ENVIRONMENT MANAGEMENT
ISSUES for FIJI — Exploration & Exploitation of Deep Sea Minerals

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Denarau, Nadi, Fiji
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INTRODUCTION

• Fiji Island is located in the South-West Pacific Ocean
• Comprised of over 322 islands
• Total land area covers about 18,000 km² spread over 1.3 million km² of South Pacific Ocean
• Volcanic origin but no active volcanoes
• High central mountain ranges with several large rivers leading down to coastal plains, then beaches and mangrove swamps surrounded by shallow water and coral reefs
• Tropical Climate – 2 distinct seasons
  • Nov – Apr : Wet & Cyclone Season
  • May – Oct : Dry, Cold
What We Have

• Waters of the Fiji Islands contain 3.12% of the world’s coral reefs including the Great Sea Reef, the third largest in the world.
• Marine life includes over 390 known species of coral and 12,000 varieties of fish of which 7 are endemic.
• Fiji waters are spawning ground for many species including the endangered hump head wrasse and bump head parrot fish.
• Five of the world’s seven species of sea turtle inhabit Fiji water.
• Marine Mineral Resources
• Multi–Stakeholder agencies including communities involvement
What We Have

• Dedicated Govt. Depts. (Environment, Mineral Resources etc)
• Dedicated environment units
• Policy – Offshore Mineral Policy
• ~ 50 Mineral Exploration Licenses (On-shore)
• 3 Mines (On-shore)
• 17 Deep Sea Mineral Exploration Licenses
• “Interest” in the ISA (‘THE AREA’)
Types of deposits observed in the North Fiji Basin

Co-rich Manganese crusts

Polymetallic Massive Sulphide deposits
Fiji – Location in the Region (SW Pacific)
Fiji – Maritime Boundaries
Mineral Exploration - Areas Under Application / Approval
Maritime Boundaries Status

- Fiji is one of 3 PIC that had declared its EEZ (with Nauru & Palau) with UN
  - Base points & Maps
- Currently working on Extending its Continental Shelf claim
  - Lodged claim in the SF Basin Area to Commission on the Limits for Continental Shelf (CLCS) in Apr 2009
  - Based on ruling by CLCS on NZ submission
Globally Significant Areas:

1. **GSR** - one of the largest (in size and complexity) barrier reef in the world with lagoon mangrove systems, exceptional level of endemism and intact systems.

2. **Vatu-i-ira passage** (possible 10 new species were identified by Jerry Allen – a world renowned fish specialist) high level of endemism, physical features that are unique, protected from cyclones, channel that flushes nutrient flow, high biodiversity and corridor for cetacean migration.

3. **Namena Barrier Reef** (3) - globally significant as turtles nesting site.

4. **Central Lau** - high biomass diversity, fully enclosed saline lake, whale migratory route (passage between Kabara and Vuaqava) and breeding areas, Green and Hawksbill nesting sites, endemic species (*Tridacna tevoroa* – giant clam found in Vatoa and Ono-i-Lau), endemic shellfish (tivitivi) and koya (sea eel) in Vuaqava Island in Kabara.

5. **Rotuma** - blue coral which is only found in Rotuma and no other place in Fiji and blue green algae.
IMPORTANCE OF MARINE RESOURCES

• Indigenous people have a profound connection with the sea which extends from reliance on ocean resources for food and livelihoods.
• Marine resources collected from traditional backgrounds have historically been the main source of protein for native people.
• Marine environment continue to play a central social and economic role in Fiji (e.g., Offshore fisheries – 4 major tuna species of albacore, yellowfin, bigeye and skipjack)
Importance of Marine Resources cont’d

- Contribution to the national economy (Fisheries, Tourism & Mineral Resources) and household needs
- Subsistence and small scale artisanal contribute to national income
- A healthy marine environment contributes directly to the tourism industry
THREATS TO THE MARINE ENVIRONMENT

- Climate change, coral bleaching, tourism, unsustainable fishing practices such as explosives, night spear fishing and modern and traditional poisons for fishing, development activities, introduction of invasive alien species;
- Point source pollution (e.g. sewage, mining, industrial discharges, litter refuse disposal sites); drainage of ballast water;
- Non point source pollution (fertilisers, herbicides, urban runoff); siltation of waterways and coastal areas from agricultural practices; logging and clearing of vegetation.
- Population growth and modernisation which contribute indirectly to the marine threats.
Fish Kill – Suva Harbour

- Mass Fish kill – Suva Harbour in Aug 2011
- Low oxygen causes death
- Fiji Times - Saturday, August 06, 2011
- Industrial Pollution at Walu Bay (not from Mining)
Threats
Challenges to the Environment

- Uncertainties / Unknowns
  - Flora & Fauna of Deep Sea
  - Impacts of Offshore Mineral Exploration (Application of precautionary principle under UNCLOS)
  - Structure & Dimensions of Ore bodies (‘Tip of the Iceberg’)
  - Technology Development for Mining
  - Effects of Deep Sea Mining on Deep Sea Marine Ecosystem / Environment (Short / Medium / Long Term)
  - BASELINE data
Challenges to the Environment

• Maritime Boundaries
  – Delineation of jurisdictional zones (EEZ)
  – Fishing rights and navigational zone rights
  – Effective monitoring of offshore mining activity
  – Dispute resolutions mechanism

• Resource Ownership
  – Water owners (cf land owners), traditional water users
Challenges to the Environment

- Regulatory & Legal Framework
  - Approvals process
  - Licenses & Leases
  - Fiscal Regime
  - Policy & Legislation
CURRENT LAWS & POLICIES

- As a guiding principles:
  
  **INTERNATIONAL LAWS**
  - Ramsar Convention (1971)
  - UNCLOS (1982)
  - Convention of Biological Diversity (CBD-1992)
  - Agenda 21 (1992)
  - Barbados Declaration & the Programme of Action (1994)
  - World Summit on Sustainable Development (WSSD – 2002)
  - Mauritius Strategy & Declaration
Current Law & Policies cont’d

• **REGIONAL POLICIES**
  - Pacific Plan (2005)

• **NATIONAL POLICIES**
  - Fiji National Biodiversity Strategic and Action Plan (FNBSAP – 2007)
  - Ministry of Fisheries Forest Policies & Strategies
  - Customary Laws & Institutions
  - Jurisdiction
  - Fisheries Act & Regulation (Offshore/Inshore/Aquaculture)
Current Law & Policies cont’d

- Marine Space Act
- Environment Management Act (EMA 2005)
- Fiji Locally Managed Marine Areas (FLMMA)
- Mining Act (1978)
- Mineral Exploration & Exploitation Bill (MEEB 2006)
THE WAY FORWARD

• Harmonisation of the existing law and policy to improve administration and reduce fragmentation

• Effective implementation of Regulatory & Monitoring Aspects of the Environment
  – Lack of capacity
  – Lack of resources (human, marine vessels)

• Development of Management Plans to be recognised at national level

• Partnership and collaboration at national and international level
Way Forward (Contd.)

- EIA & EMP (EIA Process) adaptation of on-shore
- Maritime Boundaries – complete delineation of jurisdictional zones
  - Legislation & Diplomatic
- EMA Review (does cover Deep Sea Environment)
- Offshore Mineral Policy – covers only seabed exploration
- Seabed Mining Legislation – to cover Seabed Mining
  - New Law
  - Amendment of existing Mining Act
• Precautionary principle = Grant of Exploration licenses
• Precautionary principle $\neq$ No grant
• To grant or not to grant that is the Question ?
VINAKA, THANK YOU

QUESTION?