

# Initiating Integrated Coastal Management (ICM) in the Fiji Islands<sup>1</sup>

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## ABSTRACT

Fiji, like most Pacific Island nations, has a local tenurial control system embedded in the cultural tradition of its indigenous people. This provides both opportunities and challenges for the implementation of integrated coastal management (ICM). In this situation, an approach that focuses on national-level activities in coastal management may not be effective. Experience in Fiji has shown that the participatory approach of working with communities and districts that control the resources to develop and implement marine resource management plans is very effective in addressing many coastal issues at a local level. This locally-managed marine area approach is being used as a basis for ICM, whereby activities are undertaken to scale-up the approach to a larger geographical area, address additional coastal management issues, involve all stakeholders and link efforts to national level activities. In Fiji, the ICM program has developed by:

- A national workshop to endorse ICM and agree on a pilot area, the Coral Coast
- Work with districts on the Coral Coast to develop localised coastal management plans
- Involvement of all stakeholders (private sector, communities, government and NGOs) to develop a joint ICM action plan
- Implementation of the plan and meetings every two months by a local ICM steering committee to review progress and identify areas where national input is needed
- Provision of scientific information required for effective management
- Meetings by a parallel national ICM committee to discuss issues raised at Coral Coast site and national policy changes that may be required.
- Capacity building at both the local and national level through workshops and overseas training.

This approach seems to be working well and assures that the need for ICM grows naturally from actual practical needs of coastal dwellers. The ICM process being trialed along the Coral Coast is also providing valuable lessons on the advantages and disadvantages of the approach, problems that may be encountered and ways to better adapt the process to Fiji and other Pacific Island countries.

**Key words:** Integrated Coastal Management, participation,

## Key learnings:

1. The participatory approach of working with communities and districts that control the resources to develop and implement marine resource management plans is very effective in addressing many coastal issues at a local level.
2. Linkages between local and national level are critical but challenging

## INTRODUCTION & BACKGROUND

This paper is about the initiation of Integrated Coastal Management in the Fiji Islands (hereafter referred to as Fiji). Fiji is an archipelagic nation of two main large islands and more than 300 smaller islands, with a total land area of 18,272 km. The large islands are mountainous and of volcanic origin with large perennial rivers and coastal plains. Coastal habitats include extensive rainforests,

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mangroves and coral reefs (Watling and Chape 1992). Fiji has a multiracial population of around 840,000, the majority of which is concentrated in towns and villages in the coastal zone. Most development, including commercial agriculture, tourism and industrial and urban development is also located in the coastal zone.

Fiji, like most Pacific Island nations, has a local land tenure system embedded in the cultural tradition of its indigenous people. This provides both opportunities and challenges for the implementation of integrated coastal management (ICM). Under the Fiji land tenure system there are three tenure categories, freehold (8% of land), state land under government jurisdiction (9%) and native land (83%) controlled by indigenous Fijians. All intertidal and submerged land (including most mangrove areas) are technically owned by the state. Indigenous Fijians, however, have customary rights to the living resources in these inshore areas (Rabuka 1989).

Indigenous Fijians traditionally reside in communities comprising of a village (**koro**) with a defined physical boundary consisting of a group of houses surrounding a central open area. A group of villages form a **tikina** or district which has rights of use over a defined fishing area or **i qoliqoli**. A group of districts collectively forms a province. Fijian culture is still very strong, very communal in its orientation and closely linked to the natural environment.

In the last decade, as a result of increasing population and development, both concentrated in coastal areas, signs of habitat degradation such as coastal deforestation, coral reef death, depletion of fisheries and deteriorating water quality and conflicts in use of coastal resources, for example between tourist operators and local users, have emerged. Because of the sectoral nature of the regulation and management of coastal resources in Fiji, the lack of appropriate environmental legislation, and the absence of coordinating and planning mechanisms within different levels of government, these issues have largely not been addressed. A few sectors of government are initiating policies or projects to address some of these issues. The immediacy of the need for a model for ICM is also due to the imminent return of legal control of all fishing areas from state to local community control. There is, thus, a critical need to work closely with local communities to manage these resources.

In 2001, the Institute of Applied Sciences (IAS) at The University of South Pacific (USP) began a collaborative project with the Coastal Resources Center of the University of Rhode Island (URI) to assist in the development of an Integrated Coastal Management initiative for Fiji to address these emerging issues. This led to a very successful national workshop in April 2002 attended by more than 50 stakeholders from government, NGOs, and other institutions, which resulted in strong commitment and enthusiasm from all sectors of Fiji for further implementation of ICM and the identification of 10 areas for further action, one of which was to pilot ICM along the Coral Coast, a major tourism area of Fiji. The attendance of four Fiji participants at the 2002 month-long Summer Institute in Coastal Management at URI led to the commencement of the current project.

## **ICM STRATEGY**

The current ICM project, funded for two years by the Packard Foundation starting in 2003, focuses on the Coral Coast as a demonstration site to show how stakeholders can work together to make decisions and develop localized coastal management plans. A national ICM committee has also been established to advise, learn and discuss policy level issues from the Coral Coast site and for the discussion of nationally important intersectoral issues. Capacity building within selected provincial and government entities as well as within USP is also a major component. The main government partner of IAS is the Ministry of Fijian Affairs.

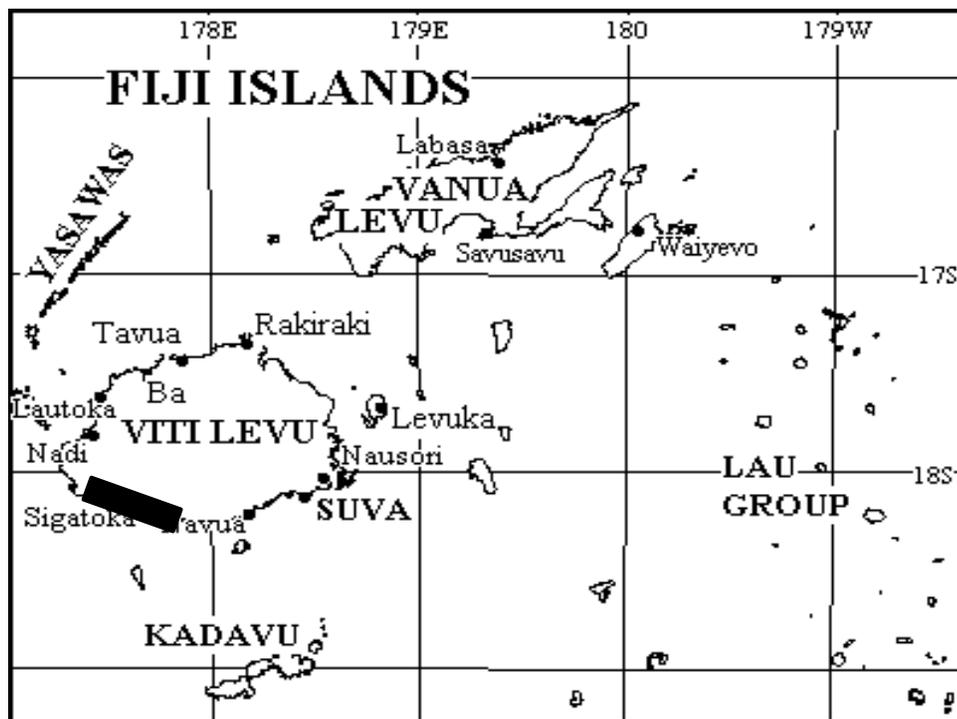
The ICM initiative builds on the existing successful Locally Managed Marine Area (LMMA) initiative which has been ongoing since 1997. The Fiji LMMA Network, which includes communities, NGOs, and government, aims to create a network of community-managed fishing grounds (**i qoliqoli**). The LMMA process, however, focuses mainly on the community-based

management of marine resources in a district whereas the ICM process attempts to address additional coastal issues over a larger geographical area, include all stakeholders in the management, and work at all levels of government. The LMMA process is seen, however, as an important component in ICM by developing coastal management plans for the communities and thus giving them a stronger and more united voice when negotiations with government and business groups take place.

## ISSUES & ACTIVITIES

### Coral Coast Site

The main focus of the project is along the Coral Coast where the Institute of Applied Sciences works closely with the Nadroga/Navosa Provincial Office to coordinate ICM activities. The Coral Coast is a 30 km strip of coastline along the south west coast of Viti Levu lined by fringing coral reefs, backed by mountains which are drained by a number of streams and rivers that enter the ocean in the area. The project area includes four districts, excluding Sigatoka town, and is a major tourism destination (Figure 1).



**Figure 1.** A General Location Map of Fiji showing the location of the Coral Coast

The specific objectives of the Coral Coast Demonstration Project are to:

- ◆ Increase consultation amongst stakeholders involved in coastal management
- ◆ Gather relevant biological, chemical and physical information as well as community input to identify critical issues and make informed decisions on priority ICM management needs
- ◆ Build capacity of local level trainers in ICM
- ◆ Develop an action strategy for ICM through a participatory approach
- ◆ Establish an institutional structure through which the strategy can be implemented
- ◆ Improve awareness of coastal and ICM issues on the Coral Coast

Following initial meetings with relevant stakeholders and visits by the Provincial Office to the different districts to provide awareness on the project, a Coral Coast ICM stakeholder workshop was

held in 2003 during which stakeholders agreed on a vision and developed a draft ICM Action Plan.

Main issues identified included:

- Overexploitation of marine and coastal resources
- Poor coastal water quality
- Solid waste management
- Lack of awareness and education on the environment
- Conflicts over resource use, e.g., tourism use and coral harvesting
- Lack of resources for management
- Lack of planning and coordination
- Unsustainable development along the coast
- Lack of alternative income sources
- Lack of assessment and information

Activities were identified to address these issues and these are currently being implemented by various parties. The coordination of these activities is via a Coral Coast ICM Committee that was set up following the workshop. The committee is made up of representatives from the tourism industry, government agencies, NGOs, the Nadroga/Navosa Provincial Office and District representatives and meets bi-monthly to discuss progress, future implementation of the plan activities, any issues of concern related to coastal management, and areas for which national input is needed.

Existing baseline information on the study area has been collated. This includes maps and population and health information. Satellite and aerial photographs have been obtained and a graduate student recruited to develop GIS maps of the area and to assess long-term coastal change along the Coral Coast. Extensive water quality studies have been carried out which have identified nutrient pollution as a main threat to the coral reefs that fringe the Coral Coast. Coral Cay Conservation, a UK based group that trains young conservationists to carry out detailed coral reef monitoring, has commenced an extensive survey of the Coral Coast reef system. A local PhD student is studying the relationship between nutrients levels and biota on the Coral Coast and a PhD student from the University of Auckland is modeling flood events as the Coral Coast experiences frequent flooding and storm surges. A local MSc student is looking at short-term coastal erosion.

Locally Managed Marine Areas have been set up in two new districts where community workshops led to the development of their marine resource management plans that include the designation of small **tabu** (protected) areas and the establishment of environmental committees. The approach has also been discussed in a further district which has expressed a strong interest. All coastal districts are now working with an NGO on resource management.

The harvest of live rock (coral) for export, a major issue of concern, continues to be carried out in one village with a LMMA and in two villages in a neighboring district. These villages are being targeted for projects for alternative income generation including the establishment of cultured rock ventures with an understanding that the harvest of live rock will be discontinued.

At the national level the Fisheries Department has been contacted to suggest that tourism and subsistence village life are not activities that are compatible with the live rock trade. A team from the IAS has recently commenced the monitoring of areas along the Coral Coast which are currently being exploited for live rock to determine its effects. One of the NGO partners in the project, OISCA, which is located on the Coral Coast and specializes in mangrove replanting, has recently expanded its activities to include coral replanting.

Another issue of national importance that has been highlighted is the need to address nutrient inputs into coral reef areas. Nutrient levels in coastal water along the Coral Coast were determined to average almost twice the levels of nitrates and phosphates that are considered to be damaging to coral. Biological surveys also show significant loss of coral cover and an increase in algae. That these areas are in front of villages and hotels suggests the need to control sewage inputs. A multi-fold strategy has been developed which includes:

- ◆ Promoting the use of low- or non-phosphate cleaning agents for hotels and villages
- ◆ Encouraging hotels to upgrade current sewage treatment systems
- ◆ Requesting Public Works Department to upgrade/extend the sewer coverage along the coast
- ◆ A visit by wastewater experts to determine options for village level treatment of sewage waste and the construction of a trial septic tank
- ◆ Re-siting and proper management of village piggeries, which are now located on the coast or creek banks.

In response to the solid waste problem, several hotels are now providing large solid waste bins (dumpsters) for nearby communities which are emptied weekly. Clean up campaigns have also been carried out. The tourism industry also has a litter truck which keeps the main highway clean. In addition, a community waste management workshop is planned for August which will provide awareness on solid and liquid waste issues and solutions.

Project documents and awareness-raising documents on coral reefs and other environmental issues have been translated into the local language and widely distributed. A Project Newsletter is published in English and Fijian every six months

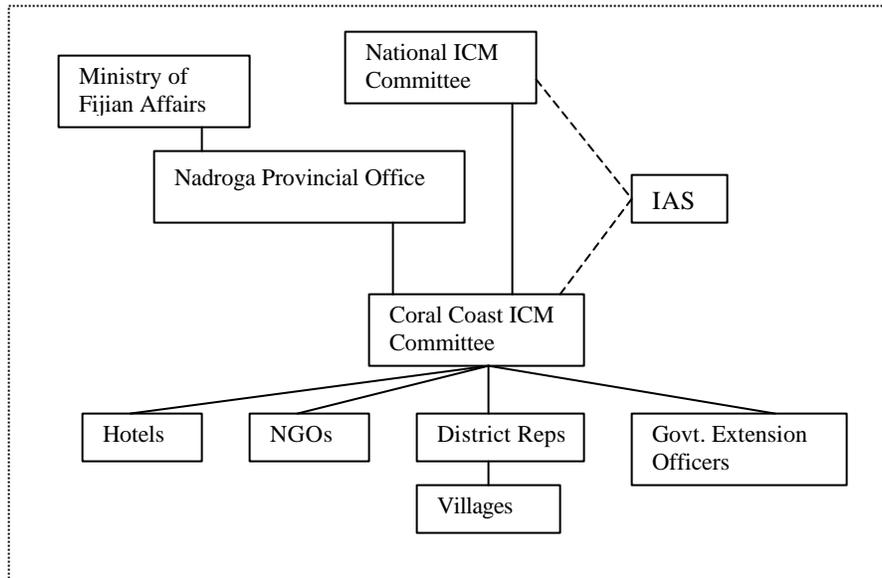
In relation to gender, a meeting was held with women to determine their level of involvement in environment projects and a workshop conducted to determine issues of importance to women and ICM activities they can be involved in. In addition, efforts have been made to ensure women's representation on the CC ICM committee.

In regard to supplementary sources of income, various activities are being undertaken. To increase employment of local people in the hotel industry, training courses have been held in communities and nearby hotels have agreed to hire such people for a three-month trial period. Funding has been obtained from NZAID to develop eight projects on tourism interpretation for the Coral Coast based on historical, cultural and/or environmental factors. Large scale commercial piggeries with appropriate waste management are also being investigated. Some resorts are also encouraging villages to conserve their marine resources and sharing fees from coral walks and diving trips.

### **National Level and Capacity Building**

The Coral Coast ICM activities are linked to a national level ICM Committee, formed in early 2002, which is composed of representatives of relevant government departments, NGOs and other institutions (Figure 2). Major players on this committee are Ministry of Tourism, Department of Environment, Ministry of Health, Fijian Affairs Board, and Department of Town and Country Planning. The committee meets every two months with the aim of providing a forum for discussion of priority national coastal issues from the demonstration site (from which issues are reported by IAS), advising the direction of the project and offering advice on policy matters. It is also a forum for the general discussion of national level inter-sectoral issues such as coastal development planning and the management of liquid waste and changes in policy needed at the national level. It had also been envisioned that there would be a higher level committee at the CEO level that would meet on occasion to consider issues in which policy changes might need to be made.

In an effort to formalize ICM activities a MOU was developed between IAS and Ministry of Fijian Affairs, our partner agency in government, due to the location of the pilot site within rural areas where this Ministry has regulation over. It is currently being finalized.



**Figure 2.** Fiji ICM Institutional Framework

Other activities carried out include the publication of a small booklet “Making Small Hotels and Resorts Environmentally Sustainable: A simple checklist for Fiji operators” by a small working group and assisting the Fisheries Department in the development of guidelines for the surveying of **i qoliqoli** areas (traditional fishing grounds) throughout Fiji by setting up of a working committee. A second booklet “Environmental Guidelines for Village Tourism” is also complete to be translated into Fijian for use by new village tourism ventures.

In terms of capacity building activities, both provincial and national staff continue to develop their skills in ICM. In 2003, a member of the Nadroga Provincial Office and a postgraduate student from IAS attended a training course in Gender and Population in ICM in the U.S., two IAS staff members have been trained in GIS at the South Pacific Applied Geoscience Commission (SOPAC), community members along the Coral Coast and IAS staff have received month-long training in marine biological monitoring with Coral Cay Conservation and, most recently, a district representative, and a representative each from Ministry of Fijian Affairs and Lands Department attended the 2004 Summer Institute in Coastal Management at URI. Fields trips have also been taken to a live rock harvesting factory and one is planned to look at composting toilet projects. An overseas team has also visited and given presentations on best practice in small-scale sewage management.

One-day workshops have also been conducted for provincial-level government officials on ICM objectives and activities and for the national and provincial level committee on incorporating gender and population into ICM. The placement of a U.S Peace Corps volunteer at the Nadroga/Navosa Provincial Office will also assist in building of required skills among Provincial staff.

## ACHIEVEMENTS

On the Coral Coast the establishment of the Coral Coast ICM Committee and awareness workshops have led to improved relationships between the stakeholders and useful discussions in finding solutions to problems such as sewage pollution and coral harvesting rather than engaging in finger-pointing. Information provided such as that on nutrient levels has led to informed decision-making and appropriate action. It has also led to a broader awareness on the different activities being carried out and how they could be interlinked. We feel there is a perceptible change in the attitudes between resource owners and adjacent hotels with a growing appreciation of their interdependence and how they both rely on a healthy coastal environment.

An awareness fieldtrip and stakeholder discussions on live rock harvest have led to the company that buys from collectors looking at an alternative source of income for the villages concerned by establishing cultured rock farms as well as commencing efforts to implement their Collection Area Management Plan.

The establishment of LMMAs has led to better community organization in the districts with one district in the process of setting up a district information center. Each district is also monitoring the effectiveness of their **tabu** areas. The importance of involvement of women in coastal management related activities at the village level is also slowly being recognized.

In terms of the sewage problem, a few hotels have improved their sewage treatment with others still being put under pressure by adjacent villages and the project to upgrade their treatment processes. Awareness on the impact of septic systems and piggeries has also begun to disseminate among the villages.

At the national level, there is a growing realization of the need for long-term coastal planning and proper regulation. The need has been recognized for appropriate national coastal development planning, where some form of intersectoral consultation (as well as vertical consultation) and zoning are involved, and village planning due to the lack of any planning regulations within village boundaries. During the national meetings participants have commented on the usefulness of working and sharing information intersectorally.

Changes have also occurred in the Tourism Ministry and to some extent in the Department of Fisheries. Both have moved from almost exclusive consideration of economics in policy to include social and environmental factors. The Ministry of Fijian Affairs has also established coastal management as a key result area within their work plan and the Ministry of Health has also taken the lead in setting up a stakeholder group to discuss issues of water quality. Many sectors are enthusiastically working together and learning what related work is occurring in other departments.

## **LESSONS LEARNED & CHALLENGES**

At the first formal stakeholders workshop a participatory approach was used to develop an action plan: formulating a vision, discussing issues/threats/problems in break out groups, looking at root causes and then determining actions to overcome the problems. We were pleasantly surprised that the approach worked very well in such a diverse group. We have learned that awareness of the project as well as the participation of all sectors of the community in developing the action strategy is extremely important and this will have to be focused on more in future. Increased publicity and support for the initiative is also needed and can be addressed through a media campaign and rallying of political support.

Another important lesson learned is that attendance of key government people as a team at Summer Institute 2002 has forged a team committed to the ICM concept for Fiji. A similar group of three people attended this year and will add to this pool of skilled practitioners with the enthusiasm and understanding to move ICM forward. A major challenge is the lack of capacity to carry out ICM at the provincial and tikina levels, a problem which needs to be addressed urgently.

Another important note is that the process must follow the cultural and official protocols of the local area in order to succeed. Prior to working in one district, numerous community visits and meetings were held by a staff member of the Nadroga/Navosa Provincial Office to determine the interests of local villages. This time-consuming process was followed to ensure that all traditional sectors of the district agreed to be involved. The oversight of an important ceremonial visit that should have taken place at the beginning of the overall project was responsible for the non-participation of one district.

At times it has been difficult to get stakeholders along the Coral Coast with different interests, such as communities and hotel owners, to work together in addressing coastal issues. It is in the interest of the project to ensure that all stakeholders obtain some benefit from their involvement and see their contribution as useful and essential to achieving the goals of ICM.

As with all things in the Pacific Islands, implementation of such projects take time and the progress of ICM is no different. Even though many activities have been implemented at the local level the formalization of the project at the national level and required changes in policy and legislation will be long term. Continuous follow up is required at both levels.

Maintaining linkages between national offices and provincial and tikina level is also a challenge and has been currently via IAS linking the Coral Coast ICM committee and the national ICM committee. It is hoped, however, that national offices will be linked directly to these lower levels directly or via government extension officers and that the Fijian Affairs main office will ensure stronger linkages and communication between itself and the Nadroga/Navosa Provincial Office.

## **FUTURE DIRECTIONS & CONCLUSION**

Key issues identified as important for future expansion of the project include the strengthening of the village administration system and planning. This would address the lack of planning and capacity in villages along the Coral Coast required to effectively take part in ICM. This would also link the planning at the district level with coastal planning at the national level. Another is the need for integrated coastal development planning at the national level. This is in view of increasing tourism development applications and the imminent change in ownership of traditional fishing grounds from government back to the traditional Fijian owners.

On the Coral Coast, additional efforts will be taken to increase awareness and support of the project among stakeholders and the formalization of the Coral Coast ICM Strategy and Committee. Critical issues such as the management of live coral harvesting, improvement in coastal water quality, and seeking alternative sources of income will continue to be main focus of future activities. Capacity building such as improving skills of social leaders and an annual meeting of all national and local level stakeholders to review the lessons learned from the project are also being planned.

Through the trialing of ICM on the Coral Coast of Fiji valuable lessons are being learned on the advantages and disadvantages of the approach, problems faced and ways to adapt the process to the Fiji context. There have already been achievements to date at both the Coral Coast site and National Level in terms of increased intersectoral consultation for decision-making, conservation initiatives, tikina-based planning, availability of scientific information, capacity building and awareness raising.

In short, the coastal zone constitutes a critical a foundation for economically, culturally and environmentally sustainable development for Fiji. There are currently signs, given rapidly increasing population and rapid development, that the use of coastal areas is increasingly destructive, overexploitative and will be unsustainable in the long run if something is not done. ICM offers a solution, a solution that is increasingly being recognized at both the local level and national level, as possibly the only option for the sustainable use of Fiji's coastal areas. This project has a long way to go, but there are positive signs of intersectoral collaboration, increased awareness of the issues and the potential for the success of ICM in Fiji.

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