

# **Fiji**

## **Country Environment Profile**

September 2006

Prepared and compiled from existing published reports, as part of the of the Country Support Strategy for the 10<sup>th</sup> European Development Fund programming under the Cotonu Agreement in line with the EU Pacific Strategy focusing on strengthening cooperation to address the management of natural resources and environmental challenges.

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## Preface

Emphasising a "blue-green" theme the renewed "*EU relations with the Pacific Islands: A Strategy for Strengthening Partnership*" focuses on strengthening cooperation with Pacific ACP countries to address the sustainable management of natural resources and environmental challenges. 10<sup>th</sup> EDF programming requires that the environment is integrated into all Country Strategy Papers ensuring that future actions are appropriately targeted. An important step in this process is the preparation of an environment profile for each Pacific ACP country.

The main objective of the Fiji Country Environmental Profile is to identify and assess environmental issues to be considered during the preparation of a Country Strategy Paper, which will directly or indirectly influence EC co-operation activities. The Fiji Country Environmental Profile provides decision-makers in Fiji and in the European Commission with clear information on the key environmental challenges, the current policy, legislative and institutional framework and the strategies and programmes (including those of the EC and other donors) designed to address them. This information will ensure that the EC co-operation strategies systematically integrate environmental considerations into the selection of focal sectors and co-operation objectives/strategies, and also establish the necessary environment safeguards for all co-operation activities undertaken in Fiji. The Profile establishes the key linkages between the environment and poverty reduction. It constitutes an important source of baseline information and will contribute to focusing political dialogue and co-operation with Fiji on key areas of concern including sustainable development as well as raising awareness among policy-makers.

This Profile has been prepared and compiled from existing published reports, including in particular the following:

- *Fiji's National Environment and Development Management Strategies (NEMS), 1994.*
- *Fiji's National Assessment Report for the 10-Year review of the Barbados Programme of Action for Small Island Developing States, 2004.*
- *Fiji's Draft Country Diagnostic Report for the Global Environmental Vulnerability Project compiled by UNEP and SOPAC, 2005.*

In the very short time frame to produce this Profile, no attempt has been made to update the information contained in these reports, and editing has been minimal. One next step in the EDF 10 process should/could be to update and revalidate the information contained herein.

## 1. Summary

This Fiji Country Environment Profile provides the background information from a national perspective, and suggests possible areas for intervention with EDF 10 resources.

Fiji is an island archipelago encompassing more than 300 islands which make up a total land area of 18,270 square kilometres scattered throughout 1.3 million square kilometres of exclusive economic zone of the South Pacific Ocean. The two largest and highest islands are Viti Levu and Vanua Levu, which comprise 87 per cent of the total land area.

Fiji is subject to potentially catastrophic climate events such as cyclones, flooding and multiple landslips. Climate change and sea level rise could have also profound consequences for some urban centres, agriculture and coastal development. The environment is under increasing pressure from a range of natural and developmental pressures including tourism development, cultivation on steep lands, and poor solid and liquid waste management. The early enactment of the Environmental Management Bill is expected to enhance Fiji's capacity to respond effectively to these perceived environmental risks.

Fiji has faced a challenging decade since the publication of its National Environment Management Strategies (NEMS) in 1994, which is based upon the principles agreed to at the Earth Summit on Environment and Development held in Rio, 1992. Not the least of the challenges has been to address the devastating impacts of the 1987 and 2000 coups and their aftermath, on Fiji's efforts to achieve sustainable development and thereby reduce poverty.

The NEMS states that: *"Fiji is definitely at a threshold, environmental problems: are sufficiently advanced to be easily appreciated by any decision-maker who cares not to dismiss them; and have the potential to escalate rapidly both in extent and severity. ...The Fiji Government is charged with the responsibility of promoting development to improve the quality of life of all Fiji citizens. Fiji is fortunate in having a wide natural resource base, is endowed with a rich variety of natural resources and ecosystems which have historically and which continue today, to form the basis of national development. However, development is currently being promoted without due respect for the limits of renewal and replenishment of Fiji's natural resources. Fiji's "natural capital" is being depleted while measures to manage this capital are poorly developed and generally ineffective. There are vivid examples of this depletion of national capital"*.

The objectives of the NEMS were stated as follows:

- to protect ecological processes and life-support systems (such as freshwater and coastal systems), soil, forest, urban, and agroecosystems, on which human survival and development depend;
- to provide for cultural, spiritual and other non-material needs of society by protection of, and development of diversity in the use of natural resources;
- to preserve genetic diversity on which depends the functioning of many life-support systems and actual potential commercial, medical and scientific uses;
- to ensure the sustainable use of renewable resources (especially fish, forest, freshwater and arable lands) on which the Fiji economy is overwhelmingly based; and
- to ensure that non-renewable resources are depleted at a rate that enables transition to the use of more abundant materials and ultimate sustainable use of renewable resources.

To achieve these objectives the NEMS indicated the need to develop:

- an effective environmental capability;
- effective heritage protection; and
- meaningful public involvement.

Fiji's progress over the last decade has laid the platform for necessary mechanisms to implement all its environmental obligations under international and regional environment conventions since the

Barbados Programme of Action in 1994, which will support national efforts of sustainable development and natural resource management. Despite progress over the years, new concerns have emerged together with imperative issues of special needs that require immediate assistance from the international community on the sustainable management, protection and conservation of Fiji's natural, ecological, cultural and human resources. These emerging concerns are seen as the next stepping stone for Fiji to consider in the coming decade if it is to fully realise a balance between development and natural resource management.

Some brief specific comments on challenges and concerns are as follows.

### **Climate Change**

- Strengthen climate change coordination mechanisms, enhancing coherence in their activities, and improving synergies.
- Design multi-sector policy programmes for instance coastal erosion, environmental threats, current climatic implications (hazards), coastal resource management, infrastructure management that are inclusive of potential effects of climate change.
- Future approaches to tackling climate change should be programmatic, short-term project cycles have limitations and relevant milestones and evaluations should be built into a longer term approach, along with flexibility to enable strategic change of direction if required.
- Develop a pool of national expertise to address UNFCCC implementation issues at the national level.
- Develop and strengthen linkages of climate change issues within national planning processes.

### **Natural and Environmental Disasters**

- Limited capacities towards human resource development, resource/tools for work and funding for the NDMO, including making the shift from response and recovery to a risk reduction focus.
- Location of the National Disaster Management Office (NDMO) within the administrative structure of the Ministry of Regional Development suppresses it and curbs full implementation of its functions and national responsibilities.
- Strengthen networking amongst all stakeholders, many agencies in government and outside are working sectorally and independently with little consultation with the NDMO.
- A dedicated budget is needed to implement identified activities and work programmes to facilitate provisions for response and rehabilitation.
- Low priority given within government, municipal and rural development planning on vulnerable and risk elements of society, and the interplay between natural and man-made disasters.
- Limited appreciation and acknowledgement by relevant stakeholders of the interlinkages between natural and man-made disasters.

### **Management of Waste**

- Development of a national waste (solid and liquid) management plan or strategy, which should be backed up by appropriately structured legislation with enforcement components.
- Promote best practice methods of waste management to raise awareness amongst sectors currently dealing with waste management at all levels.
- Improve data collection methods and analysis at the national level to ensure targeted activities at the most pressing problems.
- Maximise on the options for recycling, and encourage use of alternative biodegradable packaging and products.
- Formulate appropriate policy as well as supportive legislation framework for the protection of ambient air quality and to control emissions.
- Promote increase involvement of NGOs and civil society in waste management initiatives.
- Formulate land use / resource use planning systems to cater for site selection and control uses/activities in close proximity to dumps, or control new uses/activities to ensure reduced waste production.

- Securing support for the removal of existing stockpiles and consolidation of investments to improve landfill design and management for the overall reduction of the waste stream.

### **Coastal and Marine Resources**

- Capture quality information to support decision-making at all levels.
- Collection and coordination of baseline and monitoring data.
- Adoption of an ecosystem-based approach to fisheries management, particularly coastal fisheries as a more holistic approach to designing fisheries promoting integrated and sustainable resource management, including training programmes for fisheries managers.
- Strengthen the effectiveness of vessel registration and monitoring system for offshore fisheries.
- Creation of national and regional networks of MPAs.
- Enhance support for and increase use of community-based approaches to conservation and management of inshore resources and strengthen and revitalise traditional management regimes, supported by science and precautionary approaches.
- Develop appropriate aquaculture initiatives.
- Assistance to Fiji to prepare its submission, before November 2009, for potential claim to extended continental shelf under Article 76 of the Law of the Sea Convention.

### **Freshwater Resources**

- The main challenge for Fiji is to develop comprehensive water legislation that will ensure that the resource is managed sustainably by a single government agency. In this context existing water stakeholders will have to surrender some of their powers. Fiji is on the way to addressing this challenge through a working group, however strong political will is needed to ensure that current water stakeholders give up some of their interest to ensure that freshwater resources can be managed sustainably.

### **Land Resources**

- A major limitation to the achievement of sustainable use of land resources and rural development in Fiji is the lack of a National Land Use Plan and an institutional responsibility for land use planning to facilitate the national plan. Land resources are limited and finite. If demographic trends continue, there is an increasingly urgent need to match land systems, soil types and land uses, to maximise sustainable production and meet the needs of society.
- There is serious lack of resources (financial and human) for the line ministries that have responsibility for agriculture, forestry, mining and land use in general.

### **Energy Resources**

Key constraints related to the planning, production and distribution of sustainable energy resources and systems, including improving energy conservation and efficiency, and increasing the amount of affordable renewable energy are as follows:

- high capital costs;
- lack of institutional framework, capacity and capability;
- lack of definition regarding tariffs for rural electricity supply;
- lack of revenue collection technology;
- lack of information and awareness of the potential for renewable energy systems; and
- renewable energy is not considered a priority sector.

### **Tourism Resources**

- Ensure that tourism development and social and environmental management are mutually supportive at all levels through monitoring impacts of tourism development.
- Adopt integrated planning, policies and implementation plans to ensure sustainable development, especially land-use planning and coastal zone management, requiring environmental impact assessments for all tourism projects and cultural impact assessment for all large tourism operations.
- Identify and develop facilities to meet specific niche tourist markets, strengthening environmental and cultural based products.

- Adopt proactive measures to protect the cultural integrity, making it mandatory for cultural impact assessments to be carried out for all large scale tourism operations.
- Establish or strengthen national mechanisms for information exchange and promotion on development of a safe and sustainable tourism sector.
- Promote recognition of the value of tourism in SIDS, yet the fragility of resources upon which it depends.
- Encourage decision makers at all levels to develop lateral thinking mechanisms, considering activities from a holistic approach.
- Improve links between national tourism offices, environmental agencies, NGOs and industry.
- Further development of environment (green) based tourism.

### **Biodiversity Resources**

- Information management, analysis and presentation to support biodiversity conservation activities.
- Implementation of the National Biodiversity Strategies and Action Plan is an increasingly important mechanism at the national level for strengthening country capacity to manage key threats and to reach biodiversity goals such as protection of significant species and ecosystems and ensuring sustainability of customary and emerging natural resource uses.
- The access to and protection of traditional knowledge arising from the use of biodiversity in Fiji is a priority area requiring support under the CBD.

The conclusions and recommendations of the Fiji Country Environment Profile are as follows.

**Conclusion 1:** It should be highlighted that this Fiji environmental profile has been compiled as a desk study. Nonetheless, it has benefited from access to reporting on environmental issues by Fiji produced over the past decade, since 1992 at UNCED in Rio (Agenda 21), and in 1994 at the Barbados International Meeting on Sustainable Development for Small Island Developing States (BPoA). Most recently, Fiji has had the opportunity to produce national assessment reports for the 10-year review of both Agenda 21 (the World Summit on Sustainable Development in 2002), and the BPoA (the International Meeting on SIDS in 2005). Furthermore, the first 5-year national report of progress on achieving the MDGs was due for completion in September 2005.

**Conclusion 2:** The EU has supported Fiji along with all Pacific ACP countries during recent global environmental processes, and in particular in regard to environmental issues such as climate change, water and sanitation, renewable energy, food security, and how to improve livelihoods of island people by addressing the “special case for SIDS” in regard to vulnerability and addressing poverty through establishing poverty reduction strategy papers and national sustainable development strategies, or the like. Fiji needs support for implementation from the EDF 10.

**Conclusion 3:** Notwithstanding the current Country Support Strategy (refer Section 4.1) for EDF 9, together with assistance being provided through the Regional Indicative Programme, it should be noted that along with other Pacific ACP countries, Fiji has agreed to the new Strategy for Strengthened Partnership between the EU and the Pacific Islands which has a “*blue-green*” theme *within the context of sustainable management of natural resources and environmental challenges*. Within this broad theme specificity is needed to ensure the activities to be supported by the NIP deliver tangible and concrete benefits at national level that demonstrably contribute to strengthening the environmental pillar of national sustainable development and poverty reduction. In this context also, improved and strengthened links need to be demonstrated with the activities to be carried out at national level by the regional organisations supported by the Regional Indicative Programme.

**Conclusion 4:** Fiji’s environment is no exception to the reality that it provides the basic goods and services, such as water, energy and food security, upon which people live. Improvements and sustainability in these areas are essential to underpin generation of economic wealth. Fiji acknowledges that environmental considerations are inextricably linked across their national



development planning efforts, but there is a need to strengthen these interlinkages to ensure improved decision-making supports efforts to achieve sustainability.

**Conclusion 5:** The state of the Fiji environment over the past decade has deteriorated and remains highly vulnerable. Over the past decade much has changed with internal shocks from increasing population, concentration of that population through urbanisation and urban drift, and external shocks such as globalisation, HIV/AIDS, climate change and most recently increasing fuel prices. All are putting increased stress on the environment. Key examples of improvements needed are; secure safe water supply and sanitation; developing access to affordable renewable energy resources; food security from fishing and agriculture, to support sustainable development, improve lifestyles and reduce poverty. The urban and rural population, urban centres and outer islands must be targetted. Improvements in these “sectoral” areas will also have a positive impact on reducing Fiji’s vulnerability to climate change and natural disasters (many of which are weather-related).

**Conclusion 6:** Over the past decade some progress in many areas has been made in improving environmental sustainability through institutional strengthening. Although not as significant as Fiji would have liked. Much of the progress has been at the initiative of the Fiji and with its own financial resources. But much remains to be done to improve the efficiency and effectiveness of the national environmental machinery including strengthening the role of the NGOs. Development partners, including regional organisations, need to harmonise and coordinate their assistance more closely with Fiji needs and efforts, and amongst themselves. This will make both existing and new resources more efficient and effective.

**Conclusion 7:** In order to provide a platform to facilitate closely cooperation with its development partners, and improve governance, Fiji is developing overarching planning policy/regulatory and institutional arrangements to embed the principles of sustainable development in revisions of existing national development plans, including issues of environment concern. There is much room for supporting capacity building and technical assistance in this context.

**Conclusion 8:** Fiji’s capacity needs to be strengthened to manage its large marine environment compared with the generally small island land areas. In reality, as the marine “blue environment” and land “green environment” are an environmental continuum across the coastal zone. Fiji needs a spatially integrated management approach, similar to “island system management” promoted by the EU through one of the EDF8/9 regional projects.

**Conclusion 9:** Fiji, like many other of its neighbours, recognises the opportunities of improved information and communication technologies, in particular in regard to getting more up to date data and making it readily available to support the decision-making process.

**Conclusion 10:** Fiji needs to develop and strengthen its own national setting of indicators and targets, and monitoring arrangements to track progress, and link these to international development goals agreed at for example the WSSD, the Mauritius International Meeting on SIDS, and contained in all relevant MDGs and targets, not just MDG7 on environmental sustainability.

**Recommendation 1:** Concerning the selection of the focal sectors and response strategies for Fiji, within the overarching “blue-green” theme of sustainable management of natural resources and environmental challenges, key areas to consider are: securing safe water supply and sanitation; developing further access to affordable renewable energy resources; and improving food security from fishing and agriculture.

**Recommendation 2:** As a governance issue in regard to national institutional capacity to improve the management of natural resources and the environment, consideration needs to be given to supporting Fiji address institutional capacity assessment and needs for all its line ministries. Specifically:

- there is an immediate need to promote the participation and involvement of NGOs at the national and community level and be supported through capacity building;

- additional financial assistance is required to implement priority human capacity building needs of the country; and,
- the recognition of integrating environmental consideration into national economic planning is a critical issue that requires priority attention. The development of a national policy on economic growth and sustainable development must include the integration of environmental issues into economic planning.

**Recommendation 3:** Improve Fiji's national environmental information systems, and ensure environmentally-relevant indicators to be used in the EDF 10 National Indicative Programme, are integrated into these systems.

**Recommendation 4:** Fiji's access to the use of EC horizontal budget lines (such as Environment and Forests) and facilities (EU Water Facility - EUWF and the EU Energy Facility - EUEF), and the EU/ACP Natural Disaster Fund are limited by national capacity constraints. Each of these opportunities of additional financial resources are important and should these funds/facilities be ongoing consideration needs to be given to assisting Fiji prepare the bulky and complex applications.

**Recommendation 5:** In order to ensure effective and efficient support to Fiji, it is important for the EU to develop new and strengthen existing opportunities for co-ordination on natural resources and environmental issues with other donors (including regional organisations) seeking to achieve complementarities and synergies.

## 2. Fiji State of the Environment

### 2.1 The Development Context

Fiji has faced a challenging decade since the publication of its National Environment Management Strategies (NEMS) in 1994, which is based upon the principles agreed to at the Earth Summit on Environment and Development held in Rio, 1992. Not the least of the challenges has been to address the devastating impacts of the 1987 and 2000 coups and their aftermath, on Fiji's efforts to achieve sustainable development and thereby reduce poverty.

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The objectives of the NEMS were stated as follows:

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- to ensure that non-renewable resources are depleted at a rate that enables transition to the use of more abundant materials and ultimate sustainable use of renewable resources.

To achieve these objectives the NEMS indicates the need to develop:

- an effective environmental capability;
- effective heritage protection; and
- meaningful public involvement.

The following brief sections on environment, economy and social and human development are taken from the Country Diagnostic Report prepared at the completion of the Environmental Vulnerability Project (SOPAC UNEP 2005).

#### 2.1.1 Environment

Fiji is an island archipelago encompassing more than 300 islands which make up a total land area of 18,270 square kilometres (refer maps Appendix 1). The Fiji islands are scattered over 1.3 million square kilometres of the South Pacific Ocean, lying between latitudes of 12 and 22 degrees South and between longitude 175 degrees East and 178 degrees West. The two largest islands are Viti Levu and Vanua Levu, which comprise 87 per cent of the total land area.

Fiji has a mild tropical climate with plentiful rain under prevailing conditions. There are two distinct seasons, the dry season from May – October with an average rainfall of 500 mm and the wet season from November to April with an average rainfall of 1,435 mm. Temperatures generally range between 19-32°C.

Fiji is subject to potentially catastrophic climate events such as cyclones, flooding and multiple landslips. Climate change and sea level rise could have also profound consequences for some urban centres, agriculture and coastal development. The environment is under increasing pressure from a range of natural and developmental pressures including tourism development, cultivation on steep lands, and poor solid and liquid waste management. The early enactment of the Environmental Management Bill is expected to enhance Fiji's capacity to respond effectively to these perceived environmental risks.

### **2.1.2 Economy**

The Fiji economy has a very narrow base, with its performance heavily dependent on the success of tourism, sugar, gold, and garment industries. While traditionally the economy has been dominated by primary production, this is slowly changing as other sectors develop. Agriculture remains the mainstay and largest sector of Fiji's economy.

The Fiji economy showed good growth over the period 1995 – 1999 developing at an average rate of 3.2% per annum. In 1997, growth slowed because the sugar industry suffered from low world prices and there were rent disputes between farmers and landowners. Drought in 1998 further damaged the sugar industry, but its recovery in 1999 contributed to robust GDP growth. Following the coup of May 2000 the economy suffered a severe drop in growth resulting in a negative growth rate of -2.8%.

This economic slump led to some 7,000 people losing their jobs, and many in the private sector facing wage cuts or reduced working hours. Many highly trained and qualified people chose to migrate to New Zealand, Australia or USA resulting in a shortage of skilled labour in many sectors including education, health, engineering and information technology.

Since 2001 there has been some recovery in the mining, construction, trade, tourism and transport sectors. As a result the economy showed positive growth of around 3.2% to 2002. However low investment and uncertain property rights continue to hinder growth. The sugar industry is currently in decline and is expected to decline further due to persistent unresolved industry issues and the loss of preferential access and price as the EU Sugar Regime reforms start to come into effect after 2006.

### **2.1.3 Social and Human Development**

Fiji's estimated population in 2004 was 840,201 with a natural growth rate between 1986 and 1996 of 0.8% per annum. Migration levels have stabilised although political turmoil in 1987 and 2000 resulted in increased migration of mainly educated highly skilled people. Fiji has a growing urban population with more than 46% of the population now living in urban centres. The majority live in Suva city, the capital and administrative centre of Fiji.

Fiji Islanders enjoy a relatively good standard of living with a life expectancy of 67 years. Fiji had a Human Development Index score of 0.758 in 2004 and ranked globally 81<sup>st</sup> of 177 countries. Fiji also ranks 42<sup>nd</sup> of 95 developing countries.

Political instability and the socioeconomic situation have contributed to a significant increase in hardship and poverty. Despite having a relatively high HDI the 1997 Fiji Poverty Report found that 25% of households could not afford a basic standard of living with most usually having little education or skills and have difficulty getting jobs. It was estimated that 5% of these people live in absolute poverty. Poverty alleviation is therefore a priority issue for government. The advancement of indigenous Fijians and Rotumans and job security for the 15,000 school leavers every year are important development issues.

## 2.2 State of the Environment as Reported in 2004

In 2004, Fiji produced a National Assessment Report for the 10-year review of the Barbados Programme of Action (BPoA) for Sustainable Development of Small Island Developing States. Section 2.2 is taken from this national assessment and has been abbreviated as necessary. The order and naming of the sections has been retained, as it largely (but not exactly) conforms to the BPoA, the globally accepted blue print for sustainable development of SIDS. It is also consistent with the recent (January 2005) internationally agreed Mauritius Strategy for Further Implementation of the BPoA.

### 2.2.1 Climate Change and Sea-Level Rise

Fiji has signed and ratified the UNFCCC and its Kyoto Protocol. Fiji also completed in 1997 its first Greenhouse Gas Inventory (GHG).. The report highlights biodiversity issues, such as reduction of deforestation, establishment of conservation or protected areas for purpose of reducing greenhouse gas emissions in Fiji. These issues have been included in the Fiji Biodiversity Strategy and Action Plan (BSAP).

In 2000, a vulnerability and adaptation assessment report for the island of Viti Levu was carried out in four sectors: agriculture, coastal resources, human health and water resources. Some of the practical actions suggested in the report to reduce impacts of climate change included the following:

- develop sustainable agro-forestry systems to raise and diversify production, improve soil fertility, prevent soil loss and environmental degradation, and reduce dependence on external inputs;
- develop intensive high-input agricultural systems on lowlands by introducing short-duration cover-crops and legumes to improve soil fertility and structure, conserve moisture, reduce build-up of weeds and pests, reduce reliance on imported chemicals and fertiliser, minimise environmental degradation and increase green fodder availability;
- appraise socio-economic issues and feed information into cropping trials and extend technology to the farming community using a farmer to farmer approach;
- for coastal adaptation measures, historical shoreline change and current spatial and temporal dynamics should be investigated, detailed habitat mapping and assessments must be performed in conjunction with monitoring and instrumentation exercises, and natural protection improved using measures such as reducing mangrove logging and planting more seedlings, reducing coral extraction activities, siltation and pollution incidence;
- institute the most appropriate and effective adaptation measures to the effects of climate change on human health such as the provision of an adequate and healthy standard of housing for all;
- provide safe and adequate water supply and improved sanitation especially for those in rural areas and in peri-urban areas, improve management of both liquid and solid waste;
- improve access to quality primary health care, especially in rural and peri-urban areas, protect and enhance ecological and land productivity to help employment and alleviate poverty;
- direct mitigation measures on flood control such as construction of engineering control measures, including, diversion channels, weirs and retarding basins, flood control dams, and river improvements such as widening of river channels, construction of dikes and excavation of river beds;
- for drought alleviation focus on water resource management should be given more effort to improve the overall management of the supply and reducing unnecessary losses such as through leakages; and
- current water legislation should be reassessed in order to prevent the over-exploitation by large water users in times of extreme surface water scarcity and other abuses, and should address alternative water resources such as development of groundwater to relieve pressure on surface supply, use of rainwater tanks for household and schools, maintain and improve water retention and storage function of watersheds by increasing forest area, regulating land development, protecting land uses that retard flow, such as, natural wetlands, and maintaining river flow capacity through soil conservation to prevent siltation, limit development and urbanisation in lowlying flood prone areas, promote flood-proof house design where necessary, improve social infrastructure and resilience through education programmes to liase community awareness of land and water conservation, better forecasting and

communication of impending flood and drought hazards and continued support of existing disaster reduction programmes.

A capacity building project for the development of adaptation measures intends to produce the following outputs for Fiji:

- awareness by Fiji's policy and decision makers on climate change vulnerabilities and adaptation options that could be put in place at national and community level;
- mainstreaming climate change adaptation measures into national and sectoral policies;
- increase awareness level of communities in Fiji of their vulnerabilities associated with climate change and adaptation options available to them; and
- implementing pilot projects in three communities in Fiji aimed at reducing climate change related risks.

In regards to the implementation of the Vienna Convention and Montreal Protocol, Fiji Government had enacted the Ozone Depleting Substances Act (ODS Act) in 1998 and Regulation in 2000. The intention was to establish an administrative framework for enforcement of controls to phase out completely by 2010 the import, use and storage of ozone depleting substances. The ODS Unit established in the Department of Environment monitors and enforces implementation of the ODS Act. The Unit has trained other enforcement agencies. Two Recycling Centres have been established in Suva and Nadi within National Fire Authority compounds to store used ODS from refrigeration and air-conditioning sector.

### **2.2.2 Natural and Environmental Disasters**

The establishment of the National Disaster Management Office (NDMO) in 1991 by Government was based on the International Decade for Natural Disaster Reduction (IDNDR) framework of action. The operations of the NDMO emphasises the shift in paradigm of disaster management in Fiji from that of reactive in nature during emergencies to that of a holistic approach, where processes are implemented in totality integrating all facets of disasters from pre, during and post events.

Major projects that emanated from this shift were the establishment of the National Disaster Management Plan in 1995 and the establishment of the Natural Disaster Management Act in 1998.

There have been many small projects implemented on vulnerability assessment by the NDMO in collaboration with relevant agencies. Some of these are directly related to post disaster events like cyclones and flooding. Three major projects on vulnerability issues that emanated during the period under review are:

- watershed management on the four major rivers in Viti Levu;
- Suva earthquake risk management project; and
- vulnerability and risk assessment in the Suva–Nadi corridor.

Early warning in the Fiji context is based on major natural hazards that impact the country like: tropical cyclones, flooding, earthquakes and tsunamis, droughts and landslides. For tropical cyclones and flooding, and droughts, early warning systems are prescribed within the functions of the Fiji Meteorological Services and the Hydrology Unit of the Works Ministry. For landslides, earthquakes and tsunami, the responsible agency is Mineral Resources Department. These functions are implemented through monitoring systems within these organisations, which have limited capacity to do intensive scientific research and rely on international assistance to build their capacities. The NDMO coordinates activities of these agencies especially during period of emergencies, response and rehabilitation.

Partners in Community Development Fiji (PCDF), a local NGO, is working closely with Government (Ministry of Regional Development's NDMO) and SOPAC in community disaster preparedness and management.

Fiji has adopted the content, methodology and delivery of US-Office of Foreign Assistance (OFDA) disaster training courses and has successfully adapted these regional courses into the Fiji context. A group of Fiji trainers are available to assist and deliver locally and also regionally to neighbouring countries that need help for development and implementation of their own training programmes.

### **2.2.3 Management of Wastes**

The major legislation that governs the collection and disposal of waste and sewage is the Public Health Act. It does not, however, cover sanitary landfills. The draft Environment Management Bill includes provisions for waste minimisation and pollution control, and identifies specific responsibilities for various bodies.

Refuse disposal and management of garbage dumps has become a national dilemma since almost all refuse dumps are currently not being managed to acceptable standards. Much of the rubbish at all municipal dumps can be recycled, but Fiji's municipal governments lack the power, resources and trained personal to implement adequate waste management initiatives, especially with the current rural to urban drift. A Litter Decree was enacted by Parliament in 1992 to minimise the visual pollution around the country. However it lacks the manpower to police the proper implementation of the Litter Decree.

Government has recently established, with EU support a proper sanitary landfill in Naboro that will cater for the Suva, Nausori, Nasinu, Lami and Navua areas. Public awareness of litter is being increased through the Department of Environment.

A Persistent Organic Pollutants (POPS) project is currently underway to develop:

- a chemical inventory and a management structure;
- increased community awareness on POPS and chemicals in general;
- a detailed National Implementation Plan for Fiji to comply with the Convention's obligation; and
- develop a funding request package.

The Public Works Department is responsible for the disposal and treatment of sewage. There are ongoing efforts to put sewer lines in areas that are without them.

Partners in Community Development Fiji (PCDF) a local NGO, implemented an artificial wetlands at the Fijian Resort in partnership with (UK) Darwin Initiative, Cuvu Environment Komiti (Nadroga Province) and Government. The Waibulabula or Living Waters Project) addresses the problem of nutrient loading negatively impacting coral reefs and marine ecosystems through innovative and appropriate technologies and, builds capacity in communities to manage and reduce wastes entering the marine environment through participatory awareness-raising workshops.

### **2.2.4 Coastal and Marine Resources, including Coastal and Marine Biodiversity Resources**

The marine resource sector boasts a diverse range of resources which range from fin-fish products such as yellow fin, bigeye, albacore and skipjack tuna species to prawn, seaweed, giant clam and tilapia farming which are cultured at a semi-commercial and subsistence level. There is also an extensive system of mangrove and coral reefs and an important crustacean, shell, and beach-de-mer resource.

The existence of stocks of tuna in Fiji waters has been well known for many years. The total allowable tuna catch in Fiji waters is currently at 15,000 tonnes, and the number of licenses issued currently stands at 90 per annum, 20 more than the sustainable limit proposed by SPC. This has raised concerns within the industry regarding excessive fleet sizes and over fishing. Destructive fishing practices such as the use of dynamite and poison also pose a major threat to the sector, causing irreparable damage in some instances to coral and other sea life.

The impact on mangroves and coastal areas has also been detrimental over the years due to industrial developments. Mangroves have been cleared, resulting in the destruction of a diverse ecosystem on

which a number of organisms and creatures depend. In addition, erosion resulting from inappropriate land use and land management practices in watersheds has led to progressive siltation of rivers resulting in deterioration of drainage and floodplains, frequent inundation and the formation of shallow bars across the river mouths, as is evident in Nadi and Ba river mouths. Dredging has become a very costly necessity.

Fiji has signed and ratified UNCLOS, the CBD, and the Cartagena Protocol on Biosafety. The Endangered and Protected Species Act was enacted in 2002 to regulate and control the international trade, possession and transportation of species protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and related matters.

The Government of Fiji is working in partnership with others and has initiated a programme on integrated coastal management. The initiative includes the involvement of all government ministries such as the Ministry of National Planning, Ministry of Agriculture, Sugar and Land Resettlement, Ministries of Fisheries and Forests, Ministry of Fijian Affairs, Ministry of Lands and Mineral Resources, Ministry of Works and Energy, the Non Government Agencies like the Native Land Trust Board, National Trust, Ports Authority of Fiji, Civil Societies such as the World Wild Fund for Nature (WWF), Foundation of the People of the South Pacific ( FSP), South Pacific Applied Geoscience Commission (SOPAC), University of the South Pacific( USP), resources owners and users. The Coral Coast is the project area.

The coastal areas are of vital importance to Fiji society and its national development. Most the urban centres and vast majority of villages are located on the shore, along with much of the population, agriculture, industry and commerce. Therefore as a result of population increase, rapid coastal development and increasing utilisation of coastal resources there has resulted various impacts on the coastal environment including; loss of habitat and biodiversity, inappropriate solid waste management, mismanagement of chemical wastes, pollution of air and waterways, and land degradation.

Some major national constraints in the areas of coastal and marine resources including the following:

- **Legislation:** Most of Fiji's legislation is outdated and not effective in a modern conservation management context. There are legislative and institutional shortcomings for the establishment of marine protected areas (MPAs). There are no formally designated protected areas, although there are several local initiatives resulting in the protection for certain sites. Now Fiji is setting up community MPAs with the support of NGOs, local institution and some government departments such as the Fisheries Department.
- **Finance:** Due to inadequate national funding, the NGOs with international connections and institutions are leading the way in the implementation of the conventions objectives in the areas of coastal and marine resources.
- **Destructive fishing practices:** Practices such as the use of poison from substances containing chemicals or chemical compounds or plant extracts are prohibited under fisheries regulations. However, this is difficult to police. Fisheries regulations also limits size of marine resource to be harvested.

### **2.2.5 Freshwater Resources**

Freshwater resources are to be managed under a single legislation. Cabinet in 2001 agreed to the development of a comprehensive National Water Policy and a working group has been set up to develop this policy with stakeholders. Following on from this will be the development of a National Water Management Strategy and this will be a precursor to a National Water Legislation.

At present there is very little ownership of freshwater resources by any single Government Department. The administration and conservation of freshwater resources is handled by a variety of departments.

- Public Works Department is responsible for public water supply.
- Mineral Resources Department investigates and develops groundwater resources for consumption.
- The Land and Water Resources Management Division of the Ministry of Agriculture administers watershed management issues and agricultural freshwater.



- The Ministry of Forests declares water catchment areas to be no-logging areas under the Forests legislation.

The Land Use Section of the Department of Land Resources Planning and Development carries out the awareness and training on the aspects of soil conservation and good land use practices on watershed, the Forestry Department of the Ministry of Fisheries and Forests advocates sustainable forestry management and the Division of Land and Water Resources Management of the Ministry of Agriculture, Sugar and Land Resettlement carries out dredging as an on going programme in Fiji's main river systems.

A coherent Watershed Master Plan for the country developed in 1998 cannot be implemented due to lack of financial resources. The plan resulted from a two year study on the watershed management and flood control for the four major river systems; the Rewa, Ba, Nadi and the Sigatoka rivers.

The concept of integrated water resource management is not a new idea for Fiji, but is a difficult one to implement given the multitude of agencies that deal with water, and the lack of overarching legislation dealing with water. There is very little if any coordination in terms of implemented projects with the national emphasis being on infrastructure development and enabling the availability of water for all.

Erosion resulting from inappropriate land use and land management practices in the watersheds has led to progressive siltation of rivers resulting in deterioration of drainage on floodplains, frequent inundation and formation of shallow bars across the river mouths. Dredging of rivers has become a very costly necessity.

Land degradation in the watershed causes peak flows in the rivers during high intensity storms. This results in downstream sedimentation and flooding with serious implication for settlements, domestic water supplies, infrastructure (roads, bridges) and crops. There is a general lack of attention by loggers to erosion, stream flows and ecological considerations, similarly to legally established reserve forest areas.

The consequences of land degradation and inappropriate land use practices have the potential to impact negatively on the tourist industry. Sectors of the industry express concern about dirty rivers, frequency of flooding, water rationing and poor quality water, unsightly landscape, pollution and visible waste. Environmentalists point to the vulnerability of the coral reefs to excessive sediments brought into the lagoons by the flooded rivers from eroding watersheds.

### **2.2.6 Land Resources**

The land area of Fiji comprises 90% of native land (or lands owned by traditional land owning units), 2% state land (formerly crown land); and 8% freehold land.

About 60% of the population resides in the rural areas. The small farm size (60% are less than 3 ha) force farmers into intensive cultivation (often monocropping) for high output, short-term production without (or minimal) fallow periods. With competition and pressure for land, subsistence gardens are increasingly being forced onto steeper slopes because of the expansion of cash cropping and grazing on flatter lands. Soil loss measurements indicate that the agricultural productive base in many sugar cane areas, and with ginger on slopes, is eroding at a rate that is higher than would be regarded as economically viable.

Poverty can be seen in all communities. The impact of poverty is offset by the relatively high level of subsistence and food security, but 25 per cent of the population are living below the poverty line and this proportion has probably increased as a result of the impact on land use from the recent droughts and subsequent floods.

Clearly, rural incomes have been reduced (both for farmers and those on wages) and greater rural unemployment exists as a result of these climatic events. Rural poverty is greatest among those farming degraded and or marginal land for agriculture and among those without access to the land. The significant increase in rural to urban migration has reduced the food security buffer and traditional (rural) family support mechanisms.

Pressures on land indicate an urgency to increase sustainable production per unit area. However, there is inadequate understanding throughout the agricultural sector about a much closer relationship between land use, crop type and land capability.

While over 60% of our total land area is suited to some form of agricultural activity, only about 29% are appropriate for arable farming. A study undertaken in 1965 on the soil resources of the Fiji Islands observed that most arable land was under occupation and that future development would be in hilly terrain. The area of land currently in use has increased substantially over the past 37 years, due to marginal and sloping lands being brought to use with the major aim of increasing productivity.

Agricultural practices such as intensive sloping land cultivation of sugar-cane, ginger and dalo; intensive flat land cultivation; commercial livestock farming without good pasture management; reclamation of large freshwater swamps for rice; and the reclamation of large mangrove islands for agriculture are not sustainable. Over the years, these practices have dramatically increased erosion resulting in the thinning of top-soils and the progressive siltation of rivers, deterioration of drainage on river flats and the frequent inundation of coastal areas. The inundation of coastal areas ultimately results in damage to infrastructure costing millions of dollars in rehabilitation, loss of life and the continuous expensive operations of dredging. In addition, it has had detrimental impacts on the water quality.

The inventory of Fiji's forestry resource was completed in 1995 and results indicated that forests cover represented 47.5% of total land area. The rate of conversion of natural forests into plantations needs to be contained, especially with the high value mahogany plantations maturing and speculations that a further 10,000 ha – 15,000ha is sought after by Fiji Hardwood Corporation Ltd, which was set up to coordinate Government's efforts to manage, harvest and market the mahogany resource.

Although exotic plantations (pine and hardwood) do not account for a large proportion of the total forest cover, any major increase must be balanced against a possible loss of biodiversity and the increased risk of loss from a new pest or disease. These plantations have had on balance, very positive environmental impacts. They are however resulting in the conversion of richly diverse forests into exotic monocultures with insufficient attention paid to the role of natural forest cover in the protection of watersheds, streams, and soil resources.

The rate of deforestation is modest and appears to be occurring at a rate of 0.5–0.8 percent per year and is continuing a more controlled regime following the introduction of the National Code of Logging Practice (NCOLP).

Some of the threats to forest resources includes the growing incidences of wild fires which destroys natural wild life habitats, the ease with which protection forests can be logged through the loophole of agricultural development, the disregarding of stream flow, soil erosion and ecological considerations when logging, and the inattention given in some logging operations to legally established reserve areas.

Currently there is an over-centralisation in planning and current legislation does not allow for the segregation of national, divisional and local issues. Therefore desirable outcomes from national, divisional and local land use and rural sector development objectives cannot be realised without the; bottom up or participatory approach, change in current national centralisation of control, introduction of legislation that segregates national, divisional and local issues, integration of land capability and

community needs with the absence of law and processes for the co-ordination of watershed management, land zoning, land use planning and sustainable natural resources management.

A major limitation to sustainable rural development in Fiji is the lack of a National Land Use Plan and an institutional responsibility for land use planning to facilitate the national plan. Land resources are limited and finite. If demographic trends continue, there is an increasingly urgent need to match land systems, soil types and land uses in the most national way possible, to maximise sustainable production and meet the needs of society. Land use planning is fundamental to this process.

The synergies derived from combining the sustainable land management and sustainable forestry management initiatives augers very well with the idea of integrating the UNCCD, UNCBD and the UNFCCC principles.

The 2000 coup caused a lot of setback in the sustainable development of the mineral resources sector in Fiji. The Fiji Government will internally fund the completion of a new mining legislation that was abandoned as Australia withdrew its aid following the coup of 2000. In addition to this new staff are being trained to replace those that departed following the 2000 coups. Some experts with relevant Fiji experiences are being brought in to fulfill certain specific tasks to ensure sustainable development in the sector.

The challenge for Fiji is to show that this is a sector where the income streams generated for Fiji can help alleviate poverty and ensure sustainable development in the country. Fiji has a large number of underexplored mineral deposits which all have the potential of being utilised economically.

Sustainable land resources development and management is currently ineffective because there is no strong executive authority in a coordinating role, nor is there close integration between government departments and other stakeholders, and there is an absence of any strong political will.

There is very poor understanding in the rural sector about the various legislation that pertains to land, land use practice and soil conservation. This situation results in part from the fact that the majority of government and corporate field officers responsible are themselves not conversant with various legislations. Very little public awareness programs had been carried out to inform stakeholders about land husbandry provisions stated in these laws and also written into rural land leases.

### **2.2.7 Energy Resources**

At the end of 2002, electricity accounted for 3.7 percent of GDP. The census of 1996 revealed that 87% of the total number of urban households had access to electricity supply as compared to 75% in 1986. In terms of rural access 49% of the total number of rural households had access to electricity supply in 1996, compared to 31% in 1986.

Fiji has a major hydroelectric scheme (Monasavu) that serves the bulk of the population on the main island of Viti Levu. Bagasse, a by-product of sugarcane, is used for power generation in sugar manufacturing, and wood wastes are used in saw milling. Firewood remains the leading fuel for domestic cooking in rural areas. Thus, 73% of the energy supply is from domestic sources (2002) excluding transportation usage.

The Fiji Electricity Authority (FEA), a wholly Government-owned commercial statutory authority, is responsible for the generation, transmission and distribution of electricity in Fiji while the three oil companies undertake the purchase, storage and distribution of petroleum products throughout the country. Government through the Department of Energy (DOE) is responsible for national energy policy and planning, promoting the development of renewable energy resources and renewable energy service companies (RESCOS), energy conservation and the coordination of rural electrification activities through the Rural Electrification Programme.

To minimise Fiji's reliance on petroleum products, Government has continued to focus on the development of renewable energy through the use of wind, solar, hydro, wave, biomass and

geothermal resources. A number of assessment programmes to explore and exploit these indigenous energy resources have been implemented and have proved to be successful (hydropower, solar lighting, solar powered video and TV systems, wood stoves, solar water pumps, solar water heaters, biogas plants, steam co-generation plants, solar hot water systems and copra biofuel systems). The Government has also removed duty on the importation of renewable energy technologies to assist renewable energy companies to promote renewable energy technologies to the people and also attract other companies into the market. Some of the renewable energy resources currently being explored in the country are as follows.

**Hydro:** The Monasavu hydropower plant has the capacity to supply 70% of Fiji's electricity needs, but currently supplies much less and continues to diminish with the adverse weather condition/patterns. Demand for electricity is currently growing at 8% per annum. There are several additional sites at a scale of 5 to over 50MW, which have the potential to be major suppliers of electricity. With a potential resource of 300 MW, hydropower will likely to provide the bulk of increased generating capacity over the next several decades. Donor partners have supported the development of several micro hydro sites.

**Biomass:** The biomass resource supplies approximately 64% of the energy consumed in Fiji. Rural households use firewood for domestic cooking. There is also some trade in firewood in urban areas. Coconut residues are also used for copra drying. The bulk of the bagasse (~93%) available at the sugar mills is used to produce the heat and electricity for internal use. In 1999, 3% of the electricity consumed in Fiji was produced using bagasse.

**Geothermal:** There is some evidence of geothermal resources on the two major islands. Preliminary assessments by DOE indicate that there is potential for steam generation and electricity production at two sites in Labasa and Savusavu respectively.

**Wave:** Assessment for wave energy potential at Kadavu is being undertaken. Preliminary data analysis indicates resource potential of over 50 kW of wave energy can be harnessed. This can further be increased to 1MW depending upon the assessment feasibility studies. Other sites around Fiji are also planned to be assessed.

**Solar:** The solar resource can be estimated correlating solar-radiation-satellite data to ground data obtained with pyranometers. The total installed PV capacity in Fiji is about 80kW.

**Wind:** DOE in 2003 has pursued evaluation of wind resources in three locations. Unfortunately, the resource required for commercial development has not yet been identified. Wind regimes corresponding to annual averages of at least 7 m/s are required to produce electricity at rates that are competitive with those that are available through the national grid. A value of approximately 6 m/s is cost competitive for rural electrification in remote locations.

**Hybrid:** The Nabouwalu pilot hybrid system includes eight 6.7kW wind-turbine generators, 37.4 kW solar array system and 2 x 100 kW diesel generators. Nabouwalu has a total capacity of 720 kWh/day with renewables (wind and solar) providing 80% and diesel providing 20% of this total. The percentage values of renewables and diesel have varied over the years due to climatic conditions.

Government places emphasis on the importance of conserving energy through its Energy Conservation Programme that entails energy assessment and implementation programs to identify possible areas of energy and financial savings and further ensures that these savings are realised. During the past decade, the DOE has been able to include energy conservation topics in the Fiji schools curriculum, disseminate information on energy conservation via newsletters, stickers and posters, conduct energy audits of several government departments and hospitals. Advice on energy audits have also been provided to the private sector who undertake their own energy conservation programs

The Department has also embarked on energy conservation and renewable energy initiatives/projects with SOPAC. These involve appliance labelling of electrical household appliances, Earth Day

competitions for schools, wave and wind energy assessments, energy information and database expertise. The Fiji Electricity Authority (FEA) has also been active with the Department in promoting and aggressively pursuing energy conservation programmes such as energy for cash rebates and public awareness around Fiji through “customer awareness” campaigns.

The Department with funding from the Global Environmental Facility (GEF) through UNDP, established a new Unit “Office for the Promotional of Renewable Energy Technology” (OPRET), that has been active in establishing the framework for the participation of *renewable energy service companies* (RESCO’s) for the electrification of the rural sector.

The Department’s Rural Electrification Unit (REU) is tasked with the penetration of grid electrification powered by Fiji’s hydro resources into the rural areas of the nation. In effect, the REU not also facilitates the provision of electricity services through the FEA, but its also provides stand alone electricity services through implementing renewable energy projects such as, copra biofuel, biogas, solar and wind based systems. Rural populace are in fact given an option to choose the type of renewable energy based electrification system preferred however, the final decision on the type of system to be installed will depend upon the assessment and resources available at the Department and at the site.

### **2.2.8 Tourism Resources**

The Fiji Tourism Development Plan 1998 – 2005 is the overall guiding policy document for the industry, and sets out the path aimed at sustainable tourism development. Current initiatives that advocate sustainable tourism development are:

- national commitment towards a code of ethics for stakeholders in the tourism sector;
- institutional strengthening and capacity building in human resources, and community development; and
- cost-effective target marketing through the Fiji Visitors Bureau and the tourism industry to achieve a sustainable balance on demand and supply.

The Ministry of Tourism in trying to implement the Environmental Conservation of the Fiji Tourism Development Plan 1997-2005 is currently working together in partnership with the Integrated Coastal Management and Fiji Locally Managed Marine Area Network.

The World Wide Fund for Nature - South Pacific Programme (WWF-SPP) and ADB formed a partnership agreement through a memorandum of understanding with the Ministry of Tourism to carry out a strategic environmental assessment of Fiji's Tourism Development Plan. This case study was chosen because tourism is the fastest growing industry in Fiji with potentially significant impacts on its natural and social environment.

One of the approaches used by the Ministry of Tourism is through the introduction of Green Globe 21 Best Practice and Benchmarking Programme, the global performance brand for sustainable travel and tourism. Green Globe is being supported in Fiji as it focuses on important global environmental issues relevant to tourism, energy efficiency and reduction of greenhouse gas emissions, resource conservation, land use planning, water use, local community and cultural issues, wastewater and waste minimisation. The programme aims to educate and convince resort owners, resource owners and other stakeholders in the tourism industry that protecting the environment through adhering to required environmental standards would benefit them now and also in the future.

Tourism resource owners have often been neglected in tourism developments. The Fiji Tourism Resource Owners Association was established to create, facilitate and encourage a peaceful and harmonious business environment and linkage between resource owners and other stakeholders in the industry. Since they are now a recognised body in the industry their concerns and the concerns of other stakeholders on environmental issues can be discussed and addressed in national tourism forums.

Following a successful Coral Cay Conservation [CCC] pilot survey, a comprehensive and detailed survey programme for coral reefs in the Mamanuca Islands was carried out to determine the current status of the coral reefs and threats to their integrity and suggest possible conservation initiatives. The support on conservation measures by many stakeholders in the Mamanuca islands indicate their desire to protect and preserve their fragile environment.

Initiatives such as these in collaboration with other significant environmental NGOs, work with communities by assisting them in identifying their natural resources, their use of *qoliqolis* and through workshops and training programmes to learn how they can better manage their resources through alternative income generating activities such as marine tourism and ecotourism. They also help communities by providing technical assistance that is needed. This is done in order to assist understanding on the part of both tourist operators and local communities of conservation measures, which allow for sustainable tourism development in harmony with the sustainable use of marine resources by the local community.

The Ecotourism and Village Based Tourism Policy and Strategy for Fiji defines Ecotourism as “ a form of nature based tourism which involves responsible travel to relatively undeveloped areas to foster an appreciation of nature and local cultures, while conserving the physical and social environment, respecting the aspirations and traditions of those who are visited, and improving the welfare of local communities.

Furthermore, it emphasises the need to situate ecotourism and village based tourism within overall policy for the tourism development and the environment, and proposes institutional changes that will facilitate the expansion of rural tourism while preserving the essential natural and social environments on which its future success must be based. Ecotourism in a way is the flag carrier for the concept of sustainable tourism.

An Ecotourism Grant Programme was endorsed by Cabinet in 2001 for government to co-fund the projects and involve the active participation of landowners/indigenous Fijians in tourism projects. To date sixty projects are operating. In general, ecotourism ventures that are assisted by the eco-grant to :

- operate on a small scale and with relatively little capital;
- cater for tourists motivated by a desire to learn;
- support locally/village owned and operated ventures; and
- protect the environment through sustainable practices.

### **2.2.9 Biodiversity Resources**

Fiji has ratified the CBD, and the Convention on Endangered Species (CITES) in 2000 and the Endangered Species Act was enacted in 2002.

Fiji is finalising the formulation of the National Biodiversity Strategy Action Plan (NBSAP) and a final round of consultation with stakeholders is in progress to review the final draft. There is a need to establish funding in order to implement the NBSAP.

For conservation of biological biodiversity the Department of Environment is promoting community support through projects such as the International Waters Programme (IWP) and the National Environment Awareness Programme through the Environment Week and Arbor Day.

A national resource base inventory has been developed by the World Wide Fund For Nature (WWF) to conduct detailed inventories of existing flora, fauna and ecosystems in order to provide basic data for the preservation of biodiversity.

The Intellectual Property Rights (IPR) legislation was enacted in 2003 to ensure that the ownership of IPR is adequately and effectively protected but there is a need to establish an effective enforcement system.

## 2.3 Emerging Concerns

Fiji's progress over the last decade has laid the platform for necessary mechanisms to implement all its environmental obligations under international and regional environment conventions since the Barbados Programme of Action in 1994, which will support national efforts of sustainable development and natural resource management. Despite progress over the years, new concerns have emerged together with imperative issues of special needs that require immediate assistance from the international community on the sustainable management, protection and conservation of Fiji's natural, ecological, cultural and human resources. These emerging concerns are seen as the next stepping stone for Fiji to consider in the coming decade if it is to fully realise a balance between development and natural resource management.

Some brief specific comments on challenges and concerns are as follows.

### 2.3.1 Climate Change

- Strengthen climate change coordination mechanisms, enhancing coherence in their activities, and improving synergies.
- Design multi-sector policy programmes for instance coastal erosion, environmental threats, current climatic implications (hazards), coastal resource management, infrastructure management that are inclusive of potential effects of climate change.
- Future approaches to tackling climate change should be programmatic, short-term project cycles have limitations and relevant milestones and evaluations should be built into a longer term approach, along with flexibility to enable strategic change of direction if required.
- Develop a pool of national expertise to address UNFCCC implementation issues at the national level.
- Develop and strengthen linkages of climate change issues within national planning processes.

### 2.3.2 Natural and Environmental Disasters

- Limited capacities towards human resource development, resource/tools for work and funding for the NDMO, including making the shift from response and recovery to a risk reduction focus.
- Location of the National Disaster Management Office (NDMO) within the administrative structure of the Ministry of Regional Development suppresses it and curbs full implementation of its functions and national responsibilities.
- Strengthen networking amongst all stakeholders, many agencies in government and outside are working sectorally and independently with little consultation with the NDMO.
- A dedicated budget is needed to implement identified activities and work programmes to facilitate provisions for response and rehabilitation.
- Low priority given within government, municipal and rural development planning on vulnerable and risk elements of society, and the interplay between natural and man-made disasters.
- Limited appreciation and acknowledgement by relevant stakeholders of the interlinkages between natural and man-made disasters.

### 2.3.3 Management of Waste

- Development of a national waste (solid and liquid) management plan or strategy, which should be backed up by appropriately structured legislation with enforcement components.
- Promote best practice methods of waste management to raise awareness amongst sectors currently dealing with waste management at all levels.
- Improve data collection methods and analysis at the national level to ensure targeted activities at the most pressing problems.
- Maximise on the options for recycling, and encourage use of alternative biodegradable packaging and products.
- Formulate appropriate policy as well as supportive legislation framework for the protection of ambient air quality and to control emissions.

- Promote increase involvement of NGOs and civil society in waste management initiatives.
- Formulate land use / resource use planning systems to cater for site selection and control uses/activities in close proximity to dumps, or control new uses/activities to ensure reduced waste production.
- Securing support for the removal of existing stockpiles and consolidation of investments to improve landfill design and management for the overall reduction of the waste stream.

#### **2.3.4 Coastal and Marine Resources**

- Capture quality information to support decision-making at all levels.
- Collection and coordination of baseline and monitoring data.
- Adoption of an ecosystem-based approach to fisheries management, particularly coastal fisheries, as a more holistic approach to designing fisheries promoting integrated and sustainable resource management, including training programmes for fisheries managers.
- Strengthen the effectiveness of vessel registration and monitoring system for offshore fisheries.
- Creation of national and regional networks of MPAs.
- Enhance support for and increase use of community-based approaches to conservation and management of inshore resources and strengthen and revitalise traditional management regimes, supported by science and precautionary approaches.
- Develop appropriate aquaculture initiatives.
- Assistance to Fiji to prepare its submission, before November 2009, for potential claim to extended continental shelf under Article 76 of the Law of the Sea Convention.

#### **2.3.5 Freshwater Resources**

- The main challenge for Fiji is to develop comprehensive water legislation that will ensure that the resource is managed sustainably by a single government agency. In this context existing water stakeholders will have to surrender some of their powers. Fiji is on the way to addressing this challenge through a working group, however strong political will is needed to ensure that current water stakeholders give up some of their interest to ensure that freshwater resources can be managed sustainably.

#### **2.3.6 Land Resources**

- A major limitation to the achievement of sustainable use of land resources and rural development in Fiji is the lack of a National Land Use Plan and an institutional responsibility for land use planning to facilitate the national plan. Land resources are limited and finite. If demographic trends continue, there is an increasingly urgent need to match land systems, soil types and land uses, to maximise sustainable production and meet the needs of society.
- There is serious lack of resources (financial and human) for the line ministries that have responsibility for agriculture, forestry, mining and land use in general.

#### **2.3.7 Energy Resources**

Key constraints related to the planning, production and distribution of sustainable energy resources and systems, including improving energy conservation and efficiency, and increasing the amount of affordable renewable energy are as follows:

- high capital costs;
- lack of institutional framework, capacity and capability;
- lack of definition regarding tariffs for rural electricity supply;
- lack of revenue collection technology;
- lack of information and awareness of the potential for renewable energy systems; and
- renewable energy is not considered a priority sector.

#### **2.3.8 Tourism Resources**

- Ensure that tourism development and social and environmental management are mutually supportive at all levels through monitoring impacts of tourism development.



- Adopt integrated planning, policies and implementation plans to ensure sustainable development, especially land-use planning and coastal zone management, requiring environmental impact assessments for all tourism projects and cultural impact assessment for all large tourism operations.
- Identify and develop facilities to meet specific niche tourist markets, strengthening environmental and cultural based products.
- Adopt proactive measures to protect the cultural integrity, making it mandatory for cultural impact assessments to be carried out for all large scale tourism operations.
- Establish or strengthen national mechanisms for information exchange and promotion on development of a safe and sustainable tourism sector.
- Promote recognition of the value of tourism in SIDS, yet the fragility of resources upon which it depends.
- Encourage decision makers at all levels to develop lateral thinking mechanisms, considering activities from a holistic approach.
- Improve links between national tourism offices, environmental agencies, NGOs and industry.
- Further development of environment (green) based tourism.

### 2.3.9 Biodiversity Resources

- Information management, analysis and presentation to support biodiversity conservation activities.
- Implementation of the National Biodiversity Strategies and Action Plan is an increasingly important mechanism at the national level for strengthening country capacity to manage key threats and to reach biodiversity goals such as protection of significant species and ecosystems and ensuring sustainability of customary and emerging natural resource uses.
- The access to and protection of traditional knowledge arising from the use of biodiversity in Fiji is a priority area requiring support under the CBD.

## 2.4 Summary Report of the Environmental Vulnerability Index Study

As part of an ongoing study by UNEP and SOPAC, to develop a global environmental vulnerability index, a draft country diagnostic report was completed in 2005.

The natural environment of Fiji is **Highly Vulnerable** (Appendices 2 and 3) to damage having an EVI score of 335 (Scoring criteria established during the EVI study determined: Extremely vulnerable 365+, Highly vulnerable 315+, Vulnerable 265+, At risk 215+, and Resilient less than 215). This score is based on 92% of indicators, making it a valid evaluation. The high vulnerability of the environmental support system of the country is due to both natural and human factors. There is a range of inherent structural factors such as small size, relative isolation, widely dispersed islands and large proportion of low-lying land. These factors mean that Fiji has low resistance to damage and a poor ability to recover when damage occurs. Hazards to the environment are moderately high and include high rainfall variability. A part of the country's environmental vulnerability comes from existing damage to its biodiversity, agricultural methods, use of pesticides and chemical spills.

There are many aspects of Fiji's environment that show good resilience and which could be preserved as a first step towards vulnerability management. The country has high resilience in the areas of ecosystem balance, habitat fragmentation, degradation, biotechnology, SO<sub>2</sub> emissions, vehicles and environmental agreements as well as little inherent risk associated with climate temperature and a range of geological hazards.

These results could serve to focus the country's efforts at developing sustainably by highlighting those environmental risks, resources and services that need attention to ensure overall well-being of the country.

These results highlight issues which could be considered for policy debate in Fiji as part of its overall sustainable development plan, as the EVI focuses on reducing environmental vulnerability and

building resilience in the country based on its existing conditions and potentials. However, environmental vulnerability needs to be considered concurrently with economic and social / cultural aspects of vulnerability. The results of this EVI evaluation are not stand-alone, but could be used to optimise development, identify strengths and weaknesses, and the trade-offs that may be needed to optimise development for the country. Further, with repeated evaluations using regularly updated information, the EVI could be used to monitor progress and identify new issues as they may arise.

The EVI has value not only for national planning, but also for interfacing with international processes such as the Commission for Sustainable Development and the Millennium Development Goals. In addition, thematic sub-indices produced under the EVI but not highlighted cover issues of vulnerability associated with climate change, natural disasters, biodiversity, degradation, water, agriculture and fisheries, and human environmental health that are the focus of international treaties to which the country is party. These thematic sub-indices can assist with meeting reporting and monitoring requirements.

The recommendations given below could serve as a starting point for mainstreaming issues of environmental vulnerability within the country's development strategies:

- Fiji could consider developing an overall policy on vulnerability and its role in promoting sustainable development. This should include elements of all three pillars of sustainable development: economy, society and environment and interactions among them. Such a policy could focus on an understanding of the trade-offs and the real costs and benefits of development options.
- Fiji could consider adopting the EVI and other measures (e.g. Economic Vulnerability Index, support the development of a Social Vulnerability Index, and use the Human Development Index, Environmental Sustainability Index and others) as part of its monitoring of sustainable development and meeting its Millennium Development Goals.
- Indicators missing in this evaluation could be evaluated as a priority, as they may identify further vulnerability or resilience issues that need to be addressed.
- Fiji could take steps to preserving its existing resilience as the most cost-effective and efficient first step in overall vulnerability management and promoting sustainable development. Using the EVI's thresholds, Fiji could set limits on the risk to damage that accumulates in the country for issues that can be affected by direct interventions. There is resilience in the environmental support system of the country, some of which can be used to promote development without exceeding limits of sustainability.
- Fiji could also consider establishing data collection mechanisms in the country and a way of re-evaluating the EVI regularly either through a regional clearinghouse or in-country. The results of such evaluations might have feed-back mechanisms to allow for adjustments to policy as necessary.

### **3. Environmental policy, legislative and institutional framework**

#### **3.1 Current sectoral status**

At the sectoral level an assessment of the recent/current national environmental policy and legislation, institutional structures and capacity, and the involvement of civil society in environmental issues is well covered in Section 2.2.

There is no national sustainable development strategy or poverty reduction strategy paper per se. It has a Strategic Development Plan (SDP) 2003-2005. A new SDP for the period 2006-2008 is in draft form. Analysis of the SDP shows the 3 pillars of sustainable development and sectoral policies are incorporated along with strategies to address poverty, the environment is not adequately covered. The SDP does reference other key documents such as the Environment Management Act which is currently before Parliament.

The SDP 2003-2005 has a vision for “*A Peaceful and prosperous Fiji*”, and mission to “*Develop and implement the best political, social and economic policies to advance the goals of peace and prosperity*”. There are six guiding principles: good governance, environmental sustainability, respect for our cultures and tradition, respect for law and order, respect for human rights, and honesty in public life.

In regard to stakeholder participation, a National Social and Economic Summit was held in 2002, and a National Economic Development Council exists which has nine working groups. The working groups meet quarterly and the Council bi-annually. The Council reports to Cabinet.

Achievement towards SDP national goals are measured by key performance indicators (KPIs), and the MDGs are being incorporated in the revision of the SDP. It is intended to retain the existing monitoring process. The first SDP had 635 KPIs and the review indicated 60% had been achieved. The new draft SDP contains 490 KPIs, most of which are in fact outcomes and are measurable.

Challenges highlighted included: a comprehensive assessment of the SDP is required; lack of information provided from departments; avoiding duplication of efforts (SDP versus formulation of NSDS); and the need to integrate national plans with the new regional Pacific Plan.

#### **3.2. Integration of environmental concerns into the main sectors**

The national framework for sustainable development is supported by the national planning and decision-making machinery of government. The Parliament is the ultimate forum where Government's policies, strategies and programmes are debated and approved. However, before a policy or legislation is presented to Parliament it is screened in various committees at various levels.

Any new legislation or amendment is reviewed and screened by Sector Standing Committees (SSC) before presentation to Parliament. At present there are six SSC one focusing on natural resources. All policies and programmes relating to national development are reviewed by the Development Sub-Committee (DSC) prior to submission to a Cabinet Sub Committee or Cabinet.

In regard to a sustainable development policy framework, Government launched in 1993 a planning document title “*Opportunities for Growth*” which marked a shift from a 5-year comprehensive long term plans to a much more short-term 3 years strategic approach. The approach differs from the traditional comprehensive approach to planning in that it emphasises the primacy of effective policy formation, review and the concentration on specific issues relating to the implementation of policy.

In 1997 Fiji Government issued the policy document titled “*Development Strategy for Fiji*” which built on the broad policy direction defined in the 1993 document and it identify key performance and accountability indicators over a given period within the framework of updated sectoral policy

objectives. The approach was to ensure that the country's scarce resources were directed to targeted priority areas for maximum benefit. Government emphasis throughout that period was for private sector to lead development with government playing key facilitating roles.

In 1999 Fiji Government produced the document titled "A Strategic Plan for the New Century – Sustainable Development of Fiji". This document highlight the challenges to sustainable economic and social progress at the end of the 20<sup>th</sup> Century and points to the positive indicators for sustainable economic recovery which included macro-economic framework targeted to achieve general macro-economic and financial stability. The focus was on effective financial management in the light of growing global financial instability, and creating an atmosphere of competitive price and cost structure conducive to attracting investments. Sectoral policies were realigned towards sustained natural resource utilisation, development of human resource based industries, provision of core social service of education, health and housing. Government during this period (1999 onwards) was to encourage other sectoral initiatives that would have addressed poverty alleviation, mainstreaming of women in development, law and order, rural and urban development, disaster management and the mainstreaming of indigenous Fijians in commerce.

### 3.3 Global and Regional Agreements or Conventions (from the Fiji NAR for the BPoA Review and Pacific Environment Outlook, 2005)

Activities in regard to Fiji's commitments to specific multilateral environmental agreements are described in Section 2.2. The following table summarises the status of Fiji's commitments, both at the global and regional levels.

<b>Global Agreements or Conventions</b>	<b>Status</b>
Basel Convention = Basel Convention on Hazardous Wastes	
Cartagena Biosafety = Cartagena Protocol on Biosafety	R
CBD = Convention on Biological Diversity	R
CITES = Convention on International Trade in Endangered Species of Wild Fauna and Flora	A
Kyoto Protocol = Kyoto Protocol to the UNFCCC	R
MARPOL = International Convention for the Prevention of Pollution from Ships	
Migratory Species = Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Species	
Montreal Protocol = Montreal Protocol on Substances that Deplete the Ozone Layer	A**
POPs (Stockholm) = Stockholm Convention on Persistent Organic Pollutants	R
Ramsar = Convention on Wetlands of International Importance Especially as Waterfowl Habitat	R
Rotterdam Convention = Rotterdam Convention on the Prior Informed Consent for Hazardous Chemicals and Pesticides in International Trade	
UNCCD = United Nations Convention to Combat Desertification	R
UNCLOS = United Nations Convention on the Law of the Sea	R
UNFCCC = United Nations Framework Convention on Climate Change	R
Vienna Convention = Vienna Convention for the Protection of the Ozone Layer	A
World Heritage Convention = UNESCO World Heritage List of sites of cultural, natural beauty, and/or ecological significance	

R=Ratified; S=Signed; A=Accepted

\*\* Acceded or accepted or ratified all amendments to the Montreal Protocol (London, Copenhagen, Montreal, Beijing).

<b>Regional Agreements or Conventions</b>	<b>Status</b>
Apia Convention = Convention on the Conservation of Nature in the South Pacific	R
Pacific Tuna Convention = Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean	S
SPREP Convention = Convention for the Protection of the Natural Resources and Environment of the South Pacific Region	R
Waigani Convention = Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region	R
Whaling Treaty	

R=Ratified; S=Signed; A=Accepted

## **4. EU and other donor co-operation with Fiji from an environmental perspective**

### **4.1 European Union**

This section is based upon the Fiji country page accessible through the EUROPA website of the EC.

Fiji is currently in a “post-coup situation”, full EU-Fiji cooperation having resumed in 2004. Following the Coup of May 2000, a number of restrictions were imposed on development aid to Fiji, including the temporary freezing of the allocation of the 9th EDF. On 17 November 2003, taking into account the efforts made by the Fiji Government in support of a sustainable national reconciliation process and in ensuring a return to the rule of law and constitutional conformity, the Council decided to resume aid to Fiji without restrictions.

Under the 9th EDF Fiji has been allocated of €23.1 million with €1 million in the A envelope to finance interventions in education as the focal sector especially in rural areas, and €2.1 million in the B envelope. Education plays a central role in the development of the country, where wide disparities exist between urban and rural areas, and there has been a growth of disadvantaged urban areas. In many of these areas the physical infrastructure is either virtually non-existent or has markedly deteriorated, with no proper roads, electricity, sanitary conditions nor schools. The amount earmarked in the A envelope seeks to address this by supporting the provision of, and equal access to, quality education by all ethnic groups. The Mid Term Review 2004 agreed that there be no change of strategy and that the allocation of the full amount of the 9th EDF for the Education Sector in Fiji be confirmed. In addition, since 2002 Fiji has been beneficiary of several NGO projects financed under the European Initiative for Democracy and Human Rights (EIDHR).

The 8th EDF is now fully committed, supporting three important infrastructure projects: the new Rewa Bridge, the expansion of the Lautoka Teachers’ College and the environment programme with the construction of Naboro Landfill and Kinoya Sewer Outfall.

It was also agreed during the MTR 2004 to leave untouched the B envelope (€2.1 million), to be used for unforeseen natural disasters, cyclone recovery operations and/or other emergency needs since Fiji, like other Pacific islands, is very vulnerable to natural disasters, in particular cyclones, and lacks proper disaster preparedness and prevention mechanisms. In this connection the Commission has recently invited Fiji to join a regional initiative in disaster preparedness and prevention. In addition, Fiji benefits from the Pacific Regional Programme.

### **4.2. Co-operation funded by other donors from an environmental perspective**

The Government has highlighted the need for improved coordination given the demands arising from its interaction with a large number of donors.

In addition to the EU, Australia and New Zealand are key donors but are currently putting few resources directly into environment-related programmes/projects, except through the regional organizations SPREP, SOPAC and SPC. Japan, China and Taiwan/ROC, are also key donors but are putting few resources into environment projects.

In the agriculture sector, a large ADB loan project promoting alternative livelihoods for cane farmers is underway and is targeting the rural poor. A large WB loan project to upgrade the water supply and sewage system in the Suva-Nausori corridor is currently underway. A renewable energy project has also just commenced.

Fiji, like all Pacific island countries, receives funding from the UN family of organisations, and in particular for environment related projects, and especially those linked to MEAs, is eligible for Global Environment Facility (GEF) funding, both bilaterally and through regional organisations, from UNDP and UNEP, as well as the WB. Fiji, continues to be disappointed at the delivery rate of GEF-funding due to the protracted procedures.

## 5. Conclusions and Recommendations

### 5.1 Conclusions

**Conclusion 1:** It should be highlighted that this Fiji environmental profile has been compiled as a desk study. Nonetheless, it has benefited from access to reporting on environmental issues by Fiji produced over the past decade, since 1992 at UNCED in Rio (Agenda 21), and in 1994 at the Barbados International Meeting on Sustainable Development for Small Island Developing States (BPoA). Most recently, Fiji has had the opportunity to produce national assessment reports for the 10-year review of both Agenda 21 (the World Summit on Sustainable Development in 2002), and the BPoA (the International Meeting on SIDS in 2005). Furthermore, the first 5-year national report of progress on achieving the MDGs was due for completion in September 2005.

**Conclusion 2:** The EU has supported Fiji along with all Pacific ACP countries during recent global environmental processes, and in particular in regard to environmental issues such as climate change, water and sanitation, renewable energy, food security, and how to improve livelihoods of island people by addressing the “special case for SIDS” in regard to vulnerability and addressing poverty through establishing poverty reduction strategy papers and national sustainable development strategies, or the like. Fiji needs support for implementation from the EDF 10.

**Conclusion 3:** Notwithstanding the current Country Support Strategy (refer Section 4.1) for EDF 9, together with assistance being provided through the Regional Indicative Programme, it should be noted that along with other Pacific ACP countries, Fiji has agreed to the new Strategy for Strengthened Partnership between the EU and the Pacific Islands which has a “*blue-green*” theme *within the context of sustainable management of natural resources and environmental challenges*. Within this broad theme specificity is needed to ensure the activities to be supported by the NIP deliver tangible and concrete benefits at national level that demonstrably contribute to strengthening the environmental pillar of national sustainable development and poverty reduction. In this context also, improved and strengthened links need to be demonstrated with the activities to be carried out at national level by the regional organisations supported by the Regional Indicative Programme.

**Conclusion 4:** Fiji’s environment is no exception to the reality that it provides the basic goods and services, such as water, energy and food security, upon which people live. Improvements and sustainability in these areas are essential to underpin generation of economic wealth. Fiji acknowledges that environmental considerations are inextricably linked across their national development planning efforts, but there is a need to strengthen these interlinkages to ensure improved decision-making supports efforts to achieve sustainability.

**Conclusion 5:** The state of the Fiji environment over the past decade has deteriorated and remains highly vulnerable. Over the past decade much has changed with internal shocks from increasing population, concentration of that population through urbanisation and urban drift, and external shocks such as globalisation, HIV/AIDS, climate change and most recently increasing fuel prices. All are putting increased stress on the environment. Key examples of improvements needed are; secure safe water supply and sanitation; developing access to affordable renewable energy resources; food security from fishing and agriculture, to support sustainable development, improve lifestyles and reduce poverty. The urban and rural population, urban centres and outer islands must be targeted. Improvements in these “sectoral” areas will also have a positive impact on reducing Fiji’s vulnerability to climate change and natural disasters (many of which are weather-related).

**Conclusion 6:** Over the past decade some progress in many areas has been made in improving environmental sustainability through institutional strengthening. Although not as significant as Fiji would have liked. Much of the progress has been at the initiative of the Fiji and with its own financial resources. But much remains to be done to improve the efficiency and effectiveness of the national



environmental machinery including strengthening the role of the NGOs. Development partners, including regional organisations, need to harmonise and coordinate their assistance more closely with Fiji needs and efforts, and amongst themselves. This will make both existing and new resources more efficient and effective.

**Conclusion 7:** In order to provide a platform to facilitate closely cooperation with its development partners, and improve governance, Fiji is developing overarching planning policy/regulatory and institutional arrangements to embed the principles of sustainable development in revisions of existing national development plans, including issues of environment concern. There is much room for supporting capacity building and technical assistance in this context.

**Conclusion 8:** Fiji's capacity needs to be strengthened to manage its large marine environment compared with the generally small island land areas. In reality, as the marine "blue environment" and land "green environment" are an environmental continuum across the coastal zone. Fiji needs a spatially integrated management approach, similar to "island system management" promoted by the EU through one of the EDF8/9 regional projects.

**Conclusion 9:** Fiji, like many other of its neighbours, recognises the opportunities of improved information and communication technologies, in particular in regard to getting more up to date data and making it readily available to support the decision-making process.

**Conclusion 10:** Fiji needs to develop and strengthen its own national setting of indicators and targets, and monitoring arrangements to track progress, and link these to international development goals agreed at for example the WSSD, the Mauritius International Meeting on SIDS, and contained in all relevant MDGs and targets, not just MDG7 on environmental sustainability.

## 5.2 Recommendations

**Recommendation 1:** Concerning the selection of the focal sectors and response strategies for Fiji, within the overarching "blue-green" theme of sustainable management of natural resources and environmental challenges, key areas to consider are: securing safe water supply and sanitation; developing further access to affordable renewable energy resources; and improving food security from fishing and agriculture.

**Recommendation 2:** As a governance issue in regard to national institutional capacity to improve the management of natural resources and the environment, consideration needs to be given to supporting Fiji address institutional capacity assessment and needs for all its line ministries. Specifically:

- there is an immediate need to promote the participation and involvement of NGOs at the national and community level and be supported through capacity building;
- additional financial assistance is required to implement priority human capacity building needs of the country; and
- the recognition of integrating environmental consideration into national economic planning is a critical issue that requires priority attention. The development of a national policy on economic growth and sustainable development must include the integration of environmental issues into economic planning.

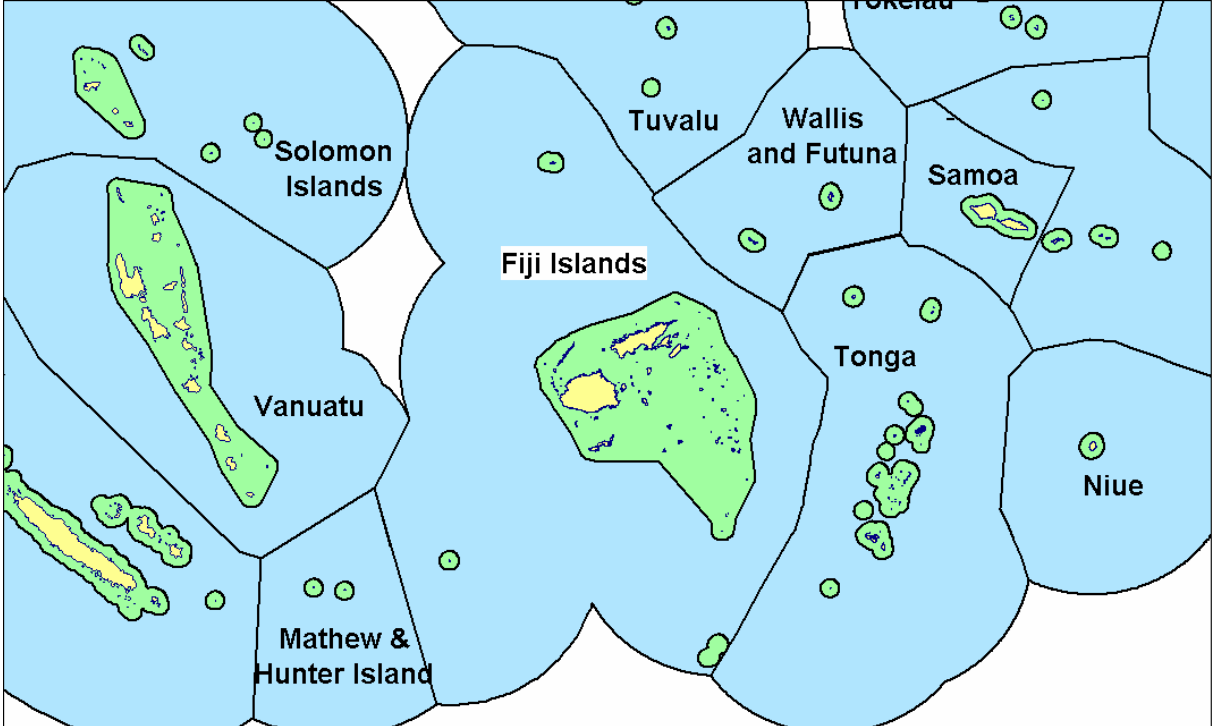
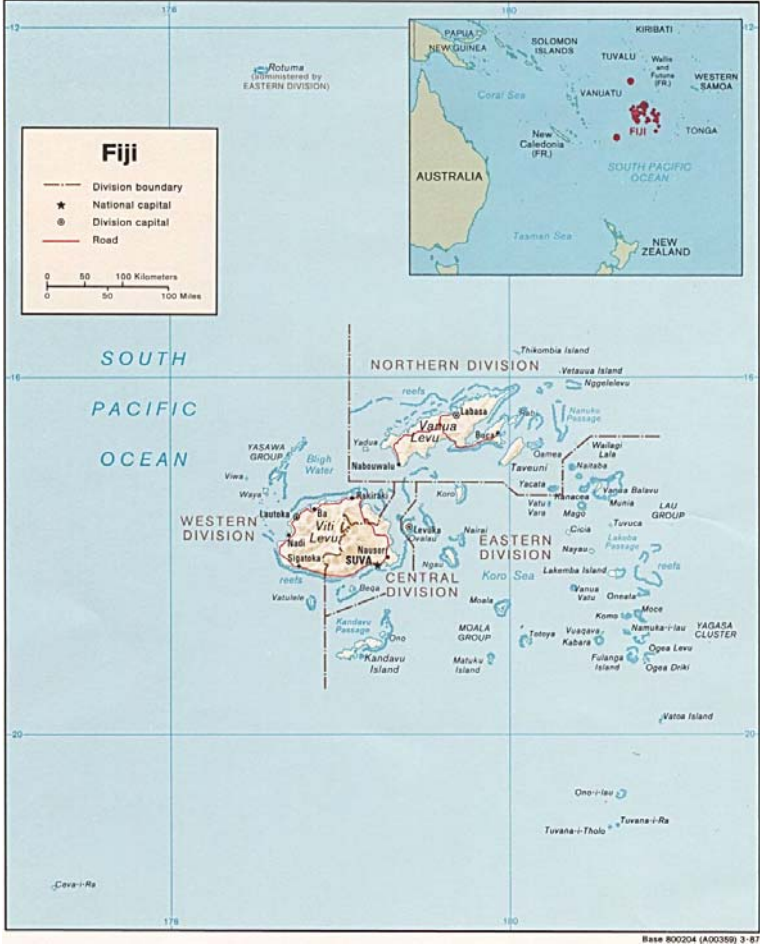
**Recommendation 3:** Improve Fiji's national environmental information systems, and ensure environmentally-relevant indicators to be used in the EDF 10 National Indicative Programme, are integrated into these systems.

**Recommendation 4:** Fiji's access to the use of EC horizontal budget lines (such as Environment and Forests) and facilities (EU Water Facility - EUWF and the EU Energy Facility - EUEF), and the

EU/ACP Natural Disaster Fund are limited by national capacity constraints. Each of these opportunities of additional financial resources are important and should these funds/facilities be ongoing consideration needs to be given to assisting Fiji prepare the bulky and complex applications.

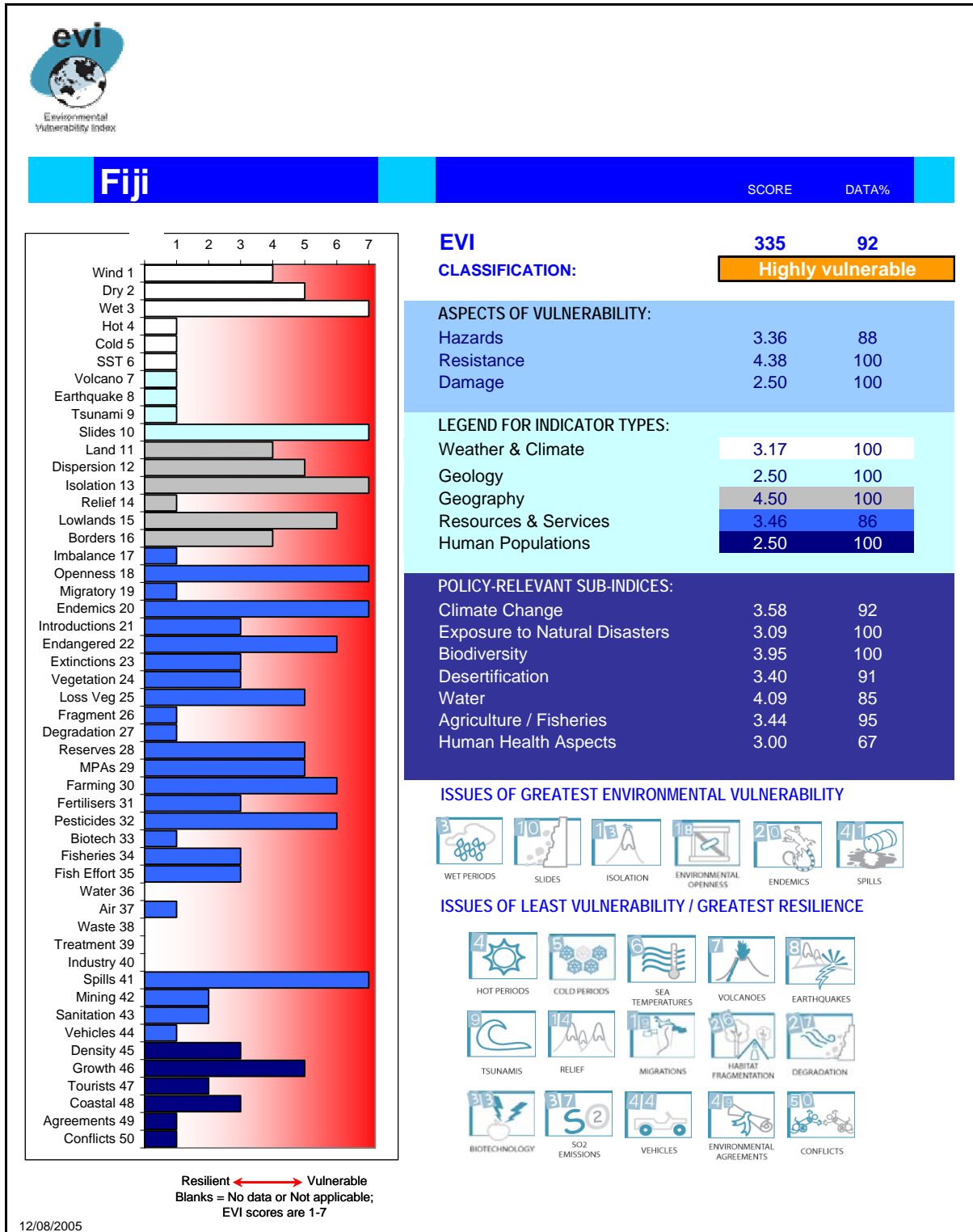
**Recommendation 5:** In order to ensure effective and efficient support to Fiji, it is important for the EU to develop new and strengthen existing opportunities for co-ordination on natural resources and environmental issues with other donors (including regional organisations) seeking to achieve complementarities and synergies.

**Appendix 1. Top: Map of Fiji (from University of Texas Library free Website). Bottom: Map of Fiji provisional EEZ (from Pacific Islands Maritime Boundaries Project, SOPAC (Unpublished)).**

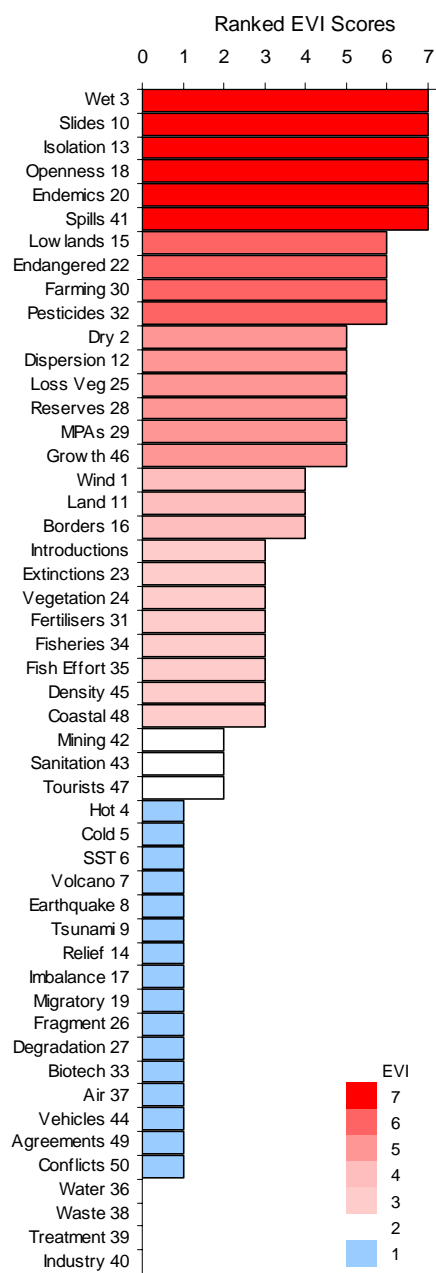


## Appendix 2: Summary Environmental Vulnerability Index Report Sheet for Fiji.

Summary EVI Report Sheet for Fiji. This is a **VALID** evaluation, based on  $\geq 80\%$  of indicators being evaluated. Data are primarily from international public data sources, see [www.vulnerabilityindex.net](http://www.vulnerabilityindex.net) for full access to all reports and technical background.



### Appendix 3: Fiji's Environmental Vulnerability Index profile, emphasising the highest priority issues



#### **Appendix 4: References**

Fiji National Environment Management Strategy (NEMS), 1994: Published by the South Pacific Regional Environment Programme (SPREP).

Fiji National Assessment Report for the 10-Year review of the Barbados Programme of Action for Small Island Developing States, 2004: [www.sidsnetpacific.org](http://www.sidsnetpacific.org)

Fiji Draft Country Diagnostic Report for the Global Environmental Vulnerability Project compiled by United Nations Environment Programme (UNEP) and the South Pacific Applied Geoscience Commission (SOPAC), 2005: Unpublished. All relevant information on the Project available on: [www.vulnerabilityindex.net](http://www.vulnerabilityindex.net)

Fiji Provisional Exclusive Economic Zone Map: Pacific Islands Maritime Boundaries Project, South Pacific Applied Geoscience Commission (SOPAC), Unpublished data.

Pacific Environment Outlook: Published by the United Nations Environment Programme (UNEP) 2005.

University of Texas Library Free website: [www.lib.utexas.edu/maps](http://www.lib.utexas.edu/maps)