



Member's report on activities to ICRI

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Reporting period: 2005 and 2006 (to 30 September,2006).

Summary of Activities

1. Coral Reef Awareness and Education programmes for local coastal communities
2. Development of local marine protected area networks in Fiji, through coordination of the Fiji Locally Managed Marine Area (FLMMA) Network.
3. Enactment and implementation of the Environment Management Act and Regulation in 2004 and 2005, and the formulation of a new Fisheries Management Bill (2005).
4. Development of the Coral Reef Initiative in the South Pacific (CRISP) programme module for Fiji.
5. Formulation of local Fisheries Management and Development Plans for each traditionally demarcated fishing ground (or *I Qoliqoli*) in Fiji.
6. Non-detrimental Finding Framework for the Coral reef harvest and export trade in Fiji, and the development of quota systems for live rock and live coral harvest by each operators.

Introduction:

Small island developing states like Fiji (and its Pacific Island neighbours) have always relied on the sea, and its bountiful resources as a source of food and economic development for centuries; and would continue to do so into the future, if the same marine environment, and its coastal habitats could be sustained to continue to support the same living resources.

The Fiji Islands comprises about 300 islands and islets (of which approximately 106 are inhabited), scattered in area within 15 - 32°S and 177 - 178° W. The main archipelago has a total land area of approximately 18,333 km², of which 87 per cent is accounted for by Viti Levu (10,386 km²) and Vanua Levu (5,534 km²). It is estimated that the population at the end of 2004 would exceed 800,000 ; with Indigenous Fijians comprising a slight edge of 48 per cent than the 47 per cent of Indians, and the other remaining 5 per cent by other races; including Part-Europeans, Europeans and Chinese. Fiji's Exclusive Economic Zone (EEZ) has an area of 1.2 million km². Fiji's environment is threatened by a relatively high population growth, pollution around urban and developed areas, inadequate environmental infrastructure and legislative framework, over- exploitation of some strategic natural resources and habitat degradation, as well as lacking active conservation initiatives from the past 3 decades; such as in promoting and setting up of environment and coastal management guidelines, recognized marine protected areas, and integrated coastal management regime. Marine Protected areas have only become encouraged and

established from the last five years in Fiji, of which only a few are large enough to be accorded a marine park status, but nevertheless, local marine reserves or sanctuaries are being established and their contribution to marine conservation and protective management are now recognized by government, non-governmental organizations, communities and resource owners, as well as donor and research institutions.

Summary of pertinent points:

Coral Reef Awareness and Education programmes in Fiji.

There has been a major initiative to undertake coral reef awareness and educational programmes in Fiji from the last 3 years, and this is an initiative being jointly undertaken by a group of government, non-government and local community groups. The training is carried out through a number of training and consultation workshops for each district in a province. There are altogether 14 provinces in Fiji, and each province could have a number of districts, which could range from five for the smallest province, to 34 for the largest province. There are altogether 178 districts in the country. A district is made up of a number of villages, of which the number could range from two to three villages for a small district, to 15 villages for a larger district. The rural and island communities are given a 2-3 days workshop on the threats facing their coral reef habitats, what are the major causes of their coral reef problems and associated fisheries impacts (from over-fishing to marine pollution and poor land-use to increase soil erosion, sedimentation and micro and macro-algal bloom, to global warming and coral bleaching, and so on), and what could be done to improve coral reef health and fisheries productivities, thus maintaining and sustaining their subsistence (and small artisanal) fisheries way of life. Part of the Coral reef ecosystems across the Fijian archipelago have been killed off rapidly from the continuous *El nino* and *La nina* induced warm water occurrence in Fiji from 1998 to 2003, but which are rapidly recovering from the last 2-3 years. Thus the selected districts and their communities are taught on the importance of good habitat and resource management, as well as promoting sustainable resource use.

The main goal is to manage and conserve both their landbased and marine resources, so that it could be allowed to persist into the future, while meeting the needs and aspirations of the current, as well as future generations. Training and awareness material have been prepared, and given both in English and the Fijian vernacular language. A total of 72 districts have been consulted and trained through this programme from the last 2 years, and all are requesting further training workshops for their wider communities, and the majority of which are now currently formulating, and implementing their own Coral Reef and Fisheries Management Plans, which are coordinated by districts and village committees. Technical assistance and advice are provided by government, as well as non-government organisations. A national workshop titled "*Managing Coral Reefs and Fisheries: Fish for the Future*" was undertaken in Suva from 18-21 July 2006, where a wide selection of participants and stakeholders from all cross-section of society were invited and participated. The workshop was jointly coordinated by the University of Hong Kong and the Fiji Fisheries Department, and jointly funded by the Society for the Conservation of Reef-Fish Aggregations (SCRFA) and the Ministry of Fisheries and Forest.

Development of Locally Managed Marine Areas or marine protected areas.

- Maximizing the usage and potential benefits of these natural assets requires a good understanding of the nature of corals, and coral reefs to ensure their continued protection. Recognizing this, the government, non-government organisations, local communities, and research and donor institutions have worked together to incorporate and strengthen integrated coastal zone management (ICZM) in Fiji for the last 5 years, and promote coral reef conservation and awareness issues, as well as development of over one hundred and twenty (120) marine protected areas of a variety of sizes, and reef reseeded and restoration activities. These major conservation drives have been brought about by collaborative partnership of different stakeholders, one of which is the internationally acclaimed Fiji Locally Managed Marine Area (FLMMA) Network. Although recognised as an important parameter in

coastal area degradation, the effects of coastal developments on coral reefs and associated ecosystems and other man-made impacts have received little attention in Fiji, outside the main urban centre of Suva. There are however, continuing and new efforts to promote the preservation of marine habitats and resources along the east and south, to south west coast of Viti Levu, over the last 3 years. Fiji has been in the forefront of conservation to ensure that its natural resources and environment are afforded protection and are kept safely intact while it is gradually developing to meet the challenges of economic disparity, and going through huddles to assume market parity with highly industrialised nations, new technological innovations and the other demands of globalisation. On that framework, Fiji has won universal recognition over these conservation efforts of key government and non-government organisations, and was rewarded for having the best Community-based Management model through the FLMMA Network, during the World Summit Conference in Johannesburg, South Africa, in September 2002 and the United Nation Award for Community-based and managed marine protected in 2006. Protective management is important in maintaining high density and biomass of coral reef fishes, and enhancing coral species diversity and health, and maintaining an area of high quality coral reef habitats. Small marine reserves, or a network of marine protected areas across large and small islands, could be beneficial in terms of:

- maintaining the high density and species diversity of coral reef fishes, and invertebrates species
- providing biotic or ecological *refugia* or undisturbed breeding and nursery areas for fishes & invertebrates exporting fish biomass to adjoining areas by emigration of adult fishes
- exporting fish and invertebrate biomass over wider general area by larval dispersal (which depends on prevailing wind and & current conditions).

The utility and sources of recruitment into adjoining downstream and upstream areas would depend on prevailing current, presence of good “*source and sink areas*”, and the larger the size of the reserve being demarcated (Russ, 1984).

Enactment of the Environment Management Act, and Formulation of new Fisheries Management Bill.

Concern for the continuous degradation of the environment and declining natural resources have prompted the Fiji Government to enact laws or regulations that should protect the health and natural biodiversity of the environment as a whole (including coral reefs and associated ecosystems), which are the foundation of economic development, and social well being, notably for food security and poverty alleviation.

These concerns have been translated internally into good environmental and conservation laws; as well as sustainable economic policy leading to the formulation of the Environment and Sustainable Development Bill from 2003. This proposed Environment legislation has been enacted into law from June 2004, and is now called the Environment Management Act. The legislation have come into force from July 2005, with the recent promulgation of its associated regulation, of which a key result area would be the mandatory requirement of an environment impact assessment (EIA) to be undertaken before any commercial development such as coastal resorts, marinas, roads and ports could be constructed. This is a milestone achievement for Fiji, in terms of environment and natural resource policy and legislative framework.

The intentions and drive for sustainable natural resource use and good environment stewardship is now growing rapidly in Fiji, and the new legislation should encourage development, while ensuring the conservation of natural ecosystems, and its associated living resources. The same goals and key outcomes are being targeted for the new Fisheries Management Bill (2005) being currently under consultation for 2006. This new Fisheries legislation should strengthen the drive to conserve coral reefs and its associated habitats in Fiji for the new millennium, along with the natural biodiversities that are supported by the same. The new fisheries legislation should also incorporate new natural resource and ecosystem based management framework, which is the modern and holistic approach to

coral reef and fisheries resource management, incorporating all dimensions such as the physical environment, the living resources, their ecological linkages, and human presence and impact or interactions, as well as managing those interactions.

Development of the Coral Reef Initiative in the South Pacific (CRISP) programme module for Fiji (2005 and 2006).

This initiative is being currently coordinated jointly by the Secretariat of the South Pacific Community (SPC) and the University of the South Pacific (USP) Marine Studies Programme, with local government institutions being involved such as the Fisheries Department, Ministry of Fisheries and Forest (MFF). Projects that are currently undertaken under this CRISP initiative include Coral Reef Resource Mapping, using GIS and remote sensing. Two post graduate scholarships have been offered to two officers from the Fisheries Department from 2005, under this CRISP Funding support.

Formulation of local Fisheries Management and Development Plans for each traditionally demarcated fishing ground (or *I Qoliqoli*) in Fiji.

Government priorities from the late 1990s have been directed to the management and control of Inshore Fisheries Resources, recognizing the need for increased involvement or participation of Chiefs and members of the customary fishing ground or "*I Qoliqoli*", the empowering and training of fisherman to exploit offshore resources, the development of export commodities and value adding, applied fisheries research and the development of aquaculture.

Fisheries inventory surveys are to be undertaken to understand or assess the diversities, health, and size of the resources therein, and to determine the status of each targeted species, including the status of the coral reef ecosystem, and thus the overall status, health and productivity of the *I Qoliqoli* in question. The health of the inshore coastal ecosystem such as estuaries, mangroves, sea grass-beds and corals reefs are therefore very important to *in situ* fisheries or aquatic resource production systems therein, and the overall biodiversity or species richness per given *I qoliqoli* area.

The outcome of the survey will result in the development of the resource profile or inventory of each *i qoliqoli*. The resource inventory document would then be used to determine the future development plans and conservation actions of each *i qoliqoli* on a sustainable basis. The fisheries resource assessments are considered important tasks to be accomplished before transferring proprietary ownerships from the state to the owners of each respective traditional fishing ground, which is set out for 2008. Funding for this work is being provided by the Fiji Government, but external sources are currently targeted from 2007-in order to fast-track this initiative, by improving funding and human resources.

The result of the Fisheries Resource Assessment work undertaken for the last two years are given as follows (out of a total 410 inshore fishing grounds in Fiji):

1. 62 *I Qoliqoli* have been surveyed across Fijian reef systems
2. 54 completed resource inventory reports
3. 72 consultation workshops conducted
4. Formulate 40 management guidelines (management plans).
5. Publication of 30 *I Qoliqoli* Resource Assessment Reports

Non-detrimental Finding Framework for the Coral reef harvest and export trade in Fiji.

This ecosystem based management approach has been developed in Fiji since 2004, and has substantially improve the coral aquarium trade through CITES guidelines, through the development of a set of environmentally friendly guidelines for the coral harvest and export in Fiji for the last 2 years. A quota system is now established for the 5 current operators involved in this trade, and that all CITES guidelines and implementation requirements are now in place, and the trade is periodically assessed to be sustainable.

