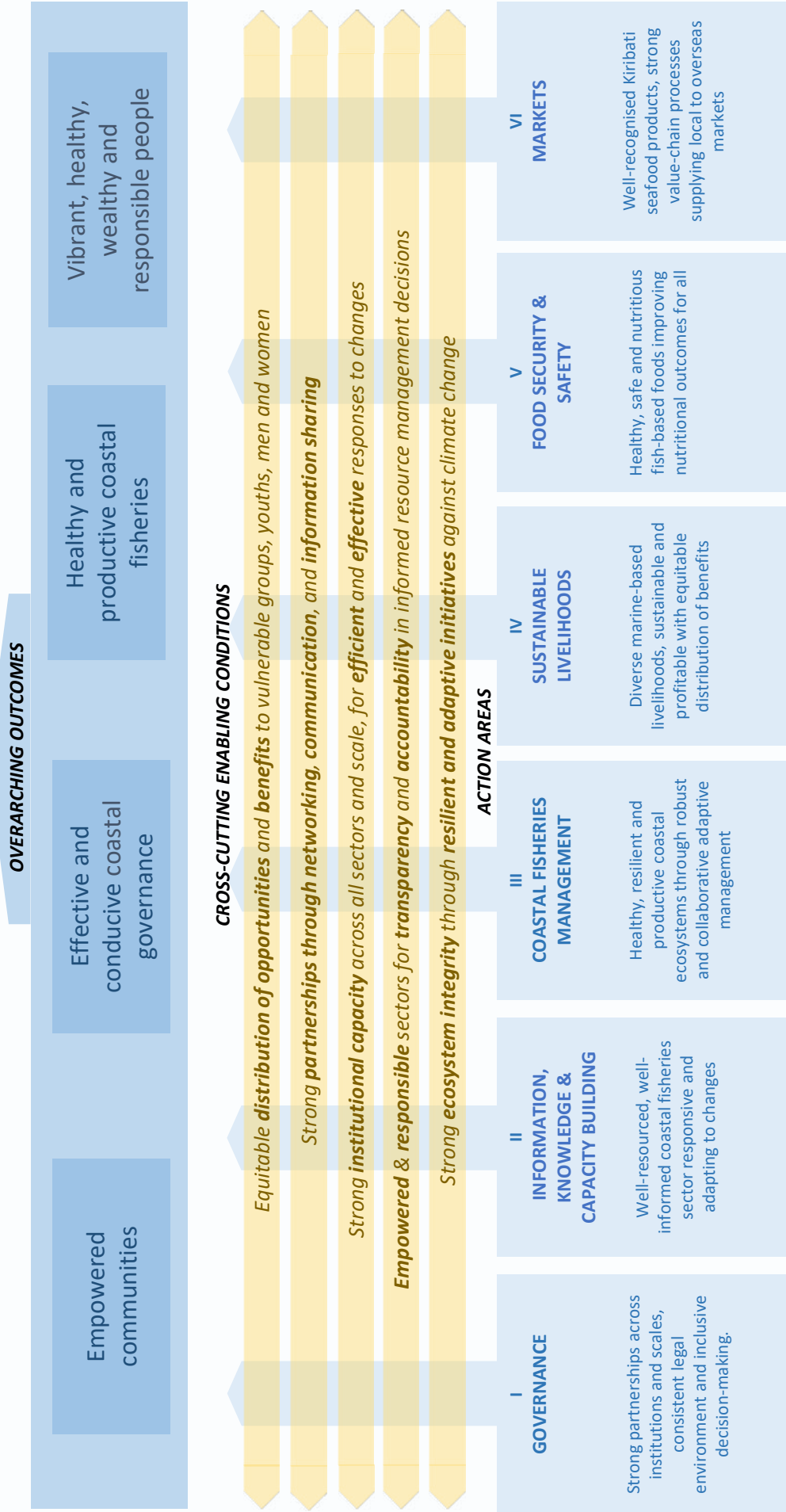


Figure 2. Framework of Kiribati National Coastal Fisheries Roadmap







# A Roadmap for Coastal Fisheries in Kiribati: 2019–2036

## Vision

By 2036, a resilient, healthy and prosperous Kiribati through sustainable coastal fisheries, underpinned by inclusive, collaborative and innovative approaches between communities and government

## Key guiding principles

The following key principles will guide the overall implementation of the National Roadmap.

1. Recognize women, youth, and vulnerable group's contribution to coastal fisheries and promote more inclusive fisheries management platforms and livelihoods.
2. Recognize diverse users, their roles and responsibilities in coastal fisheries; promote community-based fisheries management (CBFM)<sup>1</sup>, co-management, capacity building, motivation and empowerment of communities.
3. Promote and strengthen partnerships and networking across all stakeholders and key players involved in coastal fisheries at the national, sub- national, regional scale, and with international partners.
4. Promote ecosystem-based approaches to fisheries management (EAFM) to ensure a holistic approach to decision-making processes and the improved management of coastal fisheries.
5. Promote good governance, transparency, accountability and continually updated best practice in coastal fisheries management and sustainable development.
6. Promote innovation and use of information communication technology (ICT) in the management, monitoring, control, surveillance and enforcement (MCS&E) of coastal fisheries.

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<sup>1</sup> To comply with terminology of CFD we use 'CBFM' in this document to capture community-based approaches to coastal fisheries management, but acknowledge many different terms are used to refer to the same set of principles and approaches; e.g. CBCRM, CBCFM, CBRM, CBEAFM etc.



# Overarching outcomes

## *Empowered communities:*

Communities are well equipped, connected and have the capacity to monitor, address, withstand and build adaptive capacity to any changing conditions. These changes may vary in terms of time and scale from acute, immediate and intense shocks, to slow shifts in the environment. Community self-sufficiency means dependence on development aid is reduced, in part by developing high level of local competence.

## *Effective and conducive coastal governance:*

The governance of coastal zones, designated fisheries, fisheries resources and stocks are well attended to, coordinated and supported through CFD programs within the various units functioning at multiple scales with continuous support from international and national partners. The roles of civil society in the management, enforcement of rules and regulations and behaviour change activities are highly integrated and mainstreamed into governance frameworks, which provide for fora for inclusive design and decision-making processes.

## *Healthy and productive coastal fisheries:*

Coastal ecosystems function optimally and provide important ecosystem services despite disturbance under climate change. Economically important species are thriving under responsible harvesting regimes. Resource users understand ecosystems dynamics, connectivity and feedback and recognize the impacts of different practices on coastal resources and ecosystems.

## *Vibrant, healthy, wealthy and responsible people:*

Social, economic, political and physical living environments are conducive to maintaining the betterment of I-Kiribati wellbeing. Basic conditions of economic prosperity, security, sustainable food supply, stability and good health are attained through effective resource management (given the centrality of coastal resources in people's lives in Kiribati). Across all levels and different scales, people develop a sense of stewardship for the ocean and actively participate in the management of their local fisheries resources for the benefits of all I-Kiribati.



Tarawa, ©Quentin Hanich

# Focal action areas

In order to achieve the overarching outcomes, and ultimately the vision for coastal fisheries, the activities to be implemented under the National Roadmap fall within six key focal areas. Collaboration with relevant government departments (Divisions of MFMRD, MELAD, MIA, OAG, MWYSSA, MHMS, MCIC and donors), civil society and other key partners is implicit in the execution of activities within each focal action area.

The crucial exercise leading up to operationalizing the Roadmap were discussions that identified key actions. Actions were identified and collated during a forum held for CFD staff in January 2019. Each specific action was then subdivided into key activities, which will enable the Division to carry out the major actions servicing the 6 focal areas.

## Governance

Kiribati fisheries legislation will adequately enable EAFM principles and the integration of input from community stakeholders. The design of new or amended legislation must be transparent, inclusive and fit-for-context. This in part will ensure that the formulation, implementation and enforcement of rules and regulations occur across multiple scales and sectors and allow the Ministry to fulfil its commitments at the national, regional and international level. Principles of inclusiveness and decentralization should guide this design process, so that opportunities are distributed fairly, and local institutions are recognized. With its fisheries management and development mandate, CFD has a vital role to play in integrating bottom-up management approaches, practices and knowledge. CFD will provide and foster cohesive support to leverage the enforcement of a coherent set of overarching and, enabling laws, policies and regulations concerning coastal fisheries at national level.

### Actions:

- 1.1 Develop and strengthen collaboration among relevant government agencies and stakeholders (i.e. civil society, island institutions, regional institutions and research partners...)
- 1.2 Develop and implement legislation, regulations and bye-laws which are complementary to each other to address and support the sustainable management and use of coastal marine resources
- 1.3 Empower communities in coastal fisheries management and stewardship through CBFM approaches
- 1.4 Develop and strengthen monitoring, control & surveillance and enforcement at different scales
- 1.5 Build and strengthen national coastal fisheries capacity (institutional strengthening) to effectively manage and conserve fisheries resources



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## Information, knowledge and capacity building

Accurate, applicable and timely information will be as important as the means by which it is transferred to stakeholders and target audiences from Ministry of Fisheries' staff to Island Councils and community members. The extent of uptake of new knowledge hinges on creative, innovative, appropriate and ongoing modes of delivery. Integrating technical insights from science-based knowledge with existing local and traditional ecological knowledge partly ensures learning and local support of management interventions. However, there is a continual appraisal of new knowledge developed through the different activities of CFD. The lessons learned from this process provide the basis for knowledge improvement and adaptive capacity at the institutional level and supports the delivery of CFD services and the development of effective communication platforms.

### *Actions:*

- 2.1 Formulation of effective communication strategy to ensure accessibility and sharing of information among international, regional bodies and institutions, relevant government bodies, NGOs, private sector and communities
- 2.2 Develop and manage a central data repository of all up-to-date coastal fisheries-relevant information
- 2.3 Increase knowledge and skills of national and island based CFD staff and communities to execute CFD shared strategic objectives
- 2.4 Integration of coastal fisheries management principles and relevant programs into the school curriculum
- 2.5 Develop information kits for use by communities (factsheets on fishing methods, training factsheets...)
- 2.6 Provide an enabling environment to CFD to conduct its fisheries programs (research & applied) such as ICT and web-based information platforms, laboratories and equipment
- 2.7 Develop and maintain innovative outreach programs (awareness, monitoring and evaluation) to foster behavioural change in fisheries management and enforcement.



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# Coastal fisheries management

The management of coastal fisheries will respect the principles of EAFM, be inclusive and provide equitable benefits to all. Applying the principles of EAFM is vital for maintaining the multiple functions that coastal fisheries perform, supporting people's livelihoods and the broader marine and land ecosystems. CBFM approaches will guide and assist in the integration of the various interests of diverse stakeholders into fisheries management at different scales - from local to national.

## *Actions:*

- 3.1 Promote and improve stock enhancement programs targeting vulnerable and threatened marine species
- 3.2 Promote and improve an integrated ecosystem-based conservation and management approach to protect and conserve fisheries habitats
- 3.3 Promote CBFM approaches to support coastal fisheries management
- 3.4 Strengthen legislation, island bye-laws and community management plans to support the conservation and management of coastal fisheries
- 3.5 Promote and adopt integrated fisheries management through the collaboration of government, communities, island councils and civil society in the planning, preparation, consultation, implementation and M&E phases of fisheries management
- 3.6 Develop an effective and robust monitoring and compliance framework on existing legal regimes to address fisheries management
- 3.7 Enhance a mechanism to support effective decision-making based on reliable and up-to-date fisheries data
- 3.8 Develop a coastal fisheries permit system for the sustainable management of key commercial species



## Sustainable livelihoods

People's livelihood activities and opportunities need to be broadened, diversified and improved to ensure a reliable and sustainable source of income. Livelihood support and improvement strategies may be developed under the key guiding principles to address livelihood enhancement, diversification and/or innovative interventions. Household income from marine-based activities can be improved through applying new technology, refocussing on value adding to marine products (i.e. more benefit from fewer fish) and the observation of proper management (i.e. appropriate limits and scale of growth to sustain resource use). Importantly, actions aimed at improving people's livelihoods and wellbeing must look beyond the economics and be conducted with the wider values of social wellbeing, and cultural and political sensitivities in mind.

### *Actions:*

- 4.1 Promote innovative fisheries development initiatives and new sustainable income activities to improve fish production and diversify livelihoods (e.g. nearshore FAD deployment, deep bottom fishing, and value adding to fish products)
- 4.2 Promote innovation and development of appropriate aquaculture production in rural areas to support livelihood and nutrition
- 4.3 Promote the inclusion of women and other social groups in CBFM and sharing of benefits
- 4.4 Increase capacity building of staff and communities in aquaculture (e.g. breeding techniques...) and land-based fisheries activities
- 4.5 Introduce and promote the farming of environmentally friendly and resilient seafood species (with high commercial and high fecundity rates) for aquaculture development
- 4.6 Develop and strengthen sanitary and phytosanitary protocols of introduced aquaculture species to effectively address biosecurity issues
- 4.7 Promote and provide enabling environment to support small-scale fisheries development programs targeting existing and new Fisher cooperatives

## Food security and safety

Fish is an integral part of the diet of I-Kiribati people and critical to the improvement in nutrition of vulnerable groups like pregnant women and children younger than five years. It is important that people be well informed about the micronutrient value of fish, particularly in child development stages. Promoting post-harvest and best handling practices through proper hygiene is paramount to minimise food-borne diseases and ensure the broader nutritional value of fish.

### *Actions:*

- 5.1 Promote consumption of fresh seafood as part of well-balanced diets and long-term nutritional security
- 5.2 Promote and support national programs on improving diets and ensure a sustainable supply of seafood is available to critical social groups, like infants, pregnant and lactating women
- 5.3 Promote seafood safety standards in fishing communities and other relevant entities (e.g. such as fish markets)
- 5.4 Promote healthy foods through value adding of seafood products
- 5.5 Promote value-chain process and post-harvest processing for seafood
- 5.6 Strengthen collaboration with MHMS and other agencies in relation to ciguatoxic and seafood poisoning incidents
- 5.7 Promote diversification of sustainable and adaptive fishing initiatives to support food security

## Markets

Developing sustainable market systems for fisheries and fisheries products through improved social organization, infrastructure and mechanisms allowing reliable and sustainable supply to meet growing market demand, is critical. Markets perform a broad range of services: Improving accessibility of seafood through the supply chain; providing a location for selling and buying; and licensing systems for vendors. Markets provide a focal point to measure the sustainability of fisheries resources, and their ability to benefit the community in the long-term. Marketing strategies focus on improving the reliability and consistency of market connections to domestic urban markets.

### Actions:

- 6.1 Improve fish quality and availability in markets
- 6.2 Develop enabling environment and infrastructures to facilitate trade between rural, urban and overseas markets
- 6.3 Improve domestic and overseas trade framework for Kiribati fish products by identifying potential markets
- 6.4 Improve national licensing system and conditions to maximise benefits communities experience from coastal resources
- 6.5 Improve networks among relevant stakeholders to facilitate market and trade

## Cross-cutting enabling conditions

For all actions to successfully feed into the overarching outcomes there are five key enabling conditions that need to be met.

Firstly, all interventions must be designed to ensure equity and opportunity for engagement and benefit distribution among stakeholder groups. This requires mechanisms for broad social inclusion to minimise any conflicts of interest, for example, gender-based marginalisation. Effective checks and balances are essential to ensure processes are fair and transparent, and that accountabilities are in place.

Secondly, as noted in the KV20, strong partnerships among stakeholders across different scales are imperative to facilitate an interactive communication and information-sharing platform. Opportunities to voice grievances, resolve conflicts, learn across scales and develop support systems will not only enable better implementation of the strategy, but also ensure a sense of ownership of the long-term benefits and sustainable practices beyond 2036.

Thirdly, critical institutional capacity must be in place to implement the Roadmap. Different sectors should collaborate and coordinate programs with civil society and the private sector, which will improve the effectiveness of strategies responding to any potential threats and changes to our coastal fisheries.

Lastly, local resource users need to be equipped with necessary skills, knowledge and resources to carry out responsible fisheries management and so realise personal and collective aspirations. Legitimate leadership, transparency and accountability at all levels will be critical for stakeholders to work together to plan, monitor and evaluate resource management decisions. Activities under the Roadmap should foster and contribute to areas for further development and empowerment of communities (e.g. the recognition of communities as stewards of their local resources through formal and effective mandates). These decisions should be guided by locally developed and nationally endorsed, management tools that set out appropriate directions which address what and where rules and regulations are applicable to specific coastal fisheries issues.

Finally, all the activities described in the Roadmap should be innovative, build local adaptive capacity to respond to external threats such as climate change impacts, and aim to improve ecosystem integrity.



# Milestones across strategic timeline

For each focal action areas, strategic milestones for the short (3 years), medium (8 years), and long term (15 years) were developed (Figure 4).

	Short-term (3yrs)	Mid-term (8yrs)	Long-term (15yrs)
<b>I. Governance</b>	<ul style="list-style-type: none"> <li>Inter-Ministerial/bilateral partner MoUs signed (with roles, responsibilities and sharing agreements)</li> <li>CBRM taskforce established</li> <li>CF fora (for bilateral, CBFM stakeholders) established</li> <li>CF regulations, policies, bye-laws reviewed and inclusive of CBFM and EAFM principles</li> <li>MCS&amp;E unit established and trained</li> </ul>	<ul style="list-style-type: none"> <li>Intra-/Inter- island fora on CF issues established</li> <li>Continuity among CFD projects is improved</li> <li>Operational MCS&amp;E unit working collaboratively with CFD and other Ministries</li> <li>CF regulations, policies, bye-laws endorsed and enforced</li> </ul>	<ul style="list-style-type: none"> <li>CBRM taskforce successful in promoting inter-agency collaboration</li> <li>National regulations, policies and bye-laws are aligned with SOP for inclusion of CBFM plans</li> </ul>
<b>II. Information, Knowledge and Capacity building</b>	<ul style="list-style-type: none"> <li>Communication strategy developed and implemented</li> <li>Central web-based CF repository database funded with defined access and sharing protocols</li> <li>CFD database server fully functional</li> <li>Taskforce for fisheries resource kits established and operational</li> <li>CF resource information included into school curriculum</li> <li>Research collaborations strengthened with knowledge exchange</li> <li>Public awareness campaigns developed, disseminated and monitored</li> <li>Training program (CBFM principles, data management and analysis, reporting...) for national and island-based staff developed</li> </ul>	<ul style="list-style-type: none"> <li>Central web-based CF sharing database piloted</li> <li>TOT on Fisheries resource kit in 12 Outer Islands</li> <li>40% of schools and communities use CF resources</li> <li>Research M&amp;E framework developed with active participation from community members</li> <li>Research results of CFD activities are disseminated to public</li> <li>Online training material for extension officers developed</li> <li>Training material on CBFM rolled out to extension officers and CBFM committees in 50% islands</li> </ul>	<ul style="list-style-type: none"> <li>Central web-based CF sharing database operational</li> <li>TOT on Fisheries resource kit in 22 Outer Islands</li> <li>Dissemination of CFD research results/best practice manuals successful in improving community knowledge in 22 Outer Islands</li> <li>Online course undertaken by extension officers</li> <li>Staff have completed postgraduate qualifications</li> <li>Training material on CBFM rolled out to extension officers and CBFM committees in 80% islands</li> </ul>
<b>III. Coastal Fisheries Management</b>	<ul style="list-style-type: none"> <li>Standardised fisheries management survey and stock assessment developed, adopted and communicated</li> <li>SOP for Kiribati CBFM approach adopted among stakeholders</li> <li>≥ 9 community management plans endorsed and implemented</li> <li>SOP for coastal fisheries monitoring and compliance developed</li> <li>Authorised officers trained and appointed</li> <li>Community activity register developed and shared among partners</li> <li>Coastal fisheries permit system adopted</li> <li>4-7 fisher cooperatives supported and integrated in decision-making</li> </ul>	<ul style="list-style-type: none"> <li>CBFM implemented in 50% islands</li> <li>Inter-Ministerial CBFM activities/training undertaken</li> <li>CBFM institutions supported and proactively active in monitoring</li> <li>Authorised officers reporting compliance issues in 50% islands</li> <li>Stock assessment/fisheries habitat surveys completed and monitored in 50% of islands</li> <li>Web platform for coastal fisheries permit system operational</li> <li>Fisher cooperative network supported</li> </ul>	<ul style="list-style-type: none"> <li>CBFM is scaled out to 22 islands</li> <li>All community management plans are endorsed, monitored and regularly adopted</li> <li>Compliance framework fully operational</li> <li>Regular stock assessment/fish habitat surveys undertaken and monitored with active participation from community members</li> <li>Operational fisher cooperative network</li> </ul>
<b>IV. Sustainable Livelihoods</b>	<ul style="list-style-type: none"> <li>Nearshore FAD regulation developed, implemented</li> <li>FAD M&amp;E framework developed and piloted in 3 islands</li> <li>Aquaculture business investment strategy developed, promoted</li> <li>Marine-based livelihoods strategy developed with targeted stakeholder training (inclusive of gender principles)</li> <li>3 South-to-South exchange programs conducted and/or attended annually</li> <li>Cost-benefit analysis of commercial species undertaken</li> <li>Risk analysis of 1 introduced new species completed</li> </ul>	<ul style="list-style-type: none"> <li>40% of islands participate in FAD monitoring with data into central CFD database</li> <li>Aquaculture regulation enacted</li> <li>50% of communities receive aquaculture information and 20% actively participate in marine-based livelihood program/training</li> <li>Aquaculture program supported in Kiribati</li> </ul>	<ul style="list-style-type: none"> <li>National FAD monitoring program fully operational</li> <li>80% of communities receive aquaculture information and 50% actively participate in marine-based livelihood program/training</li> <li>Marine-based livelihoods provide equitable benefits</li> <li>SOP for risk analysis of introduced new species adopted</li> </ul>
<b>V. Food Security and Safety</b>	<ul style="list-style-type: none"> <li>National food security and safety taskforce enacted and operational</li> <li>National seafood safety standards developed</li> <li>Seafood-based nutrition research undertaken in 2 communities, providing information to design awareness/best practice material</li> <li>Integrated research program with MHMS on ciguatera and seafood poisoning developed</li> </ul>	<ul style="list-style-type: none"> <li>Training in fish-based nutrition, fish handling and preservation carried out in 20% communities</li> <li>Seafood-based nutrition awareness material disseminated to 20% communities</li> <li>Seafood safety standards monitored in 1 fish market</li> <li>PRP, GMP and HACCP requirements adopted, promoted</li> </ul>	<ul style="list-style-type: none"> <li>Training in fish-based nutrition, fish handling and preservation carried out in 50% communities</li> <li>Seafood-based nutrition awareness material disseminated to 50% communities</li> <li>Seafood producers/exporters compliant with seafood safety standards</li> </ul>
<b>VI. Markets</b>	<ul style="list-style-type: none"> <li>Product value chain training conducted</li> <li>Monitoring program of all export consignment operational</li> <li>Diagnosis research on seafood-value chain undertaken in 1 market in South Tarawa</li> </ul>	<ul style="list-style-type: none"> <li>Infrastructure developed to facilitate inter-island and South Tarawa trade of seafood products</li> <li>2 seafood products promoted in international seafood expos</li> </ul>	<ul style="list-style-type: none"> <li>At least 2 overseas market niche identified</li> <li>Cost-effective transport system to facilitate trade between rural and urban market identified and piloted</li> <li>3 fish markets respecting seafood biosecurity protocols</li> </ul>

Figure 3: Short-, medium- and long-term milestones of Kiribati's Coastal fisheries Roadmap



# Monitoring, evaluation and learning

The National Roadmap will guide improved performance of coastal fisheries in Kiribati. The key target is to improve current and future management outputs, outcomes and impact towards the national development goals, and assist in Kiribati's annual reporting obligations under the SDGs and the New Song.

The strategy has a lifespan of 17 years (2019–2036) with reviews planned in line with the defined milestones (i.e. after 3, 8 and 15 years of implementation). Throughout the implementation of the strategy, regular reporting will be integrated into CFD's ongoing reporting system. Monitoring and evaluation procedures will run parallel to implementation, with lessons learnt documented and measures of success or failure assessed according to qualitative and quantitative indicators as part of the operational framework.

The reviews (on a 3-year basis) and necessary update of the National Roadmap will be conducted by the Coastal Fisheries Division in close collaboration with relevant stakeholders and will be communicated accordingly.



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# Action matrix

Planning phases: S - short term  
M - medium term  
L - long term

1-3 years  
3-8 years  
8-17 years

Feasibility: Green  
Orange  
Red

CFD can execute now with current resources/capacity  
CFD needs further support to execute over time  
Strategic plans for external support are needed to ensure CFD has capacity to execute over the long-term

Actions	Key Activities	Outcomes
<b>I. GOVERNANCE</b> 1.1 Develop and strengthen collaboration among relevant government agencies and stakeholders (i.e. civil society, island institutions, regional institutions and research partners...)		
1.1.1	Establish/strengthen MoU/MoA between relevant stakeholders and key institutions with aligned areas of expertise	Strengthened collaboration and streamlining with other national and international coastal fisheries stakeholders, with lasting impact of implementation of joint activities <b>S</b>
1.1.2	Establish clear protocols and guidelines for information and data sharing with other Divisions, government departments and other stakeholders	Strengthened management and dissemination of national data <b>M</b>
1.1.3	Establish a coastal fisheries management steering committee/national taskforce	Strengthened collaboration and streamlining with other coastal fisheries stakeholders, with lasting impact of implementation of activities <b>S</b>
1.1.4	Secure technical and financial assistance to support steering committee activities and data sharing protocols	Network built and long-lasting cooperation and partnerships among coastal fisheries stakeholders with sound use of national data <b>L</b>
1.1.5	Establish inter-island and intra-island public forums and events with strong community representation (e.g. Unimwane, Island Council and community representatives, women representatives)	Strengthened collaboration and streamlining of coastal fisheries activities across scales <b>M</b>
1.1.6	Strengthen joint fieldwork, workshops, working groups among relevant organisations (Ministries and partners) with an established common monitoring and evaluation system	Strengthened cooperation and partnerships among stakeholders and streamlined monitoring and evaluation of joint activities <b>S</b>
1.1.7	Identify and address gaps and priorities in relation to CFD goals and responsibilities for support from CROP agencies and other relevant institutions	Capacity needs of CFD are well supported by international partners <b>M</b>
1.1.8	Organise joint meetings with bilateral projects to coordinate activities and improve synergies between projects	Strengthened collaboration among bilateral partners, effective implementation and streamlining of activities and shared understanding of responsibilities <b>S</b>
1.1.9	Implement mechanism for continuity between subsequent projects over time, ensuring ongoing consistent coastal fisheries interventions	Improved coherence and coordination across CFD's bilateral projects <b>M</b>

Actions	Key Activities	Outcomes	
1.2 Develop and implement legislation, regulations and bye-laws which are complementary to each other to address and support the sustainable management and use of coastal marine resources	1.2.1 Strengthen and update the coastal fisheries legal framework	Improved legal environment for the management of coastal fisheries	M
	1.2.2 Review and update Fisheries Act, supporting coastal regulations, policies, species management plans and bye-laws for the effective management of marine resources	Consistent legal environment for coastal fisheries	S
	1.2.3 Establish a robust forum to discuss enforcement requirements among responsible sectors	Strengthened collaboration and streamlining with other coastal fisheries stakeholders, with lasting impact of implementation of activities	S
	1.2.4 Develop Aquaculture-specific regulations	Aquaculture regulation developed, approved and disseminated	M
1.3 Empower communities in coastal fisheries management and stewardship through CBFM approaches	1.3.1 Formulate clear communication strategies protocols & guidelines between relevant CBFM stakeholders (MFMRD, MIA, ICs, Unimwane associations and communities)	Strengthened communication and partnerships among coastal fisheries stakeholders and well-informed stakeholders	S
	1.3.2 Conduct training and ToT workshops on CBFM principles targeted at FAs and communities	Improved in-house capacity of outer-island CFD staff and community capacity to support CBFM activities	S
	1.3.3 Develop materials and/or create public forums to increase awareness about CBFM	Communities feel supported, are aware of their roles and responsibilities and are well informed	M
	1.3.4 Implement mechanisms to scale up community engagement for effective implementation of management plans and M and E plans	Implementation of management plans with higher support of communities	L
1.4 Develop and strengthen monitoring, control & surveillance and enforcement at different scales	1.4.1 Develop a coastal fisheries enforcement program	Clear roles and responsibilities to enforce coastal fisheries rules and regulations	S
	1.4.2 Institutional strengthening of MCS&E unit staff to be well-equipped with working equipment and relevant knowledge skills	Strengthened in-house capacity of CFD to deliver on MCS&E activities	M
	1.4.3 Develop a routine schedule for MCS&E operation	Operational MCS&E unit	M
	1.4.4 Establish robust collaboration protocols with Island Councils, Unimwane associations and communities in Monitoring and Enforcement programs	Strengthened collaboration across scales, with clear allocation of roles and responsibilities for monitoring and enforcement activities	S
	1.4.5 Establish a robust and effective joint enforcement team to support coastal fisheries MCS operations	Effective and efficient coastal MCS and E programs	L
1.5 Build and strengthen national coastal fisheries capacity to effectively manage and conserve fisheries resources	1.5.1 Provide inputs and support to Kiribati fisheries sector HR in identifying training needs as they evolve	Capacity needs of in-house CFD staff are timely identified and streamlined	S
	1.5.2 Identify priority needs for trainings of CFD staff for the sound operation of relevant existing fisheries programs	Capacity needs of in-house CFD staff are timely identified and provided for	S
	1.5.3 Organise specific training programs targeting CFD staff and other stakeholders	Strengthened in-house capacity of CFD staff to deliver coastal fisheries activities	S

Actions		Key Activities	Outcomes	
<b>II. INFORMATION, KNOWLEDGE &amp; CAPACITY BUILDING</b>				
2.1 Formulation of effective communication strategy to ensure accessibility and sharing of information among international, regional bodies and institutions, relevant government bodies, NGOs, private sector and communities	2.1.1	Develop a multi-pronged communication strategy for all key stakeholders for fisheries management and enforcement	Communication strategy developed, approved and disseminated among CFD and partners with clear roles and responsibilities Well-informed coastal fisheries stakeholders	
	2.1.2	Initiate and implement a centralised system for information dissemination (newspaper articles, pamphlets, posters, island reports...)	Well-informed coastal fisheries stakeholders	
	2.2 Develop and manage a central data repository of all coastal fisheries-relevant information to allow for up-to-date coastal fisheries information	2.2.1	Improve internet speed and other communication infrastructure to support CFD activities and collaborations	Effective and efficient communication platforms and improved information sharing
		2.2.2	Seek technical support for the development of a central data repository system of all coastal fisheries information and to upgrade CFD database server	Strengthened management and on-going support for the dissemination of national data More secure data storage
	2.3 Increase knowledge and skills of national and island based CFD staff so as to execute CFD strategic objectives (range of capacity building and overseas training...)	2.2.3	Upgrade the fishery library system	Library system operational and well-informed CFD staff on coastal fisheries issues
		2.2.4	Establish clear guidelines and protocols for external access of CFD central data and information repository system among stakeholders	Strengthened management and dissemination of national data
		2.3.1	Provide timely training and selective recruitment of staff	Strengthened on-going human capacity of CFD
		2.3.2	Build staff confidence through participation in relevant trainings internally and externally	Increased national capacity of CFD staff to undertake their work responsibilities
	2.4 Integration of coastal fisheries management principles and relevant programs into the school curriculum	2.3.3	Promote staff further education based on the merit performance scheme	Increased capacity within CFD to deliver fisheries activities
		2.3.4	Adopt e-technology for data collection and information sharing	Quick and efficient data collection system and easily shared data and understanding
2.4.1		Develop a taskforce involving CROP agencies, MOE and MFMRD for the development of teacher's resource kits on fisheries management	Improved understanding of fisheries management in the younger generations and the broader community	
2.4.2		Review and update teacher's resource kits (course materials and teacher's guide)	Increased capacity of younger generations to take part in fisheries management	
2.5 Develop information kits to increase knowledge of communities (factsheets on fishing methods, training factsheets...)	2.4.3	Conduct ToT to teachers and FAs to easily disseminate information to outer islands and the general public	Improved understanding of fisheries management in the younger generations and in the broader and more remote communities	
	2.5.1	Establish a committee responsible for translating, reviewing and updating existing and new factsheets for community information	Communities are well-informed about coastal fisheries management issues and initiatives	
	2.5.2	Distribute Information, Education and communication materials to outer islands and to the public (through radio, newspapers, posters...)	Timely delivery and well-informed communities on fisheries issues	
	2.5.3	Develop fishing guidelines/manuals (FAD fishing techniques, deep bottom fishing techniques...) for dissemination to communities coupled with hands-on practical training	Increased community capacity to diversify fishing activities	

Actions	Key Activities	Outcomes	
2.6 Provide an enabling environment to CFD to conduct its fisheries programs (research & applied) such as ICT and web-based information platforms, laboratories and equipment	2.6.1 Build a strong network with bilateral and CROP agencies for the exchange of knowledge and skills on research-based activities	Long-lasting partnerships and on-going close research collaborations	S
	2.6.2 Develop a central fisheries ICT infrastructure and web-based platform for information sharing among CFD/MFMRD staff	Cohesion and alignment within CFD/MFMRD and improved responsiveness to changes in the fisheries	M
	2.6.3 Provide proper working tools & infrastructure to CFD (vessels, laboratories & other facilities) to facilitate the implementation of fisheries programs	Increased technical capacity of CFD to undertake its work responsibilities	L
2.7 Develop and maintain innovative outreach programs (awareness, monitoring and evaluation) to foster behavioural change in fisheries management and enforcement	2.7.1 Develop a robust M&E framework of outreach programs and campaigns to assess their long-term effectiveness	Stakeholders well informed of their roles and responsibilities	S
	2.7.2 Establish a joint campaign committee to support a national outreach campaign to address fisheries management and enforcement	Strengthened cooperation among CFD staff to provide timely outreach programs on their coastal fisheries activities	M
	2.7.3 Develop and implement outreach programs and awareness tools to disseminate information to communities on fisheries regulations, measures and results of CFD research and activities	Communities are well-informed about coastal fisheries management issues, enforcement and CFD initiatives	M
	2.7.4 Educate communities on fisheries management and its impacts by involving them in training such as data collection when setting up MPAs etc... and of other relevant data for monitoring and evaluation purposes	Communities are well-informed about coastal fisheries management issues and initiatives	L
	2.7.5 Secure funding for ongoing outreach programs to support community consultation, social media and wide public outreach through relevant outreach vehicles such as radio programs, newsletters...	Improved longevity of CFD programs	L



Actions		Key Activities	Outcomes		
<b>III. COASTAL FISHERIES MANAGEMENT</b>					
3.1 Promote and improve stock enhancement programs targeting vulnerable and threatened marine species I	3.1.1	Review and Update appropriate fisheries guidelines & protocols for stock/habitat assessment with explicit methodology for implementation	Coordinated, standardised and sound fisheries management	<b>S</b>	
		3.1.2	Conduct rehabilitation and restocking programs of targeted species	Improved stock status of key species	<b>M</b>
		3.1.3	Organize or Coordinate staff training on rehabilitation and restocking programs including and not limited to seagrass	Improved stock status of key species	<b>M</b>
		3.1.4	Ensure adequate technical and human resources for rehabilitation and stock enhancement programs	Improved stock status of key species	<b>L</b>
	3.2 Promote and improve an integrated ecosystem-based conservation and management approach to protect and conserve fisheries habitats	3.2.1	Establish no-take zones for vulnerable and threatened marine species to replenish marine ecosystem	Effective and long-term management of endangered marine species	<b>S</b>
			3.2.2	Define and implement context appropriate EAFM and CBFM principles for Kiribati, and apply those to participatory approaches for planning, design, implementation and evaluation	Inclusive decision-making around coastal fisheries management and ecosystems
		3.2.3	Develop and implement appropriate fisheries management interventions based on data from stock assessments, surveys (including socioeconomic, marine pollution...) and reporting to increase knowledge of communities and other stakeholders	Adaptive and responsive coastal fisheries management	
			3.2.3	Strengthen collaborative work with relevant government Ministries to address issues such as coastal development, marine pollution and littering and roll out community awareness programs on EAFM	Long-lasting partnerships and well-designed development programs which minimise environmental impacts on coastal fisheries
		3.2.4	Improve engagement with ECD on EIA process for coastal development programs	Long-lasting partnerships and well-designed development programs which minimise environmental impacts on coastal fisheries	<b>M</b>
		3.2.5	Establish a conducive framework which can respond to future changes in coastal fisheries management and promote adaptive management at different scales	Well-established operational procedures for responsive fisheries management with clear roles and responsibilities	<b>L</b>
	3.2.6	Conduct training of communities on coral and mangrove planting	Enhanced coastal fisheries habitats	<b>L</b>	



Actions	Key Activities	Outcomes
3.3 Promote CBFM approaches to support coastal fisheries management	3.3.1 Establish guidelines/ protocols for community-based approaches to fisheries management which are based on wide community involvement and social inclusion principles (Unimwane, men, women, youth, vulnerable groups)	CBFM approaches that are as representative and inclusive as possible of all those living within the communities <b>S</b>
	3.3.2 Review and adopt lessons learned from current practices in community participatory approaches	Continually improved and refined pictures of communities' needs and aspirations for their fisheries <b>S</b>
	3.3.3 Support interested communities in managing their local marine resources through CBFM approaches	Strong local management and sustainable local fisheries <b>S</b>
	3.3.4 Support communities in establishing sound management rules (management plans) to sustainably use their marine resources (community management plans, bye-laws, community registration etc...) which are based on scientific advice and recognise community traditional knowledge	Strong coastal fisheries management based on Western and traditional knowledge systems <b>M</b>
	3.3.5 Organise village-based and/or island-wide CBFM steering committee for M&E and enforcement (with the provision of training and information kits)	Strong local institutions, robust enforcement guidelines <b>M</b>
	3.3.6 Identify and provide necessary technical support for the CBFM approach through joint training, fieldwork, workshop and data sharing	Widely recognised and established common procedures for community-based approaches to fisheries management <b>M</b>
	3.3.6 Establish a register of community interests and ongoing activities across fisheries management, livelihoods etc...to assist in the delivery of fisheries assistance	Well-designed fisheries assistance programs based on existing activities and identified needs <b>S</b>
	3.3.7 Develop, implement and monitor effective community-based management of no-take areas, community protected areas and fisheries rules with assistance of Ministries and island institutions	Strengthened marine resource management in local areas <b>M</b>
3.4 Strengthen legislation, island bye-laws and community management plans to support the conservation and management of coastal fisheries	3.4.1 Develop working committee to oversee the review of existing legislation, island bye-laws and community management plans	Consistent legal environment for coastal fisheries <b>S</b>
	3.4.2 Carry out consultation, training and workshops to authorised officers responsible for enforcing new regulations	Increased in-house capacity of officers to enforce coastal fisheries rules and regulations <b>M</b>
	3.4.3 In collaboration with CBFM outreach programs, create public awareness on changes in legislation and its impacts, island bye-laws and community management plans	Well-informed public on national fisheries regulations and local fisheries rules <b>S</b>
	3.4.4 Recognise, empower and train authorised officers, CBFM-related community leaders to resolve conflicts and enforce legislation, bye-laws and management plans	National and local fisheries rules are known, enforced and create minimal conflicts <b>L</b>



Actions	Key Activities	Outcomes
3.5 Promote and adopt integrated fisheries management through the collaboration of government, communities, island councils and civil society in the planning, preparation, consultation, implementation and M&E phases of fisheries management	<p>3.5.1 Establish/strengthen national/intra- and inter-island networks between stakeholders for information and data sharing</p> <p>3.5.2 Conduct forums and trainings with relevant government agencies and island representatives on updating/developing new legislations, bye-laws and management plans</p> <p>3.5.2 Undertake consultations and establish clear roles and responsibilities among stakeholders for M&amp;E action plans</p>	<p>Strong collaboration between well-informed fisheries stakeholders <b>L</b></p> <p>Ensure awareness of all stakeholders on updates of national/local fisheries regulations <b>S</b></p> <p>Established roles and responsibilities of stakeholders along the fisheries management cycle <b>L</b></p>
3.6 Develop an effective and robust monitoring and compliance framework on existing legal regimes to address fisheries management	<p>3.6.1 Establish and implement standard operating procedures and guidelines to support the monitoring and compliance of fisheries rules</p> <p>3.6.2 Develop central database and reporting mechanisms on non-compliance activities</p> <p>3.6.3 Set up a taskforce (involving police and other relevant stakeholders) to coordinate enforcement activities related to coastal fisheries</p> <p>3.6.4 Carry out trainings targeting enforcement officers (investigation)</p> <p>3.6.5 Recognise and empower existing CBRM taskforce to support monitoring and compliance activities</p>	<p>Accurate national monitoring and control of fishing activities in coastal zones <b>S</b></p> <p>National awareness on compliance issues of fishing activities in coastal zones <b>M</b></p> <p>Well-resourced enforcement of fisheries activities in coastal zones <b>M</b></p> <p>Improved local enforcement of fishing activities in coastal zones <b>S</b></p> <p>Strong national support in long-term monitoring of fisheries management in coastal zones <b>M</b></p>
3.7 Enhance a mechanism to support effective decision-making based on reliable and up-to-date fisheries data	<p>3.7.1 Conduct research and surveys to provide up-to-date status of fisheries resources</p> <p>3.7.2 Develop a monitoring and evaluation framework on the status of coastal fisheries stocks and habitats</p> <p>3.7.2 Provide annual policy briefing on fisheries stocks status</p>	<p>Stakeholders informed of the status of fisheries resources, and improved ability to react to changes in fisheries resources <b>M</b></p> <p>Consistent and comparable data to assess impacts of fisheries activities on stocks and habitats <b>M</b></p> <p>Well-informed decision makers on the health of coastal fisheries <b>S</b></p>
3.8 Develop a coastal fisheries permit system for the sustainable management of key commercial species <sup>2</sup>	<p>3.8.1 Review, improve and standardise coastal fisheries permit system</p> <p>3.8.2 Develop standard operating procedures for a coastal fisheries permit system across scales and roll out awareness campaign</p> <p>3.8.3 Develop e-database for coastal fisheries permits and allow easy e-access to forms, information, and SOPs through CFD website</p>	<p>Sustainable management of key commercial species <b>S</b></p> <p>Sustainable management of key commercial species <b>M</b></p> <p>Sustainable management of key commercial species <b>L</b></p>

Actions		Key Activities	Outcomes	
<b>IV. SUSTAINABLE LIVELIHOODS</b>				
4.1 Promote innovative fisheries development initiatives and new sustainable income activities to improve fish production and diversify livelihoods (nearshore FAD deployment, deep bottom fishing, and value adding to fish products...)	4.1.1	Continue nearshore FAD program with policy on FAD deployment & access with associated Monitoring & Evaluation framework and research on livelihood benefits	Increased catch from diverse fish capture activities by communities	
	4.1.2	Finalise nearshore FAD management plan	Strong management of nearshore FADs	
	4.1.3	Conduct intensive hands-on practical training activities on deep bottom fishing, value-adding to seafood products and of other sustainable harvest and post-processing techniques	Increased income from diverse marine-based value chain activities in communities	
	4.1.4	Evaluate and operate viable and sustainable transport options for locally-made island products to domestic and overseas markets	Profitable exports of seafood products	
	4.1.5	Review/update/standardise research methods across sites to improve fisheries sciences on marine-based livelihoods	Refined and adaptive protocols based on best possible practice supporting fisheries-related livelihoods	
	4.1.6	Identify and seek technical support from research institutions to meet research priority and needs for marine-based livelihood activities	Improved collaboration and opportunities for co-investment with external research institutions	
	4.1.7	Diversify seafood-based products sold through post-harvesting and value-adding techniques	Increased income through diverse seafood-based trade	
	4.2 Promote innovation and development of appropriate aquaculture production in rural areas to support livelihood and nutrition	4.2.1	Implement adaptive aquaculture developments in Kiribati (milkfish farming, seaweed, giant clam, sandfish, and other potential species)	Increased income from diverse marine-based activities in communities
		4.2.2	Promote aquaculture business investment strategy	Improved returns of aquaculture activities
		4.2.3	Create and disseminate a manual on best-practice operational procedures of all adaptive aquaculture developments	Well-informed and improved capacity of stakeholders along the aquaculture value-chain
		4.2.4	Identify and create partnerships with the private sector between Tarawa, Kiriritimati and the region to increase income generation	Increased income from aquaculture activities
		4.2.5	Identify potential market niche to facilitate export of value-added products of all cultured species.	Increased income from aquaculture activities
		4.2.6	Communicate and establish a monitoring program across scales of compliance towards PRP, GMP and HACCP requirements of all aquaculture products to meet international requirements	Accurate traceability and monitoring of aquaculture products
4.3 Promote the inclusion of women and other social groups in CBEM and sharing of benefits	4.3.1	Conduct and promote gender-based trainings to CFD staff, FAs and CBEM committee members	Increase in-house capacity to deliver gender-aware fisheries activities	
	4.3.2	Promote gender inclusiveness in all fisheries-based livelihood initiatives/trainings	Equitable distribution of human and fiscal benefits from fisheries activities	
	4.3.3	Support fairness in the distribution of fisheries resources, benefits and decision-making in communities	Equitable distribution of human and fiscal benefits from fisheries activities at the local level	

Actions	Key Activities	Outcomes
4.4 Increase capacity building of staff and communities in aquaculture (e.g. breeding techniques...) and land-based fisheries activities	4.4.1 Encourage South-to-South exchange programs on aquaculture initiatives for staff, farmers and post-harvest members	Strong South-to-South network on aquaculture activities <b>S</b>
	4.4.2 Develop a training program and rollout schedule to build capacity of farmers on established adaptive aquaculture developments	Well-informed and increased capacity of fish farmers <b>S</b>
	4.4.3 Research and revive seaweed-farming programs to assist communities with land-based livelihood and nutrition activities (gardening...)	Increased income and nutritional outcomes in communities from diverse marine-based activities <b>M</b>
	4.4.4 Establish an enabling environment to support aquaculture practices on Kiriritimati Island and promotion of best harvesting and value-adding practices with roll out training programs to target existing and new exporters and potential overseas niche market(s)	Development of diverse marine-based activities on Kiriritimati <b>M</b>
4.5 Introduce and promote the farming of environmentally friendly and resilient seafood species (with high commercial and high fecundity rates) for aquaculture development	4.5.1 Identify potential key environmentally friendly commercial species through research in aquaculture development and through partnerships with regional and international institutions with associated cost-benefit analyses	Increased knowledge and opportunities for aquaculture development <b>S</b>
	4.5.2 Develop a research plan including the carry out of surveys for suitable sites and farming conditions of potential environmentally friendly key commercial species, completion of farming trials and associated monitoring and evaluation programs	Sound and adaptive research protocols for the commercialisation of aquaculture species <b>M</b>
	4.5.3 Use lessons learned from new trials to develop, implement and rollout training programs to communities for farming environmentally friendly key commercial species	Well-informed fisheries officers and fish farmers on latest aquaculture development <b>L</b>
4.6 Develop and strengthen sanitary and phytosanitary protocols of introduced aquaculture species to address biosecurity issues	4.6.1 Develop aquaculture regulation to address biosecurity issues	Safe aquaculture products available for trade <b>S</b>
	4.6.2 Review and establish permit system to address importation of fisheries products (live and processed)	Safe imports of seafood products into Kiribati <b>S</b>
	4.6.3 Undertake risk analysis of imported fisheries products (live and processed)	No adverse environmental impacts from importation of seafood products into Kiribati <b>M</b>
	4.6.4 Strengthen quarantine and biosecurity protocols of imported fisheries products (live and processed)	Safe imports of seafood products into Kiribati <b>M</b>
4.7 Promote and provide enabling environment to support small-scale fisheries development programs targeting existing and new Fisher cooperatives.	4.7.1 Develop a register of fisher associations and create a network between fisher associations in South Tarawa and the outer islands	Enhanced network of community-based organisations <b>M</b>
	4.7.2 Provide training and support (infrastructure) to assist with the good operation of fisher networks (network structure, enabling environment, committees, management and business skills...)	Increased support for community-based organisations <b>M</b>
	4.7.3 Encourage the participation of fisher network in meetings and workshops to allow for a 2-way communication process with national government bodies and sharing of experience	Increased collaboration between national and local stakeholders <b>S</b>

Actions		Key Activities	Outcomes		
<b>V. FOOD SECURITY &amp; SAFETY</b>					
5.1 Promote consumption of fresh seafood as part of well-balanced diets and long-term nutritional security	5.1.1	Develop and conduct community-level trainings on post-harvest and value-adding techniques for good nutrition (with production of training materials, handbooks, manuals...)	Increased availability of healthy seafood and reduced prevalence of NCDs and micronutrient deficiencies	<b>S</b>	
		5.1.2	Undertake research to understand the importance of seafood products on diet and I-Kiribati food security	Raised awareness of seafood importance to I-Kiribati food security	<b>S</b>
		5.1.3	Conduct awareness programs in collaboration with nutrition experts to promote seafood to critical social groups (pregnant, lactating women and children)	Increased nutritional outcomes in critical social groups	<b>M</b>
	5.2 Promote and support national programs on improving diets and ensure a sustainable supply of seafood is available to critical social groups, like infants, pregnant and lactating women	5.2.1	Conduct research on fish-based nutrition among all social groups	Raised awareness of seafood importance to I-Kiribati food security	<b>S</b>
		5.2.2	Carry out wide national information campaigns to increase awareness on the importance of seafood targeting critical social groups (pregnant, lactating women and children)	Well-informed critical social groups on the benefits of healthy and safe sea-food-based diet	<b>M</b>
	5.3 Promote seafood safety standards in fishing communities and other relevant entities (e.g. fish markets)	5.3.1	Work collaboratively to develop national seafood safety standards and hygiene-handling, preservation, storage of seafood products along the value chain	Safe and nutritious seafood from fishers to consumers	<b>M</b>
		5.3.2	Implement seafood safety standards and requirements targeting resource users through awareness campaigns	Safe and nutritious seafood from fishers to consumers	<b>L</b>
	5.4 Promote healthy foods through value-adding of seafood products	5.4.1	Share seafood recipes through Ministry's website	Increased nutritional outcomes from seafood-based diet	<b>S</b>
		5.4.2	Organise cooking sessions to promote healthy seafood cooking practices to increase the nutritional benefits of seafood for consumers	Increased nutritional outcomes from seafood-based diet	<b>S</b>
	5.5 Promote value-chain process and post-harvest processing for seafood	5.4.3	Organise trainings at the island level on value adding of seafood products (preparation, preservation...)	Safe and nutritious seafood from fishers to consumers	<b>M</b>
		5.5.1	Conduct trainings on best practices on hygienic handling, storage and preservation of seafood (with associated brochures...)	Reduced incidence of seafood poisoning cases	<b>S</b>
	5.6 Strengthen collaboration with MHMS and other agencies in relation to ciguatera and seafood poisoning incidents	5.6.1	Review and identify data gaps to better inform on ciguatera and seafood poisoning cases	Safer seafood consumption	<b>M</b>
5.6.2		Establish sharing protocols between CFD and relevant stakeholders (particularly MHMS) on ciguatera and seafood poisoning cases with relevant database and reporting mechanisms	Strong national mechanism to optimally respond and inform communities on seafood poisoning risks	<b>M</b>	
5.6.3		Conduct awareness programs on ciguatera and seafood poisoning	Reduced cases of ciguatera and seafood poisoning	<b>M</b>	
5.6.4		Seek technical support to undertake research and recent survey methodologies for ciguatera to guide subsequent awareness program on food safety	Well-informed CFD on the spatial range of ciguatera	<b>L</b>	

Actions	Key Activities	Outcomes
5.7 Promote diversification of sustainable and adaptive fishing initiatives to support food security	5.7.1 Conduct research on FADs benefits to food security 5.7.2 Promote new aquaculture farming practices at the community level to support fishing diversification and assist food security 5.7.3 Identify and promote farming of more resilient aquaculture species	M Secured benefits of FADs M Increased diversity of seafood-based products to increase income and nutritional outcomes M Fish farmers have increased capacity to cope with changes
<b>VI. MARKETS</b>		
6.1 Improve fish quality and availability in markets	6.1.1 Conduct analysis of fish production and implement strategy for improved consistency in seafood production 6.1.2 Improve market transparency through widespread information sharing (e.g. price production, and marketing)	S Stable fish availability L Equitable distribution of benefits from fish trade along the supply chains
6.2 Develop enabling environment and infrastructures to facilitate trade between rural, urban and overseas markets	6.2.1 Develop materials and training to improve post-harvest seafood handling, storage (and preservation) and transportation of seafood 6.2.1.1 Conduct research on distribution, seafood market networks and assist to facilitate seafood distribution channels in rural and rural-urban market systems 6.2.2 Build an enabling environment to oversee the reliable transportation of rural marine products 6.2.3 Advocate/promote rural seafood products in complying with international seafood standard and requirements	M Delivery of high quality seafood to rural and urban consumers M Improved market and distribution function of seafood in rural and urban areas M Improved delivery of fresh uncontaminated seafood to consumers. Better access to fish to urban areas L Increased opportunity to access international markets and increase income
6.3 Improve domestic and overseas trade framework for Kiribati fish products by identifying potential markets	6.2.4 Assist to put in place management structures (e.g. cooperatives, fisher association) for capacity building and empowerment around local engagement in seafood trade 6.3.1 Conduct research on current trade of Kiribati seaweed products and assess effectiveness 6.3.2 Collaborate across scales (from producers, sellers, international sector) to facilitate trade of seafood-based products 6.3.3 Develop, communicate and disseminate identified international requirements for trade of seafood-based products in international markets	M Local equitable benefits derived from seafood trade M Increased return from seaweed growing and harvesting activities M Increased opportunity to access international markets and increase income M Increased opportunity to access international markets and increase income
6.4 Improve national licensing system and conditions to maximise benefits communities experience from coastal resources	6.4.1 Develop, communicate and implement a coastal fisheries licensing system 6.4.2 Promote the use of coastal fisheries licensing fees in ways that integrate equitable distribution of benefits among stakeholders	M Increased revenue from coastal fisheries activities M Increased equitable distribution of benefits from fisheries activities
6.5 Improve networks among relevant stakeholders to facilitate market and trade	6.5.1 Establish forums and public events between ministries, local sellers and importers to promote Kiribati seafood products 6.5.2 Undertake cost-benefit analyses of trade options (intra-, inter-islands and overseas) for Kiribati seafood-based products	M Enhanced visibility of Kiribati seafood products in international markets L Profitable seafood trade

1 Species such as giant clams (*Tridacna gigas*, *Squamosa* and *Hippopus hippopus*), ark shell (*Anadara uropigmelana*) and sea cucumber (*Holothuria scabra*).

2 Commercial species includes lobsters, reef fish (snappers, groupers, so forth), pet fish, sea cucumber, seaweed and other potential fishery for commercial purposes.





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