



EU EDF 8 – SOPAC Project:

**Reducing Vulnerability of Pacific ACP States
through integrated planning and management
(Island Systems Management) in the sectors impacting on
hazards, aggregates and water resources.**

**Proceedings of the Fiji National Workshop 1
Mineral Resources Department, Suva, Fiji
4 December 2002**

Compilers:

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SOPAC Secretariat
January 2003

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RECORD OF PROCEEDINGS

Opening

The First National Fiji Workshop on the SOPAC-EU EDF8 Project was held in the Mineral Resources Department Conference Room, in Suva on Wednesday 4 December 2002.

Bhaskar Rao, Director, Mineral Resources Department and chair of the meeting, called the Workshop to order at 10am.

The SOPAC representative present introduced themselves to the participants and were informed of the desire to use this opportunity to gather a large number of stakeholders together and assess initial reactions and ideas relating to the Project.

The full attendance list is included in Attachment C.

Project Overview

The Deputy Director of SOPAC gave a brief overview of the lead up work to the EU funded project in the eight ACP member countries in the region. It was noted that discussions commenced about three years ago as part of Lomé IV, of which eight of the Pacific Island States including Fiji, were members.

At present the funding available is for the eight ACP countries only, although further discussions are now underway relating to funding under the Cotonou Agreement for the six new ACP members, Cook Islands, Niue, Nauru, Marshall Islands, Federated States of Micronesia and Palau, for commencement in 2004. The workshop was informed that this funding has been agreed in principle, and the task for the project team is to now integrate the six new ACP states into the Project during implementation.

The project represents a holistic approach to data gathering and seeks to use these data, information and knowledge to encourage all stakeholders to participate and take ownership of the project.

Three key elements or sectors identified by the project as critical are:

- **Aggregates for Construction**
- **Water and Sanitation**
- **Hazards and Risks Management**

It is the intent of the EU project to involve all levels of stakeholders and allow them the opportunity to bring their own information to the table and share it with others, with the aim of moving in a positive manner towards the realisation of sustainable development. The objective is to get all those who are identified to be the data users to claim ownership of the project and participate actively for the benefit of all.

The workshop was informed that the current funding procedure adopted by the EU has identified a number of projects for support (of which this project is one). However, to encourage project performance, substantial further funding will be made available for those projects showing successful implementation and delivery.

Stakeholders must have a clear understanding of the substantial resources that are potentially available for such projects and the expansion to include future work, dependent on how well countries perform in current project implementation work.

Scope of Project in Fiji

The Chair presented an overview of the selected project area for Fiji which extends along the south coast of Viti Levu from the Rewa Delta around the coral coast to the west of Viti Levu as far as Nadi-Lautoka.

Details of this presentation are in Attachment D.

The selection is based on several issues pertaining the three elements of the project identified by EU-SOPAC stated above.

- The area is the site of the Fiji's most dense tourism development, concentration of infrastructure development, agriculture, covers the capital city, Suva, and at least four other townships, and sizeable coastal communities.
- The selected study area includes the watershed for four major rivers in Fiji, which represent major sites of aggregates dredging, certain zones are prone to landslides, affected by tsunami (most recent major seismic event was the earthquake in 1953, which caused widespread damage and disruption).
- It represents an area of active coastal erosion, storm surges, and the coastal corridor in question also is the most frequent path for cyclones in Fiji.
- Shortly, it will also be the area of extensive mahogany forest harvesting since the largest plantation is within the selected project area.
- It is the host of several major regional water schemes for the populace in project area.
- It is the area of most rapidly increasing population, which will be threatened in the future if all stakeholders do not put their acts together now to address the critical issues covered by the Project in an open and holistic manner.

Robert Smith (SOPAC Marine Geologist) outlined through examples the various risks and threats to infrastructure and communities in the region chosen and the role geoscience can play in highlighting the problems (such as through GIS) and offer solutions.

This presentation is attached as Attachment E.

Project Discussions

Ministry of Works and Energy showed its appreciation for the project but highlighted that other stakeholders (particularly community and NGOs) should have been invited to attend.

The chair emphasized the importance of crystallizing the project hence the reason for calling the smaller government ministries and departments present in this meeting to form the core group. Other stakeholders will be invited for further deliberation in a much larger group.

The Ministry of Tourism also showed its commitment and support for the project and thanked the chair for coming up with the concept of the project and the site selected. It was stressed how important it was to involve everyone that has an interest in coastal development.

The Chief Hydrographer also voiced the support of the Fiji Marine and Safety Administration (FIMSA) and contribution to the project, but raised some awareness issues to the map scales that are to be used in the project.

He raised an important point with regard to the use of data, as in the past the same data is given by consultants to government at a price. Comment was received warmly and is noted for further discussion and a decision to be made when the appropriate time arises. Protocols for data use and sharing need to be developed.

Ministry of Regional Development is concerned at the lack of private sector involvement in integrated development approaches and that ways must be determined to get them involved. Also highlighted a classical example at Nauluvatu where MRD had carried out studies on three different occasions over two decades with almost identical findings and the same recommendations for development prohibition, but was authorised by others to continue development in a high risk area (prone to landslides).

To this the Deputy Director of SOPAC emphasized that we must not dwell on the past for the sake of sustainable development. The chair highlighted that this project will be able to harness effective participation and at the end build regulations and policies that will bind all stakeholders. But we need the information base first.

Director of Town and Country Planning also showed her appreciation and support for the project, and spoke further on comments made (with regard to development zoning) suggesting that orders as to stop development in certain areas (prone or susceptible to major risk) must be strongly worded so that they can be effective, and enhance decision making in terms of the consequences of ignoring expert advice. Government must also be ready to compensate owners in terms of prohibition of land development or demarcation for marine reserves. The problem is in implementing the decisions, as pressure to not agree is strong at higher levels.

Central Planning Office also shared the same support for the project and further highlighted the need for a central government database. This is a concept that the government is working towards. The chair also noted the existing Fiji Land Information System (FLIS).

There was considerable discussion on aspects of the use of data in sustainable development concepts, in assisting communities impacted (i.e. by tourism development).

It was noted that the project database could go a long way in assisting the development of a National Resource Database as referred to in the Sustainable Development Bill (parts 5 & 6).

The Chair was invited to present the project concept and details to the National Tourism Convention in February 2003, which was much appreciated. He indicated further that this would be a good way to present the concept of buying in to the project through offers of assistance, participation and data sharing.

Several questions addressed the need for further stakeholder input particularly from communities, the private sector and NGO's. These would be addressed at future meetings, this being the first in a series aimed at getting an initial consensus on the broad area being targeted.

One new issue not considered in the concept paper was the impact of Mahogany Harvesting in the catchment areas and the impact of siltation in the coastal areas and waters, resorts, aquaculture and fisheries. The area is host to some of the largest mahogany plantations in the world.

Some specific questions for consideration by the Project Team and chair were asked:

- Since 2001 there has been storm surge in the coral coast, what have done in terms of mitigation?
- How will this database be kept away from scavengers who can make substantial amounts of money?
- Through feeding on readily available information to get their tasks done?
The need to develop protocols for handling of data was noted and agreed by the workshop.
- Will the study include the Nadi, Sabeto and the Tavua, Penang Rivers?
The project is in the preliminary phase, and will look at several major rivers but not these specifically. We have to consider resources and these may have to be dealt separately with MRD-SOPAC in line with similar requests on Vanua Levu.
- Many high-rise buildings are already in place, many others are in line to go up in the near future, have there been any risk study taken for them?

Agreed Project Directions

The group expressed a consensus that the project was a worthwhile one, and one that had potential benefits. As such the suggestion was made that it should be presented to the DSC (Development Sub-Committee). Much more needs to be done to agree on specific tasks or projects within the region, community and NGO involvement and discussions before a full project framework emerges.

The next series of meetings should begin in mid January. In the meantime the core group was asked to commit to agree to share data they had and answer specific questions with regard to scale, areas of concern and other critical Project issues.

Attachments

Attachment A – Workshop Agenda

Reducing Vulnerability of Pacific ACP States through Island Systems Management

Developing Integrated Data Sets for the Southern and Western Coastal Zone –
Viti Levu

Stakeholder Meeting # 1 December 4 2002

PROVISIONAL AGENDA

- 1.0 Welcome & Introduction
- 2.0 Background to EU-SOPAC Project in the Pacific
- 3.0 Project Concept – Viti Levu Project
- 4.0 Discussion
- 5.0 Future
- 6.0 Other Matters
- 7.0 Closure

Attachment B – Workshop Invitation

Memorandum

To: Director Town & Country Planning

CC: As per distribution

From: Director of Mineral Development

Date: 3/03/2003

Re: EU-SOPAC Project – Reducing Vulnerability of ACP States through Island Systems Management

A EU-funded project for the 8 Pacific ACP states (Fiji, Kiribati, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu) commences early next year. The objective is to strengthen integrated development in the Pacific ACP states by addressing issues in three main focal areas – hazards mitigation and risk assessment; aggregates for construction and water resources supply and sanitation. The project would be managed by SOPAC.

One project under active consideration is a comprehensive study of the coastal zone stretching from Suva-Nausori towards Nadi-Lautoka. This region is showing rapid growth in terms of population, has significant infrastructure (cities, towns, tourism plant) and is impacted by a series of hazards ranging from flooding, landslides, earthquake-tsunami, and storm surge to coastal erosion. In addition the availability of constructional materials (and the impact of extraction from rivers and streams), and issues related water and sanitation are key limitations to future growth.

The project aims to develop a comprehensive data set in the form of a Geographic Information System that would integrate information across a range of disciplines and that could serve as a basis for informed decision-making.

A prime prerequisite for any such project is close collaboration of a broad range of stakeholders (Government agencies, statutory bodies, commercial interests, and community).

I would like to invite you to attend an initial meeting at the Mineral Resources Department Conference Room on Wednesday 4th December at 10.00 am to discuss the project concept in further detail and identify areas of interest to yourselves as potential stakeholders.

Information of the EU-SOPAC Project in the ACP countries and a concept paper outlining the broad scope and objectives of the study are attached.

I look forward to your comments and participation.

Bhaskar Rao
Director Mineral Development

Distribution:

CONFIDENTIAL

Permanent Secretary Regional Development
Director NDMO – Ministry of Regional Development
Deputy Secretary Ministry of Works – Mr. D. Kumaran
Director of Tourism
Director of Lands & Surveyor General
Director of Environment
Ministry of Finance & National Planning – Senior Economic Planning Officer Mr. Ovini Raululu
Chief Hydrographer
Director of Fisheries
Director Land and Water Resources Management – Ministry of Agriculture
Director of Environmental Health – Ministry of Health
Deputy Secretary Ministry of Fijian Affairs – Mr. M. Lomaloma
Deputy Director SOPAC – Dr Russell Howorth
Manager Mining Division – MRD
Principal Marine Geologist – MRD
Senior Engineering Geologist - MRD

AT10

Attachment C – List of Participants

Name	Organisation	Contact
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Attachment D – Presentation: Project Scope

Reducing Vulnerability of Pacific Island Countries
through
Island Systems Management

SOPAC-EU EDF8 Project

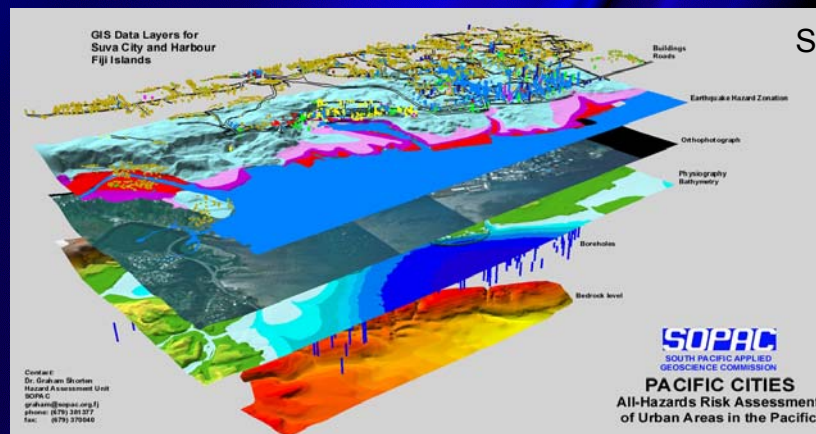
First Fiji Workshop

4 December 2002

Mineral Resources Department, Fiji

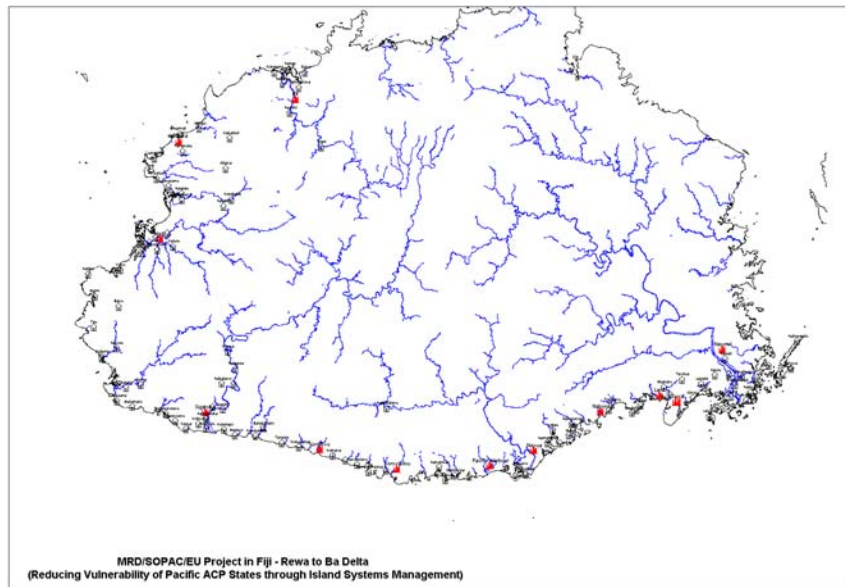
Developing Integrated Data Sets for the Southern and Western Coastal Zone – Viti Levu

Concept of an integrated data set



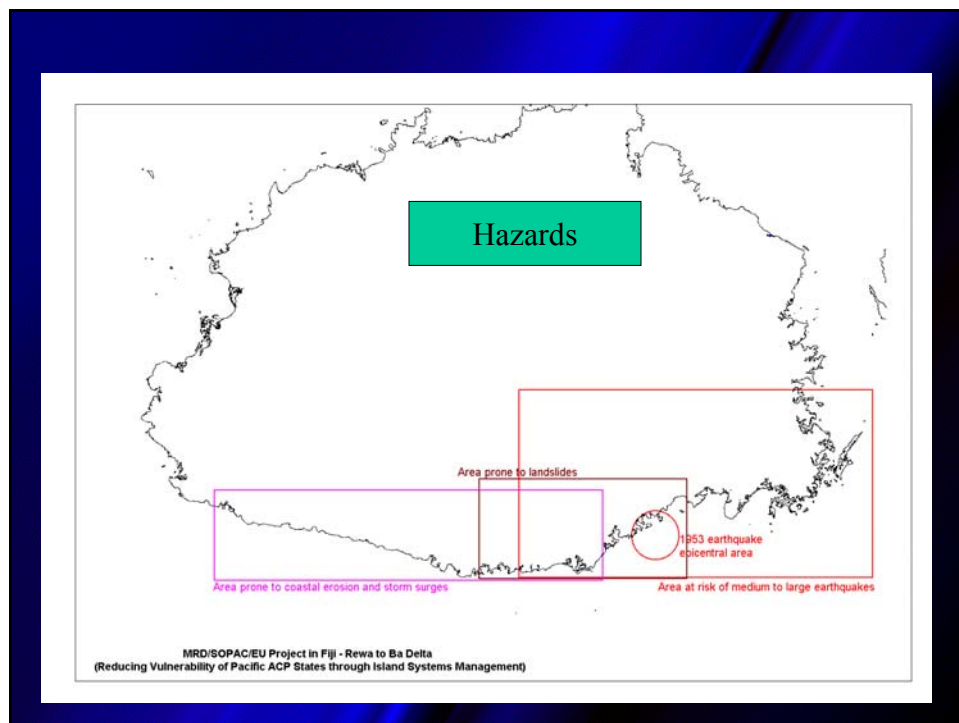
Some givens

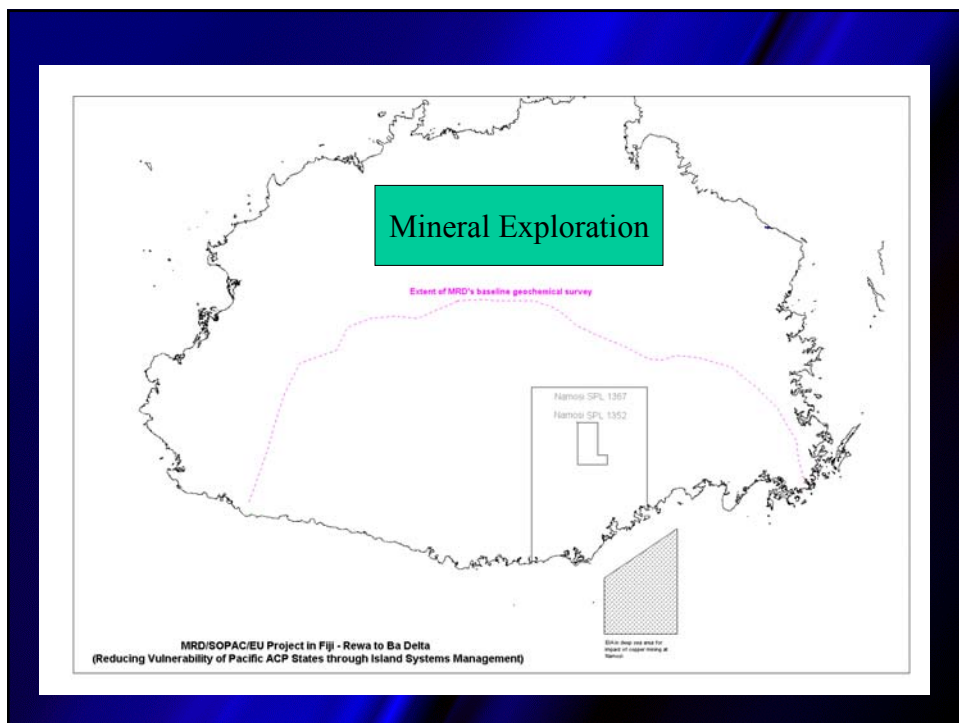
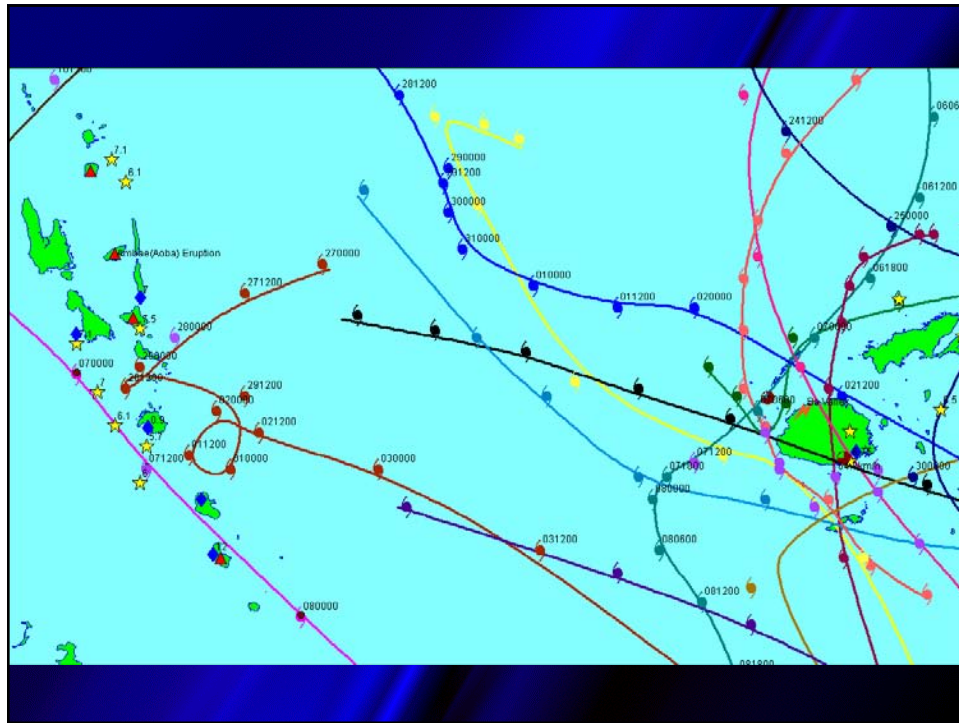
- Use of an integrated system of data sets for management decisions
- Areas of interest
 - Hazards assessment & mitigation
 - Aggregates
 - Water & Sanitation
- Assist ultimately the population at large
- Project must be useful – not reside on shelf
- Hence need for multi-stakeholder participation

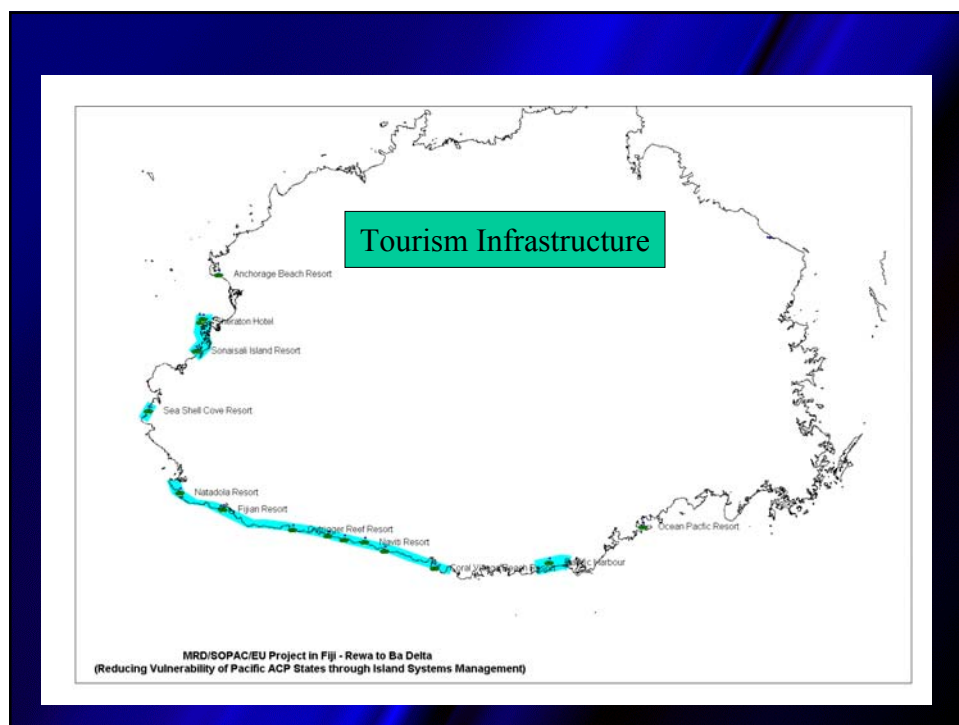
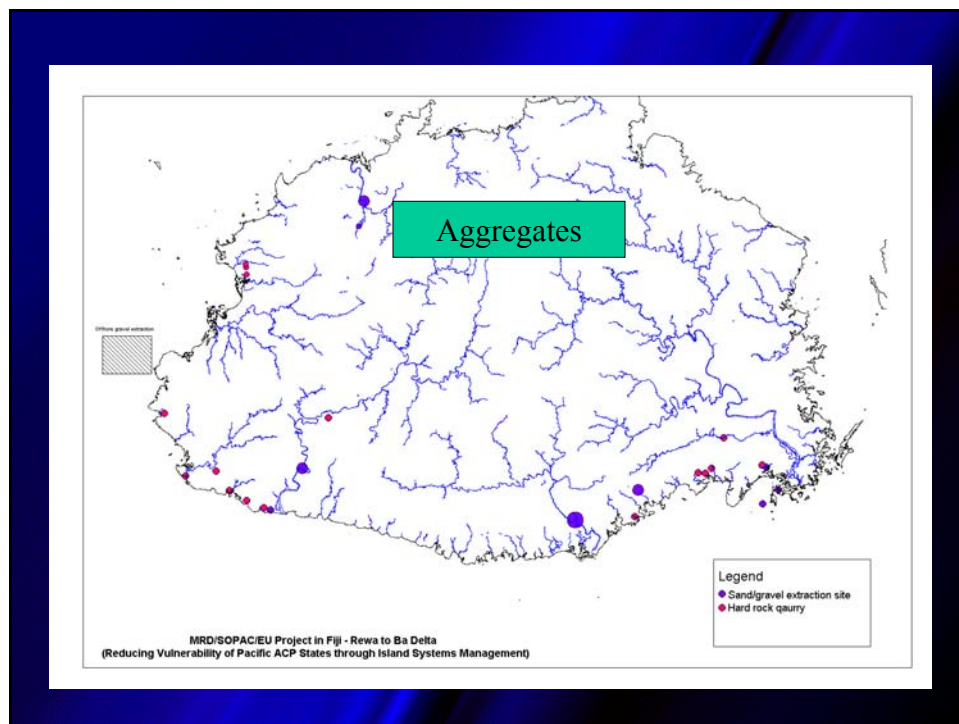


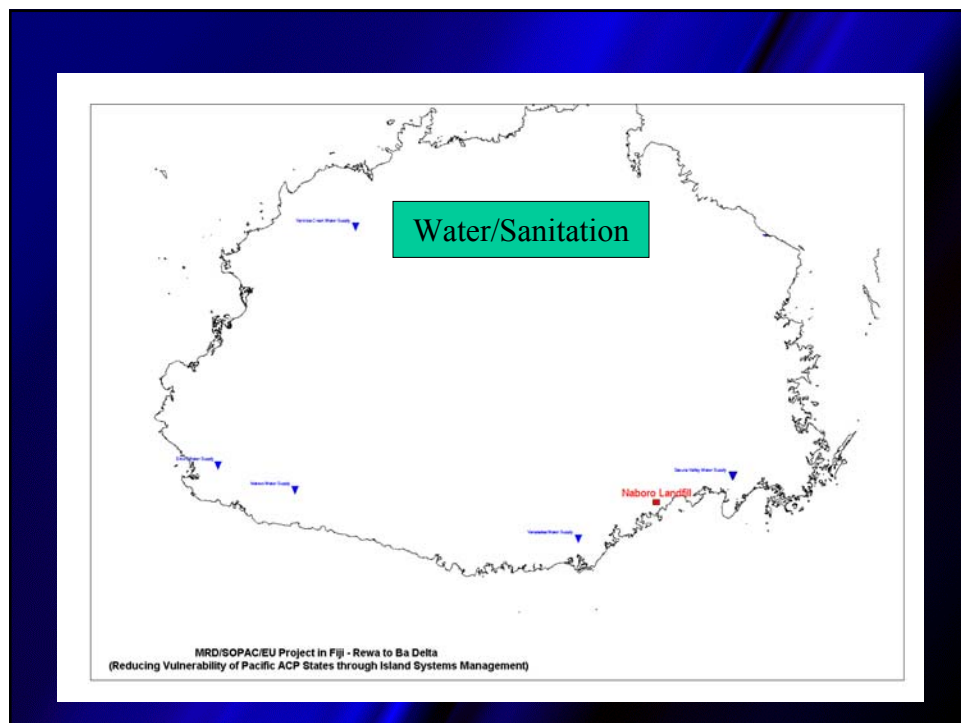
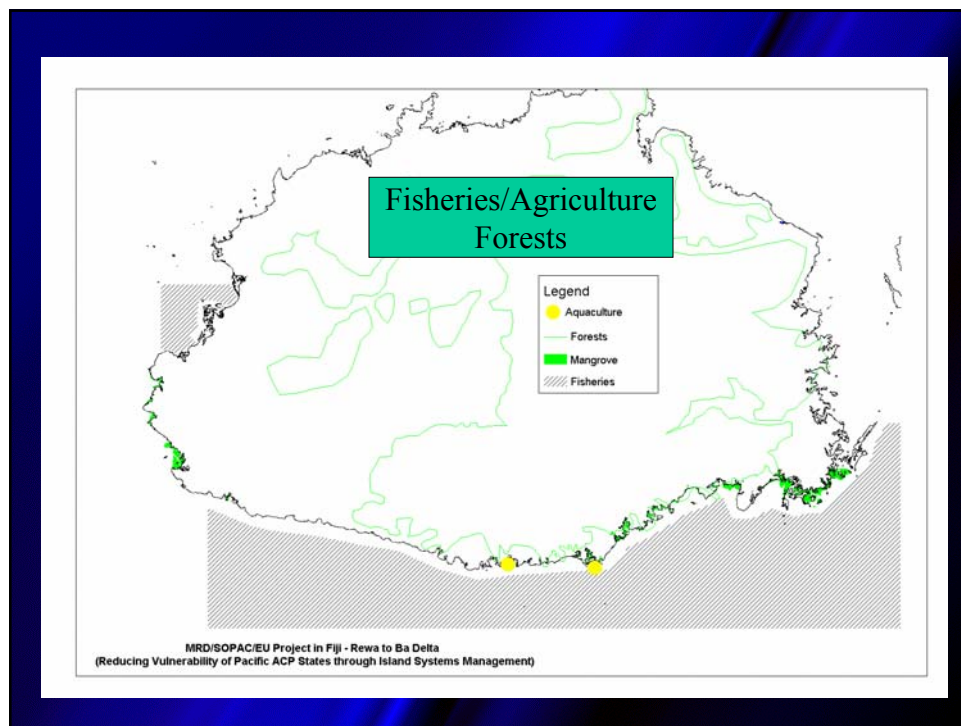
Why this area?

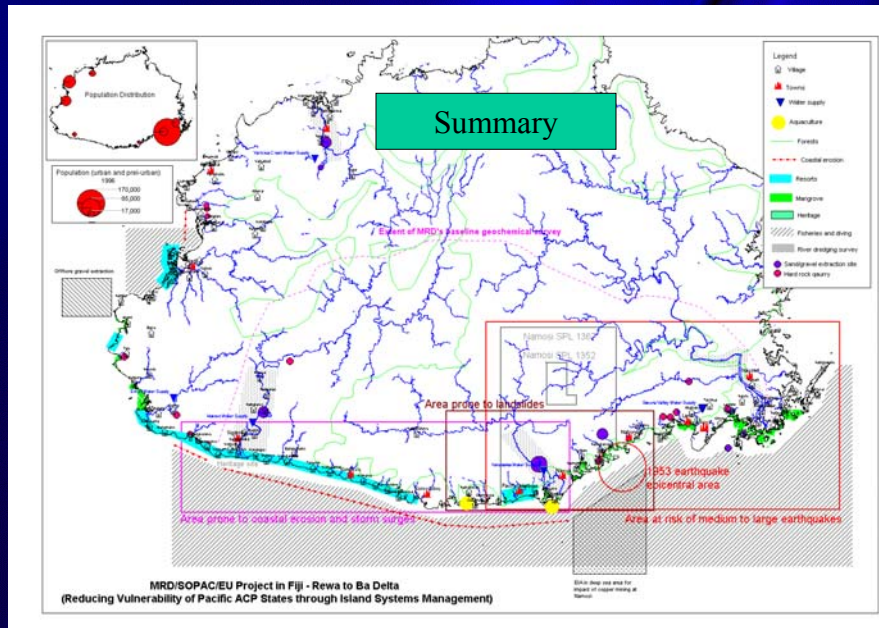
- Area of growth
- Significant investment or planned investment in infrastructure
- Area with a number of hazards/hazard types
- Project can impact a significant portion of population
- Some existing data sets











Where to?

- Still at concept stage
- Need your input
- Community involvement
- Finalise project framework
- Costing
- Implementation [2003-2005]

Attachment E – Presentation: Risks and GIS / RS Solutions

Reducing Vulnerability of Pacific Island Countries
through
Island Systems Management

SOPAC-EU EDF8 Project

First Fiji Workshop

4 December 2002

Mineral Resources Department, Fiji

SUPAC

Reducing Vulnerability of ACP States :

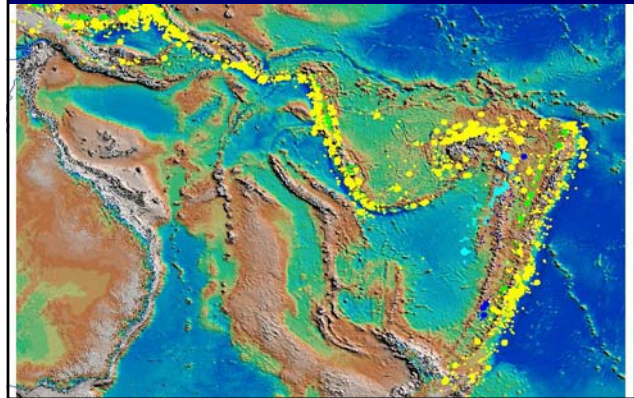
Developing Integrated Data Sets for
The Southern and Western Coastal
Zone of Viti Levu

South Pacific Applied Geoscience Commission
(SOPAC)

www.sopac.org
director@sopac.org

1

Seismicity and Tsunami Risks



Development – Problems faced by Decision Makers

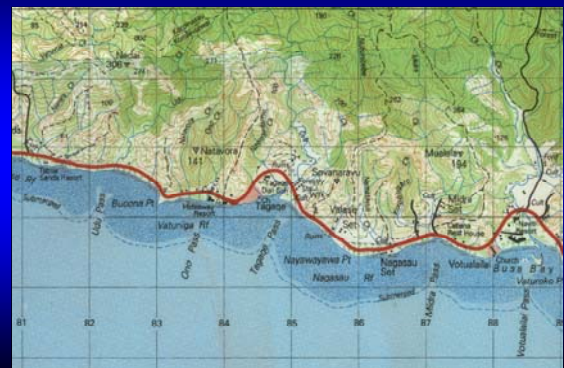
Storm surge, Cyclones
and Coastal erosion

The impacts on coastal
settlements infrastructure,
tourism, water supplies,
coral reefs

- Urbanization
- Sewerage
- Reclamation
- Dredging
- Seawalls & Coastal Erosion
- Agriculture
- Sedimentation
- Marine Pollution
- Mining
- Deforestation
- Aggregate supply

3

Consider Tagage

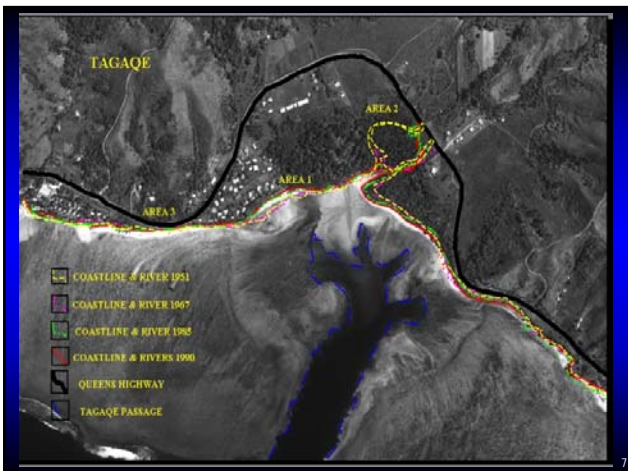


4

We see evidence of beach erosion



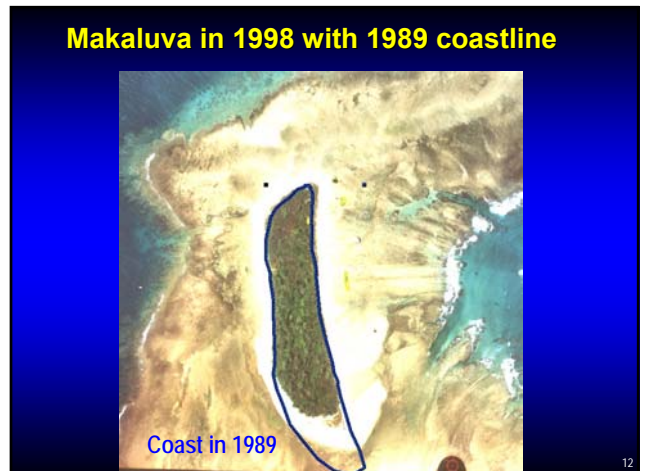
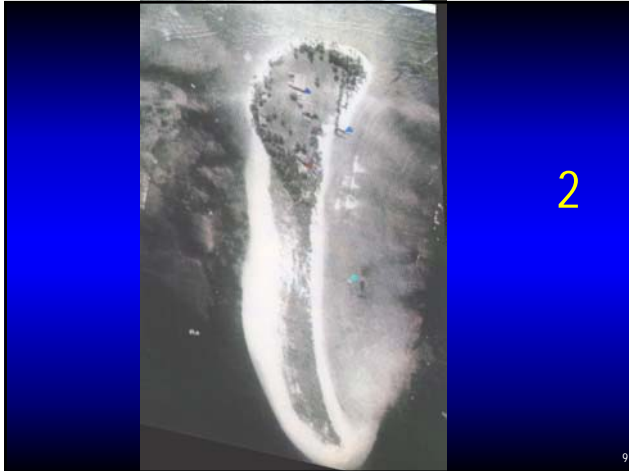
We see erosion that is threatening the Queens Highway

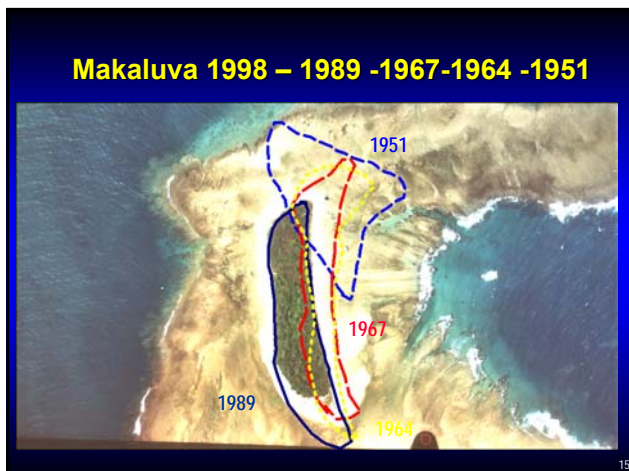
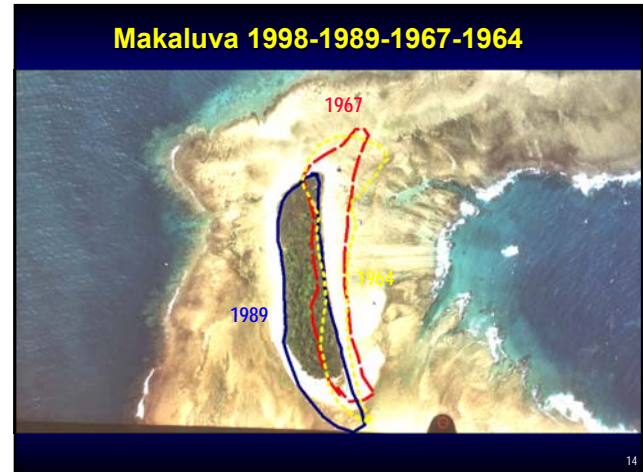
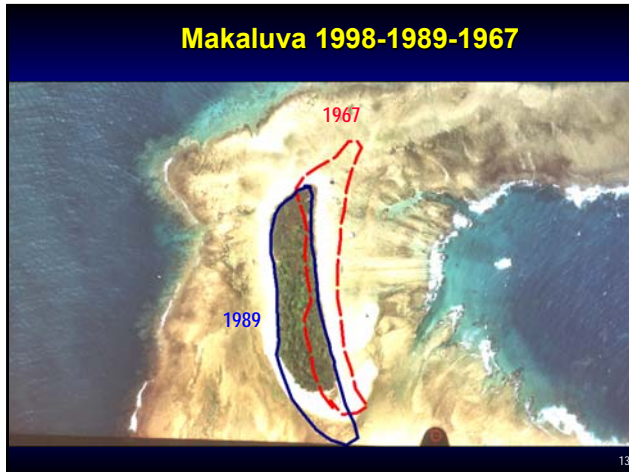


Consider a coral cay island



1

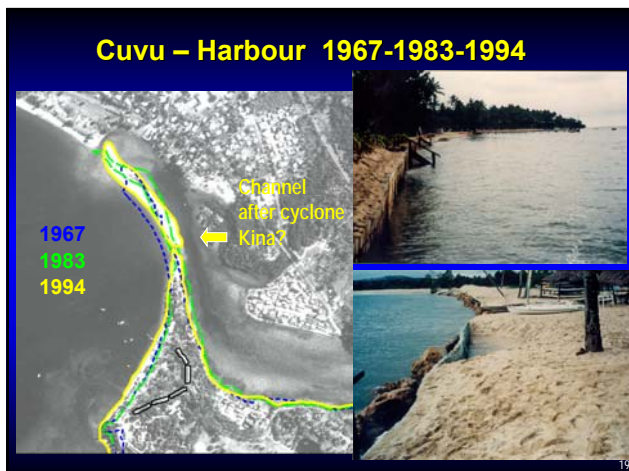
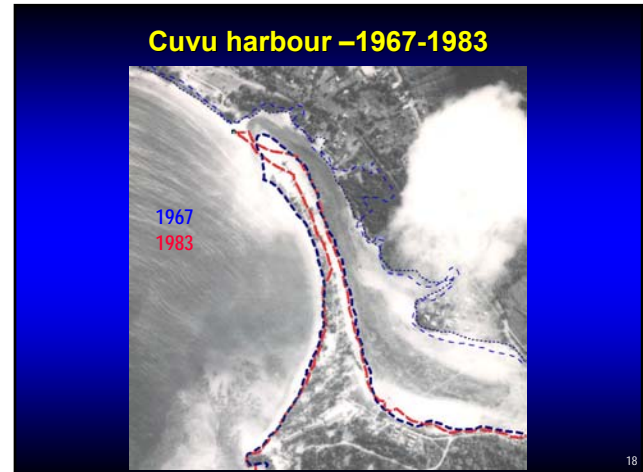
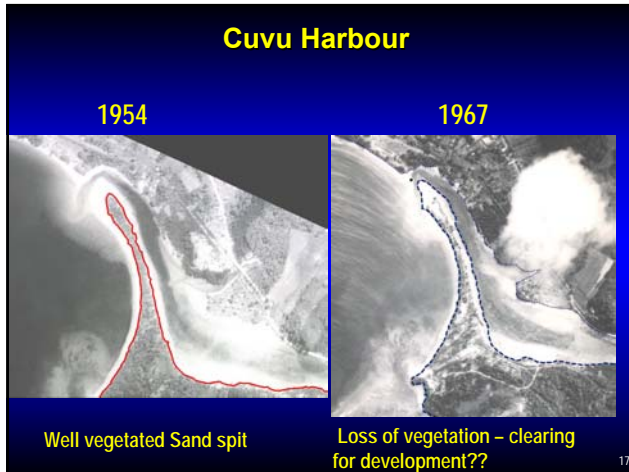




- So Makaluva shows that over time quite significant changes can be made when we make what we think are minor changes to the physical environment
- Also, when we apparently do not fully appreciate the forces of nature and how it can be very different with time we can make quite significant (& costly) changes

..... for example

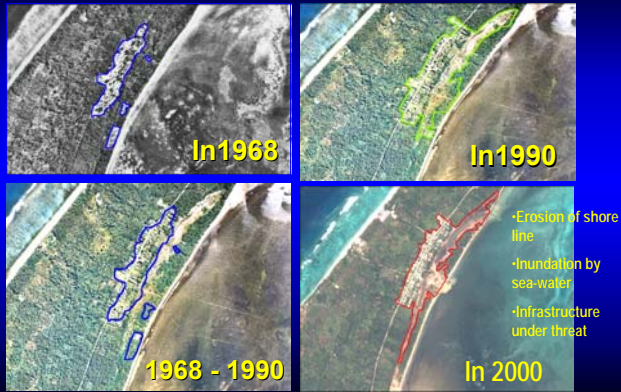
16



- we understood the impact of changing the dynamics of coastal processes through building rigid immovable objects such as seawalls
- and
- we understood the effect of coastal deforestation or removing mangroves, one of nature's most effective methods of coastal protection

20

Deforestation in the coastal zone



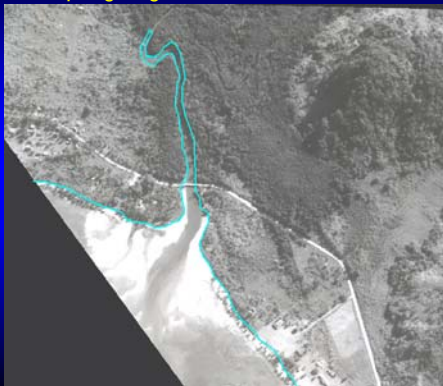
21

Consider beach mining – is aggregate supply a growing problem ?



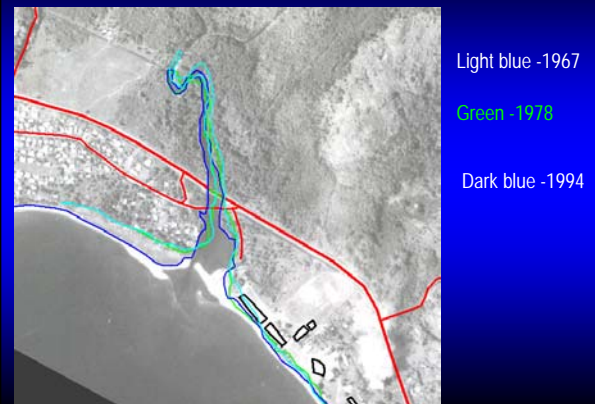
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Coastal settlements - is there planning in adapting to growth ? Galoa 1967-2002

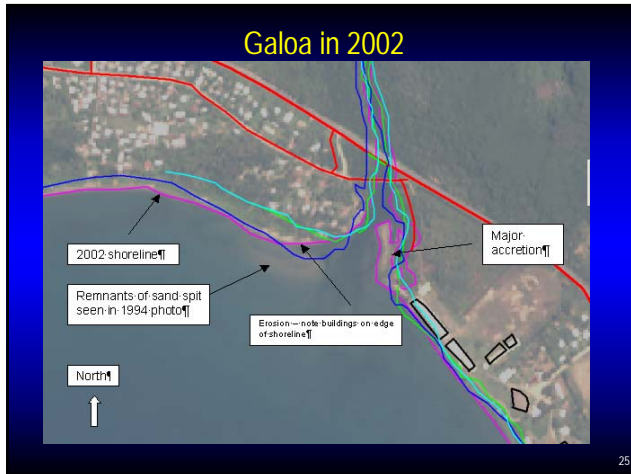


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Galoa in 1994 - Coastline Change



24



So what else might impact on our little piece of Paradise?

- Urbanization
- Sewerage
- Reclamation
- Dredging
- Seawalls
- Agriculture
- Sedimentation
- Marine Pollution
- Mining
- Deforestation

26



Attachment F – Fiji Submission: 1st Project Regional Consultation Workshop

Brief Country Report and Update on Current and Planned/Related In-Country Projects and Priorities: Fiji Presented at 1st Regional Consultation Workshop, Nadi, October 2002.

Presented by Mr Bhaskar Rao, Director of Mineral Development, Mineral Resources Department, National Representative of Fiji to SOPAC

Capacity development, timely access to reliable information on hazards occurrence, mitigation measures, resource availability and mechanisms, policies and legislation to sustainably manage these are key areas being addressed by this project and therefore are specifically relevant to Fiji. Much of Fiji's recent preoccupation has been on good governance and management issues relating to Minerals, Water, Agriculture and development in general. Recently we have seen:

- Completion of significant projects such as the IDNDR, Pacific Cities that relate to Tsunami and Earthquake risk to Suva. These have added much to our knowledge of hazards but to Fiji these are as yet incomplete in terms of implementation of strategies and recommendations. In many ways this was a pilot project.
- A revolution in terms of ICT yet information critical nationally to management decisions is still effectively siloed in various agencies and departments – there is difficulty in terms of access and reliability of much of this information. In terms of resource information much data is old and possibly obsolete.
- Aid inputs in development of major road/bridge and water supply infrastructure (ADB)
- Fiji has seen a major loss in terms of technical capability and in-house capacity, the reasons being too obvious to mention
- Effective decisions and steps have been made to strengthen the office of the NDMO, but much remains to Operationalise the Disaster Management Act and move on into the more practical matters such as educating public,
- Increased development of the near and offshore and interest in resource exploitation offshore areas
- Recognition internally of the need to conserve and manage in a more coordinated manner our water resources, both surface and groundwater.
- Premature closure of the Institutional Strengthening projects not just in MRD but many other national departments.

DEVELOPMENTS & PRIORITY AREAS

Aggregates:

The use of marine aggregates in the construction industry is perhaps not a major issue as much as in the non-volcanic low-lying countries. It may however become a growing trend. Of much greater concern is the lack of adequate information (volume, quality, access) with regard to on-land aggregate sources. Because of this and of a lack of environment guidelines and control that the easier step to remove aggregates from beaches, rivers are taken with consequent deleterious effect. A result of poor quality aggregate is recognised in the poor roads. Assistance in simple and effective assessment methodologies for quantifying size and quality of resource is a welcome area of intervention.

Suva is a major developed area and in its coastal areas there is active mining of coral sand for cement aggregate and the only local quarry is now well within a large and growing residential area.

Possible projects include geological mapping and drilling of selected localities and testing of aggregates in areas of development (Suva-Nausori, Lautoka-Nadi). Development of capacity building with regard to assessment and estimation of aggregates. Such quarries could be money-spinners for landowners and economically more sustainable.

Hazards:

With increased growth in the urban centres i.e. Suva, Nadi and Lautoka, and the coastal areas of particularly Viti Levu with regard to tourism infrastructure - there is then an increase in the vulnerability with regard to effects from geological hazards. Fiji is currently in the process with JICA assistance of establishing a VSAT (satellite based) seismograph network and also with their assistance (MMAJ) presently undertaking a baseline geochemical and environmental survey in the watersheds including the area between Sigatoka and Rewa Rivers. This would be GIS based and hopefully is a pilot project to expand to include whole of Viti Levu at a later date.

Within the coastal arena there is a concentration of settlements and tourist/other infrastructure along this zone. A particular area is that from Rewa-Nausori to Lautoka and including the Coral Coast where much of the Viti Levu population and tourism infrastructure resides. An integrated study of this area is warranted to provide technical data that can be utilised to carry out EIA's for planned infrastructure, or vet EIA's.

The obvious choice is to expand on the Suva Pilot Project from where it has been left. These include the IDNDR and Pacific Cities Projects that need to be rolled out to include the Nausori – Suva – Lami development corridor and moved into an implementation phase. This includes development of management and evacuation plans for preparedness/mitigation.

The current proposed SOPAC-MRD project to swath map parts of the western and Coral coast to be expanded to cover offshore-near shore and coastal areas and extend from Rewa to Lautoka via the Coral Coast as part of a ICM program (bathymetry, remote sensing, coastal mapping) – will assist in assessment of coastal problems and a basis for evaluation of EIA's, impact of tourism infrastructure etc and lead to a pilot project on coastal zone management for Fiji.

Water:

Government is finally getting committed to the idea that a water resources management strategy backed up by comprehensive overarching legislation to cover both groundwater and surface water resources. This has been the result of competing demands for water for commercial use. This follows ADB and ESACP funded initiatives earlier in August 2002. This is not a newly identified need having been first attempted in the 1980's under FAO and AusAID support.

Fiji has several island types and varies from big islands – Viti Levu, Vanua Levu to littler ones who have consequently different problems. The smaller islands often are all groundwater based and management of this resource; pollution (over abstraction and poor sanitation) and development are critical issues. The ecosystems are much more fragile

Assistance is sought in the provision of support to the National Water Committee, and in developing water resource strategies, policies and legislation.

An integrated groundwater management system on a medium sized island i.e. Vanua Balavu or other to address issues of groundwater management (including aspects of abstraction rates, pollution, sanitation, equipment maintenance). This would serve as a pilot for others in the Lau and Yasawa and other smaller island groups.

Capacity Building and ICT:

Fiji like many other small countries is short of trained and skilled manpower and Capacity building is required as an essential component of each and every project. This is not via workshops but as willing staff on the actual projects, attachments and data processing.

IT, GIS development to an acceptable standard and the development of Internet and Intranet systems to disseminate information would lead to bettering of coordination and decision making. The current FLIS system needs to be expanded to incorporate other data. Data quality and access are issues that need to be addressed in Fiji.

The issue of an online database possibly held at SOPAC but mirrored say at MRD or other agencies is important.