

Strengthening a Nested System of Coastal Management in Fiji

Progress and Lessons Learned Towards
Integrated Coastal Management on the Coral Coast and
Implications for National Policy



A joint project between
The Government of Fiji,
Institute of Applied Sciences, University of the South Pacific and
Coastal Resources Center, University of Rhode Island

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This document details the process of strengthening ICM on the Coral Coast, which served as the pilot site for the Fiji ICM Initiative. The progress update includes activities, mechanism used, and lessons learned along the way. It illustrates the importance of partnerships and working together at different levels of government and different stakeholders at the local level in achieving the goal of improved management of our coastal resources and areas. It also puts forward the implications of the work carried out so far on national level coastal management in Fiji. Recommendations for the future direction of ICM work in Fiji was jointly identified by local and national Fijians at the Second National ICM Workshop. It is hoped that this document will provide useful information for organisations and individuals involved in coastal management in Fiji and the Pacific on how ICM may be carried out and provide guidance on future work that is required, particularly at the national level.

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Korotogo
Namada
Namatakula
Navola
Sigatoka
Tagaqe
Vatukarasa
Vatuolalai
Votua
Vucilevu

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ACRONYMS AND DEFINITIONS

CAMP	Collection Area Management Plan
CRC	Coastal Resources Center, University of Rhode Island, USA
DO	District Officer
FA	Fijian Affairs
FTIB	Fiji Trade and Investment Board
IAS	Institute of Applied Sciences at the University of the South Pacific
ICM	Integrated Coastal Management
IMA	International Marinelife Alliance
JICA	Japanese International Cooperation Agency
MAC	Marine Aquarium Council
NGO	Non-Governmental Organization
NZAID	New Zealand Aid Donor Agency
OISCA	Organisation for Industrial, Spiritual and Cultural Advancement
PCDF	Partners in Community Development Fiji
SOPAC	South Pacific Applied Geoscience Commission
SPC	South Pacific Commission

- Turaga ni koro – Village headman responsible for village administration, liaison between the government, the village committee and the villagers and who acts as a spokesman for the chief on the village committee.
- I qoliqoli – Traditional fishing grounds over which indigenous people hold user rights
- Lewe ni vanua – Villagers or people from that area
- Mata ni tikina – District Head
- Tikina - Administrative District. An allegiance of several villages.
- Roko – Governor of a province.
- Vanua - Tribe, the largest kinship grouping in Fijian society. The Vanua is structured into a number of social units called yavusa or clans

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EXECUTIVE (PROJECT) SUMMARY

GOAL AND STRATEGY:

THE INTEGRATED MANAGEMENT OF THE CORAL COAST PROJECT

The main goal of the project is to improve the planning and management of coastal resources in Fiji using an integrated approach, with the Coral Coast of Nadroga Province serving as a pilot site.

Integrated Coastal Management (ICM) is a process that involves the integration (working together) between sectors at both the local and national levels and also between different levels of government. ICM helps solve problems. This initiative worked at both levels. At the local level the Coral Coast site serves to demonstrate and test strategies such as the development of an ICM action strategy. At the national level a National ICM Committee was established to advise and learn from the Coral Coast demonstration site and to act as a forum for the discussion of priority coastal issues. Building capacity to improve coastal planning within selected provincial and government entities was also a priority.

The initiative to protect and wisely develop coastal areas is significant because it seeks to address the degradation of coastal resources and proposed related policy changes. Issues such as declining fisheries, polluted water, and uncontrolled development require a coordinated response. Current government changes at the national level such as the return of legal control of all fishing areas from state to local community control, the Environment Management Bill, and Rural Land Use Policy need to be coordinated to be effective in addressing critical coastal issues.

ACCOMPLISHMENTS

The National ICM Workshop held in April, 2002, identified a plan of action for Fiji. The Institute for Applied Science (IAS) and its partners including the Coastal Resources Center at the University of Rhode Island (CRC) were funded by the David and Lucille Packard Foundation to implement ICM in Fiji over a two year period. Accomplishments at the Coral Coast level include:

- The development and implementation of a Coral Coast ICM Action Strategy which aimed to address issues such as overexploitation of marine resources, pollution, user conflicts, lack of planning, and lack of awareness among other issues.
- A functional Coral Coast ICM working group comprised of representatives from government, Nadroga Provincial Office, District Office, non-governmental organisations (NGOs), tourism industry and Tikina representatives to oversee the implementation of the Action Strategy.
- Identification and establishment of monitoring programs for priority issues such as source of nutrients which is leading to poor coastal water quality.
- Public awareness and specific activities related to solid and liquid waste management.
- Development of Tikina strategies to manage coastal resources such as tabu areas.

At the national level, accomplishments include:

- Establishment of a functional National ICM Committee which includes all relevant government departments, NGOs and other organisations to advise Coral Coast Site and to discuss national issues of concern.
- Development of tourism guidelines for more environmentally aware hotels
- Capacity building and training activities such as overseas training in coastal management at the University of Rhode Island

LESSONS LEARNED

- *The presence of capable local organisations to help carry out ICM work is essential.* Capacity building will continue to be a priority for the Coral Coast, and would need to include training and support for village and Tikina leaders and their environment committees, but also should include leaders of active NGOs as well as municipal and provincial staff and leaders.
- *Support from outside groups and organisations are part of increased capacity.* At the national level there are three groups of note that continue to make important contributions in the Coral Coast: government, academic sector, and NGOs.
- *Move from voluntary to formal agreements.* The Coral Coast Action Plan was prepared quickly as an aid to setting priorities and guiding the work of the ICM initiative. As confidence is built to demonstrate that ICM is mainly about solving problems and setting as well as achieving specific results, there is a need to more carefully document and affirm consensus on the findings of fact, mitigation measures and required policies. These agreements need to be codified and mainstreamed into the work programs and budgets of the local, provincial and national levels.
- *Initial Capacity:* Training, including external training of teams as a diverse group from different agencies, is successful in increasing knowledge, improves the quality of interaction, makes it easier to organize events when the team returns to Fiji, enables addressing controversial subjects in a more constructive way.
- *Regular, informal contact pays off.* The regular consultation and exchange that has taken place in the national meetings has had an important payoff in many specific instances where help was needed in the Coral Coast.

FUTURE DIRECTIONS

Future directions for advancing the ICM process in Fiji have been identified based on input from the provincial and national ICM committees, the success and lessons from the initiative, and the 2nd National ICM Workshop held in December 2004. These include:

- Strengthening the village administration system and planning through capacity building.
- Establishing a Provincial level committee which could provide the link to national coastal planning
- Developing mechanisms that lead to integrated coastal development planning at national level
- Capacity building such as social and technical skills training at the local level and a coastal management training course at national level.
- Raising awareness to other stakeholders on ICM such as the public and schools and collation and provision of technical information on coastal issues.
- Expanding the ICM approach to include nearby Tikinas on the Coral Coast and the provision of support to other provinces
- Continuing Coral Coast work on key issues such as management of live rock harvest, nutrient pollution and rural sanitation, solid waste management, and resolution of user conflicts.
- Advising Ministers and high-level multi-sectoral committees on coordinated permitting for coastal development and coordination of policy documents.

CHAPTER 1. INTRODUCTION

This document describes a pilot initiative to explore and test integrated coastal management (ICM) approaches in Fiji's Coral Coast. It offers summary information on important issues, and some initial reflections on the techniques and progress made to date in the effort. Lessons from the Coral Coast are placed within a broader context of emerging needs and opportunities for ICM throughout the nation. The draft version of this report was the subject of the national meeting held in Suva at the University of the South Pacific, USP, in December 2004.

The first national workshop on ICM in Fiji was held in Suva from 9-11 April, 2002. Over sixty participants attended from national government agencies, provincial government, local villages, research institutes, non-government organisations and the private sector, along with international representatives. The meeting proved to be a valuable opportunity for exchanging information on lessons learned about successful site-based coastal management to date and determining whether stakeholders were in favour of initiating ICM in Fiji. Workshop participants demonstrated their strong support for ICM and reached consensus on a list of ten priority actions and mechanisms for advancing ICM in Fiji.

The current Fiji 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. The pilot site is being used to develop necessary experience in coastal management that may be later scaled up to the national level. 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 inter-sectoral issues. Capacity building within selected provincial and government entities as well as within USP is also a major component.

Because the program currently focuses on the Coral Coast, which is a non-urban coastal area under the jurisdiction of the traditional coastal villages and the provincial governance system led by the Ministry of Fijian Affairs (FA), the main partners of IAS in the implementation of the project are FA and Nadroga/Navosa Provincial Office. Other Ministries that the program coordinates closely with include Ministry of Tourism, Ministry of Health, Department of Lands, Department of Environment, Department of Town and Country Planning and Department of Fisheries.

Among the follow-up items from the April, 2002 workshop were the preparation of a proposal to conduct a pilot program in the Coral Coast, maintain discussions at the national level and provide international level quality training for key leaders. A number of concrete steps have been taken in the past few years by a great many different groups to advance ICM in the Coral Coast, as described in Chapter 2. Their inclusion in this report is an appreciative acknowledgement of the hard work and commitment of these groups. Local interest is rapidly increasing and there is an upturn in the interest of local leaders and village residents in taking a look at the situation with their coastal resources and better organizing and preparing themselves to identify and carry out practical measures to address them.

Chapter 2 also provides reflections and lessons learned from the Coral Coast experience. Chapter 3 concludes with additional lessons on the ICM initiative in general and reflections on the role which

national agencies can and should play to help advance the agenda at provincial and lower levels in the Coral Coast. Finally suggestions are put forward on how the experience to date in the villages and province of the Coral Coast can usefully inform what Fiji should consider doing in moving forward with ICM at both the provincial and the national level to foster the emergence of adequate ICM goals, policies and an implementation strategy.

CHAPTER 2. TOWARDS INTEGRATED COASTAL MANAGEMENT OF THE CORAL COAST

2.1 Background

The Coral Coast area was chosen as the pilot area as it represents an almost full range of coastal issues encountered in Fiji. This includes tourism, improper methods of disposal of solid waste, sewage pollution, depletion of fisheries, coral harvesting, coastal erosion, storm surge and flooding, siltation of rivers and coastal areas as a result of soil erosion inland. There is also some agriculture, forestry and sand mining. It also represents an area with a wide range of experiences in environmental planning and management; a number of environment-related workshops have been held in many of the villages, and marine protected areas have been set up. Mangrove replanting efforts are fairly widespread, the issue of coastal erosion has been addressed in one village, and some of the hotels have been involved in environmental clean up campaigns.

The ICM initiative on the Coral Coast builds on the existing successful Locally Managed Marine Area (LMMA) initiative, which has been ongoing since 1997. 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, includes 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.

The Coral Coast ICM initiative is being carried out in 4 coastal Tikinas¹, Komave, Korolevu i Wai, Conua, and Sigatoka within Nadroga Province. Other Tikinas that may be included in the future are Cuvu and Malomalo as well as Serua Province that borders the Coral Coast in the east. Within the 4 Tikinas in the project are around 13 coastal villages and an additional 6 settlements. Settlements at Korotogo, Votua, Cuvu, and Korolevu have built up mainly to house people working in the tourism industry. The Indo-Fijian population along the coast is concentrated in the sugar cane growing area from Korotogo to Cuvu and the town of Sigatoka. Total population of the ICM study area is around 12,000.

Along the Coral Coast there are 7 major hotels/resorts and numerous smaller guesthouses and backpacker accommodations with most being concentrated in the Korotogo area. There are also a few small restaurants along the coast and a dive operation. Tourism on the Coral Coast as in other parts of Fiji experienced significant growth in the 1980s and 1990s, then a downturn in growth following the coups of 1987 and 2000. Since then tourist arrivals have continued to increase to over 100,000 on the Coral Coast in 2003.

¹ A tikina is a group of local villages

2.3 Vision Statement and ICM Action Plan for the Coral Coast

The participating stakeholders at the April 2003 meeting agreed to a clear and simple statement for the Coral Coast and the ICM Action Plan which identifies important management issues, goals and action strategies which are summarized below and attached as an annex.

CORAL COAST ICM VISION

*SET AN EXAMPLE FOR FIJI OF
HEALTHY AND SUSTAINABLE COASTAL RESOURCES AND TOURISM INDUSTRY
CONTRIBUTING TO
HEALTHY AND ENVIRONMENTALLY AWARE CITIZENS OF THE CORAL COAST*

To achieve this vision the participants identified nine main issues and set out goals that describe what needs to be accomplished to resolve the concern.

Table 1. CORAL COAST ICM ACTION PLAN

Issues	Goals
1. Overexploitation of Natural Resources	Maintain and enhance the resources on which the local communities and the economy depend
2. Lack of Awareness and Education	Improve the level of awareness amongst villagers, hoteliers, government officials and the public about the importance of coastal areas, coastal management and important issues.
3. Pollution	Improve the state of the coastal waters and coastal area by managing the liquid and solid waste appropriately
4. Conflicts Over Natural Resource Use	To increase the dialogue among conflicting users to foster cooperation
5. Lack of Human Resources and Funding	To obtain funding for coastal management work and increase capacity
6. Lack of Planning and Coordination	To achieve better coordination and cooperation between all stakeholders and be able to plan with maximum input of stakeholders and local community members
7. Unsustainable Development Practices	To achieve appropriate and well planned development along the Coral Coast
8. Lack of Alternative Income Sources	To provide income sources in order for the village needs for basic services and infrastructure to be met.
9. Lack of Assessment and Information	Acquire and use best possible information for decision-making wherever possible involving the local communities

The workshop participants identified a total of 26 short and long term actions to achieve the goals. The simplicity and directness of the action plan was concerned at the time to be a necessity to avoid “planning fatigue” and keep the emphasis on action. The action plan incorporates and acknowledges

the many and varied contributions of communities, government, NGOs and researchers that are underway in the Coral Coast. The remainder of this chapter describes 58 tasks and activities that have been carried out in the past 20 months in support of the action plan, and offers a number of reflections on progress made to date as well as suggestions for further advancement and improvements.

2.4 Institutional Structure for Implementation of ICM

Coordinated planning and action is required to implement the action plan by the various stakeholders. Prior to the project no group existed that included all the relevant stakeholders thus a Coral Coast ICM committee was set up to coordinate these activities. The committee is made up of representatives from the tourism industry, government agencies, NGOs, the Nadroga/Navosa Provincial Office and Tikina representatives (Table 2) and meets every few months 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.

Table 2. Membership of the Coral Coast ICM Committee

Provincial and Local Level

Agricultural Officer
Fisheries Officer
Health Officer/Local Authority
Education Officer
Nadroga/Navosa Provincial Office
Nadroga Provincial Council
District Officer
Korolevu-I-Wai Tikina
Conua Tikina
Komave Tikina
Sigatoka Tikina

Non-governmental Organisations

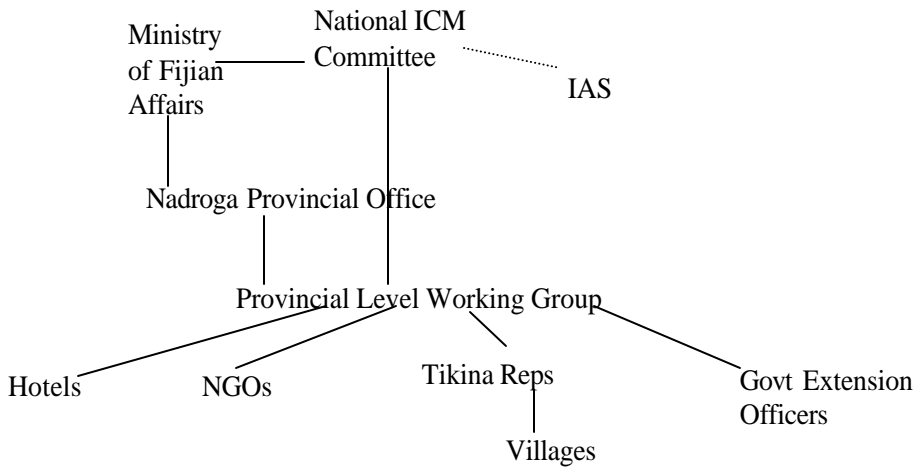
OISCA
IAS
Coral Cay
United States of America Peace Corps Volunteers

Private

Fijian Hotel
Warwick Fiji
Mikes Divers
Kula Ecopark

IAS currently acts as the secretariat for the committee. Issues of concern that require input from national level agencies are then reported to the National ICM committee through the secretariat and recommendations and information communicated back to the Coral Coast ICM committee.

Figure 2. Fiji ICM Initiative Institutional Structure



Other groups that are active on the Coral Coast and assist with implementation of a number of goals of the ICM Action Plan include Habitat for Humanity, Marine Aquarium Council, National Trust of Fiji, South Pacific Commission, South Pacific Applied Geoscience Commission, Partners in Community Development Fiji, and Live and Learn. The Nadroga Provincial Office carries out the coordination of activities by the various NGOs at the local level. The Provincial Office is the main local organisation undertaking implementation of ICM activities at the local level together with IAS. The different Tikinas and hotels also undertake their own activities.

2.5 Issues, Activities and Lessons Learned from Implementing the Coral Coast Action Plan

It has been 20 months since the Coral Coast Action Plan was formulated. Much work has been undertaken to carry out its recommendations and it makes good sense to review and reflect upon what has gone on so far and to draw out conclusions for how to improve and extend efforts to address those concerns in the Coral Coast as well as draw out some lessons for advancing ICM in Fiji. The activities and achievements and lessons and reflections of the ICM initiative on the Coral Coast are discussed by issue including a summary of the nature of the problem, the specific actions proposed in 2003, activities and tasks carried out to date, and reflections.

Issue 1: Overexploitation of Resources

Nature of the problem

The death of the coral reef areas is a problem encountered by many of the villages. The main causes are thought to be siltation from upland erosion, poor coastal water quality, the sale of live rock, and freshwater input. The overgrowth of algae, especially *Sargassum* species, is extensive, smothering the coral. The cause is thought to be elevated nutrients in the waters, siltation, and higher ocean temperatures. Fish abundance is reported to be declining in some villages and

some intertidal species are becoming rare. The use of traditional fish poisons may also be a factor in fisheries losses as well as the use of undersized nets, illegal fishing by outsiders, and modern fishing methods such as SCUBA diving and spearfishing.

The harvest of live rock for the aquarium trade occurs in 2 villages in the study area. Live rock (reef rock covered with coralline algae and associated fauna and flora) is removed from the reef as blocks 15-35 cm in diameter usually by iron bars. In Vatukarasa village, live rock has been extracted for seven years from three sites. Namada village currently extracts live rock from within the Vatukarasa i qoliqoli and not their own. Potential impacts of live rock harvest include breakage of non-target species, destruction of coral population, reduction of reef topography and conflicts with tourism operators.

Coral Coast Action Plan Proposes to “Maintain and enhance the resources on which the local communities and the economy depend”. Three main actions were recommended to reach this goal:

Action	Lead Organisation	Priority/ Time frame	Tasks carried out
1.1 Community workshops to develop marine resource management plans and set up MPAs in Tikinas Conua and Komave	Provincial Office with assistance from IAS	High/ long term	1
1.2 Work towards a ban or better management of coral harvesting operations	MAC		2,3
1.3 Plant mangroves and coastal plants to restore forests	OISCA	Lower/ long term	4

Coastal Management Activities Carried Out in Support of Goal 1 include the following:

1. **Locally Managed Marine Areas** have been set up in two new districts (Korolevu-I-Wai in 2002-2003 and Komave in 2004 by IAS and Nadroga Provincial Office. 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 and community biological monitoring of target species within their tabu areas. The approach has also been discussed in Conua Tikina, which has expressed a strong interest. OISCA had existing coastal restoration project in Conua district. Some of the tabu areas are already resulting in increased number, size and species of fish.
2. **Mangrove and Coral Planting:** OISCA continues their assistance to villages on the Coral Coast by providing mangrove seedlings and undertaking coral replanting to improve fisheries and address coastal erosion. Mangroves have been planted in Korotogo, Tagaqe, Yadua, Vatukarasa and recently in Votua. Corals have been planted on racks in 10 villages including Namaqumaqua and Navutulevu in Serua Province, Namatakula, Navola, Komave, Votua, Tagaqe, Namada, Malevu, and Tore.
3. **Collection Area Management Plan (CAMP) for Live Rock Harvest Areas:** In 2003, the Marine Aquarium Council conducted consultations in Vatukarasa and Namada on behalf of

Walt Smith International to develop CAMPs for these areas. In early 2004, a proposal to extend the area of coral harvesting to Malevu village to help them pay the costs of hosting a Provincial Council meeting led to extreme disharmony. The Coral Coast ICM committee called a special meeting for all stakeholders. All sides presented their ideas and agreement was reached on the following points: efforts should be made to replace harvesting of live rock with “planting” cultured rock, efforts should be made to monitor the effects of the live rock trade on the Coral Coast, and further discussions on the proposed project at the community level was needed. IAS has started to implement part of this plan by monitoring areas harvested for live rock to determine if it is having an impact on the marine environment. Walt Smith International and MAC are funding these activities. WSI have also planted more than 10,000 cultured rock at two sites at Tagaqe village.

4. **Live Rock Resolution:** The Coral Coast ICM Steering Committee in 2003 passed a unanimous resolution against the Live Rock harvest. This was conveyed to the Permanent Secretary Fisheries and Director of Environment. During the discussions it was pointed out that whatever the eventual environmental effects of live rock harvesting, tourism and harvesting use of the same area are incompatible. Proponents of the trade believe that the harvest provided many jobs and there was not evidence of harm to the environment.

Reflections and lessons learned to date

- **The participatory approach with communities and districts in developing action plans for Tikinas is essential** regardless of the specific issues of concern, before extending the initiative to other stakeholders and other issues. This often results from pressing needs or issues. It also helps explain the success in extending existing examples of Tikina planning to new sites once they have made expressions of interest.
- The **presence of capable organisations** to assist in implementation is essential. It would be difficult if not impossible to advance natural resources conservation without the presence of one or more groups to provide local technical information and organize the sequence of activities. Once local stakeholders have time to discuss and debate a problem they are able to reach consensus on a greater range of topics, for example the controversy over live coral rock harvest.

Issue 2: Lack of Awareness and Education

Nature of the problem

Although there have been numerous community-based workshops and awareness activities along the Coral Coast on environmental issues actions by the local communities, hotels and other stakeholders indicate that not enough is being done to lead to changes in behavior and improvement in environment of the Coral Coast. Each government department undertakes workshops but these are seldom coordinated or follow-up actions taken.

Coral Coast Action Plan Proposes to “Improve the level of awareness amongst villagers, hoteliers, government officials and the public about the importance of coastal areas, coastal management and important issues”. Four main actions were recommended to reach this goal:

Action	Lead Organisations	Priority/ Time frame	Tasks carried out
2.1 Hold community workshops to educate on important coastal issues e.g. solid waste management:	Health Office and IAS	High/ long term	5, 8, 13, 16,
2.2 Obtain funding to hold awareness workshops and activities	IAS	High/ short term	7, 9, 11, 12, 14, 15,
2.3 Include coastal issues into education curriculum	Education, Live and Learn, Kula Ecopark	Lower/ long term	10, 17
2.4 Media programs such as radio programs and tourism pamphlets on marine guidelines etc	IAS,TV1	High/ long term	6, 18

Coastal Management Activities Carried Out in Support of Goal 2 include the following:

5. **Awareness Marine Biology and Coral Reefs:** Discussions on coral reefs and basic marine biology have been carried out in Korolevu-I-Wai Tikina in 2003 as part of the LMMA work by IAS. Material has also been translated into Fijian.
6. **Publication of Tourism Booklet:** A booklet “Making Hotels and Resorts Environmentally Sustainable: A simple checklist for Fiji Operators “ was published by the Fiji ICM Tourism Working Group and distributed Fiji wide including to the Coral Coast ICM Committee.
7. **Fieldtrip to Walt Smith Company:** In October, 2004 members of the Coral Coast ICM committee went on a one-day fieldtrip to Walt Smith International warehouse in Lautoka, which currently exports aquarium products and live rock including the live rock being harvested by 2 villages on the Coral Coast. Information was provided on how the collection was carried out, the demand overseas and uses of live rock. Photo
8. **ICM Awareness for Provincial Office Staff:** A workshop for the Rokos and Assistant Rokos of the Western Division on LMMA and ICM was held at Capricorn Hotel in Nadi in November 2003 to provide awareness and determine the role the Provincial Offices could play in these initiatives.
9. **Hotel Awareness on ICM Work:** A presentation of a summary of Coral Coast ICM work in 2003 was done by IAS at the Coral Coast Hotel Association Meeting Feb 2004.
10. **Educational tours at Kula Ecopark:** This year Kula Ecopark has been providing a free Environmental Programme to students in classes 6-7 with transport paid by Kula Eco Park.
11. **Workshop on incorporating Gender and Population aspects into coastal management:** Held in Suva in March 2004 for both the Coral Coast and National ICM Committee members on the importance of Gender and Population. This led to a village chief assigning women to the village environment committee.

Figure 3. Village women from the Coral Coast developing Sanitation Action Plans.



12. **Workshop on Involvement of Women in Environmental Conservation Work:** Held for Tikinas Korolevu-i-wai and Komave and Vatukarasa village in July 2004 to discuss their awareness of LMMA and ICM Action Plans, discuss their involvement in LMMA and ICM work and identify activities that they could be involved in. Waste management was an activity that they identified that they could be involved in, particularly solid waste management.
13. **Community waste management workshop:** Held for the villages from the Tikinas Korolevu-i-wai, Komave, Conua and Sigatoka on August 2004 in Namada to provide awareness on the importance of proper management of solid (rubbish) and liquid (sewage and piggery) waste at the community level, discuss waste management practices and issues within each village, and agree on possible solutions to some of the issues in order to improve the management of waste. IAS, Nadroga Provincial Office and Sigatoka Health Office facilitated the workshop.
14. **Waste Management Field Trip:** In September, participants from the waste management workshop came to Suva on a fieldtrip to Vunisinu village where they observed a composting toilet and composting bins and to Fiji School of Medicine where they observed a proper septic tank and well and a second type of composting toilet
15. **Workshop on Wastewater Management in the Tourism Industry:** Held in July 2004 at the Hideaway to disseminate information on the standard of wastewater treatment in Fiji's Tourism Industry, obtained from an IAS study. The workshop also provided awareness on

the need for appropriate wastewater management by resorts in order to maintain a healthy coastal environment. Various hotels from around Fiji attended along with those from the Coral Coast and Provincial staff and Health Office.

16. **Awareness of waste management for piggeries:** A US Peace Corps Volunteer at the Provincial Office is continuing visiting villages to survey the piggeries and provide awareness on the need to relocate piggeries away from coast and creeks and the proper management of waste to improve water quality along the coast.
17. **Working with kids on environmental topics:** A US Peace Corps Volunteer in Komave and another volunteer in Tagaqe have been working with kids in the these villages to teach them about environmental issues and carry out simple environment activities such as beach cleanups and planting of tree seedlings.
18. **Other awareness material:** A poster on waste management in the Nadroga dialect is currently being prepared as well as a booklet on guidelines for village-based tourism in Fijian.

Reflections and lessons learned to date:

- Awareness and discussion of problems from the ICM perspective, when followed by offering practical solutions and demonstrations, helps accelerate the transition from **consensus building to action**.
- Villages and districts that have issues and have already undertaken actions to address their coastal problems, are good **candidates for starting an ICM initiative**. Adjacent districts will observe the process as it unfolds and then ask for more information and eventually start to engage.
- The **involvement of women in ICM** leads to greater success and greater implementation. The special efforts to make women aware of ICM and LMMA initiatives has led to a higher level of interest and involvement. It has also helped the ICM initiative gain a different perspective on what is important at the local level, for example waste management concerns have come to the fore, and projects related to implementing solutions have been implemented more quickly. The LMMA projects also incorporate techniques to engage women directly as well as incorporate their concerns in LMMA action plans.
- The ICM initiative has **avoided over-promotion** of the program in order to keep the focus on the targeted area, however, not enough outreach can lead to lowered expectations and not enough support and attention from higher levels.
- Even though a number of specific activities were carried out, more can and should be done in terms of education and outreach within the geographic area of focus of the program. Although not a great deal has been done with the school curriculum and children programs, experience by volunteers in the villages indicate that **involving school children can be effective** as they are interested in environmental activities such as marine education and trash clean ups. Also relatively little has been done so far with the mass media including radio, TV and the newspapers.

Issue 3: Pollution from Waste Water and Solid Waste

Nature of the problem

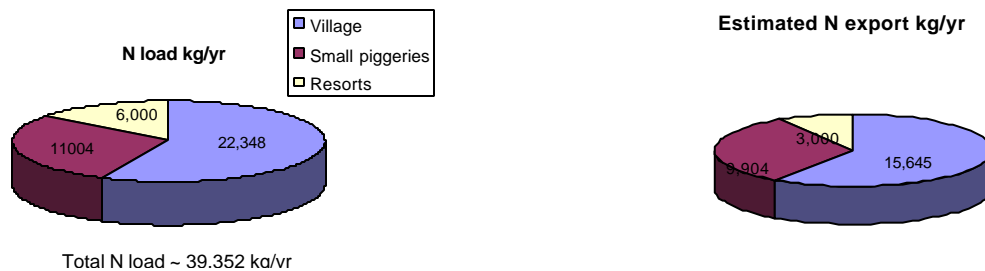
Solid Waste

Due to the lack of a formal rubbish collection system service along the Coral Coast, rubbish is often disposed of on the beaches near villages or accumulated in illegal poorly managed and aesthetically unpleasing dump sites. It mainly consists of plastics, tin cans, and other non-biodegradable solid waste. Villages have either their own (often poorly managed) dump site, use a nearby hotels' collection system or have organised their own collection for rubbish. Some hotels use local rubbish truck operators, which are often dumping rubbish at illegal dump sites along the coast instead of taking it to the Sigatoka Municipal Dump. In addition, the continuous littering of the Queens Highway by travelers in vehicles results in the roadside as a constant eyesore.

Liquid Waste and Deterioration of Water Quality

Deteriorating coastal and river water quality is a major concern for many of the villages and is often blamed on the nearby hotels disposing of their solid waste and sewage waste into the ocean. However, the continued dependence of most of the villages on pit toilets and bottomless septic tanks out of which sewage waste leaches during heavy rains and the location of pig pens close to the rivers in many of the villages is contributing significantly to sewage pollution and increased nutrients in the coastal waters. A few resorts are also using out of date primary sewage treatment plants followed by discharge into the environment of a poor standard of effluent. Visits by wastewater experts in 2004 to the Coral Coast and calculations based on population, type of sewage treatment, and nutrient load to environment concluded that the major source of nitrogen into coastal waters is from villages, followed by piggery input and then hotel wastewater.

Figure 4. Nitrogen load of each source and export into coastal waters per annum



Monitoring of coastal water by IAS conducted in 2002 and 2003 indicated high levels of nutrients (nitrogen and phosphorus) in select areas particularly in front of hotels and villages. This information was published in the South Pacific Journal of Science. In 2004, 26 coastal and 7 river/creek sites were monitored for nutrients and faecal coliform levels. Faecal coliform levels were high at a number of sites near villages and around Korotogo area. This is a concern as it could be a health risk to tourists and to villagers that use river mouths to swim in and wash clothes.

Coral Coast Action Plan Proposes to “Improve the state of the coastal waters and coastal area by managing the liquid and solid waste appropriately”. Six main actions were originally recommended to reach this goal, however the program of work was adapted to incorporate a number of additional activities and tasks:

Action	Lead Organisations	Priority/ Time frame	Tasks carried out
3.1 Hold Clean Up Campaigns to address solid waste:	Provincial Office, IMA, Hotels, Health Office	High/ long term	19, 22, 27
3.2 Encourage recycling of material	IAS, Health Office, Hotels	Lower/ long term	23
3.3 Construct artificial wetlands	IAS, PCDF, Hotels, Communities	Lower/ long term	
3.4 Use biodegradable products e.g. non-phosphorus detergents	IAS, Hotels	High/ long term	25,
3.5 Locate appropriate dump sites	Local authority, Health Office		24
3.6 Work with hotels to collect solid waste from villages	Health Office		20, 21,
3.7 NEW: Water Pollution Control, Hotels			26, 27,
3.8 NEW: Water Pollution Control, Villages			28, 30, 31

Coastal Management Activities Carried Out in Support of Goal 3 include the following:

Solid Waste

19. Coastal Clean Up Campaigns : A coastal cleanup day was held on September 20, 2003 for some of the villages along the Coral Coast. It was held on World Coastal Cleanup Day and organised by IMA (International Marinelife Alliance) and Department of Environment together with the Nadroga Provincial Office. Collectors who were mostly the youth identified on forms the amounts and types of rubbish collected. It was found that plastic bags contributed the main type of rubbish followed by, plastic bottles, food wrappers, drink cans, glass bottles. In addition, during 2004 many of the villages have started village clean up campaigns as one of their activities to address solid waste pollution.

Figure 5. Village youth conduct a coastal cleanup along the Coral Coast



20. **Village Waste Management Action Plans:** During the workshops for women on LMMA/ICM and the community waste management workshop, participants from the different villages developed simple action plans to address solid and liquid waste management in their villages. The villages are implementing many of these activities and others at present to address solid waste. As of 10 December 2004, a wetland for treating wastewater has been completed in Tagaqe village.
21. **Hotels Assisting Villages:** A few of the hotels along the Coral Coast already work closely with the village adjacent to them to assist them in disposal of their solid waste. The Hideaway provides large waste management bins for Tagaqe and Vatukarasa, which are emptied weekly. The Naviti Resort collects rubbish from Vatuolalai when the hotel's rubbish is collected and Mikes Divers assists Votua in collection of their rubbish.
22. **National Anti-Litter Campaign:** The Fiji Hotel Association hosts an anti-litter campaign that extends from the Coral Coast to Nadi, whereby a small rubbish truck goes up and down the highway daily keeping the roadside clean from litter.
23. **Recycling:** Information was gathered and distributed on what materials can be recycled in Fiji and how this can be done.
24. **Sigatoka Rubbish Dump:** This is proposed to be relocated from next to Fiji's only National Park at the town entrance to a more remote location. This is planned for 2005.

Water Pollution

Interestingly, a number of new actions were formulated and carried out in response to findings from the scientific surveys and local observations.

25. **Promoting the use of low-phosphate products:** This is being done in both the villages and hotels for use in cleaning and washing activities.
26. **Upgrading of hotel Sewerage Treatment Plants:** Efforts have been made to encourage the hotels to upgrade their sewage treatment plants so as to reduce input of nutrients into coastal waters from hotels. The Hideaway Resort has recently upgraded their wastewater treatment to tertiary.
27. **Survey of the standard of wastewater treatment of hotels:** As part of a JICA funded study which investigated the standard of wastewater at hotels in Fiji in 2004, Coral Coast hotels were visited and had their effluent analysed to determine the standard of their wastewater treatment. Most of the smaller hotels utilized septic systems, two were connected to the Sigatoka municipal sewer while others ranged from good standard of treatment to very poor standard of treatment.
28. **Visit by wastewater experts:** In May 2004, Art Gold of the University of Rhode Island and Chris Tanner of the National Institute of Water & Atmospheric Research visited the Coral Coast to determine options for village level sewage treatment. They reported that villages as compared to hotels could be responsible for the highest proportion of nutrients in the coastal waters due to their sewage system. A second nutrient source in villages were the piggeries because of their location close to or over water and because the nitrogen waste from pigs is around 3 times greater than that by a human. They also provided options for wastewater treatment at the village level, piggeries, and small resorts. As a result of this visit the following will be tested:
 1. A small-scale wastewater treatment plant at Crusoes Retreat that would link septic tanks together.
 2. In a village, a proper septic tank with a wetland as an add-on to remove nutrients.
 3. For piggeries a demonstration composting piggery where sawdust is used to absorb the waste on the floor of the piggery. It is then removed and used as manure.
29. **Piggery Awareness and Actions:** Maikeli, a Peace Corps Volunteer from the Nadroga Provincial Office has conducted surveys to record the number and location of piggeries along the Coral Coast. He has also advised villagers on the need for proper management of the piggeries such as relocating them away from waterbodies or trialing composting piggeries.
 - The South Pacific Commission also is involved in a piggery project that looks at appropriate waste management for piggeries. As part of this project Votua village is relocating some of their small piggeries to a large piggery constructed inland away from creeks and utilizing fish ponds in the treatment of the waste.

Figure 6. Example of a village piggery discharging waste directly into a creek



30. **Discussion with Public Works Department to extend sewerage and water piping** to include the Coral Coast under the upcoming project to extend the sewer system at Sigatoka.
31. **Composting toilets for villages:** Peace Corps Volunteers from Komave and the Nadroga Provincial Office have constructed a demonstration-composting toilet at Komave. The toilet does not use water and requires leaves or grass to be put in it after it is used. All the wastewater goes into a wetland. If this works well it could be used in other villages as well. Another model has been built in Rewa since a Peace Corps volunteer is located there to monitor performance.

Reflections and lessons learned to date:

A number of new activities were carried out to address this issue, reflecting the adaptive nature of the ICM Initiative.

- The issue of water pollution generated by hotels has been a longstanding concern in the Coral Coast, as well as an ongoing source of conflict between villages and developments. Hotels are concerned about the impacts of village settlements on environmental quality, and villages are worried about the effects of wastewater and other pollution from hotel projects. Fiji at present does not have a formal set of tools to address water pollution such as water quality goals for fresh and marine water bodies, regulatory standards, assessments of impairments of water bodies, waste load allocations and technical proposals to ensure that goals are met related both to human health and ecological productivity. The Environment Management

Bill will take important steps in providing the legal foundation for regulation, however, work in the ICM has already shown that pollution problems are generated in unique local patterns.

- The collection of detailed information, for example, on nutrient levels and further assessment of the sources in more detail has led to understanding of the complexity of the situation and led to appropriate measures identified as candidate solutions. One finding is that piggeries are a major contributor to nutrient pollution on the Coral Coast.
- For villages, the lack of proper septic tanks and leaching fields is a concern. Proper systems that require careful design and installation and are most economically affordable are urgently needed as homes convert to flush toilets. There is currently no law or regulation or list of preferred systems for treating wastewater in villages thus the search for solutions remains in a voluntary mode. However, some villages and homeowners are likely to adopt a new approach if there is a technically sound demonstration that a particular approach will perform as intended.
- Financial support for demonstrations of integrated rural wastewater disposal systems is required. This needs to be discussed at the National level, since the problem is not unique to the Coral Coast, the benefits of improvements reach beyond the villages themselves to include keeping the region attractive for tourism and to mitigate potential disease from epidemics.
- Few resorts in Fiji meet the minimum standards for wastewater treatment.

Issue 4: Conflicts Over Natural Resource Use

Nature of the problem

The absence of cross-sectoral planning at both the national and local level has led to conflict among coastal resource uses along the Coral Coast. For example the conflict between tourism and coral harvesting activities and conservation and coral harvesting activities as a result of the degradation of coral reefs caused by coral harvesting. Also of concern is the lack of vertical planning between national agencies and the provincial and tikina levels in ensuring that local levels are informed and consulted when permits or decisions in regard to development activities within their coastal areas are made at the national level. This had led to conflict between hotels and villages in some instances. Another example is between hotels and villages over what fishing rights owners perceive as degradation to their fishing areas as a result of pollution from hotels. Currently hotels use fishing areas at no formal cost as they officially belong to the State.

Conflict on the management of marine resources within resource owning institutions also exists e.g. within one tikina as a result of some members choosing to exploit the reefs for economic gain and others wanting to stop the activity and use the resources in a sustainable way.

Coral Coast Action Plan Proposes to “increase the dialogue among conflicting users to foster cooperation”. Two main actions were recommended to reach this goal:

Action	Lead Organisations	Priority/ Time frame	Tasks carried out
4.1 Hold regular meetings between stakeholders and resource owners:	IAS and Nadroga Provincial Office	High/ short term	32, 33, 34
4.2 Conduct training in conflict resolution	IAS, Provincial Office (to be set up)	Lower, long term	

Coastal Management Activities Carried Out in Support of Goal 4 include the following:

32. **Stakeholder Discussion on Cultured Rock and Live Rock Harvesting on the Coral Coast:** In May, 2004, a stakeholder discussion was held to clarify the proposal of a cultured rock project in Conua Tikina and discuss aspects of live rock harvesting and impacts along the Coral Coast. All the relevant stakeholders attended providing a good opportunity to exchange information and clarify any issues of concern between NGOs, Walt Smith Intl., the Provincial Office and Tikina representatives. (see Issue 1)
33. **Discussion between Hotels and Villages related to Pollution of Marine Environment by Hotels:** Discussions between hotels and Tikina reps have been held at Coral Coast ICM Meetings regarding this matter with the health inspector present as well as discussions held by IAS with Warwick Hotel on the relocation of their sewerage piping.
34. **Consultation between Local Authority, Coral Coast ICM Committee, National Departments and Tikina in relation to coastal development** has been carried out in some instances in order to clarify to Tikinas the approvals or decisions made regarding specific coastal developments.

Reflections and Lessons Learned

- The provision of a forum through ICM for stakeholders to discuss an issue causing conflict is extremely useful in clarifying specific details, reaching some consensus on steps to solve the issue and follow-up actions. In a case related to foreshore development the process led to stop notice of the development till additional information and assessment was carried out. In some cases it also leads to improved relationships and understanding between stakeholders with differing ideas.
- A priority is to build capacity at the local and national levels using appropriately designed programs and materials in negotiation and consensus building.

Issue 5: Lack of Human Resources and Funding

Nature of the problem

To undertake coastal management work additional funding sources for activities need to be found as well as capacity building at the provincial and Tikina level. For the provincial office to be able to be fully active in the implementation of ICM activities and to take the lead in the future these are critical issues that need addressing.

Coral Coast Action Plan Proposes to “To obtain funding for coastal management work and increase capacity”. Two main actions were recommended to reach this goal:

Action	Lead Organisations	Priority/ Time frame	Tasks carried out
5.1 Training of fish wardens, environment committee reps	Fisheries, Hotels to fund training (needed in Komave)	High/ long term	38, 40, 41, 42
5.2 Set up of Trust Funds	IAS	Lower/ long term	
5.3 NEW Other activities			35, 36, 37,

Coastal Management Activities Carried Out in Support of Goal 5 include the following:

35. **Funding of Tourism Interpretation Project by NZ Aid:** Funding for the project to increase tourism earnings to local villages by establishing nature and cultural related tours in 8 villages is being provided by New Zealand Aid.
36. **Funding for commercial piggery project from Australian Aid.** Funding has been obtained by the Provincial Office through Australian aide funding for the set up of large commercial piggeries in a few villages along the Coral Coast.
37. **Funds for Tikinas through Hotel Activities.** One of the resorts, the Hideaway Resort, is assisting the nearby Tikina to conserve their marine resources through the sharing of fees obtained from tourists to take part in coral walks and coral planting organised by the hotel.
38. **Fish Warden Training for Korolevu-I-Wai and Komave Tikinas:** Fish warden training to assist in enforcement of the LMMA tabu areas was carried out by the Fisheries Department in the above Tikinas in 2003.
39. **Establishment of Peace Corps Volunteers:** Peace Corps Volunteers have been established at the Nadroga/Navosa Provincial Office, Komave Village, and Sigatoka Agricultural Office to assist with environment related work and ICM activities.
40. **Attendance of Provincial Office staff at a Gender and Population Workshop in the US:** In February 2003, Erami Seavula from the Nadroga Provincial Office together with Lavenia Tawake from IAS attended a one week workshop at the University of Rhode Island on how to incorporate gender and population issues into ICM. This formed the basis for future events with communities and at the national level.

41. **Attendance of Korolevu-I-Wai Environment Committee Head at 2004 Summer Institute in Coastal Management in the U.S:** In June, 2004, Ratu Timoci Batirerega, the head of the Environment Committee of Korolevu-i-Wai went to the University of Rhode Island in the U.S for a one month long training course in coastal management. He went with representatives from the Ministry of Fijian Affairs and Lands Department and is using the knowledge to improve management of coastal area of his Tikina.
42. **Training of community reps in coral reef monitoring:** A few villagers along the Coral Coast have undertaken the month-long course by Coral Cay in how to conduct scientific coral reef monitoring.

Reflections and Lessons Learned

- The importance of having committed, capable people in place at the local level cannot be overstated. They offer an immediate, credible response when concerns come up locally, and provide a continuing ability to organize meetings, engage in actions and prepare for workshops. This is as true for the provincial and Tikina level. The big challenge is how to find, cultivate and support this leadership, and ensure that they are given more status for their work.
- Improving the skills of existing local leaders yield big payoffs. If provincial and local leaders were able to go for external training at the beginning of the project, this would give an even better result. Courses and events like the URI Summer Institute offer prestige, intense immersion into topics and skills, and are highly motivating for individuals. They return to positions where they can directly carry out the ideas they learned that are most relevant.
- More skill building is needed for local leaders on basic social organizing skills. The Ministry of FA conducts an ongoing program to improve the social leadership skills of provincial and village heads. ICM has not had a major role in these training modules (although LMMA modules and staff have been used), but it seems that more could be done here. In fact, a prestigious, higher profile training event held for village leaders in Fiji could have much the same impact as the external training events in ICM has had on USP, national and local participants. The big challenge is to determine how much of this effect could be generated by an in-country course.
- The placement of Peace Corps volunteers in strategic places such as Provincial Office and villages can greatly assist with implementation of ICM activities and increasing capacity at the local level.
- The ICM Initiative has shown considerable agility in attracting complementary resources to carry out the Action Plan. The development of even a simple action plan that identifies issues of concern and possible actions and a supporting implementation framework for projects makes it easier to obtain additional funding through other sources. As the effort has become more complex, it is very important to update and extend the Action Plan to maintain

transparency and accountability with stakeholders, and to keep things organized to avoid duplication of tasks.

Issue 6: Lack of Planning and Coordination

Nature of the problem

The Coral Coast area is made up of various stakeholders that all have interest in the utilisation and management of coastal resources. However, there is no formal mechanism existing that brings all these stakeholders together to discuss issues of concern and collectively plan for the use and management of the Coral Coast. In addition, there is no one agency that is seen to take the lead in the coordination of this due to the fact that many agencies are responsible for different aspects of management of coastal areas.

Coral Coast Action Plan Proposes will “achieve better coordination and cooperation between all stakeholders and be able to plan with maximum input of stakeholders and local community”. Three main actions were recommended to reach this goal:

Action	Lead Organisations	Priority/ Time frame	Tasks carried out
6.1 Develop a Two year Action Plan for ICM	Coral Coast ICM Committee	High/ short term	43
6.2 Integrated meeting of all stakeholders	IAS and Nadroga Provincial Office	High/ short term	44, 45, 46
6.3 Regular newsletter	IAS	High/ short term	47

Coastal Management Activities Carried Out in Support of Goal 1 include the following:

43. **Draft Action Plan for ICM on the Coral Coast:** Developed at the ICM Planning workshop in April 2003 at the Fijian Hotel where over 40 participants representing the major stakeholder groups discussed the various coastal issues, causes and strategies to address them.
44. **Workshop on Existing ICM activities:** A one-day workshop was held in June 2003, on ICM related activities along the Coral Coast. The workshop was hosted by the Nadroga Provincial Office and the Sigatoka Town Council and presentations were made by the various stakeholder groups on what projects they were carrying out prior to the ICM initiative
45. **Set up of Coral Coast ICM Committee:** Integrated meetings of stakeholders are held regularly, every 2 or 3 months, at different venues to discuss the implementation of ICM activities. This includes updating all parties on the various activities including developments being carried out on the Coral Coast and the discussion of any other issues of concern. While

not a formally recognized coordination mechanism, many of the follow-up steps carried out to address the issues in the Action Plan have been reviewed and agreed upon through the committee.

46. **Linkage of Coral Coast ICM Committee to National ICM Committee:** Issues of concern that cannot be addressed at the local level are then reported at the National ICM Meetings. Their advice and information is taken back to the Coral Coast ICM Committee providing some linkage between planning at the national and local level.
47. **Coral Coast Newsletter:** A Coral Coast ICM Newsletter was completed in English and Fijian in 2003 and was distributed to the various committee members and villages along the Coral Coast. It included a summary of project and its goals, an update on activities and list of planned future activities.
48. **MOU with the Nadroga Provincial Office:** IAS and the Provincial Office signed a MOU that allows provincial office staff to assist with implementation of ICM activities at the local level.

Reflections and Lessons Learned

- The Coral Coast ICM Committee is a voluntary membership group and not yet a formally appointed body charged with specific roles and responsibilities by corresponding higher authorities. Its voluntary nature poses a challenge in achieving the regular involvement of important stakeholders such as hotel owners and operators, who may view the ICM committee as mainly a sounding board of local concerns and complaints, some aimed at the hotels, rather than a useful mechanism to reach agreements on controversies of importance to them. It is important to review the question of whether this body should become formalized in some way so that it can act as a more permanent tool for management in the Coral Coast.
- The meetings act as a mechanism that allows national authorities, hotels and NGOs to hear and interact with local leaders to both keep each other informed of developments, policies and projects, and to discuss specific topics of concern in an open, facilitated process. It also has proved to be a collecting point for information being gathered by a variety of activities on the Coral Coast.
- The Coral Coast experience has clearly demonstrated that involvement of women in ICM leads to greater success and greater implementation. The special effort to involve women has led to greater awareness of issues, higher level of interest and involvement. It has also helped the ICM initiative gain a different perspective on what is important at the local level, for example waste management concerns have come to the fore, and projects related to implementing solutions have been implemented more quickly. The LMMA projects are also now incorporating techniques to engage women directly as well as incorporate their concerns in LMMA action plans.
- Active involvement of the Provincial Office has proven beneficial and needs to be increased. Provincial office staff may see ICM activities as part of their current work responsibility and involve themselves in the initiative, while others may require a clear mandate from the

national level, in order to feel authorized to spend the time required to engage in ICM related work. Unfortunately, this national mandate from the FAB was not achieved because of the nature of the Fijian Affairs Board, which does not endorse or enter into agreements with specific initiatives of this type. Thus in reality, the Provincial Offices do in some way act independently of the national organisation in many instances. The Ministry of Fijian Affairs is also undergoing a merger with the Ministry of Regional Development, which has absorbed much of its attention at the national level.

- Getting everyone involved and committed to the initiative takes time, and unfortunately a “project” has its deadlines and is always on a tight schedule. It would be worth reviewing the different actions carried out to date to see how much time it really takes to do the job properly, and whether there are lessons learned as well about how to be more efficient.
- Reaching agreement with NGOs and other organisations operating in an area is important. ICM needs to be understood as a coordinating, supportive planning initiative. This implies that eventually formal agreements may be needed among the different groups carrying out work in an area. It also highlights the importance of Provincial office or other relevant group in chairing and leading coordination committees to minimize the ‘competition’ among groups trying to play a role in helping the villages and the province. Activities would then be organized as part of an overall program that has been developed with local and provincial guidance and approval. It is not yet clear what it will take to achieve this level of coordination and commitment from the provincial office.

Issue 7: Unsustainable Development Practices

Nature of the problem

As already mentioned, many of the environmental and social problems that exist are partly due to the lack of appropriate and effective legislation and policy. Examples are the lack of legislation requiring an EIA for development projects, the lack of a national policy to control and monitor coral harvesting, lack of legislation controlling pollution into the marine environment and lack of village regulations. Better enforcement is also required of existing regulations such as those on littering and the set up of illegal dumpsites.

A variety of issues result as a consequence of poorly planned development. These include poor coastal water quality and inappropriate waste management as described earlier and others such as coastal erosion and flooding and even crime. Coastal erosion is a serious concern for the villages along the Coral Coast, especially for those east of Sigatoka. All villages except Namada and Korotogo, both of which have the highway between the village and the shore, indicated that coastal erosion was a major problem especially during storm surges. These storm surges damage existing seawalls, wash away houses, and cause extensive erosion of shoreline. Human-related causes of erosion include building too close to the shore, construction of vertical seawalls, removal of beach sand, and removal of mangroves.

Flooding during heavy rains is another major concern of the villages along the Coral Coast. In two villages, Vatuolalai and Korotogo, the construction of the Queens Highway has contributed

to the flooding in the village. In Korotogo the road is higher than the village and inappropriately constructed culverts lead to flooding in the village during heavy rain.

The level of crime in areas along the Coral Coast has increased over recent years. As a result of the increasing crime a police post was built in Korotogo.

Coral Coast Action Plan Proposes to “achieve appropriate and well planned development along the Coral Coast”. Three main actions were recommended to reach this goal:

Action	Lead Organisations	Priority/ Time frame	Tasks carried out
7.1 Establish a committee on Sustainable Development along the Coral Coast	ICM Committee	High/ short term	49, 51
7.2 Enforcement of existing regulations	Rural Local Authority	Lower/ long term	50, 52
7.3 Establishment of forest parks and MPAs	IAS		

Coastal Management Activities Carried Out in Support of Goal 7 include the following:

49. **Consultation between Rural Local Authority and other stakeholders in relation to new development projects:** Discussions have been held at Coral Coast ICM meetings with Rural Local Authority present in relation to EIAs and permits for new developments.
50. **Regular checking of hotel practices by health inspectors:** The health inspectors continue to and most probably have increased their frequency of visits to hotels.
51. **Coordination between Coral Coast ICM Committee and National Departments on development projects:** Through the ICM initiative IAS has been able to obtain information on development projects to be carried out on the Coral Coast and pass this information on to Coral Coast ICM committee.
52. **Assistance by hotels in combating crime.** The hotels in the area have made important contributions to the enforcement side in providing funds for a vehicle Tourism Patrol for Coral Coast.

Reflections and Lessons Learned

- The Rural Local Authority plays a more important role in ICM at the provincial level than initially appreciated. Having a committed ‘local authority’ has proven to be an important factor for success in terms of monitoring of development activities at the local level. Outside of villages, they are the designated regulatory official who can make inspections and initiate legal actions. This is of particular importance on the Coral Coast, where the issue of pollution is the critical issue and not fisheries. The Rural Local Authority is also important in providing the link between national planning and local level planning since they are responsible for carrying out regulations of the Ministry of Health and Department of Town and Country Planning.

- The Coral Coast ICM committee has found that there are some issues related to development which need to be dealt with at the national level, for example comprehensive solutions to water pollution from sewage, issuing permits for rubbish dumps, and coral harvesting, a practice they would prefer to see banned. This indicates the importance of establishing a formal link to national level authorities.
- With current controls and legislation it is doubtful that additional hotels should be built on the Coral Coast.

Issue 8: Lack of Alternative Income Sources

Nature of the problem

The major obstacle in convincing villagers involved in coral harvesting industry to switch to other sources of income is that the alternatives such as working in the tourism do not provide as much money. In addition, the hospitality skills required to work in the hotels are often lacking among those seeking employment.

Coral Coast Action Plan Proposes to “provide income sources in order for the village needs for basic services and infrastructure are met.” Two main actions were recommended to reach this goal:

Action	Lead Organisations	Priority/ Time frame	Tasks carried out
8.1 Development of community farming, aquaculture etc activities	IAS and Agriculture	High/ longer term	55, 56
8.2 Initiate small ecotourism businesses and tourism interpretation	IAS, USP Tourism Department, Hotels, Ministry of Tourism	High/ longer term	53, 54

Coastal Management Activities Carried Out in Support of Goal 8 include the following:

53. **Hospitality training:** To increase employment of local people in the hotel industry, hospitality training for the villagers of Namada and Vatukarasa has been conducted by the Training and Productivity Authority of Fiji together with the Nadroga Provincial Office twice in 2004, in January and June. The training allowed the villagers to have skills so that they may be able to get jobs in the nearby hotels, which have agreed to hire such people for a three-month trial period.

54. **Community-based ecotours:** 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. The main aim of this is to increase tourism earnings to the local villages. The first phase of the study has been completed where villages and hotels were visited to determine what type of tours would be successful. Implementation of the project

should commence in 2004 and will rehabilitate existing attractions as well as create new village-based ones. A number of rigorous steps are required to identify and design enterprises that have the support of communities, are feasible from a market perspective, and can be done at a level of quality that meets visitors needs and expectations.

55. **Commercial Piggeries:** The option of establishing large scale commercial piggeries with appropriate waste management are also being investigated by provincial authorities with funding already obtained to construct in a few villages.
56. **Planting of cultured rock in i qoliqoli areas of Tikinas.** 5000 pieces of live rock have been planted off Tagaqe village to be later harvested and sold to Walt Smith Intl to provide income. This is funded by Georgia Tech University.
57. **Local Agriculture and Hotels:** A national committee has been set up to explore ways that local farmers can play a greater role in supplying food to hotels.

Reflections and Lessons Learned

- There is in general, considerable common ground in the idea that livelihoods that depend on environmental and cultural attractions will create an ethic of stewardship of those resources.
- While there are many benefits of such small scale projects, as well as ideas such as a commercial piggery and better training for local people to work in hotels, the question remains whether those that will be displaced by the ban on the lucrative coral extraction trade will specifically benefit from these alternatives, or is it enough simply to keep working on improving the number of economic opportunities for the village.
- The question of providing supplementary incomes through training and small enterprise development also becomes a national matter, since there are programs at this level that could potentially benefit small business and livelihood development that had a Coral Coast conservation objective.
- One of the risk factors for well-intentioned and good-sounding livelihood options is their actual economic and commercial viability. This risk is being mitigated in several of the activities due to the involvement of successful commercial ventures such as hotels and firms such as Walt Smith International. Donors such as NZAID conduct rigorous reviews of the viability of projects they consider for funding.

Issue 9: Lack of Assessment and Information

Nature of the problem

Specific information required for planning and management of coastal resources of the Coral Coast is lacking or where available is not consolidated in a way that it is easily accessible for decision-makers at the local levels. In addition, little applied research and assessments have been carried out in the past.

Coral Coast Action Plan Proposes to “acquire and use best possible information for decision-making wherever possible involving the local communities”. Two main actions were recommended to reach this goal:

Action	Lead Organisations	Priority/ Time frame	Tasks carried out
9.1 Establish a Tikina based committee to monitor, assess and evaluate areas of development	Provincial Office	High/ short term	67
9.2 Identify areas or issues which need assessing	Provincial Office (coastal erosion already identified)	Lower/ long term	58, 59, 60, 61, 62, 63, 64, 665, 66

Coastal Management Activities Carried Out in Support of Goal 9 include the following:

58. Collection of Baseline Information on the Coral Coast: In 2003, IAS obtained existing information on the Coral Coast. This included topographic and fishing ground maps, land use maps, forestry maps, as well as population, health and climate information for use in planning and decision making. Relevant legislation for example the Fijian Affairs Act and the draft Public Health and Pollution Control Bill were also obtained. The maps will be provided to local institutions as needed and other information to be compiled in accessible format.

59. Development of GIS Maps: IAS together with SOPAC (South Pacific Geoscience Commission) and MRD (Mineral Resources Department) also bought an IKONOS satellite image of the Coral Coast. In early 2003 fieldwork and training were undertaken to georeference and rectify the satellite image in order that GIS maps could be developed. GIS maps of the Coral Coast are currently being completed by a postgraduate student at IAS showing land tenure, forest cover, geology, villages and hotels, district boundaries and population information.

60. Monitoring of Nutrient Levels and Faecal Coliform Levels along the Coral Coast: Monitoring of the levels of nutrients in river and coastal water along the Coral Coast has been undertaken by IAS since 2002 and is continuing. The research indicated high levels of nitrates and phosphates that can affect coral reef health particularly near villages and large hotels. The main source of these nutrients are thought to be from human and animal waste (e.g. from sewerage and pigpens), and the use of detergents. In 2004, monitoring of faecal

coliform levels at a number of sites was also carried out indicating higher than recommended levels for bathing in some sites particularly near villages, settlements and piggeries.

61. **Monitoring of Replanted Mangroves:** Monitoring of replanted mangroves was carried out by IAS in Korotogo in December 2003 to determine the success of the activity. Information collected included number, height, diameter, survival rate, and presence of fauna, and soil and water conditions. Further monitoring at other sites and repeated at Korotogo is to be carried out.
62. **Socio-economic and population surveys:** In October 2003, the socio-economic and population baseline for one of the districts, Korolevu-i-Wai was carried out together with the LMMA socio-economic survey. All households in the 4 villages were surveyed. Questions were added to the LMMA survey form to include migration and gender information. Surveys of other districts are planned for future.
63. **Coral Reef Monitoring:** Coral Cay Conservation, conservation group from the U.K. which does scientific monitoring of coral reefs, started surveys in August 2004 on the Coral Coast and have done 100 transects from Namatakula to Tagaqe. By December they will complete the reef surveys up to Sigatoka. Information they collect will tell us about the health of the reef areas and includes amount of live coral, amount of algae, abundance of different types of fish and invertebrates and others information within each i qoliqoli area.
64. **Monitoring for Impacts of Harvest of Live Rock:** Monitoring of the i qoliqoli areas being harvested for live rock is being carried out by IAS in Namada, Vatukarasa and Malevu. This will give us information to monitor for any impacts and ensure that the harvest is not detrimental to the reef. This activity is being funded by Walt Smith Intl as part of their CAMP (Collection Area Management Plan).
65. **Studies on Coastal Erosion:** Postgraduate students at USP are currently collecting information on the amount of beach erosion at the villages of Tagaqe and Votua using beach profiles and on long-term changes in the coastline for the whole Coral Coast using aerial photos and GIS.
66. **SOPAC EU Study:** The Coral Coast area is included in the focus area for Fiji of their EU Project "Reducing Vulnerability of Pacific ACP States". The focus of the project is the production of GIS type information such as land use boundaries, roads, population, beach profiles, coastline changes, water quality, bathymetry etc for use by decision-makers. The first SOPAC EU project consultation workshop was carried out in July 2004 in Sigatoka.
67. **Information** on the various issues which has already been collated has been distributed to various stakeholders including the Tikina committees, Nadroga Provincial Office, government officers and others through the Coral Coast ICM Committee.

Reflections and Lessons Learned

- A key challenge is how to get good information from national authorities on pending decisions that will affect people and the environment at the local level. For the most part, local people have no formal role in development decisions. Having a better idea of what is likely to be proposed will help greatly in allowing Tikinas to prepare their local development strategies. For example, Town and Country Planning and the Lands Departments may be reviewing developments that have not been mentioned or discussed locally. The Naviti sea wall question is an example, as local people are worried about the impacts of a reconstruction and extension of a sea wall.
- In some cases, by using technical information gathered through studies and monitoring, local concerns can be articulated through the ICM initiative and represented to authorities or developers in a constructive way that leads to identifying solutions. In other instances, the research and analysis carried out through the ICM project is reframing the debate about major issues. For example research found that piggeries and domestic sewage from villages are the primary sources of excess nitrogen to the coral reefs, which is promoting the unhealthy growth of sea weed on the reefs.
- Finally, it is proving far more feasible to carry out some of the information gathering and technical research work as a collective, rather than on an individual, case by case basis. High priority topics such as appropriate shoreline development practices for villages, hotels and other major developments could take the Coral Coast experience on coastal erosion into consideration within national level decisions. Research on regional experience in solving the problem of piggeries and village sewage disposal, including demonstration projects and creating a list of tested, effective methods, will benefit stakeholders at many different levels.

CHAPTER 3. OVERALL REFLECTIONS AND LESSONS LEARNED FROM CORAL COAST EXPERIENCE AND THE FUTURE DIRECTION OF ICM IN FIJI

Through the trialing of ICM on the Coral Coast valuable lessons are being learned on the advantages and disadvantages of the approach, problems faced and ways to adapt the process to the larger Fiji context. As Chapter 2 detailed, 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.

This chapter aims to draw out some broader observations and lessons from the efforts so far in the Coral Coast, identifies some of the help required from the national level that would enhance the local effort, highlights implications for addressing ICM issues that can only be fully resolved at the national level, and describes the possible future direction for ICM in Fiji.

3.1 Broader observations from the Coral Coast Experience

Useful questions to ask about an experience in coastal management include: “if you were to do this over again, what would you do differently?” or “If a new area came looking for advice on how to get started, what is your best advice?” The following are some initial observations.

Participatory Approach: A participatory approach with communities and districts is essential for getting started, regardless of the specific issues of concern. It is important to begin with this core process before extending the work to other stakeholders and other issues in the area. One of the important starting points is that a prior expression of interest is required. Pressing needs and issues also have to be present in the situation. The early LMMA sites, upon which the ICM work in the Coral Coast builds, were chosen precisely because villages were experiencing specific problems and seeking help. Adjacent districts that may also have a coastal problem from a technical viewpoint, will take the time to observe the coastal management process as it unfolds in their neighbor’s case, and then decide to ask for more information and start to engage as they themselves perceive the issue more clearly. Awareness by itself is not a sufficient reason to launch ICM type actions.

Patience is rewarded, haste is not. It is essential **to take the time needed to observe and respect the cultural protocols** in introducing and carrying out an ICM project, and these may be different for each site. It is equally important to do the indicated follow up at each step. In one district, the LMMA consultation process took a full year and involved various levels including the Tikina and Vanua. This consultation process built internal consensus and proved to be efficient in the long run. However, once a wide group of stakeholders are involved such as government and hotels the luxury of time is limited. By contrast, in another situation, appropriate consultation at the highest local level did not take place, thus the participation by certain districts did not eventuate as they did not have a clear signal of support from this high level leader.

The *presence of capable local organisations to help carry out the work is also essential*. ICM in the Coral Coast is supported and enacted by many organisations and active individuals. While capacity building is an important goal in an ICM project, it needs to build upon a foundation that is already in place to some extent. Assuming this condition is met, **attention has to be paid to capacity building** prior, during and after the ICM project is started. Capacity building will continue to be a priority for the Coral Coast, and would need to include training and support for village and Tikina leaders and their environment committees, but also should include leaders of active NGOs as well as municipal and provincial staff and leaders.

Support from outside groups and organisations are part of increased capacity. At the national level there are three groups of note that continue to make important contributions in the Coral Coast. In **government**, the level of interest among existing officials has increased. As a result, more time is spent helping in integration activities such as meetings, discussions and initiatives that support ICM, particularly with reference to the Coral Coast. In the **academic sector**, more post-graduate students are involved in projects...this reflects a steady commitment. In addition, the new presence of Peace Corps Volunteers focused on coastal villages is increasing the number of complementary projects underway. In the **NGOs**, the commitment to carrying out specific actions in the coast has remained about the same, but the amount of effort put in work integrating their projects with other activities has increased, which is a very welcome development. This is an especially important since the benefits that accrue to communities when donors and supporting groups cooperate in terms of quality, accountability and efficiency far outweighs the trouble involved in achieving this coordination.

Move from voluntary to formal agreements. The Coral Coast Action Plan was prepared quickly as an aid to setting priorities and guiding the work of the ICM initiative, and served its purpose as Chapter 2 demonstrates. As confidence is built to demonstrate that ICM is mainly about solving problems and setting as well as achieving specific results, there is a need to more carefully document and affirm consensus on the findings of fact, mitigation measures and required policies. These agreements need to be codified and mainstreamed into the work programs, budgets, regulations and programs of the local, provincial and national levels to assure continued commitment to their implementation and to resolve disputes about their meaning and validity. While there is no one clear legislative or administrative home for the Coral Coast Action Plan, preparing a model document with many of the desired attributes could serve Fiji and the Coral Coast well as new environmental laws and administrative arrangements emerge over the next 2 to 5 years. This would also help mainstream the work into government and strategic plans rather than continuing to be dependent on university and foundation funding.

3.2 Lessons Learned Related to the ICM Initiative in General

Initial Capacity: Training, including external training of teams as a diverse group from different agencies, is successful in increasing knowledge, improves the quality of interaction, makes it easier to organize events when the team returns to Fiji, enables addressing controversial subjects in a more constructive way.

Regular, informal contact pays off. The regular consultation and exchange that has taken place in the national meetings has had an important payoff in many specific instances where help was needed in the Coral Coast. In addition, the Ministry of Tourism organized its sustainable tourism group, and the Ministry of Health formed a wastewater group to follow up on special topics. The national working group has formed a subcommittee on coastal development to review the planning process in Fiji, examine other international experience, and work toward a consensus on needed improvements.

Agency commitments have increased and deserve to be acknowledged and supported. The Town and Country Planning Agency has gone through a change in personnel and this has led to stronger criteria for the review of coastal developments. The challenge is to have guidelines that have solid technical justifications and which have also been publicly reviewed so that issues and practices of priority concern in the Coral Coast, for example, are reflected in national decision making.

Access to reliable information has benefits for all, and will require a concerted effort to reach its full potential. A standard practice of the Coral Coast ICM initiative is to share information, and to cost-share with other agencies in groups to gain access to satellite imagery, for example, that neither group can afford on its own. More needs to be done to consolidate this growing information base, including electronic access by the many technical support groups, and for access in summarized or locally formatted versions to meet specific local needs and support the work of the growing number of environment committees and trained local leaders. There are also stores of information that would be beneficial for coastal management at the local, area wide and national levels that are not readily available.

Several national developments favor a major effort to improve information access. These include the impending adoption of the national environment bill, which calls for a nation-wide natural resource inventory and monitoring, the planned merger of the Ministry of Fijian Affairs and the Ministry of Regional Development, the eventual implementation of a new *i qoliqoli* policy that puts village leaders in the position of making important decisions about fisheries resources, and the overall challenge of coordinated decision-making on major developments. The case of the Coral Coast can shed light on how best to approach this challenge.

3.3 Implications for the future development of ICM in Fiji

The experience of the Coral Coast raised a number of pertinent questions for national level discussion on a variety of different issues whose solution cannot be achieved solely at the local level and that could be seen as future directions of project.

Environmental Sanitation and Water Quality

A case in point is rural sanitation related to water supply, wastewater disposal and solid waste. This was identified as a key concern in the Coral Coast Action Plan and subsequent work has verified and extended its importance. From a national perspective, a number of questions emerge:

- The need for legally enforceable water quality standards that reflect the specific use goals of a rural area as well as appropriate water quality criteria that would protect those uses?
- Can there be a nationally tested and endorsed list of acceptable wastewater collection and treatment techniques for large developments as well as villages?
- Who will take responsibility for setting out wastewater management plans for specific basins that are environmentally effective and economically feasible?
- Can in some cases installations be financed at least partially at the national level to protect water bodies of ecological and economic importance?
- How can quality control and appropriate placement and functioning be assured in the construction of approved systems, given the variability in physical conditions such as soil, hydrology, slope and preexisting infrastructure, along the coast?
- Who is responsible for monitoring of the impacts and benefits of the installations, as well as vigilance that work approved has been carried out as intended?

Coastal Development Planning at Local Level

Coastal villages need development plans that can help leaders steer their communities toward appropriate coastal and land uses, and put them in a better position to take advantage of national programs that support economic and social development. It would also put village leaders in a better, more knowledgeable position when dealing with larger scale projects that are of national importance and are primarily regulated at the national level. One relatively simple approach is to identify coastal features and their vulnerabilities, and categorize them according to appropriate use, both generally in the form of use zones that focus on the water, shore and adjacent upland, and acceptable uses within those zones.

Coastal communities in the Coral Coast, for example, can work with national authorities to prepare a model community development ordinance that can be adapted to local circumstances. This model would include design, siting and construction good practices that recognize the unique circumstances of coasts.

Strengthening of the village administration system and planning is a possible future direction of the ICM initiative. 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.

Coastal Development Planning at the National Level

Another issue 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. Discussions at the national level have concluded that the process of coastal development approvals need to be improved and that increased coordination amongst sectors at the national level is needed and wider consultation with local level in planning for coastal development. The national coastal development sub-committee will pursue these issues.

Interactions between national agencies and local communities to test policies for coastal resource use decisions .

Planned agency mergers and pending environmental legislation will change the regulatory and decision-making landscape at the national level. Experience to date has demonstrated the value to villages and provinces when national officials engage in and follow up on local issues within the context of a coastal management initiative. Many uncertainties surround how Fiji will implement new programs and where local needs and views can be expressed. A well established initiative such as the Coral Coast offers ample possibilities for exploring the mechanisms and approaches that might work best.

3.4 Pending Legislation Reforms

More than two years after the National ICM Workshop of 2002, Fiji is perhaps closer to, but still has not enacted a much anticipated framework-enabling legislation that would provide it with a better complement of institutional resources for successful environmental policy, planning, regulation, and implementation.

Key among the pending laws and administrative changes is the Environment Management Bill which has undergone several revisions since its introduction as the original "Sustainable Development Bill" put forward by the Department of Environment. This Bill as currently would create a formal legal framework for conducting environmental impact assessments (EIA). The Environment Management Bill that is expected to soon be passed by parliament will include EIA and pollution legislation.

Table 3. Specific provisions of the EIA Bill that are of importance to ICM in Fiji include the following:

PROVISION OF EIA BILL	ICM Aspect and commentary from Coral Coast and ICM Project perspective
National resources inventory	Ensure that coastal resources are identified and incorporated
National resources plan	Ensure that there is a coastal element to the plan (an earlier draft of the bill called for a separate ICM plan) The National Environment Council can “appoint a committee for coastal zone management to prepare a coastal zone management plan” Part II 8 (3)
Criteria and guidelines	Identify major types of coastal developments and the vulnerability of different coastal features as part of setting; where possible, make the criteria specific to those features and systems including coastal engineering; where feasible provide guidelines that encourage developers and villages to follow best practice models, rather than merely list general restrictions.
Projects requiring an EIA that must be approved by the Minister of Environment; EIAs from other national authorities, and exempt facilities	Promote specific criteria for coastal development reviews. The EIA process needs legal and administrative legitimacy. Several coastal –type projects and vulnerable coastal areas are mentioned as requiring some level of EIA. However, these reviews are far more effective when carried out in the context of pre-determined zoning policies for land, shore and water areas, and also are more meaningful when accompanied by industry-specific review guidelines
	Among the specific coastal concerns that trigger an EIA: Erosion impacts; pollution of marine or fresh water; hotels and tourist resorts; mining and reclamation; alteration of tide or wave action, currents, mangroves, foreshore, rivers, construction of jetties, docks, piers; harm to people and wildlife including migratory species; protected areas; an ecosystem of national importance including beach, coral reef, island, lagoon, seagrass bed, mangrove swamp, channels, pelagic system, estuary; marine outfalls, waste water treatment plans; locally controversial by a significant number of local representatives; non-renewable resources

PROVISION OF EIA BILL	ICM Aspect and commentary from Coral Coast and ICM Project perspective
Waste management and pollution control	Permits in the coastal zone or adjacent watershed would benefit from the establishment of appropriate water quality criteria to support coastal uses and ecosystems. Discharge controls could then take into account waste-load levels that would impair those uses, and identify a full complement of measures to resolve the whole problem. Innovative measures as well as those requiring coordinated design and planning need to be considered, including septic systems
National and local capacity to administer, implement and participate in making the implementation of the bill a success	A key success factor in implementing the provisions of the bill will be adequate budget, personnel, and information. Many of the provisions add completely new authority and responsibilities for the Ministry of Local Government, Squatter Settlements, Housing and Environment, as well as each of the other ministries who will have to establish programs. In addition, there are numerous potential opportunities for stakeholder participation in EIA decisions as well as the preparation of national data collections, plans and rule-making. New capability will be needed at these levels as well if participation is to be effective

Other pending laws included the revised Public Health Bill, which could include aspects of pollution if the Environment Bill is not adopted first. Following Fiji acceding to the Convention on the International Trade of Endangered Species (CITES), a national committee for coral was set up. Still being considered by cabinet several years after its presentation in 2001 is the National Rural Land Use Policy, prepared by the Department of Land Resources, Planning and Development following a review of rural land use in Fiji. This is a priority for Fiji since there is no existing national land use plan which is a major constraint for wise resource allocation and management in the rural sector and is of critical importance as it covers all land based resources such as forests, minerals, rivers and streams, and agriculture (Leslie and Ratukalou 2001). This could also be an important mechanism for village and Tikina level development plans that include coastal management goals and actions.

3.5 2004 National Workshop Recommendations on Continuation of ICM Work in the Coral Coast and Fiji

Participants in the 2004 workshop reviewed the draft progress report and heard a number of presentations updating the work being carried out in the Coral Coast and at the national level. Discussion groups generated the following points to be taken into account as the Coral Coast and national ICM projects advance.

I. RECOMMENDATIONS AT THE VILLAGE AND PROVINCIAL LEVELS

Activities that should be carried out include:

1. Training for village chiefs, community and government trainers and extension agents, schoolteachers, and provincial administrators.
2. Sharing Information, building awareness and education programs for schools and school committee members.
3. Improving the communication channels between Chiefs and “lewe ni vanua.”
4. Monitoring of progress and results using locally appropriate methods, including community level analysis and communication of results. Verification by outsiders is also helpful on occasion but this needs to be carried out in collaboration with local partners and should also involve the provincial authorities.
5. More media awareness is required to build support and create more widespread understanding of the approach and what is being accomplished.
6. More links need to be made to ongoing national and world events in Fiji highlighting environmental issues for example Environment Week, World Water Day, and Earth Day.

Approaches to be taken

1. Ensuring that the ICM Provincial Committee is able to define clear roles, communicate the results achieved to date at all levels, and that it increase its effort in evaluating and reviewing current and new activities. The Committee should expand so that members to also include mata ni tikina and local authority.
2. Establish multi-stakeholder Tikina Committees including among others the turaga-ni-koro, youth and woman representatives and village nurses, head teachers, tikina chief, and religious leaders.
3. Establish or better use village committees with appropriate representatives.

4. Develop strategies to enable Assistant Rokos and government extension officers to be more involved in project work, for example via attendance at Tikina meetings.
5. Involve youth and women from outset and in all phases. This has been an important success factor in a number of projects carried out to date.
6. Use the well-proven Participatory Learning Approach in the design and implementation of local projects.

A Suggested process for introducing ICM into New Provinces

Some other provinces are showing a strong interest in undertaking marine and coastal management activities. Workshop participants recommended the following steps to ensure success:

1. Present the proposal to Provincial Administration as early as possible to build understanding and support.
2. If the Provincial Administration decides to endorse the effort, do awareness workshop in each coastal Tikina so those local leaders learn about the concepts and the approach that is working the best in Fiji.
3. Be sure to conduct training of trainers on coastal management and the participatory learning approach for Tikina committees who in turn will become more effective as they facilitate village level training.
4. Ensure an approach in which ICM is introduced as a helpful tool to increase success of existing activities rather than presenting as a completely new idea. For example, review provincial and departmental corporate plans to see how ICM approach can offer tangible assistance and then become valuable part of how leaders and staff carry out their every day roles.
5. Consider using a different name or terminology to avoid unfamiliar jargon that often surrounds discussions of ICM.
6. Conduct cross-site visits to/from existing ICM areas including personnel with different levels of responsibility so they can gain first hand understanding and ask their own questions of project participants in villages and Tikinas that are already achieving success.

II. RECOMMENDATIONS FOR FURTHER WORK AT THE NATIONAL LEVEL

Activities that should be carried out include :

1. Undergo EIAs for all foreshore lease permit applications/coastal development (include vulnerability assessments).
2. Develop clear monitoring and enforcement programs for land leases, (Town and Country Planning) land use plans and EIAs/EMPs (Work closely with Rural Local Authorities/CBH).
3. Build the capacity to implement monitoring programs
4. Coral Coast Provinces should review the earlier Town & Country Advisory Plan for Coral Coast. Can this plan be updated and integrated with other land use plans (Native Land Trust Board)?
5. Research options for revenue generation through environmental EIA Tax, tourist tax, user levies, or Environmental Bond to developers.
6. Strengthen the Rural Local Authority to complement the EMB (village & industry).
7. Ensure the EMB integrates with the Fisheries and Health Bills and National Disasters Management Bill CHARM program.
8. Collation of best practices and lessons learned and feeding back into school system particularly tertiary level (Environ Health School).

Approaches to be taken to achieve National Integration:

1. Establish an environment unit at each line agency (as will be required in pending Environmental Management Bill) to coordinate coastal development (perhaps under the leadership of one department), and be sure to involve the Fijian Trade and Investment Board (FTIB).
2. Establish inter-agency consultation procedures for foreshore lease applications to bring to bear as much expertise and cross-agency collaboration as possible in reviewing these projects.
3. Identify specific ways to integrate Fijian Trade and Investment Board, into Coastal Development Planning.
4. Prepare a specific proposal for management of the Fijian ICM initiative. One candidate agency would be the Fijian Affairs and Regional Development agency.

III. RECOMMENDATIONS FOR IMPROVING COASTAL DEVELOPMENT PLANNING (LOCAL AND NATIONAL)

Broader involvement of the provincial level would be highly beneficial to the decision making process for foreshore leases, which are Fiji's main way at present for reviewing and authorizing coastal developments. To attain this:

1. Provincial Councils should become more active in Coastal Development Planning.
2. Provincial office should endorse foreshore leases after consultation with local affected parties.
3. The Senior Assistant Roko in each Provincial Office would be an appropriate Provincial liaison for environmental and development concerns.
4. Provinces should establish a Provincial Coastal Development Committee that includes broad based representation from non-governmental groups the private sector, and academia.

IV. NEW NATIONAL URGENT AREAS AND OVERALL RECOMMENDATIONS FOR INTEGRATED COASTAL MANAGEMENT IN FIJI

1. There is a increased need for coastal planning/permitting due to uncontrolled Expansion of coastal development.
2. The process for return of i Qoliqoli Ownership needs to be set out in detail, especially to address the matter of resort compensation.
3. Improvement of the village governance process is urgently needed and can be successful based upon the experience to date in village and Tikina coastal and marine management experience.
4. A satisfactory approach for providing compensation for coastal damage is needed.
5. Enforcement of laws relevant to ICM at all levels is becoming increasingly important as more developments are authorized.
6. Increase awareness and ability of government departments to implement an ICM approach, to complement and sustain the progress being made at local and provincial levels.
7. Coastal Developments/Foreshore Leases need multi-sectoral consideration, approval and monitoring, to draw upon the expertise and integrate the needs of different agencies and programs.

8. User conflict issues need special cooperation among national agencies, resorts and communities. The national government through an ICM program has an important role to play in facilitating agreements on coastal uses and development projects.
9. The problem of harvest of live rock needs to be addressed with a definitive policy.

V. SPECIFIC RECOMMENDATIONS FOR EXPANSION OF ICM

Finally, workshop participants returned to specific action items that should be attended to in the near term.

1. Be sure to include the Serua portion of the Coral Coast and extend the project westward to Malomalo.
2. Support additional grassroots efforts for coastal and marine area management in places such as Kadavu, Vunisinu (Dreketi), and some of the Fiji Locally Managed Marine Area sites. Be sure to look towards undeveloped areas for future ICM work.
3. Find ways to encourage understanding of integrated coastal management information, ideas and actions through school programmes.
4. Steer the coastal development rural advisory planning process (since no zoning in non-urban areas) for the Coral Coast area by involving stakeholders and providing information and technical expertise.
5. Ensure that integrated coastal management is included in the National Environmental Management report.
6. Begin to include watershed issues in local and provincial coastal management plans and decisions.

Annex 1:

CORAL COAST ICM ACTION PLAN

Issue 1: Overexploitation of Resources

Goal: Maintain and enhance the resources on which the local communities and the economy depend

Action A. Community workshops to develop marine resource management plans and set up MPAs in Tikinas Conua and Komave **(H2)**

Lead Organisations: Provincial Office with assistance from IAS

Action B. Work towards a ban or better management of coral harvesting operations

Lead Organisations: MAC

Action C. Plant mangroves and coastal plants to restore forests **(L2)**

Lead Organisation: OISCA

Issue 2: Lack of Awareness and Education

Goal: Improve the level of awareness amongst villagers, hoteliers, government officials and the public about the importance of coastal areas, coastal management and important issues.

Action A. Hold community workshops to educate on important coastal issues e.g solid waste management **(H2)**

Lead Organisations: Health Office and IAS

Action B. Obtain funding to hold awareness workshops and activities **(H1)**

Lead Organisations: IAS

Action C. Include coastal issues into education curriculum **(L2)**

Lead Organisations: Education, Live and Learn, Kula Ecopark

Action D. Media programs such as radio programs and tourism pamphlets on marine guidelines etc. **(H2)**

Lead Organisations: IAS, TV1 (Ask at National Meeting if TV can document environmental issues)

Issue 3: Pollution

Goal: Improve the state of the coastal waters and coastal area by managing the liquid and solid waste appropriately

Action A. Hold Clean Up Campaigns to address solid waste **(H2)**

Lead Organisations: Provincial Office, IMA, Hotels, Health Office

Action B. Encourage recycling of material **(L2)**

Lead Organisations: IAS, Health Office, Hotels

Action C. Construct artificial wetlands **(L2)**

Lead Organisations: IAS, PCDF?, Hotels, Communities

Action D. Use biodegradable products e.g non-phosphorus detergents **(H2)**

Lead Organisations: IAS, Hotels

Action E. Locate appropriate dump sites

Lead Organisations: Local authority, Health Office

Action F. Work with hotels to collect solid waste from villages

Lead Organisations: Health Office

Issue 4: Conflicts Over Resource Use

Goal: To increase the dialogue among conflicting users to foster cooperation

Action A. Hold regular meetings between stakeholders and resource owners (**H1**)

Lead Organisations: IAS and Nadroga Provincial Office

Action B. Conduct training in conflict resolution (**L2**)

Lead Organisations: IAS, Provincial Office (to be set up)

Issue 5: Lack of Resources (Human and Funding)

Goal: To obtain funding for coastal management work and increase capacity

Action A. Training of fish wardens, environment committee reps (**H2**)

Lead Organisations: Fisheries, Hotels to fund training (needed in Komave)

Action B. Set up of Trust Funds (**L2**)

Lead Organisations: IAS

Issue 6: Lack of Planning and Coordination

Goal: To achieve better coordination and cooperation between all stakeholders and be able to plan with maximum input of stakeholders and local community

Action A. Develop a Two year Action Plan for ICM (**H1**)

Lead Organisations: Coral Coast ICM Committee

Action B. Integrated meeting of all stakeholders (**H1**)

Lead Organisations: IAS and Nadroga Provincial Office

Action C. Regular newsletter (**H1**)

Lead Organisation: IAS

Issue 7: Unsustainable Development Practices

Goal: To achieve appropriate and well planned development along the Coral Coast

Action A. Establish a committee on Sustainable Development along the Coral Coast (**H1**)

Lead Organisations: ICM Committee

Action B. Enforcement of existing regulations (**L2**)

Lead Organisations: Rural Local Authority

Action C. Establishment of forest parks and MPAs (**L2**)

Lead Organisation: IAS

Issue 8: Lack of Alternative Income Sources

Goal: To provide income sources in order for the village needs for basic services and infrastructure are met.

Action A. Development of community farming, aquaculture etc activities (**H2**)

Lead Organisations: IAS and Agriculture

Action B. Initiate small ecotourism businesses and tourism interpretation (**H2**)

Lead Organisations: IAS, USP Tourism Department, Hotels, Ministry of Tourism

Issue 9: Lack of Assessment and Information

Goal: Acquire and use best possible information for decision-making wherever possible involving the local communities

Action A. Establish a Tikina based committee to monitor, assess and evaluate areas of development (**H2**)

Lead Organisations: Provincial Office

Action B. Identify areas or issues which need assessing (**L2**)

Lead Organisations: Provincial Office (coastal erosion already identified)

Annex 2:

2nd Fiji National Workshop on Integrated Coastal Management (ICM)

December 8th & 9th , 2004

USP, Suva, Fiji

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