

# Integrated Coastal Management Plan

Ra Province

# MANAGEMENT PLAN

2015 -2020



FONDS FRANÇAIS POUR  
L'ENVIRONNEMENT MONDIAL



Pacific  
Community  
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du Pacifique



## ACKNOWLEDGEMENTS

This document contains the Integrated Coastal Management Plan for Ra Province. The process and inputs for development of the Plan are described in Volume 2 – Ra Province Integrated Coastal Management Plan, Plan Development and Background.

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## ABBREVIATIONS

CPUE	Catch per unit effort
CRED	Coral Reef Ecosystem Division
CTI	Coral Triangle Initiative
CTMPAS	Marine Protected Area System
g	gram
km	kilometre
L	Length
m	meter
m <sup>2</sup>	square meter
MAF	Ministry of Agriculture and Fisheries
MPA	Marine Protected Area
NOAA	National Oceanographic and Atmospheric Administration
Sd	standard deviation
sq km	square kilometre
TA	Technical Assistance
W	Width

# EXECUTIVE SUMMARY

The province of Ra is referred to as the ‘Sunshine Coast’ in Fiji, however there are increasing impacts and pressures on the coastal zone that need to be managed in a strategic, integrated and sustainable way. This document outlines a 5 year integrated coastal management (ICM) plan for the province of Ra. The Ra provincial ICM plan was developed through consultations with representatives of stakeholders from the resource owners and users sector, the private sector, government, and non-governmental

organizations in the province. The ICM plan describes in detail the current consolidated management strategy taken to effectively address eight prioritized coastal zone issues. These issues are: gravel extraction, burning, poaching, destructive fishing methods, community waste management, unsustainable farming methods, Vatu-I-Ra Marine Protected Area (MPA) (tourism levy issue) and black sand mining.

An ICM committee consisting of representatives from all stakeholder partners was established to develop the ICM provincial plan, and to plan, coordinate, monitor and evaluate the actions to be taken. The ICM plan makes the link between the national and district level ICM approaches and connects policies to community development for the province of Ra.

The agreed vision for the Ra Province ICM plan is “For the province of Ra to be the leader in sustainable resource management to improve the spiritual, economic, emotional and physical well-being and especially to live in Peace and Harmony”.

The overall goal agreed for the plan is “To improve the quality of life of human communities which depend on the coastal resources while minimizing impacts of the activities on the environment and minimize the conflicts between users”. Objectives to achieve this goal have also been developed and agreed.

The Plan provides information on actions carried out to date to address the eight priority issues and identifies future actions required to continue to address the eight priority issues, including a communications plan to maintain engagement with stakeholders.

The plan has a monitoring and evaluation strategy and a commitment to review its implementation and implement findings.

A financing strategy to support plan implementation has also been developed. A financing strategy to support plan implementation has also been developed.



# 1

## INTRODUCTION

Purpose of the ICM Plan

Scope of the plan

Relevant Laws and Policies

Statement of consultation

Statement of endorsement of provincial ICM Plan



# 1 INTRODUCTION

Integrated coastal management, or ICM, is about managing natural resources in a coastal watershed area (from the ridge to the reef) by all of the stakeholders in that area to achieve agreed objectives. ICM is essentially about decision-making processes and approaches for the sustainable management of coastal resources to achieve desired standards.

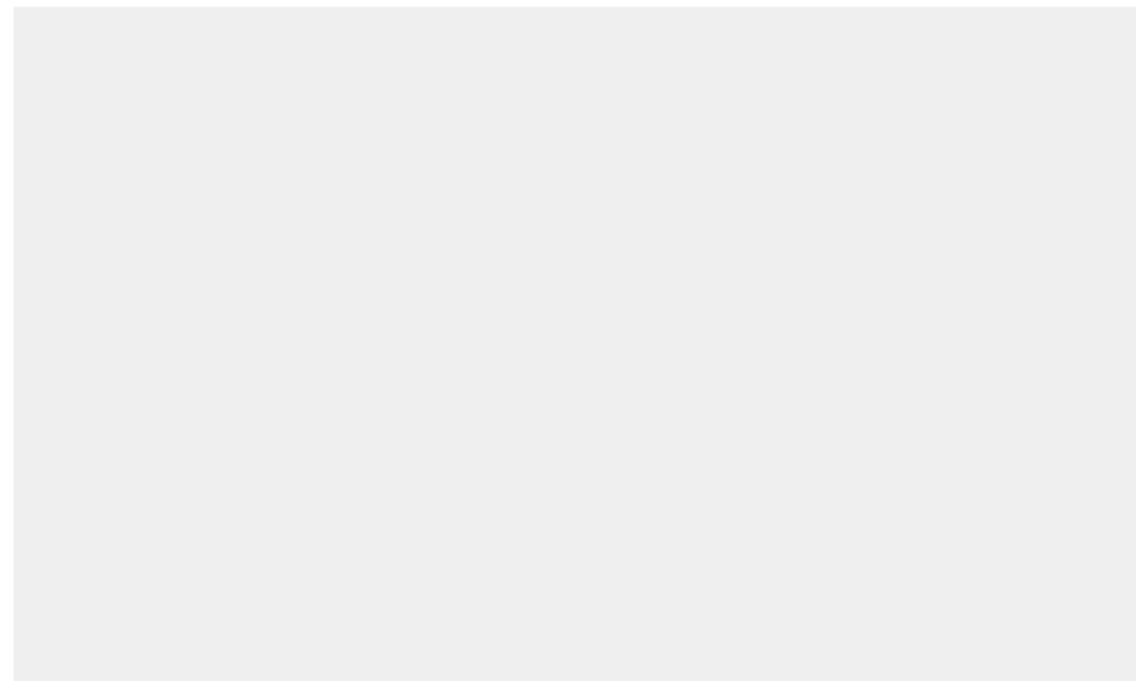
ICM is a management process that involves:

- a diverse group of stakeholders (Government, community, NGOs, and the private sector); and
- those stakeholders working together to prepare and implement a plan for the development, protection and utilization of coastal resources.

The National Environmental Council (NEC) formally approved the formation of a National ICM Committee in 2009, tasked to oversee ICM-related projects and the development of a National ICM Plan. The National ICM Committee is responsible for reporting to the NEC and making the link between provincial and national planning. The first step toward a National Plan was development of a National ICM Framework in 2011, which suggested the first priority should be the completion of more provincial plans before compiling a national ICM Plan.

Support from the Coral Triangle Pacific Project, funded by the ADB, allowed ICM work to be undertaken in the Ra Province, commencing in 2012. Under the Coral Triangle Pacific Project, the goal of the entire project is to help improve the resilience of coastal and marine ecosystems to the impacts of climate change. The Ra Integrated Coastal Management and Yaubula Committee (ICMYC) was formally recognised in 2012 and this committee has oversight of the Ra Provincial ICM Plan.

The Ra Provincial ICM Plan is the result of that process.



## Purpose of the ICM Plan

The Ra Provincial ICM Plan has been shaped by numerous deliberations at provincial planning workshops, provincial committee meetings and lessons learned from national and international experiences. It is guided by Fiji's vision for the coastal zone to:

- Maintain ecological processes and services;
- Preserve, enhance and rehabilitate natural resources; and
- Improve health and wellbeing of the people of Fiji.

The main purposes of the Ra Provincial ICM Plan are:

- To establish integrated coastal management arrangements for the Ra Province with 9 coastal districts and their stakeholders;
- To develop integrated sustainable development policies that connect the national government, provincial government and communities; and
- To sustainably manage the natural resources of the Ra Province for current and future generations.

This plan will cover the next 5 years, from 2015 to 2019 and there will be a mid-term review in 2017.

## Scope of the plan

This Ra Provincial ICM Plan area is comprised primarily of 9 coastal districts and their stakeholders within the province of Ra, however ICM issues are addressed for the entire province of Ra. The stakeholders include resource users, governments, NGOs, and the private sector. A detailed description of the stakeholder analysis is discussed in the Background Report to the Ra Provincial ICM Plan.

The coastal districts are:

- Naiyalayala
- Raviravi
- Rakiraki
- Navolau
- Saivou
- Navitilevu
- Nakorotubu
- Kavula
- Bure I wai

In Ra, a district's coastal zone is defined by the inland boundary of that coastal district to the outer boundary of its adjacent traditional fishing boundary or qoliqoli boundary. The Ra provincial ICM plan therefore includes the management of natural resources within the nine coastal zone districts in the province of Ra as shown in Figure 1.

## Relevant Laws and Policies

In Fiji the Environmental Management Act (EMA) 2005 is the most relevant legislative framework governing the development of an ICM plan. The EMA has two key purposes: a) to apply the principles of sustainable use and development of natural resources; and b) to identify matters of national importance in relation to the environment. The EMA has 2 supporting regulations:

- The Environmental Impact Assessment Regulation 2007 outlining the screening, processing and reviewing of EIA relating to the EMA.
- The Waste Disposal and Recycling Regulation 2007 outlining the process and requirements for disposal of various waste types.

Other legislation relevant to coastal resource management is listed in the Integrated Coastal Management Framework for the Republic of Fiji 2011.

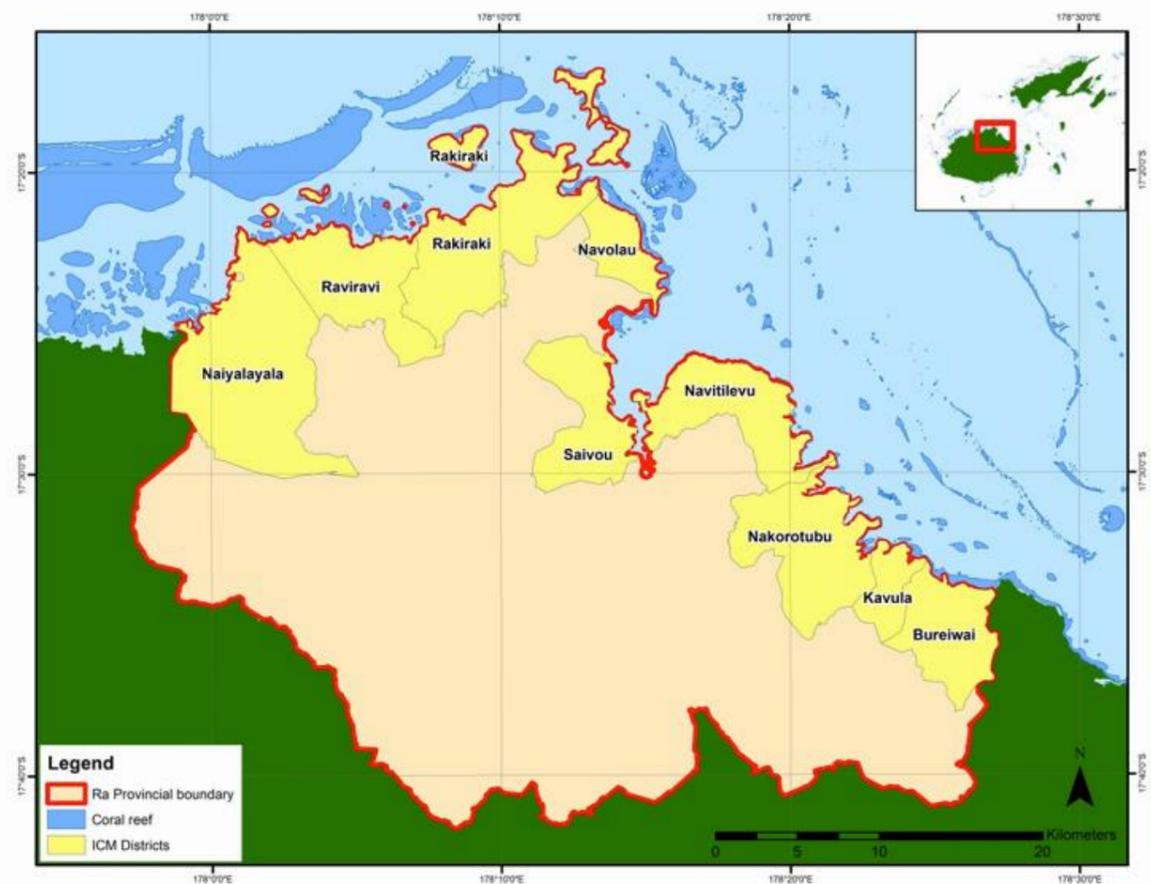


Figure 1. Ra Province

## Statement of consultation

A combined bottom-up and top-down approach is being undertaken towards the development of a national level coastal management plan using the Ra province model. The bottom-up approach is based on consultations at the village level by the village Yaubula Management Support Team (YMST) Committee. Information is taken up by the district YMST committee. Representatives from the district YMSTs are members of the Ra ICYMC where consultations and decisions on interventions are made with government, NGOs and the private sector representatives. The detailed steps and process that was followed are contained in the Background document supporting this Plan.

## Statement of endorsement of provincial ICM Plan

In November 2012 a Ra Province ICM planning meeting was hosted by the Institute of Applied Science (IAS) at the Ra Provincial Office. This meeting comprised 60 participants from the main stakeholder groups, including the 4 high chiefs from the 4 tikina cokovata (main districts), who have overall ownership of natural resources in the province of Ra. An outcomes of this planning meeting was agreement on a vision toward the Ra Provincial ICM plan.

Following the National ICM workshop on the development of provincial ICM plans, the Ra ICYMC endorsed the formation of their provincial plan at their meeting in July 2014. The meeting minutes record the endorsement of the formation of a provincial ICM plan for Ra and the discussion on the structure and responsibilities of stakeholders in the formation of the plan.

In December 2014 a draft provincial plan was workshopped by all of the Ra ICM stakeholders and reviewed by the same team in April 2015. The provincial plan is to be finalised and submitted as a cabinet paper in 2015.

# VISION, GOAL AND OBJECTIVES



## Vision

For the province of Ra to be the leader in sustainable resource management to improve the spiritual, economic, emotional and physical well-being and especially to live in Peace and Harmony.

## Goal

To improve the quality of life of human communities which depend on the coastal resources while minimizing impacts of the activities on the environment and minimise the conflicts between users.

For the Ra Province it will:

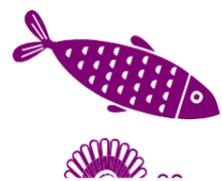
- Replenish natural resources in 5 years; and
- Allow the resource users to practice sustainable resource management and have an increased continuous understanding of natural resource management

## Objectives

The objectives of the Ra ICM Provincial Plan are to:

- 1 maintain the functional integrity and health of coastal ecosystems and environments through maintenance of ecological balance, protection of biodiversity, preservation of resources and sustainable fisheries and livelihoods of communities;
- 2 harmonise coastal management processes provided for by relevant legislation, strategies, policies and plans;
- 3 enhance and strengthen collaboration of all stakeholders including government agencies, NGOs and communities in the management process;
- 4 ensure coastal ecosystem considerations are efficiently and adequately taken into consideration during all stages of development to minimize detrimental impacts on the coastal environment and achieve sustainability;
- 5 facilitate the progress of sustainable multi-sectoral development;
- 6 reduce resource use conflicts;
- 7 maintain aesthetic appeal of the coastal environment for the enjoyment of the population and for sustainable development;
- 8 preserve customary, cultural and traditional values; and
- 9 facilitate climate change adaptation activities.

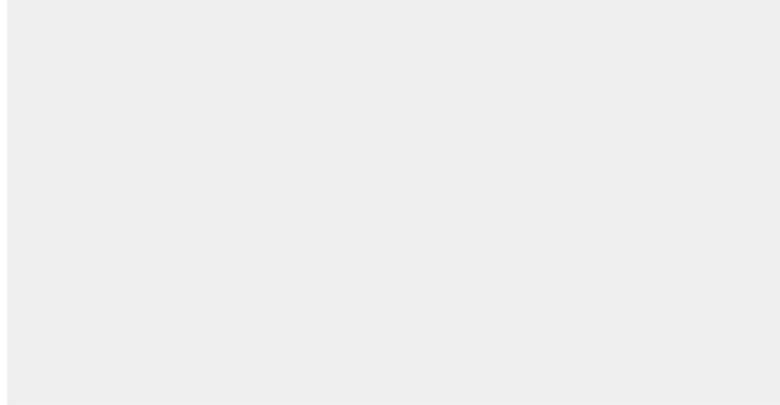
These objectives are the basis for developing the necessary strategies and actions to implement the Ra Provincial ICM Plan.



# 3

## PRIORITY ISSUES

Prior to the first workshop with the Ra stakeholders in 2012, a review of the status of coastal resource management was done and a list of issues and threats related to the coastal areas of Ra was developed (see table below, and the Background report for further detail).



- Burning
- Poaching
- Destructive methods of fishing (focus on freshwater systems)
- Community wastewater management
- Unsustainable farming practices
- Diving Fee Contributions from Tourism (Vatu-i-Ra)
- Black Sand Mining in Saivou district

Detailed information on the description of the issue and its impacts to the coastal zone in Ra (including maps) is contained in the Background Document, including details of legislation relevant to these issues.

### Issues Summary

#### Issue 1: Gravel Extraction

Where extraction involves the removal of significant volumes of gravel from riverbeds at a rate that exceeds the natural rate of supply, or where smaller volumes are extracted under inappropriate circumstances, there exists potential for environmental degradation. Riverbed gravel extraction has the potential to trigger bed degradation upstream and downstream of the extraction site by modifying the flow of water, the grade of the channel and reducing the natural supply of gravel to the downstream channel. Degradation is often accompanied by lateral instability and changes in channel width, triggering bank erosion in formerly stable reaches.

#### Situation in Ra

As development increases in the province of Ra aggregate demands increase, putting pressure on local river gravel sources. Gravel extraction in Ra has occurred in the past in wade-able streams, which can be detrimental to the abundance and diversity of fresh water fish species. Wade-able streams have lower reaches that have the highest diversity and abundance of fishes. In addition it is important to maintain the natural flow of streams to conserve to freshwater fishes.

AREA	ISSUE/THREAT
Ecological	<ul style="list-style-type: none"> <li>• Destructive fishing methods e.g. SCUBA for fishing</li> <li>• Dwindling marine diversity and abundance</li> <li>• Increasing siltation and sediment loading</li> <li>• Lack of watershed management e.g. improper land use practices, uncontrolled grazing of livestock, regular forest fire in dry seasons etc.</li> <li>• Lack of reforestation programs</li> <li>• Climate Change impacts e.g. shoreline erosion, saltwater intrusion etc.</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• Inadequate resource governance structure and systems</li> <li>• Communication within and outside of management unit</li> <li>• Artisanal replanting program-learned skills but selling was preferred (COWRIE)</li> <li>• Lack of compliance and enforcement of legislative community developed bylaws</li> </ul>
Socioeconomic	<ul style="list-style-type: none"> <li>• Inshore fishery highly commercialised leading to over-exploitation e.g. beche-de-mer</li> <li>• Limited alternative restoration projects</li> <li>• Limited alternative livelihood projects</li> </ul>

Coastal resource management issues were then prioritised and agreed by the Ra ICM committee in December 2012 and in subsequent meetings. The priority issues to be addressed are:

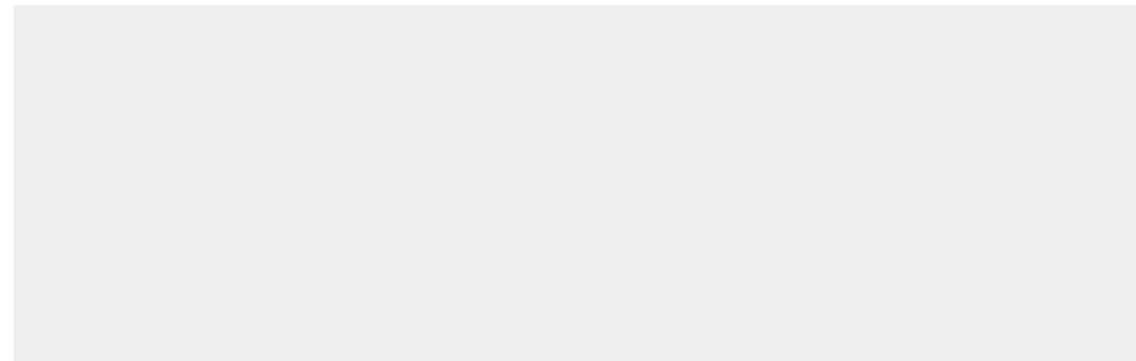
- Gravel extraction of rivers

## Issue 2: Burning

Burning of open land is common in Fiji. There are three main reasons that are often given, the burning of sugar cane fields to facilitate hand harvesting, burning of forest plots, fallow fields, and secondary vegetation for agriculture and finally, burning of mission grasslands to provide “new grass” for village cattle, horses and goats. Other reasons for burning include clearing of vegetation on lower hill slopes for the collection of wild yams, burning to clear overgrown tracks and roadsides and burning to aid wild pig hunting. The most extensive burning is done for pasture management.

### Situation in Ra

Almost all of the ICM coastal sites in the province of Ra identified burning as an issue for coastal management (see Background Report for details). A situational analysis on the occurrences, level of damage and the location has been done. Only one case of arson was reported from the district of Tokaimalo.



## Issue 3: Poaching

Compliance and enforcement of fisheries regulations is a major barrier to the effective management of any coastal marine area. In Fiji the tabu areas can be protected against outside fishing through conditions on permits; however the licenses and permits only apply to non-resource owners and resources owners fishing for trade or business. On the other hand resource owners not fishing for trade or business cannot be legally compelled to refrain from fishing in tabu areas, unless those tabu areas have been gazetted as restricted areas under the Fisheries Act. The creation of by-laws has been a potential mechanism for communities, through their Provincial Council, to legally regulate and punish community members for fishing in tabus.

### Situation in Ra

At the Ra ICM Turaga ni Koro workshop held in May 2013, poaching was the highest priority issue. It was also identified as a high priority issue in all 9 ICM districts. Poachers are mainly the resource owners themselves, either from within or outside their districts and province. Most poachers have been identified as members of one particular district in the province.



## Issue 4: Destructive Fishing Methods

Destructive fishing methods are fishing practices that usually result in irreversible damage to the fisheries habitat and ecosystems. Dynamite fishing, poison fishing, the use of crow bars or metal rods and the use of over-efficient fishing gear are common examples of destructive fishing practices in Fiji and the Pacific. Examples of over-efficient fishing gear are SCUBA gear and drift nets. The use of SCUBA gear coupled with night diving allows for inappropriate levels of efficiency. Many fishermen believe that at night, SCUBA makes it very easy to target various species of fish that are asleep in rock/reef cracks or under ledges creating an opportunity for fishermen to take much more than necessary. The use of under-sized nets to fish also allows fishermen to catch more than what is required including everything else that is larger than the mesh size. Crow bars are used to take apart fish habitat to make it easier to find sea creatures like octopus and crayfish easily.

### Situation in Ra

Destructive fishing methods have been identified in both marine and fresh water systems in Ra. Examples of these destructive fishing methods are:

- Use of Derris roots (duva) in streams, creeks and sea with catches sold;
- Use of insecticides, pesticide and other chemicals to poison prawns (fertilizer NPK mixed with bleach);
- Use of crow bars to take apart coral habitats of fish;
- Use of nets less than 2 inches;
- Use of underwater breathing apparatus; and
- Catches less than the legal sizes

Five of the ICM districts in Ra identified destructive fishing methods as an issue to coastal management. In the province of Ra, destructive fishing methods are also prevalent in fresh water areas such as rivers and streams. A freshwater ecosystem includes all living and non-living things within and immediately surrounding freshwater sources, vegetation, animals and birds that share the area as their habitat. Fresh water is a critical resource, needed for a strong environment, society and economy.

## Issue 5: Community Waste Management

Both solid and liquid waste management is vital to prevent the potential impacts of waste on human health and the environment. Rural areas typically lack appropriate infrastructure and formally organized solid and liquid waste management systems, resulting in increasing problems causing impacts on human health and decreasing the aesthetic values of rural villages and their surroundings. In 2000 it was estimated that rural households produced some 405 tonnes of solid waste, much of which was believed to be discarded on the foreshore, along river banks and in similar areas. Poor waste management is a serious source of pollution in coastal areas.

### Situation in Ra

In the province of Ra, community waste and waste water management was identified in all of the ICM districts as one of the main issues for coastal management.

## Issue 6: Unsustainable Farming Methods

Threats to agriculture and agro-ecosystems are caused by unsustainable farming practices. Examples of unsustainable farming practices are the on-going expansion of commercial cropping onto marginal lands, cropping on fragile soils without land conservation practices in place, deforestation and burning of grasslands, and cultivation of land right to the edge of rivers and streams. These practices can result in both on site and off site impacts. On site (on agricultural land) impacts are shallow drainage, visible soil loss, topsoil loss, runoff creating water ways, soil fertility loss, underdeveloped crop growth and poor soil structure. Off site (beyond agricultural land) impacts are water pollution, sedimentation (sea and rivers), reduction of river and drainage capacity, flooding and siltation. Burning appears to have become a common farming practice when there was a shift to cassava as the main subsistence crop in historical times because of its tolerance to poorer soils and growing conditions. On the other hand mulching was used more where yams (*Dioscorea*), dalo (*Colocasia*), plantain, dalo ni tana (*Xanthosoma*), bele (*Hibiscus*) and yaqona (kava) were grown because of their higher fertility requirements. Farming types currently present in Ra range from sugar cane farming, root-crop farming, fruit farming and other crop farming such as rice farming.

### Situation in Ra

Unsustainable farming practices were identified in 6 of the ICM sites in Ra. Unsustainable farming practices described by the Department of Agriculture in Ra include:

- Unselective felling of trees on slopes;
- No soil conservation practice adhered on marginal slopes, river banks and slopes;
- Planting very close to the river bank;
- Overgrazing and overstocking on slopes;
- Felling of trees along the river bank; and
- Excessive use of agro chemicals for production of commercial crops.

## Issue 7: Vatu-i-Ra Marine Protected Area (MPA)

### (proposed diving fee contribution from Tourism)

A common approach to marine resource management today is to merge customary and modern management. Coupling marine tourism with locally marine area management offers an income stream that has a positive influence on conservation awareness and support. For example, recreational scuba diving has become a substantial component of the international tourism market. Dive tourism potentially offers considerable economic benefits to local communities with a managed coral reef area through the implementation of a diving user fee/levy system.

### Situation in Ra

The issue of a diving fee levy was identified in Vatu-i-Ra in the ICM district of Nakorotubu.

## Issue 8: Black Sand Mining

Black sand deposits are common in trans-Pacific countries where volcanoes once existed. The sand is black because of the iron component, derived from the volcano, and this is a trade-able commodity used in steel making. The scenic Vitilevu Bay has black sand and a mining exploration license has been requested. The community has raised concerns that this might lessen coastal protection, especially in view of sea-level rise, and tourism potential of the area. The iTaukei residents are discussing the declaration of a Marine Reserve.

### Situation in Ra

Black Sand mining in the province of Ra is still in an exploration phase and Tengy Cement (the mining company) is still awaiting confirmation of having a special prospecting license for Vitilevu Bay. The communities that would be affected are discussing declaration of a Marine Reserve in the Area.

Management actions to address these issues are elaborated in Section 4 - Management Strategies.

# MANAGEMENT STRATEGIES

The following management strategies have been developed to address the priority issues identified in Section 3 above.

## Gravel Extraction

### Actions Already Carried Out

A working group was formed and led by Conservation Officer and Provincial Administrator

Awareness of process raised at District/Tikina Council

Fiji Environmental Law Association (FELA) will conduct strengthening and enforcement and compliance training to facilitate CO and Ra ICMC to deal with the legalities of gravel extraction

### Strategies/Actions Proposed To Be Carried Out

Awareness workshop on the impact of gravel extraction without a proper environmental impact assessment (EIA)

Awareness of how to make a complaint on suspected illegal extraction and follow it up

Compliance with laws/guidelines for development from all relevant authorities

Public consultations to be mandated in EIAs

PAs office to liaise with Lands Department to identify who has licenses to extract gravel

Community members citing gravel extraction and concerned should make a formal complaint/report to the CO to follow up with

## Burning

### Actions Already Carried Out

Working group formed led by National Fire Authority and Fiji Sugar Cooperation in Ra; proposal put forward under year 2 funding; SLM project to assist with extensive awareness

Monitoring being done by cane farmers

The National Fire Authority is conducting intensive awareness on burning in Ra and elsewhere.

Commissioner Western has a put a ban on burning

Malake village will sign a MOU with Conservation International (CI) not to do any more burning

### Strategies/Actions Proposed To Be Carried Out

Awareness through training workshops

Seek advice from relevant authorities

Awareness of laws/acts in place – monitoring to be done by committee

Increase alternative livelihoods for communities

Compliance with laws of agricultural farming and logging. Reforestation of grasslands and degraded areas

CI and Fiji Sugar Cooperation with National Fire to be responsible for this issue

## Poaching

### Actions Already Carried Out

A working group was formed led by Fisheries, Police and Community FLMMMA reps

In October 2013 FELA conducted enforcement training for existing fish wardens in Ra with a guided legal approach of role implementation and coordination with other enforcement agencies such as Police, Fisheries Department and the Judiciary

Five sites and a dive operator (hotel) have been identified to issue Compliance and Enforcement log books to their respective Fish Wardens to record the number of offences occurring

A Sea patrol was conducted between the 27th and the 28th of August 2014 by the Police department. Information that was recorded by the sea patrol included a list of names of people on the boat, the type of offence they had committed where and when, the action that was taken by police and a picture. An awareness meeting was also conducted in Malake to fishermen using underwater breathing apparatus

### Strategies/Actions Proposed To Be Carried Out

Workshops, Awareness materials e.g. Posters/radio/TV ads/billboards, Education to community and school levels

Compliance – Report incident to relevant authorities, strict monitoring, fines and punishment. Fisheries require fuel to support concerns of community on poaching in MPAs. FLMMMA representatives to formalize request from FLMMMA network on providing fuel assistance to support their surveillance

Financial need and market demand - look for other legal alternatives (non-fishing related)

Legal alternatives/financial literacy programs at community and provincial levels

Control and conditions on middlemen sellers



## Destructive methods of fishing (focus on freshwater systems)

### Actions Already Carried Out

A working group was formed and led by Fisheries Department Ra

Awareness was done at the village level on the impacts of destructive fishing practices and the legislation that is in place related to this

### Strategies/Actions Proposed To Be Carried Out

Awareness/empower communities - part of formal education in school curriculum

Strengthen enforcement of laws/regulations by relevant agencies

Income generation incentives (Tourism Tax), Alternative livelihood programs (diversification)

Proposal by CI to IAS for funding

## Community wastewater management

### Actions Already Carried Out

Working group formed led by Ra Health Department, Water Authority of Fiji and Fiji Sugar Cooperation

A situational analysis of coastal pollution along the Ra Coast was completed

IAS will continue to sample and analyse water in the Penang river

### Strategies/Actions Proposed To Be Carried Out

Situational analysis of coastal pollution along the Ra coast

The Fiji Sugar Cooperation to work with the sugar mills on wastewater discharge

The use of composting toilet is highly recommended for dry coastal areas if they are culturally acceptable

FSC, Water Authority and DOE to follow up will all FSC Mills on the increased levels of nitrogen and phosphorous levels found in the mouth of the Rakiraki River and 18 other locations around Ra

## Unsustainable farming Methods

### Actions Already Carried Out

CI and Land Use Section of the Department of Agriculture has helped each district/tikina develop a Tikina Land-Use Plan built on information derived from socio-economic surveys. Two model farms have been built at Dranisama settlement and Nailawa village. Fire breaks have been planted with coconut (Fiji tall) sandalwood, citrus trees and pineapples, with the aim of reducing combustible materials while providing short-medium term income to community members. Sheep have been brought in as grazers to keep grasses down

A pilot community has been identified and discussions to conduct soil tests have been held with Ra Agricultural Office

There have been discussions with the Fiji Sugar Cooperation and other partners (WWF, SPC) on sharing best practices such as vetiver grass planting, monitoring changes in soil fertility and planting nitrogen-fixing plants

### Strategies/Actions Proposed To Be Carried Out

Integrated farming practices/bringing back traditional practice (agro-forestry)

Organic pesticides (garlic, chillies, dravusa [Charcoal])

Compost as manure

Contour planting

Awareness/advice through workshop and trainings

Strengthen enforcement/monitoring surveillance from relevant agencies - review old laws and decrees

## Vatu-i-Ra MPA (proposed diving fee contribution from Tourism)

### Actions Already Carried Out

A working group was formed and led by the Provincial Office

Working group met with dive operators and a larger meeting was convened by DOE to agree on an amicable way forward- agreed for Coral Alliance to present to Ra ICMC on Namena model

Conservation International working on concept paper and Trust Fund account – CI to explore FLMMMA Trust Funds to provide technical inputs or assistance. CI to do a feasibility study on setting up a Trust Fund

Consultations with key stakeholders (tourism operators, communities NGOs, government ministries) on a way forward

### Strategies/Actions Proposed To Be Carried Out

Put together an updated map of MPA area in Vatu-i-Ra with defined boundaries/zones to manage the process

Develop Trust Fund - details to be established so contributors can see that their 'donation' was used for beneficial purposes

A letter to be written showing the endorsement from all the 45 yavusa(s) of the Qoliqoli Nakorotubu and that the Mataqali Navuani (traditional owners of Vatu I Ra island) has the mandate to pursue this initiative directly with the dive operators

## Black Sand Mining

### Actions Already Carried Out

Black Sand mining in the province of Ra is still in an exploration phase and Tengy Cement (the mining company) is still awaiting confirmation of having a special prospecting license for Vitilevu Bay

### Strategies/Actions Proposed To Be Carried Out

The communities that would be affected are discussing declaration of a Marine Reserve in the area



## Spatial Planning for the Ra ICM Provincial Plan

There are no formally designated conservation areas nor is there any current zoning scheme in place in the Ra Province.

To support sustainable development and conservation efforts in the Province some form of spatial planning will be investigated. This may include partitioning various areas through the use of a zoning scheme to separate conflicting uses and provide protection for sites known to have high conservation value.

A process was recently conducted by the Wildlife Conservation Society in Fiji and members of the Ra community to develop a preliminary zoning scheme that differentiated between conservation, management and development areas. The team from Ra had initially developed separate maps where known activities were taking place within the province and then overlaid all the information to identify appropriate boundaries for zones. This zoning process should be considered in the context of this ICM plan for potential implementation as a strategy under this plan.

A map of the final proposed zones and relevant information from the workshop is contained in the Background Report.

# 5

## INSTITUTIONAL ARRANGEMENTS

The governance structure of ICM in Ra has been shaped around the existing resource management structures in the iTaukei communities called the Ra Yaubula Management Support Team or Ra YMST. It is housed at the Provincial Office and managed by the Roko Tui and his office. There are branching units of the YMST at the district and village levels.

The tikina or district YMST consists of yaubula committee leaders from each village. They review and update the Tikina or District and Yasana or Provincial strategic action plans based on the implementation of the village action plans.

The smallest management unit is the village-based YMST. This unit holds the most important role, being the implementer of the management plans developed at the district and village levels.

With the adoption of the ICM concept, a more holistic approach to resource management in coastal communities is being undertaken, this time to include all resource users, issues and stakeholders within a coastal resource area boundary. In addition to YMST members, equal numbers for the business, NGO and government sectors are included. This body approves the action strategies to be implemented in the province of Ra. This committee is then divided into 2 subcommittees, one to look after the terrestrial issues and the other to look after the marine issues of ICM. These committees consist of the relevant government department representatives who work with the District or Tikina YMST committees to develop and review action strategies for the coastal management and assist the village YMSTs to implement them.

## Roles and Responsibilities

### A Terms of Reference for the Ra ICM Committee has been agreed as follows:

- Finalise the vision and mission statement for ICMRa;
- Review Action Plan;
- Identify high priority areas for action;
- Identify annual work plan;
- Review existing coastal projects and seek to improve effectiveness;
- Bring up any user conflicts likely to impact coastal zone;
- Liaise with National ICMC on legal/governance issues; and
- Consider process to develop full Ra ICM Plan.

### Each Ra ICM Committee member will:

- Attend and actively participate in Ra ICM Committee meeting (get substitute if unable to attend);
- Bring any issues/projects/proposed development to the Ra ICM Committee;
- Communicate/report back on meeting outcomes to representative groups; and
- Take lead/participate in site-based work activities.

### Membership of the Ra ICM Committee will comprise of representatives from:

- Government – all heads of departments;
- NGOs;
- Partners in Community Development (PCDF);
- Conservation International (CI);
- US Peace Corps Rep – Based in Navitilevu Bay, Ra.;
- Private Sector;
- Fiji Water;
- Yaqara Pastoral Co. Ltd;
- Ra Hoteliers Association;
- Fiji Sugar Corporation ; and

### Communities:

- Vanua Saivou/Nailawa - Marika Rakiraki;
- Vanua Rakiraki – Isikeli Naitura; and
- Vanua Nakorotubu – Mosese Nasese.

### Others

- Soqosoqo Vakamarama;
- Ra Provincial Youth; and
- Indo-Fijian Community.

### Terms of Reference of Village YMST/ICM Committees as of May 2013 are as follows:

- Raise awareness in the village about the importance of natural resources;
- Continue to invite and use traditional knowledge about natural resource use and conservation;
- Raise awareness about threats facing the environment;
- Source solutions from (in the village, district and wider);
- Plan and execute activities of reforestation of idle talasiga land; and
- Closely liaise the other seven (7) village committees communicating environmental issues.

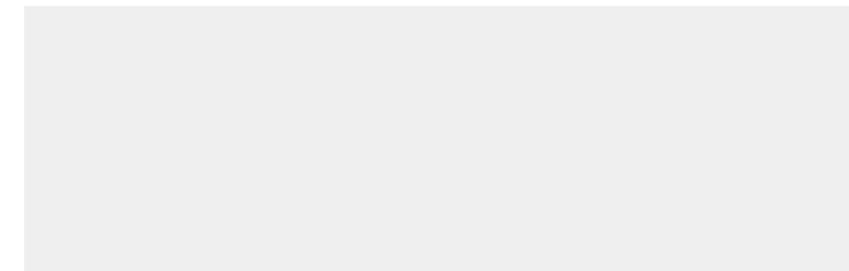
### Terms of Reference of the Bose Vanua as of May 2013 are as follows:

- Corroborate vanua support on sustainable natural resource management; and
- Forum that has the ultimate authority on qoliqoli usage rights.



## COMMUNICATION STRATEGY

The focus of the ICM work is the provincial ICM Committee. This is composed of representatives of various stakeholder groups. In such situations it is important that such representatives report back to those who they represent (and collect issues to discuss from them). This Communication Strategy provides the process to achieve that.



WHAT	WHEN	WHO	HOW	WHY
Coastal issues for Ra ICM	Before ICM Formulation	Project coordinators organize with each stakeholder	Individual meetings with communities (tikina level), NGOs, private sector and Prov. Govt.	To bring possible issue to ICM action plan workshop
Organization of ICM Workshop	Month before workshop	All stakeholders (~60, 10-15 from each of 4 sectors)	Month before workshop	Ensure participation in workshop (can be done with 1)
Sharing of Draft ICM Plan	After Plan developed	Other stakeholder not at workshop (provincial aid national stakeholders e.g. ICM subcommittee)	Secretariat workshop participants	Awareness & seek any missing points
Sharing of relevant National Laws	As needed	Sectoral members of National ICM Subcommittee	Via Secretariat	Local Knowledge of Relevant Laws
Development of Teams for each Action Topic	After ICM Plan Development	Secretariat	Contact teams determined by Ra ICM Committee	Implement Action Plan for each topic
Action Team Report to ICM Committee	3-monthly meeting	Secretariat	Implementation Team Head Reports	Updates
ICM Committee Member report to Stakeholders + identify emerging problems, including issues arising from the M+E program	After quarterly meetings	Secretariat + Committee Members to people they represent & national ICM Subcommittee	Determine at Special Ra ICM meeting	Awareness of progress and new emerging issues

# 7 MONITORING AND EVALUATION OF MANAGEMENT INTERVENTIONS

The Monitoring and Evaluation (M+E) program is a central feature of the Plan, to meet three primary process objectives:

- to demonstrate that planned and implemented management interventions are successful,
- to provide the basis for informed review of plan at each key point in the cycle of continuous improvement (such as annual course corrections, and the 5-yearly major review in preparation for the following cycle), and
- to provide direct support for the Communication Program in its mission to maintain a close engagement with stakeholders and maintain awareness of the Plan and its implementation.

The M+E program has the unique role of demonstrating both the successes and failures of the Plan within the context of Best Practice continuous improvement. Providing an unbiased process of monitoring and evaluation builds stakeholder confidence, and provides the platform for the effectiveness of the Plan to be robustly communicated to stakeholders, supporting the engagement process, and where they occur, providing robust demonstration of increased food security, improved environmental resilience, sustainable development initiatives, and maintaining the community values and traditions across the province.

The first critical component of this is to plan and incrementally implement a program for monitoring and evaluation of the ICM plan itself across the levels of detail from provincial to local. After the full suite of interventions is developed within the Plan, the design of efficient and effective M+E will be applied using the following process steps at each of these levels of governance:

- selecting metrics that will reflect the extent of success of each of the ICM-mediated interventions that are implemented to (or contribute to) achievement of one or more of the Plan objectives, with the capability to be evaluated relative to the 'business as usual' scenario (ie evaluate the impact of the intervention);
- determining what level and design of sampling (such as numbers of samples of each metric, from where, and at what times) will be needed to detect a change created by the intervention if one exists (ie estimate the power to detect change); and
- making performance evaluations in the context of carefully selected performance benchmark/grade for the metrics chosen to meet the Plan objectives (such as, for example, in measurement of water quality, using benchmarks that are designed as benchmarks for the protection of marine ecosystems and natural resources rather than benchmarks that can be achieved by industries or farming practices) (ie evaluate performance based on achieving the Plan objectives, not only on what is economically achievable by pollution sources).

Therefore, for each intervention conducted under the auspices of the Plan, the M+E design needs to include the specific identity of metrics to be measured, conceptual models that link change in the quality of those metrics to food security and ecosystem resilience, measurement tools/programs that will be used to detect change, and estimates of the extent/size of change that will be able to be detected should they occur as a result of the interventions mediated by the ICM plan. Taken together, these attributes comprise the basis for establishing an effective set of 'quantitative targets' that can be estimated and evaluated, a core requirement of an effective ICM Plan.

Associated with this, to meet objectives related to Communication, a program of awareness raising and promotion of the outcomes (both successes and failures) is central to achieving a strong basis in community support, and hence government support and replication. After the technical design of the M+E program for any 5-year cycle of the plan, the Communication strategy could involve engagement with local and regional communities through targeted messaging such as report cards of environmental quality, engagement with school programs, annual community festivals to celebrate successes, and a regular stream of 'news' events to maintain currency and feedback to the voluntary contributors. After some maturation, specific projects may be able to be funded/ supported by private sector organizations, as part of their CSR commitments, and for maintaining local standing in their employment catchments. For national government, this program of outreach should also be extended to the international community, as successes of this type have been rare, and there is an important need to support replication in other global areas. While this may not be a locally important issue, the health of the world's oceans spans many national jurisdictions, and especially in the areas of nature conservation (highly migratory species), food security (externalization of resource demands and their impacts), and ecosystem resilience (the regional gene pool of organisms such as corals and fish). As a

result, the success of this ICM Provincial Plan can make a significant global impact for Fiji, if a strategy of global outreach is well planned and executed.

The selection of effective performance metrics needs to also carefully respect the natural cycles of resources, and to make sure that false negatives (or false positives) are not triggered by setting quantitative targets that are either not achievable in a short timeframe (such as rapid expansions of seagrass beds) or, as importantly, are not measurable (such as an annual increase in fish recruitment) in the sense of making a persistent contribution to environmental resilience or to food security respectively.

As with all project interventions, and consistent with Best Practice, the ICM Plan needs to be kept under continuous review, with a view to upgrade and improvement based on measures of success achieved with implementing specific activities under the auspices of the plan. Estimating the extent of such achievements is closely linked to the outputs from the M+E program, and when evaluated against inputs, can be used as a direct basis for improvement of the Plan, including redirection of activities, replacement of existing activities, introduction of new strategies, and refinement of all the various elements of the plan to be more effective and efficient.

The Table shown below provides a basic skeleton for the developing the Plan level M+E program, when it is populated with a set of specific interventions to be delivered under the auspices of the Plan. Each suggested activity in the M+E program has a suggested type of indicator identified, indicative expected outcomes and outputs, and specified requirements for:

- data sampling and analysis program,
- frequency and type of reporting,
- assignment of responsibilities/actions,
- means of verification,
- data sources/types,
- an analysis of risks to success.



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## Recommended strategy for replication

The key strategies required for replication are based around secure demonstrations of success. This involves monitoring and reporting (as above) on activities that lead to improvements in food security and resilience across the province, allowing for sustainable development initiatives, and maintaining the community values and traditions while supporting rebuilding of natural resource quality and quantity. In the short term, the following activities are recommended for adoption, building on achievements, engagements and activities developed in the planning phase:

- Annual survey of success of the mangrove rehabilitation sites, including metrics such as growth rates of individual seedlings, abundance of seedlings in randomly selected plots, development of total leaf cover, and growth rates of specific seedlings/trees;
- A routine monthly (at least seasonal) fixed site water quality sampling program, with sample replication and analytical verification of nutrient levels through inter-laboratory calibrations, directed to a mix of high and low risk sites;
- Establishment of a regular but randomised program of creel census at each village, documenting fish attributes including at least identity of species in catch, abundance of each, and size/length by species, time spent fishing, main locality of fishing, and the main gear types being used;
- An assessment of the effectiveness of locally-managed reserves in supporting improving fish catch, and specifically measured improvements in the locally-valued attributes of wild-catch species (such as size, availability to catching, species composition);
- Monitoring of species taken by gleaning on shorelines and shallow water, in parallel with those for fish described above.
- The effectiveness of Ra locally-managed reserves and related conservation initiatives in providing for increased food security needs across the province to be fully evaluated using a modern approach to M+E (as outlined above), and within the auspices of the ICM plan, adjusted as necessary to provide for a more secure contribution to food security and ecosystem resilience from the collective set of province-wide management controls that are imposed on fishing in these coastal ecosystems.

The table below is an indicative structure for tracking elements of the M+E process, and providing an outline framework for the comm

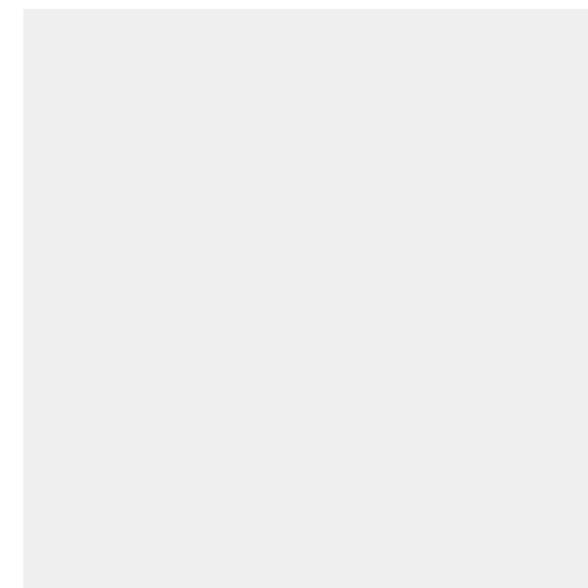
RA PRIORITY ISSUES	LINKSTO OBJECTIVE (SEE SECTION 2.)	EXPECTED RESULTS (OUTCOMES & OUTPUTS)	INDICATOR METRICS (TO BE REFINED AGAINST SPECIFIC OBJECTIVES)	M&E EVENT, WITH SAMPLING DESIGN AND DATA COLLECTION METHODS	DATA	TI FR RE
Gravel extraction of rivers (ta qereqere)	1, 3, 4, 6 and 7	<ul style="list-style-type: none"> <li>• Kila na bibi ni maroroi ni yau bula (awareness)</li> <li>• sautu: nauci nai –ika, ika</li> <li>• qoliqoli</li> <li>• marau o nau se vuvale</li> <li>• 4. maroroi na sisi ni qele</li> </ul>	<ul style="list-style-type: none"> <li>• No of licenses issued</li> <li>• Fish count (in rivers)</li> <li>• No. of gravel extraction siting/ complaints</li> </ul>	iTLTB record CO record of formal complaints		Ye
Burning (Vakamakama)	1, 2, 3, 4, 6, 7, 8 and 9	<ul style="list-style-type: none"> <li>• Adequate water supply</li> <li>• Beautiful environment/ Healthy</li> <li>• Soil fertility</li> <li>• Provides shelter</li> <li>• Protects soil erosion</li> <li>• Taleitaki ka marautaki na i rairai ni vanua.</li> <li>• Life cycle (Manumanu/ Tamata)</li> <li>• Pollution (e.g) Bees (Honey)</li> <li>• Flooding (soil clog)</li> </ul>	<ul style="list-style-type: none"> <li>• Burning states record</li> <li>• Output tons of sugar/season</li> </ul>	FSC records CO record of formal complaints		Ye
Poaching (Qoli Butako)	1, 2, 3, 6, 8 and 9	<ul style="list-style-type: none"> <li>• Increases in fish stock &amp; sizes- Levu na sasalu</li> <li>• No disputes – everyone happy - sautu na iqoliqoli.</li> </ul>	<ul style="list-style-type: none"> <li>• village catch data</li> <li>• Household income from sales of fish</li> </ul>	CPUE data Socioeconomic data		Ye
		<ul style="list-style-type: none"> <li>• Increases monetary value and marine biodiversity</li> <li>- levu na sasalu – levu na i lavo (volitaki)</li> <li>- vukea na bulabula ni qoliqoli kei na veiwekani ni veikabula ena i qoliqoli – sautu.</li> </ul>				
Destructive methods of fishing (focus on freshwater systems) (Qoli Veivakarusal)	1,2, 3, 6, 7, 8 and 9	<ul style="list-style-type: none"> <li>• Vakalevutaki na kena vakadewataki (information sharing)</li> <li>• Levu na ika, size ni ika levu</li> <li>• Bula na lase</li> <li>• Sega ni qoli vakaveitalia; kila na rawa</li> <li>• Bula marau na vuvale, sautu nai qoliqoli (marau o nau)</li> <li>• Prawn population increase</li> </ul>	<ul style="list-style-type: none"> <li>• Catch data</li> </ul>	CPUE data Socioeconomic data		Ye

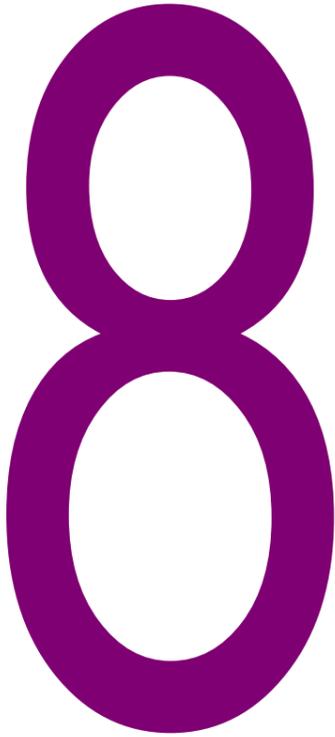
Community-Managed Marine Protected Area

ubula/rairai ko li 32 a (vakalailaitaki	<ul style="list-style-type: none"> <li>Installations of Rubbish Bins and pits</li> <li>Awareness on waste management</li> </ul>	RaTownCouncil records RRLA Records		Monthly	Conservation Officer
awareness vatuva ka					
degration – sisi ni qele –sautu na vua vakabula i veikabula s of flooding – h – lailai/sega nal sustainable ses – maroroi i teitei ni tovo	<ul style="list-style-type: none"> <li>Number of landslides/erosion</li> <li>Household income from farming produce</li> </ul>	Department of Agriculture records Socioeconomic surveys		Yearly	Conservation Officer
gs from diving	Agreement between dive operators and land owners	Minuted agreement at meetings between dive operator and land owners			
maroroi ni yau ss) i –ika, ika e vuvale ni qele	<ul style="list-style-type: none"> <li>No of licenses issued</li> <li>Fish count (in rivers)</li> <li>No. of gravel extraction siting/ complaints</li> </ul>	iTLTB record CO record of formal complaints		Yearly	Conservation Officer

## Impact assessment

The Monitoring and Evaluation Indicators are designed to determine the impact of the management actions/interventions prescribed in the ICM plan. As these are reviewed on an annual basis, adjustments can be made to the action plan. A baseline of coastal indicators was collated in 2014. At the end of each 5-year cycle, an assessment of impact can be determined, based on the combination of baseline studies that have been conducted for coral reef, fish, mangrove and seagrass, and using findings for the indicators/metrics in the M+E program. The diagram below shows this process.





# FINANCING THE PLAN

## Financing options

There are several potential sources of funds to support ICM activities in Ra:

- government work programs and budgets;
- government aid projects;
- government GEF funds;
- government-supported incentives;
- private sector; and
- NGO-partners.

### Government work programs and budgets.

Each year the different government departments at the national level submit budgets under Key Result Areas to National Planning, especially through the Ministry of iTaukei Affairs (which in the past had seen ICM as a Key Result Area (KRA) and still recognizes it under Yaubula (Natural Resources) Management Support, and the Environment Department (which has an officer that is overall responsible for ICM) staffing positions to support ICM are possible. In addition line Ministries could potentially allocate implementation funds for specific actions in the Ra ICM Plan, such as Fisheries Assessments, workshops on Fire Prevention by the National Fire Authority and support for Sustainable Agricultural Practices.

### Government Bilateral and Multilateral Aid Funds

The Fiji government receives considerable aid and can, within a broad category, direct funds to certain topics and geographical areas. For example, the Coral Triangle Initiative (CTI) project formulators, in discussions with the Fiji government, recommended ICM work in Ra as the project focus, and this is now the main supporter of this Ra work through the Asian Development Bank.

### Government-supported Global Environment Facility (GEF) Funds

The Fiji government receives nearly US\$2 million a year for projects in biodiversity, climate change and land degradation. ICM falls under the biodiversity window. This money is programmed by the Fiji government every four years and for each allocation an ICM component could be included. For the current GEF 5 funding the major focus is on sub-regional ridge to reef projects. These could have overlap with developing ICM plans in new areas. Additionally, some GEF 5 funds were added to the CTI and thus coming back

to Ra ICM via ADB. There is also a GEF small grant initiative (up to US\$50,000 project) which individual areas of Ra could use for project initiatives or could be used by the provincial Government. In GEF 5 Fiji allocated F\$600,000 to supplement existing GEF Small Grant Funds.

### Government-supported Incentives

There are a number of modalities that have been explored globally and locally for supporting sound natural resource management. These include:

- diving fees;
- possible sharing of tourist bed tax;
- possible sharing of departure fee;
- tax incentives;
- conservation swaps; and
- Payment for Ecosystem Services (PES).

These reflect the multiple ecosystem services that are provided by a healthy environment. In 2015 a project called RESCCUE from French aid will look at the value of ecosystem services and appropriate modes of payment for ecosystem services. The project will also support continued ICM in Ra Province and Kadavu Island.

### Private Sector

Companies often contribute to public good initiatives, especially if there is a connection to their operations. In Ra Province large companies include the Fiji Sugar Corporation, Yaqara Pastoral and Fiji Water. There are also a number of small to medium-sized tourism facilities. All of these are part of the Ra ICM Committee. Except for Fiji Water the contribution is staff time and joint implementation of the Ra ICM action plan, for example with the Fiji Sugar Corporation on sustainable sugar cane farming. Previous to the Ra ICM initiative Fiji Water, through the international NGO Conservation International, had contributed several million dollars for conservation in Fiji, including reforestation and waste management in the Ra Province.

Large multinational and local companies such as Vodafone, Total and Flour Mills of Fiji have foundations that fund development projects in Fiji. These have not targeted ICM in a significant manner but have assisted with providing water supplies in rural areas.

### NGO Partners

IAS through the RESCCUE project funded by the French Foreign Aid will continue with the implementation of ICM activities in Ra province. As mentioned above, Conservation International has worked extensively in Ra Province. Fiji has a number of large conservation groups such as IUCN, WWF, Wildlife Conservation Society, and Birdlife International. There are also local groups such as Nature Fiji, National Trust of Fiji, Partners in Community Development and OISCA (mangrove planting group). The University of the South Pacific, through its Institutes, has also contributed funds and expertise (and lead the ICM work since 2002).

These groups can apply for funds and/or have programs that can support ICM in Ra and elsewhere.



## Cost of implementation

RA ICM COMMITTEE MEETINGS			
	BUDGET	ANNUAL QUANTITY	ANNUAL TOTAL
Travel and accommodation for participants	1,000	4	4,000
Facilitators time for planning and meeting administration	400	4	1,600
Venue hire	200	4	800
Meeting catering	400	4	1,600
		<b>SUB-TOTAL</b>	<b>8,000</b>
IMPLEMENTATION OF ACTIVITIES (ASSUMES 5 ACTIVITIES)			
Materials and consumables	1,000	5	5,000
Technical staff time for training and capacity building	2,000	5	10,000
Workshop costs	2,000	5	10,000
Monitoring and evaluation of activity effectiveness	2,000	5	10,000
		<b>SUB-TOTAL</b>	<b>35,000</b>
SECRETARIAT SUPPORT			
Technical advice (e.g. Legal Advice)	3,000	1	3,000
Telecommunications and logistics	2,000	1	2,000
		<b>SUB-TOTAL</b>	<b>5,000</b>
		<b>GRAND TOTAL</b>	<b>48,000</b>