



Coastal Resource Management in FIJI



- Presentation to the Regional Seminar on Community-based Coastal Resource Management
- Monday 13th October 2014
- Melanesian Hotel, Port Vila, Vanuatu



Outline



Fiji-Background



Coastal Resource Management in Fiji



Challenges



Responses to the challenges...

Our Future Generations inherit a Prosperous and Enhanced Fisheries & Forest Sector

Fiji

PHYSICAL ENVIRONMENT

- **Location** : Heart of the Pacific Ocean
- **Position** : Long. 174⁰East/178⁰West of Greenwich; Lat. 12⁰S/22⁰South
- **Land Area** : 18,331 km²
(Group of 300 islands; Agriculture Land: 4,280 sq. km; Forest area: 9,800 sq. km; arable land: 170,000 hectares)
- **Total sea area** [Approx.] : >1.3million Sq. km
(EEZ 1.3 million sq.km.; **Coastline 5,010km**; Reef area 10,020 sq. km.; Mangrove area 385 sq.km)



Maritime Limits

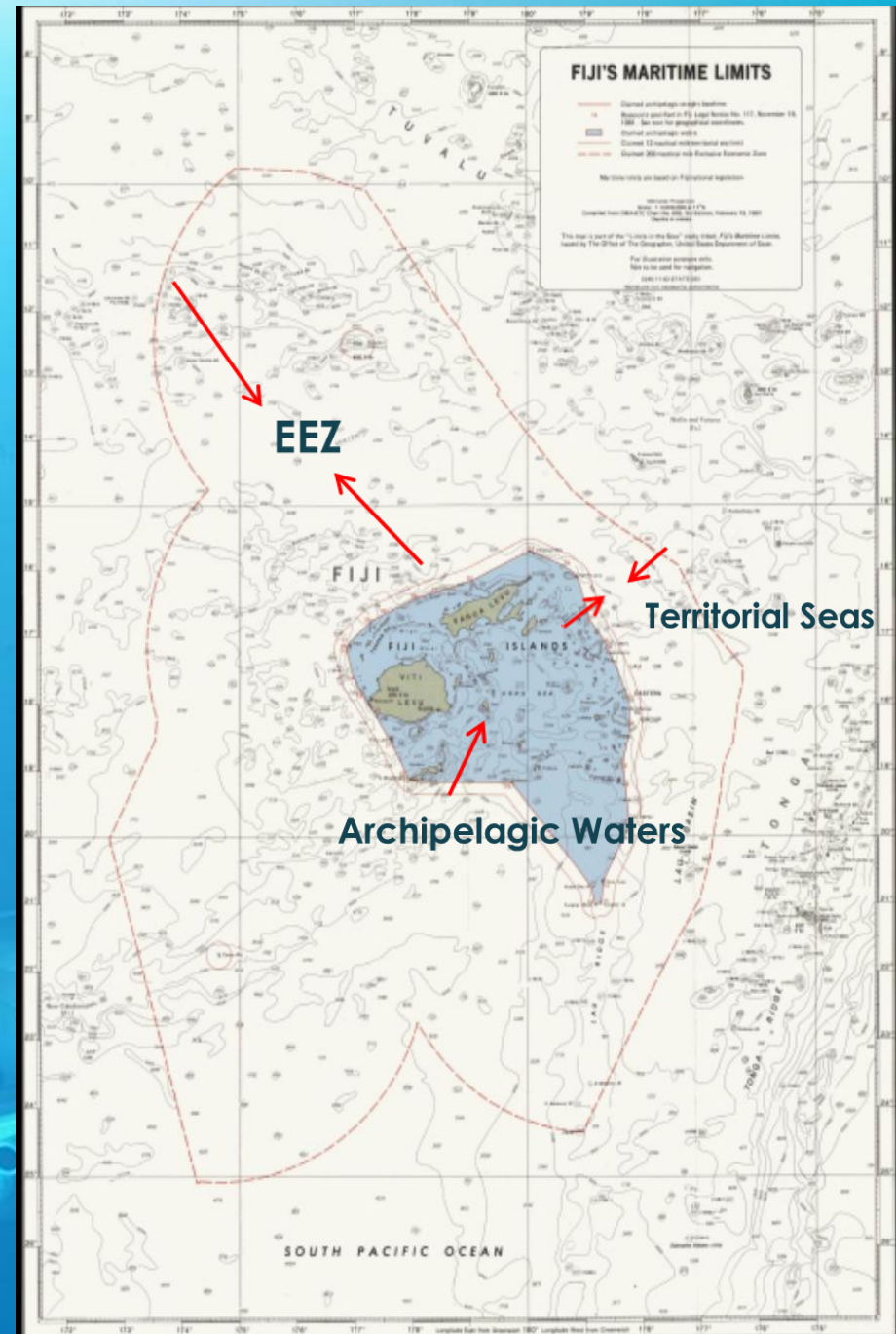
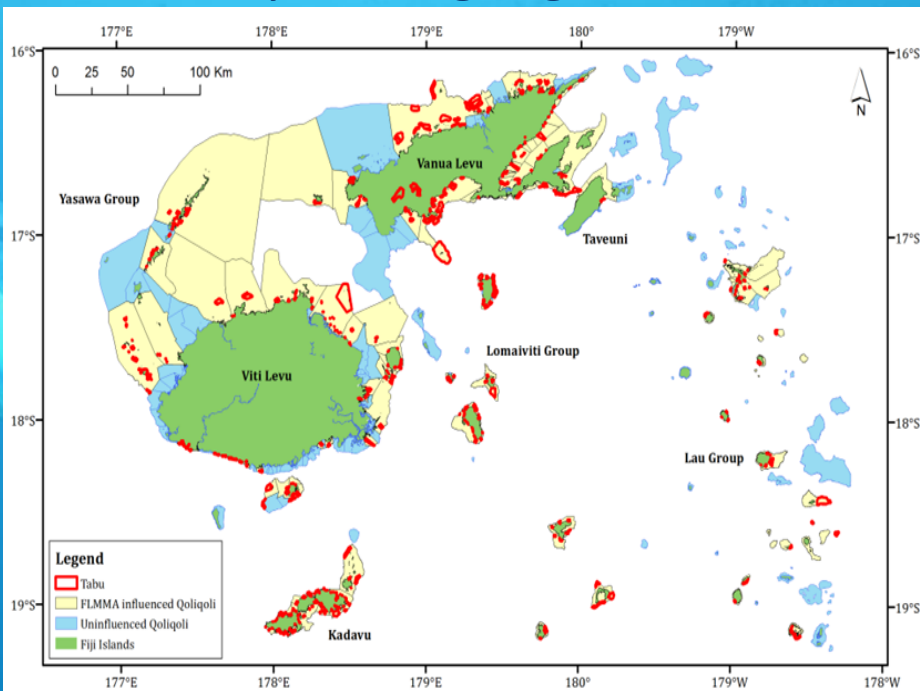
(As delimited under the Marine Spaces Act Cap 158A, 1978)

Archipelagic Waters: **130,450 sq. km**

Territorial Waters: **45,000 sq. km**

Exclusive Economic Zone: **1.3 million sq. km**

Customary Fishing Right Areas: **411**



Socio-economic Profile

Population **837,271 (2007 census)**

Population Growth rate **1.40%**

Ethnic Breakdown

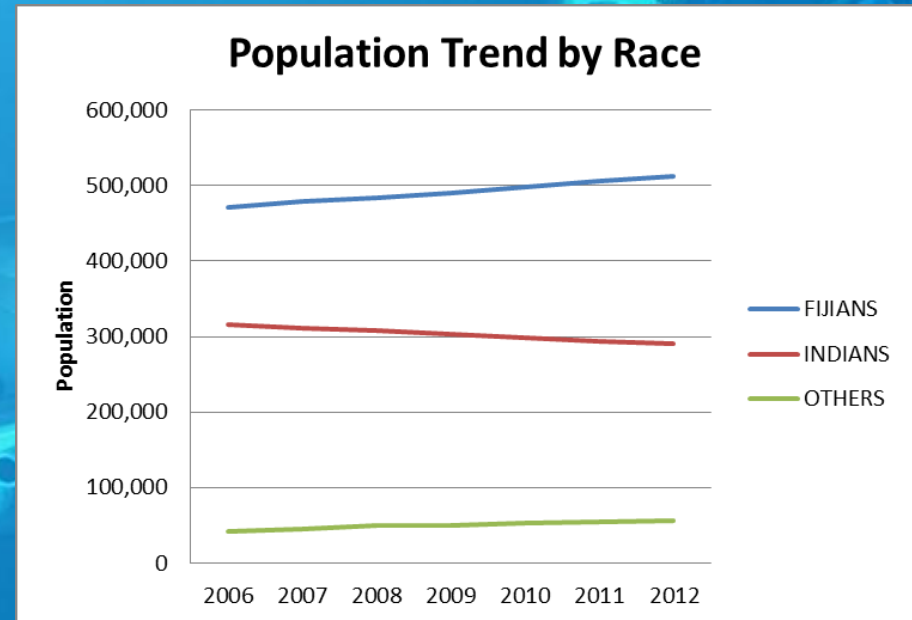
- **56.8% Fijians**
- **37.8% Indians**
- **5.7% Others**

Religion

- **58.0% Christian**
- **33.7% Hindu**
- **7.0% Muslim**
- **1.3% Others**

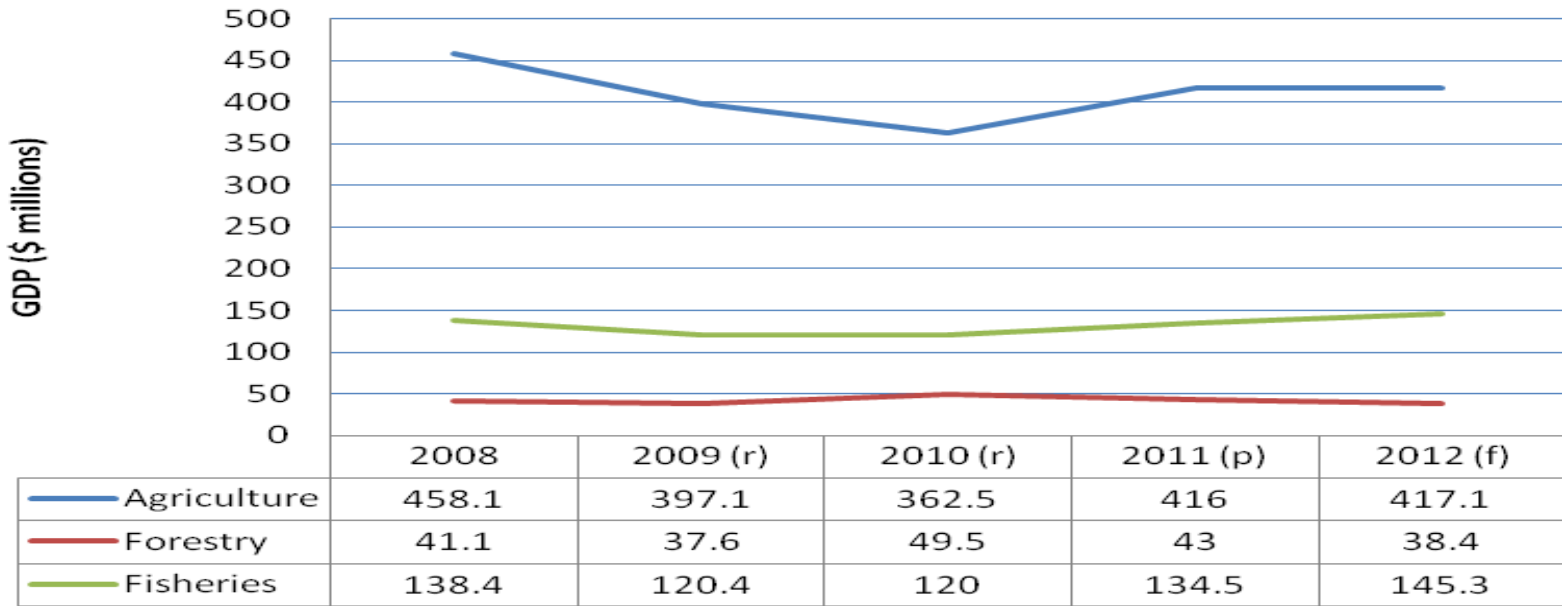
	1996	2007
Rural	415,582	412,425
Urban	359,495	424,846

	FIJIAN	INDIAN	OTHERS	TOTAL
2006	471,729	316,227	42,663	830,619
2007	478,571	310,570	45,377	834,517
2008	483,922	307,684	49,768	841,373
2009	490,888	303,875	50,650	845,462
2010	498,888	298,708	53,105	850,700
2011	505,273	294,240	54,778	854,290
2012	511,838	290,129	56,071	<u>858,038</u>



Sectoral Contribution to GDP

Gross Domestic Product Contribution by Sector (\$millions)



- Fisheries Sector accounts for **3.0%** of Fiji's GDP
- Bulk of export earnings for the sector is attributed to **industrial fisheries** comprising mainly of **offshore fisheries suppliers and processors** who generate **84%** of total export earnings while the remaining **16%** is derived from the export earnings in **artisanal fisheries**.

Fiji's Climate Profile

- Fiji enjoys a tropical South Sea maritime climate; the islands lie in an area occasionally traversed by tropical cyclones confined between November to April every year.
- Temperatures average 22°C for the cooler months [May to October] while November to April temperatures are higher with heavy down pours.
- In August mean maximum temperatures ranged from 26.2°C to 30.4°C, with daily maximum temperatures rising as high as 32.5°C.
- Mean minimum temperatures ranged from 17.4°C to 24.6°C, with overnight temperatures falling as low as 13.5°C in the Northern Division.



Our Vision

(The future we are heading towards)

Our Future Generation will Inherit a Prosperous & Enhanced Fisheries and Forestry Sector

Our Mission

(What we are required to do)

Improving Livelihood Through Smart Policies on Sustainable Management of Fisheries & Forest Resources

Our Values

(What we consider important if we are to excel)

RESPONSIBLE

We will discharge our duties with accountability

RESOLUTE

We will discharge our duties with determination and be firm and fair in our decision making

RESPECTFUL

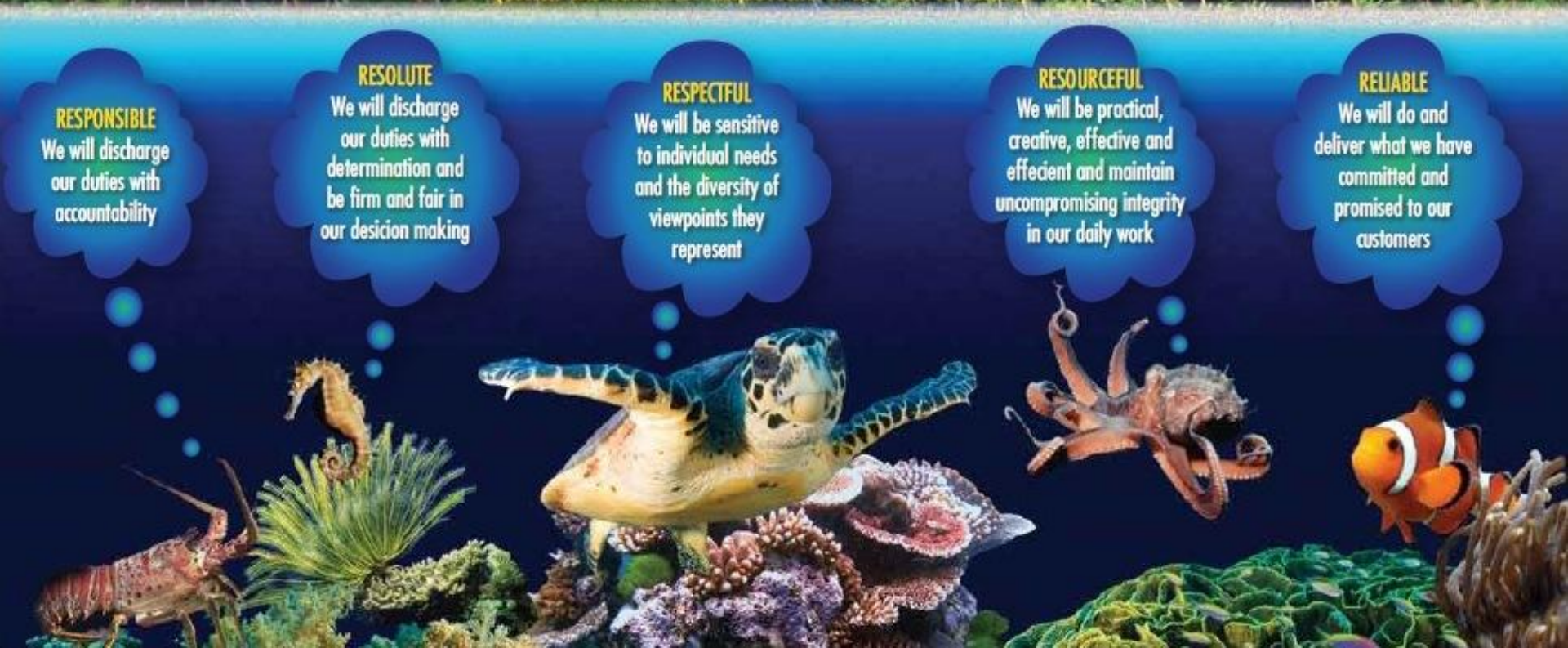
We will be sensitive to individual needs and the diversity of viewpoints they represent

RESOURCEFUL

We will be practical, creative, effective and efficient and maintain uncompromising integrity in our daily work

RELIABLE

We will do and deliver what we have committed and promised to our customers





Coastal Resource Management in Fiji

Our Future Generations inherit a Prosperous and Enhanced Fisheries & Forest Sector

Coastal Resource Management

-Why important for Fiji?

Fiji is a coastal nation and its coastal resources are an important basis for stability and sustained growth

- Coastal areas are of vital importance to Fiji society and its national development. Majority of urban centres villages located on the shore, along with much of the population, agriculture, industry and commerce.
- Income from tourism and fisheries is directly tied to the condition and productivity of critical ecosystems and shoreline features such as coral reefs, beaches, seagrass beds and mangroves.

Food security and livelihoods

- Coastal resources are essential for long-term food security and social livelihoods.
- Many of Fiji's coastal communities rely almost exclusively on fishing for food and income, with about half of rural households engaging in subsistence fisheries. According to more recent estimates, Fiji has about 43,000 subsistence fishers although this is likely vastly underestimated.

Fiji's coastal habitats and ecosystems are of national and international significance

- Fiji's coastal environment is made up of an assemblage of resources including coral reefs, mangroves, beaches, and forests;
- These resources form the basis of Fijian culture, employment, and food supply and therefore need to be well maintained for future generations;
- In addition, tourists travel thousands of miles to enjoy Fiji's National Heritage.



Challenges

Our Future Generations inherit a Prosperous and Enhanced Fisheries & Forest Sector

Coastal areas and the resources they support are threatened by overuse and degradation

- inappropriate agricultural activities
- mining
- sewage pollution
- inappropriate solid waste disposal
- fishing activities
- use of destructive fishing practices
- beach sand mining
- building of jetties and groynes
- commercial harvesting of coral
- soil erosion and siltation
- improper disposal of industrial waste
- natural hazards such as climate change and sea level rise and hurricanes.



Our Future Generations inherit a Prosperous and Enhanced Fisheries & Forest Sector

From the Fisheries perspective, effective coastal resource management has in the past been constrained by such factors as :

- absence of a consolidated national legal and administrative framework;
- the scarcity of resources within the Government system to effectively execute and implement coastal resource management measures
- the lack of an **INTEGRATED APPROACH & PLANNING** to coastal resource management



Our Future Generations inherit a Prosperous and Enhanced Fisheries & Forest Sector



How has Fiji Fisheries responded to the Coastal Resource Management Challenge?

Our Future Generations inherit a Prosperous and Enhanced Fisheries & Forest Sector



A number of coastal management initiatives can be seen in Fiji (most of which are implemented through NGOs in collaboration with the Department):

- marine conservation and marine resource management,
- community based adaptive management
- assisting communities in developing localized coastal management plans;
- focuses on good governance,
- payments for ecosystem services, and
- pilot climate change adaptation in an integrated approach to exposure sectors, and internalize climate change adaptation at rural communities;
- effective management of natural and coastal resources;
- improving livelihoods and climate proofing coastal communities
- helping communities manage their mangrove and associated coastal ecosystems to build resilience to the potential consequences of climate change and variability on coastal areas.

Department of Fisheries Initiatives



- Stock assessments of inshore fisheries to ascertain status of resources (Marine Resource Inventory Surveys)
- Community-based projects: alternative livelihood opportunities (CB Spat collection program; seaweed farming; aquaculture)
- Community Management Planning
- Fisheries impact assessments (FIA) to ascertain impacts of foreshore development on coastal fisheries
- Deployment of fish aggregating devices (FADs) to encourage fishing around FADs with the aim to relieving fishing pressure off from reefs
- Establishment of seed banks for overexploited fish stocks-Fiji in this case has established giant clam nurseries; the introduction of sandfish cage fattening for the purpose of reseeding fishing grounds
- Biodiversity enhancement through the reef enrichment initiative-reef replenishment activities : mangrove replanting, giant clam reseeding & sandfish translocation, coral farming, etc.)



Fisheries Management:

- **Licensing/Regulations/Awareness**

- Fisheries Act Cap 158 : Provision for regulation of fishing
- Regulations for size and weight restrictions; seasonal catch; net and mesh size;
- Regulating provisions for issuance and cancellation of licenses
- Appointment of Honorary Fish Wardens
- Imposing bans on protected species-turtles, humphead wrasse
- Promoting ecosystem based management approaches
- Awareness-Fish Warden Training; Community Workshops etc

- **M&S (Monitoring and Surveillance)**

- Coordinated enforcement operations with Police and Navy
- Monitoring of export consignments

Local level management

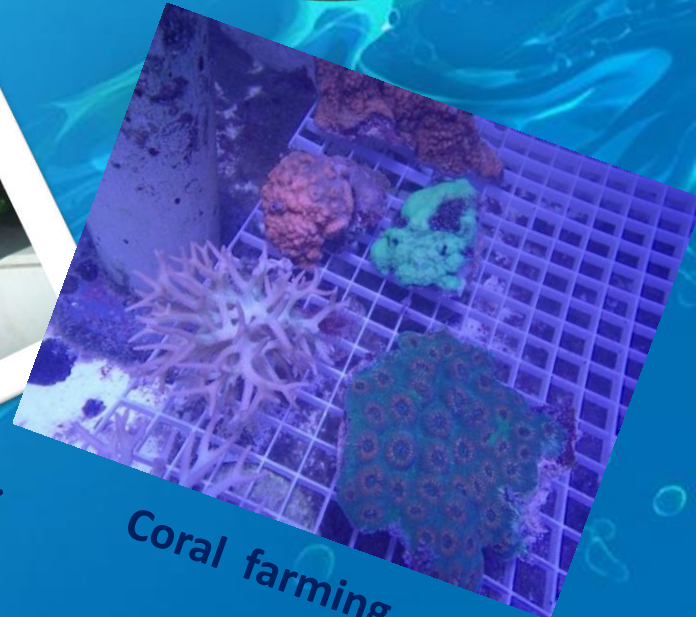
- Traditional management measures at the community level
- Permitting system (Consent) - where Fijian people determine which commercial fishermen are allowed to fish in their areas and impose restrictions on each fisher;
- Customary marine tenure systems-“kanakana”/”qoliqoli”
- Marine Protected Area management spearheaded by local NGO’s whereby communities are given the opportunity to manage their customary fishing rights areas through protected area management-FLMMA network
- Reef restoration-coral planting –Walt Smith (on a small scale; but doing this as a means of replenishing certain coral species in the wild)
- Adopting EBM at community levels-WWF at the forefront of this;
- Traditional ‘tabu’ periods of harvesting certain marine animals-during the death of a high chief



Coastal Resource Management in Action



Community Management Planning



Case Study:

Sandfish (*Holothuria scabra*) production and sea-ranching trial in Fiji

- Great interest in the Pacific islands region in restoring depleted sea cucumber fisheries with hatchery-produced juveniles
- ACIAR funded projects in Fiji to transfer technology for culturing and sea ranching of sandfish (*Holothuria scabra*, known locally as 'dairo').
- An extensive seagrass bed on a shallow sand flat in front of Natuvu village, Vanua Levu, met the criteria for suitable habitat for sea ranching, and the community was committed to the research.

- The Natuvu community ceased harvest of sandfish from the wild prior to the project starting, and also declared a marine protected area (MPA) around the sea-ranching site.
- An unanticipated benefit of the project was an increase in other valuable sea cucumber species in their MPA, which were harvested for a one-off community fundraising event.
- [..\LITERATURE\sandfish natuvu report \(2\).pdf](..\LITERATURE\sandfish natuvu report (2).pdf)



- In continued recognition of the need to manage and conserve the dwindling sea cucumber resources of Fiji, the Department has put together a **Draft Sea Cucumber Management Plan** with assistance from SPC

- Overall Objective

To provide ecological sustainable management of, and to establish an effective, conducive and enforceable management structure for the Fiji sea cucumber fishery.

1. Commence a logical adaptive approach to the management and optimal sustainable utilization of sea cucumber resources;
2. Build and maintain stocks at biological sustainable levels;
3. Protect diversity of the marine environment;
4. Ensure adequate provisions of resources for the implementation, monitoring and enforcement of the fishery Plan;
5. Ensure accountability to all stakeholders; and
6. Support and maintain a profitable and sustainable sea cucumber fishery ensuring the fishery benefits communities of Fiji.

Government Investment, Policies Commodity plans & more initiatives.



- Investment into 11 Capital projects & Operational Budgets for the Department of Fisheries: \$11.4 million.
- Main focal areas: Food Security, Poverty Alleviation, Alternative Livelihood Projects, Capacity Building of Fishermen, Licensing , Provision of Services (Ice plant), Coastal Fisheries Development .
- Current Regulations: Turtles, Humphead Wrasse.
- Development /Commodity Plans: Shark, Cetaceans, Sea Cucumber, Fiji Sea Turtle Recovery Plan and Tuna Management Plan.
- Policies/Plans underway: Protection of Spawning Aggregation Sites, Gazettal of Marine Protected Areas

Our Future Generations inherit a Prosperous and Enhanced Fisheries & Forest Sector



Inter-Government Agency Initiatives...

- **Formulation of an integrated approach to coastal resource management** -consolidated ***Integrated Coastal Management Framework 2011***. The framework produced by the Fiji Department of Environment reviews current coastal conditions in the context of
 - tourism development, coral reef degradation, siltation and erosion, harvesting of marine resources, waste management, coastal reclamation and construction and natural disasters among others
 - assesses the current legal and institutional governing framework to recommend proposals for action and policy towards sustainable coastal resource management for Fiji.
 - The 2005 Environment Management Act (EMA) stipulates the development of a coastal management plan under Section 3(8).
- Strengthening work and efforts in **collaboration with its partner non-governmental organizations in addressing coastal resource management**
 - particular significance is the work of the Fiji Locally Managed Marine Area Network (FLMMA). The network has been pivotal in coastal fisheries management in Fiji.
 - FLMMA has expanded rapidly throughout Fiji, aiding communities in the implementation of management tools utilised within the qoliqoli (customary fishing grounds).
 - Most notable is a growth in the use of tabus, traditional no-fishing zones. Community-imposed tabu areas are not explicitly recognised in the legal framework for coastal fisheries management. This is an area needing improvement for Fiji, as the process of legalizing these protected or tabu areas through the gazetting process needs reviewing.



NGO's-Local and Regional

- Support towards Government Initiatives towards Sustainable Management of Marine & Terrestrial Resources.
 - Funding, Capacity Building, Training, Scientific Research, Technical Advisory Services.
 - Eg: FLMMA Network – 10 years – FJ \$6 million.

Planning 4 Tomorrow!!

An INTEGRATED APPROACH!



The current approach to managing Fiji's precious coastal and marine resources is a **combination of sectoral government policies and local level initiatives**. These initiatives are **important** and in some cases have **achieved significant, positive results!**

ICRM is a continuous and dynamic process that **unites government and the community, sciences and management, and sectoral and public interest** in preparing and implementing an integrated management plan for the protection and development of our coastal ecosystems and resources!

Vinaka Vakalevu!!