

FINAL REPORT

THEMATIC ASSESSMENT

Land Degradation United Nations Convention to Combat Desertification (UNCCD)

Prepared for
Department of Environment

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TABLE OF CONTENTS

LIST OF ACRONYMS	4
ACKNOWLEDGEMENTS	5
EXECUTIVE SUMMARY	6
Systemic	6
Institutional	7
Individual	8
1.0 INTRODUCTION	9
1.1 BACKGROUND	9
1.2 COUNTRY BACKGROUND	9
1.2.1 Land Degradation Conditions	11
1.2.2 Natural Resources	12
1.2.3 Climatic Conditions	13
1.2.4 Natural Hazards	14
1.2.5 Socio-economic Conditions	14
1.2.6 Socio-economic Conditions, 1997 (El Niño Year)	15
1.3 IMPACTS OF LAND DEGRADATION ON LIVELIHOOD	15
1.4 PREVENTATIVE MEASURES	16
1.5 RELEVANT SECTORAL POLICIES AND PLANS	17
1.6 RELEVANT SCIENTIFIC AND TECHNICAL PROGRAMMES	17
1.7 RELEVANT REGIONAL ACTIVITIES	17
2.0 FIJI AND THE UNCCD	18
2.1 NATIONAL ACTION PLAN	18
2.2 OBLIGATIONS UNDER THE UNCCD	18
3.0 NATIONAL CAPACITY TO MEET OBLIGATIONS UNDER THE UNCCD	20
3.1 BRIEF DESCRIPTION OF INSTITUTIONAL ARRANGEMENTS	20
3.2 SYSTEMIC CAPACITY	21
3.2.1 Systemic Capacity at National level	21
3.2.2 Systemic Capacity at Regional Level	27
3.3 INSTITUTIONAL AND INDIVIDUAL CAPACITY	33
4.0 ASSESMENT OF CAPACITY NEEDS	44
4.1 METHODOLOGY	44
4.2 FINDINGS	48
4.2.1 SWOT Analysis	48
4.2.2 Root Cause Analysis	50
4.2.3 Gap Analysis	50
5.0 CONCLUSIONS AND RECOMMENDATIONS	51
5.1 FULFILLMENT OF FIJI'S UNCCD CONVENTION OBLIGATIONS	51
5.2 CURRENT RESOURCE STATUS OF THE NATIONAL FOCAL POINT	53
5.2.1 Identified projects proposed in the NAP/Gaps Towards Achieving Obligations	55
5.3 RECOMMENDATIONS	56

5.3.1	SYSTEMIC CAPACITY.....	56
5.3.2	INSTITUTIONAL CAPACITY.....	57
5.3.3	INDIVIDUAL CAPACITY.....	58

LIST OF APPENDICES

APPENDIX I:	THE QUESTIONNAIRE.....	60
APPENDIX II:	CAPACITY ASSESSMENT AREAS.....	61
APPENDIX III:	CAPACITY DEVELOPMENT INCEPTION WORKSHOP.....	62
APPENDIX IV:	SWOT ANALYSIS OF VARIOUS DEPARTMENTS.....	64
APPENDIX V:	INFORMATION DERIVED FROM FIELD/PROJECTS VISITS.....	69
APPENDIX VI:	CONCLUSION AND RECOMMENDATIONS FROM THE REGIONAL EL NIÑO SOCIAL AND ECONOMIC DROUGHT IMPACT ASSESSMENT AND MITIGATION STUDY.....	75
APPENDIX VII:	THE CONSULTATION PROCESS.....	78
APPENDIX VIII:	LIST OF DOCUMENTS REVIEWED.....	80
APPENDIX IX:	MAPS REVIEWED.....	81
APPENDIX X:	BIBLIOGRAPHY OF SUPPLEMENTARY LITERATURE.....	82

TABLES.

Table 1:	Fiji Government Budgetary Allocation for the UNCCD Focal Point.....	53
Table 2:	Funding sources of some relevant projects implemented by the UNCCD Focal Point and other relevant stakeholders.....	54
Table 2:	Overview of findings from the SWOT Analysis.....	47

LIST OF ACRONYMS

ACIAR	Australian Centre for International Agricultural Research
AusAID	Australian Agency for International Development
CDIDT	Central Division Integrated Development Team
CDI	Capacity Development Initiative
CDF	Commodity Development Framework
COP	Convention of the Parties
CROPPRO	Crop Production in Environmentally – Constrained System Project
CFCs	Chlorofluro Carbons
DLRPD	Division of Land Resources Planning and Development
DOE	Department of Environment
DSAP	Development of Sustainable Agriculture
EMA	Environment Management Act 2005
EU	European Union
FAO	Food and Agriculture Organisation
FSP	Foundation of the People of the South Pacific
GEF	Global Environment Fund
GDP	Gross Domestic Product
GTZ	German Technical Cooperation
GIS	Geographical Information System
GOV	Government of Fiji
IBSRAM	International Board for Soil Research and Management
INGO	International Non Government Organization
JICA	Japan International Cooperation Agency
KPI	Key Performance Indicator
LCIA	Land Conservation and Improvement Act
LRIS	Land Resources Information System
MDG	Millennium Development Goal
MAF	Ministry of Agriculture and Fisheries
MAFFA	Ministry of Agriculture, Fisheries, Forest and ALTA
MASLR	Ministry of Agriculture, Sugar and Land Resettlement
NAP	National Action Plan
NDMO	National Disaster Management Office
NEC	National Environment Council
NGO	Non Government Organization
NBSAP	National Biodiversity Strategy and Action Plan
NCSA	National Capacity Self Assessment
NZODA	New Zealand Official Development Assistance
PPP	Polluter Pay Principal
PWD	Public Works Department
SALT	Sloping Agriculture Land Technology
SLM	Sustainable Land Management
SLM	Sustainable Land Management Technologies
SOPAC	Secretariat of the Pacific Applied Geosciences Commission
SFM	Sustainable Forest Management
SPC	South Pacific Commission
SPREP	South Pacific Regional Environment Programme
SWOT	Strength, Weakness, Opportunity and Threat
WTO	World Trade Organisation
UN	United Nations
UNDP	United Nations Development Programme
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNFCC	United Nation Framework Convention on Climate Change
USP	University of the South Pacific
USDA	United States Department of Agriculture
WWF	World Wide Fund for Nature

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EXECUTIVE SUMMARY

The objective of the United Nations Convention to Combat Desertification (UNCCD) is “to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification”. In Fiji’s context, her obligation is related to combating land degradation and mitigating the effects of drought. Since ratification of the Convention in August 26th 1998, Fiji has complied with all reporting obligations between years 2000 and 2007. The review of Fiji’s Land Conservation and Improvement Act is underway, which together with implementation of the Rural Land Use and Forest policy will address emerging issues on land degradation and drought.

Fiji’s land degradation conditions is somewhat worsening. Land degradation occurs in the forms of soil degradation (which results from casual burning), deforestation, overgrazing, and the expansion of sugarcane and other crops on to marginal land. In past reviews for Viti Levu alone, there is an estimated loss between 24 to 79 tons per hectare per annum.

Although the assessment revealed that Fiji has complied with UNCCD commitments and obligations, relatively very little financial and capacity support has been provided to government agencies to effectively enforce relevant policies and sustain activities required to control land degradation and mitigate drought. Therefore, political commitment of the Government of Fiji, combined with external financial assistance from GEF and other development partners, are required to implement recommendations of the review of Land Conservation and Improvement Act. Furthermore, these would ensure funding and implementation of prioritized projects in the area of land degradation research and assessment, transfer of sustainable land management technology systems, afforestation/reforestation programmes, national land use planning, drought mitigation programme, watershed management, coastal zone management and relevant institutional strengthening and capacity building programmes specified in each capacity assessments below:

Systemic level:

- Develop appropriate accountability system for UNCCD focal point to ensure that Fiji benefits fairly from its participation as a Party, maintain compliance with Convention obligations, and facilitate knowledge management and sharing with key implementation agencies.
- Promote synergies between sustainable land management and poverty reduction through relevant policies and programmes and synchronization of national policy, legal and regulatory frameworks between regional, national, and local levels.
-
- Sensitize appropriate institutions and individuals to ensure political understanding and commitment to the principles of the UNCCD. .
- Develop effective monitoring programmes through comprehensive assessments of droughts including mapping of drought-prone areas .
- Provide technology to enable effective management and distribution of Fiji’s water resources and adequate financing for ongoing projects and programmes.

- Develop effective and comprehensive educational programme for the general public and key implementing agencies.
- Enforce existing laws, stricter penalties and the endorsement of the recently revised Land Conservation and Improvement Act to reduce conversion of agricultural lands to residential and other commercial uses.
- Prepare a comprehensive national action plan focused on capacity building that will identify follow-up projects, overall goals, specific objectives to be achieved and course of action.
- Coordinate and harmonize overlapping activities among the three Conventions (UNCCD, UNCBD and UNFCCC) for effective national response to environmental protection.
- Mainstream sustainable land management issues into school curricula (primary, secondary and tertiary levels).
- Provide financial incentives for sustainable rural projects including alternative livelihood programmes.

Institutional level:

- Provide UNCCD-focused position within Land Use Section to ensure accountability of UNCCD obligations. Develop a mechanism for institutional strengthening and retaining institutional know-how in response to staff turn-over.
- Improve organizational mandate to ensure co-ordination, cooperation, integration and partnership between all stakeholders. This would also facilitate holistic planning and implementation of land degradation rehabilitation and mitigation programmes.
- Strengthen knowledge management and sharing - policies and policy instruments to be provided to divisional, provincial and districts to raise awareness and secure commitment.
- Develop capacity building programmes of communities, NGOs and other implementing agencies through technical workshops and practical training.
- Promote and empower community action groups to enhance participation in community planning and decision making.
- Promote interaction and coordination between all stakeholders, in particular at community levels.
- Develop advocacy and awareness-raising programmes.
- Develop programme to involve key land users such as communities and private land owners in planning, implementing and monitoring of land management programmes.
- Implement policies and policy instruments to ensure adherence to fulfilling obligations.
- Improve communication among all stakeholders to ensure greater participation and involvement.
- Strengthen capacity of administrators and/ managers to mobilize resources for support of coordination and implementation of conventions.
- Establish relevant human resource development plans with synergies between sustainable land management and natural disaster risk management.

Individual level

- Continue relevant training programmes through scholarships provided by the Public Service Commission
- Up-skill local expertise in specialized areas such as: soil science and chemistry, agronomy, geomorphology, environmental planning, community development, remote sensing and computer programming, agricultural soil conservation and land management techniques, soil fertility management, sloping agriculture land technology, agro-forestry, irrigation management, and livestock and grazing management; the road sector, training is needed for road engineers and private contractors in environment-friendly road construction techniques including bioengineering.
- Provide training opportunities in the mining sector (mining engineering, environmental management of mining operations including environmental restoration of mined areas) and
- the urban development sector (urban landscape planning and management).
- Identify, develop and consolidate a critical mass of scientists and practitioners.
- Establish a mechanism to address staff high turn-over rate.
- Provide an enabling environment for community members and local resource users to participate in the design and implementation of projects.

1.0 INTRODUCTION

1.1 BACKGROUND

Drawing on the conclusions from the Capacity Development Initiative, in May 2001 the GEF Council approved the new national capacity self assessment (NCSA) process. The NCSAs are a type of enabling activity that specifically focuses on capacity development. The overall aim of NCSAs is to provide countries with the opportunity to identify priority capacity needs in order to effectively address cross-cutting global environmental issues. Countries are encouraged to then develop a plan of action to achieve global environmental management objectives in the context of the three Conventions relevant for NCSAs (climate change, biodiversity and desertification). The NCSA is aimed at determining national capacity requirements and defining national capacity needs and priorities.

Through the coordination of the Department of Environment, three national consultants were engaged in June 2008 to help facilitate the NCSA process in Fiji. The first activity under the process was the documentation of all existing activities addressing each of the thematic areas.

The second activity is the detailed thematic assessment exercise, of the relevant focal points for each of the conventions and the relevant stakeholder organisations, of their capacity to effectively meet Fiji's obligations to each of the Convention.

This report focuses on the implementation of the UNCCD Convention, related to the convention obligations. The report seeks to evaluate Fiji's capacity, at the three levels, individual, institutional and systemic, in performing the following functions:

- to mobilize information and knowledge;
- to build consensus and partnerships among all stakeholders;
- to formulate effective policies, legislation, strategies and programmes;
- to implement policies, legislation, strategies, programmes and projects,
- to mobilize and manage human, material and financial resources; and
- to monitor, evaluate, report and learn.

1.2 COUNTRY BACKGROUND

The Fiji islands are situated in the southwest pacific within the tropic of Capricorn. Its approximate extent is between longitudes 174°East and 178°West and latitudes 12° South and 22° south. This entitles to Fiji 65, 000 km² of territory of which 18, 000km² is land area. There are approximately 330 islands within the Fiji archipelago of which 97 are uninhabited. The larger two islands Viti Levu and Vanua Levu constitute 87% of Fiji's total land area. The major islands are mainly of volcanic origin while the remainder constitute of coral and limestone strata. The highest altitude is 1323 meters which can be found on Mt Tomaniivi in Viti Levu.

Parts of Fiji are very susceptible to land degradation. The two largest islands typically have steep slopes: 67% of Viti Levu and 72% of Vanua Levu have slopes >20°; only 16% and 15%, respectively, are flat (<2°). Where the vegetation cover has been removed or is thin the erosion is greatest. Sheet and gully erosion is very evident in the hills of the drier western and northern part of Viti Levu. Large areas of soil have been washed away due to a lack of vegetation cover and partly due to agricultural use of

slopes, including burning. The intensification of sugar cane production on the 1960s and 1970s resulted in the expansion of agriculture to the slopes. Clarke and Morrison also (1987) argue that bad management, in terms of cultivation practices and tenure have also had a detrimental effect.

The few studies that are available show high rates of erosion and degradation from cultivated slopes in Fiji. Soil losses on variable slope angles have been recorded as: 34 t/ha/year (Seaqaqa, Vanua Levu); 90 t/ha/year (near Nadi, Viti Levu) (both Clarke and Morrison, 1987); 24 to 80 t/ha/year (NW Viti Levu) (Liedtke, 1984). All of these examples exceed the 'soil-loss tolerance level' of 13.5 t/ha/year for tropical areas suggested by Hudson (1971).

The wetter eastern and central parts of Viti Levu promote a growth of thick rainforest cover that reduces soil loss although logging activities have an adverse affect. The west and north where not covered by sugar cane and other plantations, however, is largely covered by *talasiga* grassland that has less root support to prevent soil loss. Furthermore rainfall is seasonal with most rainfall occurring in the west when the South Pacific Convergence Zone (SPCZ) occurs over Fiji typically from November to April; and the occurrence of tropical cyclones typically around December to January that are predicted to increase in frequency. El Niño events promote hotter and drier conditions than usual and are also predicted to increase in frequency that will also be destructive to the thinly vegetated cover of the hills in the west and north of Viti Levu. In terms of the percentage land area of the two main islands that are subject to degradation, around 20% of both Viti Levu and Vanua Levu, have 0-40% forest cover (these estimates are based on Figure 1 below and from observing satellite imagery on Google Earth).

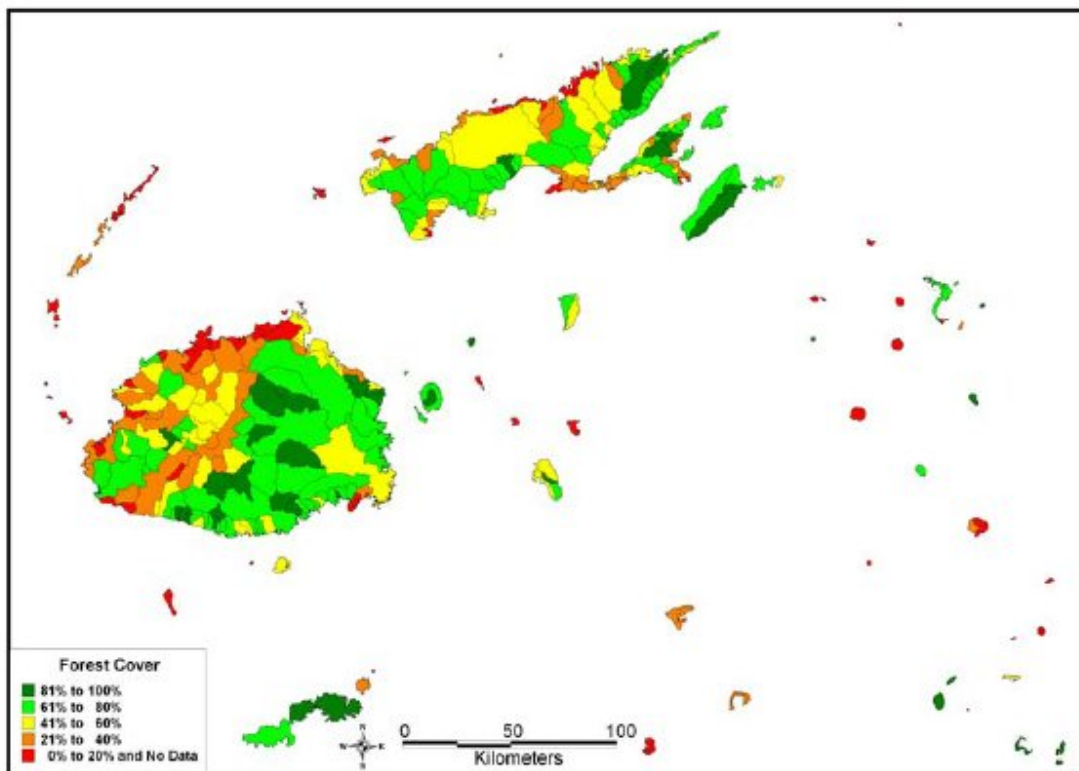


Figure 1. Percentage forest cover in Fiji (from Atherton et al., 2005, Fiji Watershed at Risk survey: Figure 8). The areas in red and orange are most susceptible to degradation.

1.2.1 Land Degradation Conditions

Land degradation is defined under the UNCCD as the “reduction or loss, in semi arid and dry sub humid areas, of the biological or economic productivity and complexity of rainfed cropland, irrigated cropland, or large, pasture, forest and woodlands resulting from land uses or from a process or combination of processes, including processes arising from human activities and habitation patterns such as:

soil erosion caused by wind and or water, deterioration of the physical, chemical and biological or economic properties of soil and long term loss of natural vegetation.”

The natural processes that contribute to land degradation include erosion by water, wind erosion, chemical and physical erosion (Thomas & Middleton, 1994). When coupled with human activities much land degradation is caused. Destructive human activities include both direct and indirect land degradation means. The identified direct causes of land degradation in Fiji described in the NAP 2007 include: *deforestation, unsustainable logging, intensive sloping land cultivation, intensive flat land cultivation, improperly managed commercial livestock farming, reclamation of freshwater swamps, reclamation of mangrove swamps, and ad Hoc urban development.*

Identified indirect causes of land degradation in Fiji include:

demographic changes, pressure on the production base, over-dependence on sugar industry, non-application of appropriate technologies, lack of physical infrastructure, weak institutional infrastructure, lack of proper water resources policy, inappropriate land use in watersheds, inappropriate land use in the coastal margins, ineffective information dissemination, complex Land Tenure system, poverty; and poor local control, responsibility and incentive because of central government control.

Marginal lands along the cane belt and pine forests are seen as susceptible to topsoil loss and leaching. The impacts of erosional processes such as water and chemical erosion become amplified with unsustainable farm and pastoral practices. A state under which the topsoil is completely absent revealing the raw strata is the most degraded form of top soil loss. Secondary to this is the complete absence of organic matter from the soil. Land in this state tends to support very little vegetation, as much of the natural fertile soil composition is lost.

Recently swamplands have received much attention as many mangrove swamps have been reclaimed for other use. These are restricted to lowland deltatic like areas where the influence of the tides are quite pronounced. Intensive irrigation in this area coupled with physical processes has made these areas prone to salinisation. Salinisation is a process whereby salt pans form on the surface eliminating all other salt intolerant species. The land is left in a state whereby all economically desirable characteristics are

removed from the reclaimed area e.g. Raviravi, Ba.

The steeper slopes and hinterlands of the inner western reaches of the main islands are generally used as pasture grounds. A common state of degradation caused by poor pastoral practices is the compaction, sealing and crusting of the pasturelands. Less than normal infiltration rates and excessive runoff are an outcome of this form of land degradation. Erosional gullies are a resultant physical feature of this form of land degradation during high intensity rainfall.

The coastal reaches of the major islands consist of rich flatlands and valleys commonly used for mixed subsistence and commercial gardening. The successive prevalence of short fallow periods and the high erosivity factor of rainfall results in acidification and leaching. This state of land degradation experiences an overall reduction in the lands' economic productivity.

The gentle slopes of the major islands are often subject to induced fires. The fires essentially increase the erodability of the land through the reduction in cover and mulch. Aeolian processes further degrade the land whereby only savanna species dominate. The degraded land condition is the loss in its overall biological diversity & productivity.

1.2.2 Natural Resources

Natural resources affected by land degradation include: arable land, native forests, coastal ecosystems and freshwater systems.

The arable lands include much of the plains and coastal flatlands as well as gentle sloping land where much human activity is centered. Arable land makes up some 9.9% of total land (nations encyclopedia, 2008). This includes agricultural, industrial and commercial sectors as well as subsistence based communities. The arable lands are an economic keystone as much of Fiji's natural output is determined to some extent by the productivity and health of this natural resource.

Natural forests and scrubland are also considered a natural resource and include the mature fallow, ravine, secondary and lowland vegetation groups. Natural forests cover approximately 64.9% of Fiji's total land area (nations encyclopedia, 2008). These cover much of the reserved lowlands, gullies and sloping and high altitude lands and represent a storehouse for national biodiversity. In some cases they also represent areas that may be viable for forestry in terms of exotic species such as pine and mahogany.

Coastal areas represent a highly productive area and thus the coastal ecosystems are also a major natural resource. This generally includes the buffer areas around the land sea interphase. The land sea interphase includes the coastal littoral forests, wetlands, intertidal flats, lagoons and reef systems. They represent some of the most productive areas as well as some of the most susceptible to degradation.

Freshwater systems play a key role in land degradation. Their management dictates much of the way natural erosional processes operate. The freshwater systems

include drainage ways including the main river at the deltatic region, upstream to the headwaters as well as the catchment basin the connected systems fall within. These however are more pronounced in the major volcanic island such as Viti Levu, Vanua Levu, Taveuni and Kadavu. Other outer islands either have seasonal rivulets and streams or no surface freshwater system at all.

1.2.3 Climatic Conditions

The Fiji Islands lie within the tropic of Capricorn thus enjoy a tropical maritime climate. The archipelago has a vast range of islands that experience slightly differing climatic conditions. The larger volcanic islands are generally affected by the south east trade winds which coupled with the orographic effect renders the major volcanic islands into leeward and a windward side (e.g. the instigating effect of the Medrausucu range in dividing the leeward and the windward regions in Viti Levu). The smaller islands generally have the characteristics of the respective zone it neighbors (eg the Yasawa islands that have the weather pattern characteristics of the leeward region thus as a result was one of the most severely affected island groups during the 1997/1998 drought). Suva, a windward region experiences an average of 291.3 mm of rainfall where as Nadi a leeward region experiences an average of 210.3 mm of rainfall. Months from May to October experience cooler temperatures averaging 22°Celsius while months from November to April experience average temperatures of 27°Celsius (FBS, 2009).

1.2.4 Natural Hazards

The southern oscillation and the El Nino phenomena are collectively known as the ENSO event. This event is responsible for a change in barometric levels in the respective east and west pacific. This sees to a change in ocean currents, the intensity of the trade winds system and normal rainfall. There is also a shift in local weather patterns as drier and cooler months are expected in the dry season and drier and hotter conditions from December to February. The El Nino event in particular is a major contributing factor to the droughts experienced in Fiji. It generally affects the leeward side of the major islands which receive a decreased amount of precipitation (22-42% of normal values). Fiji has experienced 5 major droughts in various years (1983, 1987, 1992, 1993 and 1997) over the years that have had a disastrous effect on all aspects of life in Fiji. An estimated 270 000 individuals were affected by the 1997 drought (IRFC, 1998).

The Fiji Islands lie in an area where the conditions are ideal for tropical cyclone formation. Between the months of November and April, Fiji is likely to be traversed by tropical cyclones. These generally cause intense rainfall and winds that bring about land degradation processes such as erosion by water (water logging – land slides) and chemical erosion due to leaching and nutrient loss (FBS, 2009).

1.2.5 Socio-economic Conditions

The Fiji economy comprised of a price GDP of \$2,871.0 million for the year 2007. Compared with 2006, the year 2007 saw a decline of 6.6% in growth. Table 1.0

below summarizes GDP contributions of significant industrial sectors for the year 2006 and 2007.

Table 1.0: Summary of GDP contributions of significant industrial sectors

Industrial Sector	Contribution to GDP 2006	Contribution to GDP 2007	Growth (%)
Agriculture, Forestry, Fishing and Subsistence	\$458.8 million	\$432.8 million or 14 %	- 5.7
Wholesale and Retail Trade and the Hotels and Restaurants	\$556.6 million	\$528.8 million or 18 %	-5
Community, Social and Personal Services	\$67.0 million	18%	1.9
Manufacturing	\$440.0 million	\$441.0 million or 15%	0.2
Finance, Insurance, Real Estate and Business Services	\$428.1 million	\$420.6 million or 14%	-1.8
Transport and Communications	\$408.3 million	\$391.8 million or 13%	-4
Social and community services	524.8 million	\$441.1 million or 15.4%	-16
Construction	\$191.7 million	\$152.3 million or 5%	-20.6
Electricity and Water	122.1 million	\$122.6 million or 4%	0.4
Mining and Quarrying	\$15.1 million	\$0.3 million or 0.01%	-97.9

Source: Fiji Islands Bureau of Statistics, 2009

The recent census in 2007 recorded a population of 837,271 individuals and an annual growth rate of 0.7%. The indigenous Fijian population makes up some 57% while the Indian population makes up 37%. The remaining 6% is made up of Rotumans Chinese and Part-Europeans. Majority of the population dwell in urban areas which now stands at 51%. Primary education completion rate is 98% and literacy rate at 92.6%. Unemployment stands at 8.1% and the national poverty rate is at 35% (FBS, 2009).

Recent developments have seen the 1997 constitution being abrogated and a review of the Judicial, Legislative and Executive parts of government. The month of April saw a 20% devaluation of the Fiji dollar.

1.2.6 Socio-economic Conditions, 1997 (El Niño Year)

The Fiji economy shrunk its GDP by 3% during the 1997 drought. due to decrease in sugar production which was the backbone of Fiji's economy. The drop in cane and sugar production for the year 1997 is highlighted in Table 1.1 where it was reported that "National production loss was around 50% (c. F\$104 million), far greater

than had ever occurred in any of the previous six natural disasters (droughts and cyclones)” (UCAR, 2007).

The economic situations’ spin-off effect was the onset of insufficient income to purchase alternative food as most domestic food gardens had been lost due to the drought. Together with the poor quality of delivered drinking water and the economic situation, drought-affected areas experienced severe health and social problems such as malnutrition and dietary deficiencies (UCAR, 2007). An estimated 270,000 individuals were thought to be affected by the 1997 drought (IFRC, 1998).

1.3 IMPACTS OF LAND DEGRADATION ON LIVELIHOOD

In Fiji’s context, land degradation is the degradation of land that is valuable culturally for subsistence and for commercial use whereby the value, health and productivity of the land are reduced.

Subsistence land use is reflected by the percentage it contributes to workforce. The workforce under pure subsistence currently stands at 16% of all employed (FBS, 2009). Subsistence land use is synonymous with rural areas which also tend to have a declining growth rate. The growth rate by province map (appendix IX) would depict areas that are generally rural; it is within these areas that subsistence land use is mainly active. Subsistence land use generally takes the form of intensive gardening and pastoral activities. Land degradation contributes significantly to a long term reduction in yield as well as reduction of conditions that are essential for the growth of other seasonal crops. As subsistence practice is the mainstay of many rural communities, much of their dietary needs are affected by the impact land degradation has on diversification. Pastoral activities are also heavily affected by land degradation as it tends to reduce ground cover and fodder species essential to pastoral activities. The condition inadvertently leads to a reduction in stock. As a consequence of land degradation, subsistence practices have to relocate to other suitable areas.

In terms of commercial land use, the two core sectors that are affected by land degradation and drought include agriculture and forestry. The two sectors including fisheries collectively are the largest contributors to paid employment and contributed some 28.3% towards paid employment for the year 2004 (FBS, 2009). This makes the situation especially sensitive as these sectors are especially vulnerable to collapse as had been the situation during the 1997 drought period.

In terms of agriculture the primary effect of land degradation is the overall reduction in productivity per yield. The situation inadvertently leads farmers to turn to other means of supplementing their financial needs. In the worse case scenario the land is completely abandoned and supplementary income is sought in urban areas. As at 1996 the urban population grew by some 8% over previous 10 years (Goundar, 2005).

Forests cover some 64% of Fiji’s land area and as such concerns a large portion of area as well as income (for respective mataqali/land owning units) when it comes to land degradation. Majority of the forests grow on native land which accounts for 83% of all

land in Fiji. Land degradation primarily affects maturation and overall growth rates of timber species. Sapling mortality is also affected as land degradation changes natural growing conditions (eg soil fertility, moisture levels in soil). The result is a decline in overall price for lumber species and thus a decline in income for the concerned.

1.4 PREVENTATIVE MEASURES

There is a need to reduce the impacts of land degradation that have an anthropogenic root. These have been earlier identified under direct causes of land degradation. Therefore in order to prevent the adverse effects of land degradation, land users in Fiji must undertake the following necessary actions:

- Reduce unnecessary vegetation removal from marginal lands;
- Strategize logging practices to minimize stress on native forests;
- Prioritize arable land for agricultural practices as opposed to ad hoc urban development to prevent marginal land cultivation;
- Practice healthy agricultural approaches such as crop diversification and proper fallow periods;
- Practice better land husbandry that take into consideration the carrying capacity of the land;
- Insist on environmentally sustainable usage of drainage systems in agricultural land;
- Accept and appreciate the interdependency of soil strata, drainage systems and vegetation cover & biodiversity; and
- Promote the local market whereby sustainable land capability is the economic driving force as opposed to solely consumer demand

1.5 RELEVANT SECTORAL POLICIES AND PLANS

The 2007 Fiji NAP proposes a list of policies and plans for controlling or mitigating desertification. These include:

- (1) Drought Mitigation and Early Warning System Management;*
- (2) Review of the Land Conservation and Improvement Act.;*
- (3) Environment Management Act of 2005;*
- (4) National Rural Land Use Policy and Plan;*
- (5) Fiji Forest Policy Statement;*
- (6) Watershed Management Master Plan;*
- (7) National Natural Disaster Management Plan;*
- (8) Climate Change Vulnerability and Adaptation Assessment and Strategic Plan.;*
- (9) National Biodiversity Strategy and Action Plan (NBSAP); and*
- (10) Mangrove Management Plan.*

1.6 RELEVANT SCIENTIFIC AND TECHNICAL PROGRAMMES

There have been approximately fourteen (14) relevant national programmes targeted at controlling or mitigating land degradation.

These include:

- (1) *Soil Surveys and Soil Correlation Program;*
- (2) *Soil and Crop Evaluation Project;*
- (3) *Geographical Information Systems;*
- (4) *Participatory District / Tikina Based Land Use Plan;*
- (5) *Integrated Agriculture Development Program;*
- (6) *Agro-forestry Program;*
- (7) *Awareness and Training on Sustainable Land Management;*
- (8) *Transfer of Sustainable Land Management Technologies (SLMT);*
- (9) *Drought Mitigation;*
- (10) *Land Use Options in the Fiji Sugar Industry;*
- (11) *Land Capability Classification;*
- (12) *Integration of Sustainable Land Management (SLM) and Sustainable Forestry Management (SFM);*
- (13) *Integrated Coastal Resources Management; and*
- (14) *Development of Landcare Groups.*

1.7 RELEVANT REGIONAL ACTIVITIES

There are five programmes that have been implemented at the regional level to address land degradation and meet obligations under UNCCD

These include:

- (1) *Soil Loss Research and Development of Sustainable Land Management Technologies;*
- (2) *Pacific Regional Agriculture Program;*
- (3) *Climate Change and Variability Scenario Generation/Modeling;*
- (4) *Development of integrated farming approaches for sustainable crop production in environmentally - constrained systems in the Pacific region (CROP PRO Project); and*
- (5) *Development of Sustainable Agriculture Project.*

2.0 FIJI AND THE UNCCD

Since ratification of the Convention in August 26th 1998, Fiji has complied with all reporting obligations between years 2000 and 2007.

2.1 NATIONAL ACTION PLAN (NAP)

Fiji's Draft National Action Plan (NAP) on Combating Desertification was submitted in 2006. The purpose of the national action plan was to identify the factors contributing to desertification / degradation and practical measures needed to combat it. Further it seeks the commitment of the stakeholders in ensuring the mainstreaming of this into Fiji's strategic plans. Fiji's NAP attempts to achieve the following:-

1. Long term strategies to combat desertification /degradation and to mitigate the effects of drought, emphasizing implementation and integration into national policies for sustainable development;
2. Allows for modifications in response to changing circumstances and is sufficiently flexible at the local level to cope with different socio-economic, biological and geo-physical conditions;

3. Gives particular attention to the implementation of preventative measures at affected areas and areas with degradation potential;
4. Enhancement of national capabilities in national climatological/ meteorological and hydrological monitoring as a means of providing early warning systems for drought;
5. Promotion of policies and strengthening of institutional frameworks to promote
6. partnerships, corporation and coordination between the government, donors, local
7. populations and groups and facilitates information and technology access to all; and
8. Provides for effective participation of government, local populations both men and women, non-government organizations, particularly resource users and their representative organizations in policy planning, decision-making, implementation, monitoring and evaluation of national action plans.

2.2 OBLIGATIONS UNDER THE UNCCD

Fiji's obligations under the UNCCD follow the general guidelines of the General Provision under various articles of the Convention as follows:

Article 4 articulates the achievement of long-term goals through corporation and coordination of all stakeholders under the overall guidance of the Fiji Strategic Development Plan (2008-2011). In addition, Fiji shall: recognize the particular physical, biological and socio-economic aspects land degradation and droughts through an integrated approach e.g. the promotion of agricultural activities consistent with the national land use capability classification; promote sustainable development while keeping with the objectives of the UNCCD and situation of the affected developing country; optimize strategies to combat land degradation so as to address poverty issues; corporate regionally to combat land degradation and mitigate the effects of droughts through environment protection and conservation of water and land resources; review and optimize existing role in sub-regional, regional and international cooperation; incorporate issues relevant to the UNCCD guidelines that have been scoped by intergovernmental organizations; identify and reduce redundant work within relevant government and non-governmental institutions; and maximize existing bilateral and multilateral arrangements in focusing financial resources on combating land degradation and mitigating the effects of drought. As a developing country, Fiji shall be eligible for assistance in implementing the provisions of the convention.. Under **Article 5**, Fiji is to: allocate and distribute appropriate resources to priority drought and degraded areas to combat and mitigate their effects; foster strategies and priorities in Fiji's development plan in combating land degradation and mitigating the effects of drought; reflect on sociological and economic driving factors contributing to drought and to address these within its capacity; involve all members of community, civil society as well as NGOs in raising awareness and reducing land degradation and mitigating the effects of drought; and address land degradation issues through relevant long term changes via new appropriate legislations and policies and or strengthening existing legislations.

Under **Article 8**, Fiji is to incorporate efforts of the UNFCCC and UNCBD objectives through joint programmes in the fields of research, training, systematic observation and information collection and exchange, so as to derive maximum benefit from the activities under each agreement; and shall not be affected by provisions of the former on any bilateral, regional and international agreement that which Fiji is a signatory to prior to the UNCCD.

Article 10 requires Fiji to identify the factors contributing to desertification and practical measures necessary to combat desertification and mitigate the effects of drought; and that national action programmes shall specify the respective roles of government, local communities and land users and resources available and needed. They shall, inter alia: incorporate long-term strategies to combat desertification and mitigate the effects of drought, emphasize implementation and be integrated with national policies for sustainable development; allow for modifications to be made in response to changing circumstances and be sufficiently flexible at the local level to cope with different socio-economic, biological and geo-physical conditions; give particular attention to the implementation of preventive measures for lands that are not yet degraded or which are only slightly degraded; enhance national climatological, meteorological and hydrological capabilities and the means to provide for drought early warning; promote policies and strengthen institutional frameworks which develop cooperation and coordination, in a spirit of partnership, between the donor community, governments at all levels, local populations and community groups, and facilitate access by local populations to appropriate information and technology; provide for effective participation at the local, national and regional levels of non-governmental organizations and local populations, both women and men, particularly resource users, including farmers and pastoralists and their representative organizations, in policy planning, decision-making, and implementation and review of national action programmes; and require regular review of, and progress reports on, their implementation.

3. National action programmes may include, inter alia, some or all of the following measures to prepare for and mitigate the effects of drought: establishment and/or strengthening, as appropriate, of early warning systems, including local and national facilities and joint systems at the sub-regional and regional levels, and mechanisms for assisting environmentally displaced persons; strengthening of drought preparedness and management, including drought contingency plans at the local, national, sub-regional and regional levels, which take into consideration seasonal to inter-annual climate predictions; establishment and/or strengthening, as appropriate, of food security systems, including storage and marketing facilities, particularly in rural areas; establishment of alternative livelihood projects that could provide incomes in drought prone areas; and development of sustainable irrigation programmes for both crops and livestock.

3.0 NATIONAL CAPACITY TO MEET OBLIGATIONS UNDER THE UNCCD

The paragraphs in italics, under each of the sections or subsections related to the implementation of policies and or programmes, are observations and or constraints identified under this thematic assessment.

3.1 BRIEF DESCRIPTION OF INSTITUTIONAL ARRANGEMENTS

Fiji's National Focal Point for the Convention is the Land Use Section of the Land Resources Planning and Development Division of the Ministry of Agriculture, Sugar and Land Resettlement (MASLR). The Ministry is charged with the administration of the Agriculture Landlord and Tenants Act of 1976, the Land Development Act of 1961 and Land Conservation and Improvement Act of 1953.

The Land Conservation Board of Fiji is the National Coordinating Body (NCB), which is charged to exercise general supervision over land and water resources in Fiji under the Land Conservation Improvement Act of 1953. The Land Use Section of Department of Land Resources Planning and Development of MASLR, provides the secretarial services to the Board as well as technical support in the areas of land resources planning, development and management.

The Land and Water Resources Division of MASLR provides technical services on agriculture water management and drought mitigation under the Drainage Act, 1961 and Irrigation Act, 1974. The Division also provides the Secretarial services to the three Drainage Boards (Western Division Drainage Board, Central Division Drainage Board and the Northern Division Drainage Board) in Fiji.

3.2 SYSTEMIC CAPACITY

3.2.1 Systemic Capacity at National Level

With reference to Article 10, Section 2 (a)

“Incorporate long-term strategies to combat desertification and mitigate the effects of drought, emphasize implementation and be integrated with national policies for sustainable development.”

There are relevant programmes and development priorities that have been formulated and these have been included in Fiji's Strategic Development Plan (2008-2011). These include: Land Resource Development and Management; Disaster Risk Reduction and Disaster Management; and Sustainable management and development of forest resources.

In terms of Fiji's international commitments, the Fiji Government is committed to achieving the Millennium Development Goals (MDG). In this regard, the Strategic Development Plan has been formulated so that it is consistent with and supports the MDG's.

➤ Land Resource Development and Management

Goal

Effective and coordinated land management to support economic development.

Link to UN Millennium Development Goals (MDGs)

Land's central role in rural livelihoods means its effective use is an important contributor to eradication of extreme poverty and hunger (MDG 1) and its management is key to ensuring environmental sustainability (MDG 7).

Development Rationale

Land slides, flash floods, and prevalent soil erosion is testament to the destructive land use practices that have persisted. Recognizing the urgent situation, the Plan emphatically espouses sustainable land use practices with appropriate sector strategies for awareness, training and enforcement. The current haphazard nature of development (industrial, housing, commercial) is also a clear indication of the absence of coordination between agencies concerned. The Plan recognizes this weakness and recommends closer coordination. As a basic factor input, the Plan also recognizes the significance of resolving the land tenure issue for future development and prosperity.

Policy Objectives

Resource owners and land users securing long term incomes from environmentally sustainable land development and management.

Strategies

- Encourage dialogue and consensus in adopting appropriate land tenure legislation which has support of all stakeholders.
- Strengthen institutional capacity and adequately resource the Land Resource Planning and Development Unit and the Land Conservation Board to enforce land use policies.
- Complete review of the Land Conservation Act.
 - Strengthen resource management and awareness on appropriate land use and watershed management practices from the community level.
 - Strengthen coordination between agencies involved in land development to ensure land is put to its most productive use.

Key Performance Indicators

- A land tenure system is in place which allows equitable returns to owners and users through an effective market for land use rights.
- Number of cases on improper land use practices and rate of prosecutions

➤ Environmental Sustainability

Goal

To sustainable use and development of Fiji's natural resources and ecological processes.

Link to UN Millennium Development Goals (MDGs)

"Ensuring environmental sustainability" is the seventh MDG, which provides a framework for integrating the principles of Sustainable Development into national policies, thus ensuring availability of safe drinking water, improving sanitation, and reducing other social ills such as poverty and unemployment.

Development Rationale

The Plan recognizes that there is an environmental threshold that development should not cross. The protection of national biological resources through the reduction and elimination of pollution, sound resource managements and proper management of waste is critical to environmental sustainability. Enforcing the Environment Management Act (EMA) and other environmental legislation will be the thrust of the Ministry's operation.

Policy Objectives

Fiji's environment is protected from degradation and provides the people with a healthy and clean environment

Strategies

- Promote awareness of environmental management at all levels and mobilize communities to manage their own environment as a priority over outside intervention by state and non-state actors.
- Review and strengthen legislation which includes environmental management provisions (e.g. Forest Act, Public Health Act, and Litter Decree) and coordinate implementation in the framework of the EMA.
- Enforce sound solid and liquid waste management practices, including use of PPP when appropriate, and develop waste management to address disposal of wastes in non-urban areas, including traditional villages.
- Enforce the EMA giving priority to early full enforcement of provisions for Environmental Impact Assessment (EIA) and Waste Management and Pollution Control.
- Continue the implementation of the Biodiversity Strategy and Action Plan and Endangered and Protected Species Act.

Key Performance Indicators

- Population of inventoried species to be stable or increasing.
- Waste disposal at Naboro landfill increased from 60,000 to 80,000 tonnes per year by 2010.
- 100% of facilities comply with EMA requirements by 2010.
- All new developments to conduct EIA and establish monitoring benchmarks consistent with the Environment Management Act by 2010.
- Total cessation of nonquarantine preshipment application for methyl bromide and chlorofluorocarbons (CFCs) by 2010.
- All companies complying with the Ozone Depleting Substances Act 1998 and Regulations 2000.

➤ Disaster Risk Reduction and Disaster Management

Goal

Reducing vulnerability to disasters and risks and promoting sustainable development.

Link to UN Millennium Development Goals (MDGs)

The activity contributes to ensuring environmental sustainability (MDG 7).

Development Rationale

The Plan recognises the need to maintain effective planning in order to reduce disaster impact, improve community capacity in dealing with disasters and risks, and to conduct analysis and evaluation of hazards, vulnerabilities and risks and invest in risk reduction projects and activities. The shift towards a comprehensive and an integrated approach towards risk reduction on hazards are reflected in the policy objective and strategies under disaster management. Further, it is also recognized in the strategies that effective cooperation and partnership between Civil Society Organisations, the Government and the community are essential to the effective achievement of then outcomes intended by Government.

Policy Objectives

Communities are better protected from risks of disasters and better able to protect themselves and cope with the consequences of disasters.

Strategies

- Effective risk reduction projects identified and implemented.
- Improved community capacity in dealing with disasters and risks supported by effective, integrated and people-focused early warning systems to ensure people receive timely warning.
- Increased analysis and evaluation of hazards, vulnerabilities and risks.
- Food security strengthened and enhanced community based disaster reduction initiatives.
- Strengthened organisational, institutional, policy and decision making frameworks.
- Enhanced knowledge, information, public awareness and education.
- Strengthen effective planning, response and recovery.
- Adequate availability of necessary germplasm to support recovery.
- Reduction in underlying risk factors.

Key Performance Indicators

- Government responds to disaster situation within the first 24 hours.
- Casualties reduced from 30 per year to none.
- Everybody to receive timely warning.
- All villages and settlements have disaster plans and committees by 2010.
- Models of best practice developed and adopted to support disaster risk reduction.

➤ Forestry

Goal

Sustainable management and development of forest resources.

Link to UN Millennium Development Goals (MDGs)

Developments will contribute to eradication of poverty (MDG 1) and promotion of environmental sustainability (MDG 7) through adoption of sustainable forest management.

Development Rationale

The plan recognizes the potential in the forest sector in contributing to the economy. However, the current institutional environment in which the sector operates needs to be revamped and this is the focus in the plan. In addition, with the harvesting of the high value mahogany resource, issues of sustainable forest management, value adding and effective involvement of resource owners are prominent in the sector strategies.

Policy Objectives

Resource owners benefit from sustainable development and management of the forest resources and maximise the long term economic returns.

Strategies

- Provide adequate institutional, policy and technical support to development.
- Review status of forest reserves with the aim of safeguarding biodiversity of areas under threat.
- Address capacity constraints of industry to bring harvesting, nursery and plantation establishment practices up to world class level.
- Develop the financial and technical capacity of resource owners to effectively participate in forestry development.
- Undertake research and development of new areas such as non wood forest products.
- Encourage value adding in the industry through coordinated processing and marketing.

- Promote resource utilization efficiency in primary and secondary processing.
- Provide infrastructure to support development in the industry, such as roads for harvesting access.
- Improve competition in extraction and marketing segments of the industry, mahogany in particular, with due regard to liability of resource sustainability and participation of resource owners.

Key Performance Indicators

- Forest sector contribution to GDP increased from 1.2% in 2006 to 1.6% by 2011.
- Target commercial annual harvesting of mahogany at 100,000 m³.
- Double annual export earnings from sector, including value adding, from \$60 million in 2006 to \$120 million by 2011.
- Area of indigenous forest increased by 20% by 2010 from 858,000 ha to over 1,000,000 ha.
- 15 forest native reserves identified and gazetted by 2010.
- Value of contracts secured by indigenous Fijian businesses not less than 40%.

Most of the relevant programmes are included in Fiji's Strategic Plan. What is required is to ensure that this recognition is turned into policy and programme support for the relevant sectors. To date most of the sectors and divisions generally lack human and financial resources to implement the necessary programmes. It would be difficult for the Fiji Government, as a consequence of the low economic growth, to adequately provide funding for the relevant programmes. In this regard, the UNCCD Focal Point has done well in attracting external funding. However for sustaining programmes, it should also need to ensure that the Fiji Government provides capital funding for its programmes, through "smart project submissions", coupled with high level representations. The Land Conservation Board could be used for leveraging the required programme funding.

With reference to Article 10, Section 2 (d)

"Enhance national climatological, meteorological and hydrological capabilities and the means to provide for drought early warning."

This is related to the National Framework for Risk Management and Disaster Management, under the National Disaster Management Office (NDMO).

Fiji is susceptible to variety of natural hazards such as the tropical cyclones, floods, storm surges, landslide, drought, earthquakes, tsunami and forest fires. In recognizing the need, the Government of Fiji (GOF) formulated a National Plan for Natural Disaster Management under the Natural Disaster Management Act of 1998. The plan seeks to strengthen coordination, collaboration and resources mobilisation amongst stakeholders in the prevention, mitigation and handling of natural disasters.

Collaborating institutions includes: the Earthquake Seismology Section of the Mineral Resources Department responsible for monitoring earthquakes in Fiji and the South Pacific; the Meteorological Service within which is the Regional Specialised Meteorological Center for the South Pacific; the National Building Code to reduce vulnerability to cyclones and earthquake shocks; and relevant Non Government Agencies, such as the Red Cross, Foundation of the People of the South Pacific, Fiji

Council of Social Services, Salvation Army, Save the Children Fund, churches and others with international partners such as the Food and Agriculture Organisation (FAO) of the United Nations.

The NDMO is working on a Drought Mitigation Plan. The first committee meeting was held on the 6th December 2006, the day of the military coup. The second meeting of the committee has yet to be convened.

It is the human and financial resources of the key stakeholders that are limiting factors to developing effective monitoring system. For the Fiji Meteorological Services, though they have received approximately \$100,000 Fiji dollars per year for capital works for the last two years, this is insufficient for the relevant upgrading required. The Meteorological Services have in the last two to three decades seen the dwindling of the number of ground weather stations of down to 50-60% of those installation in the 1960's. This has been the result of demand for services rendered by privatised institutions such as Telecom, which in earlier years provided voluntary services. In addition, ineffective and weak coordination and collaboration among the stakeholders, such as hydrological monitoring through the Public Works Department (PWD) and meteorological monitoring through the Fiji Meteorological Services is also a barrier to the development of the drought early warning system.

With reference to Article 10, Section 2 (e)

“Promote policies and strengthen institutional frameworks which develop cooperation and coordination, in a spirit of partnership, between the donor community, governments at all levels, local populations and community groups, and facilitate access by local populations to appropriate information and technology.”

In November, 1998 a review on the rural land use in Fiji began with the assistance of the South Pacific Community/ Pacific German (GTZ) Forestry/Agroforestry Program. This resulted in the formulation of a National Rural Land Use Policy. The National Rural Land Use Policy document was endorsed by Cabinet on the 22nd of June, 2005. This policy document will be used as the guide for the formulation of the National Rural Land Use Plan or National Land Use Plan.

The formulation and endorsement by Cabinet in 2005, of the Fiji Forest Policy was also an important step in achieving consensus of all stakeholders on policies and implementation measures towards conservation and sustainable management of the Nation's forest resources.

One of the constraints to effectively managing the land resources of Fiji is that there are many stakeholders with conflicting interests. The formulation of a National Rural Land Use Policy and a Fiji Forest Policy are indeed excellent opportunities that brought and will bring together all stakeholders in agreed frameworks to ensure the sustainability of natural resources and benefits for all parties concerned. To keep the momentum moving until endorsed working policies are achieved, the coordinating agencies which is the Land Use Section and the Department of Forest need to be provided with the necessary resources to oversee their implementation and enforcement.

With reference to Article 10, Section 2 (f)

“Provide for effective participation at the local, national and regional levels of non-governmental organizations and local populations, both women and men, particularly resource users, including farmers and pastoralists and their representative organizations, in policy planning, decision-making, and implementation and review of national action programmes.”

Apart from the NCB, there are other stakeholders at the operational level. These include: Regional Intergovernmental Organisations ((University of the South Pacific (USP), Secretariat of the Pacific Community (SPC), Secretariat of the Pacific Applied Geosciences Commission (SOPAC), South Pacific Regional Environment Programme (SPREP)), German Technical Cooperation (GTZ), Donor Agencies (UNDP, European Union).

The other stakeholders are the National Landcare Working Committee and the NGO Landcare Steering Committee. The National Landcare Working Committee include representatives from: NLTB; DOE; Forestry Department; MASLR; Ministry of Provincial Development; USP, EU/SPC/DSAP and the SPC/GTZ PGRFP, Ministry of Works; Ministry of Finance, Ministry of Education and Representative of the NGO Landcare Steering Committee.

The NGO Landcare Steering Committee consists of various NGO’s such as the World Wide Fund, PCDF, Conservation International, FSPI, Live and Learn and other environmentally based NGO’s.

3.2.2 Systemic Capacity at Regional Level

There are five programmes that have been implemented at the regional level to address land degradation and meet obligations under UNCCD. The following falls under systemic capacity and the remaining fall under Institutional and Individual capacity discussed later in the chapter.

Climate Change and Variability Scenario Generation/Modeling

Climate change is likely to have substantial and widespread impacts in the Pacific Island Countries, including the Fiji Group, affecting sectors as varied as health, coastal infrastructure, water resources, agriculture, forestry and fisheries. In August, 1999 the South Pacific Regional Environment Program (SPREP) with the assistance of the International Global Change Institute (IGCI) (Waikato University, New Zealand) produced a climate change computer modeling program known as the PACCLIM (Pacific Island Climate Change) proto-type model. The computer modeling is used to create scenarios to predict climate change and sea level rise in the Pacific.

IGCI, SPREP and the World Bank funded the creation of the FIJICLIM an offshoot of the PACCLIM, a computer modeling scenario generator to be used to predict climate changes and sea level rise in Fiji. But the modeling still needs to be further developed for Fiji to have any significant contribution to climate change mitigation.

3.2.3 Systemic Capacity - Policies and Non-regulatory measures

The following are some of the issues that are related to the implementation of the various relevant sectoral policies and non-regulatory mechanisms

(1) Drought Mitigation and Early Warning System Management

This is related to the National Framework for Risk Management and Disaster Management, under the National Disaster Management Office (NDMO).

The NDMO is working on a Drought Mitigation Plan. The first committee meeting was held on the 6th December 2006, the day of the coup. The second meeting of the committee has yet to be convened.

Lack of human and financial resources, high staff turnover lack of technical expertise, ineffective networking and coordination have been sited as major challenges to the development of the drought mitigation and early warning system management. For the last three years three senior staff, one of whom being the Director, left the unit. This has caused a lot of strain for the remaining staff to keep the momentum moving, particularly on policy review, coordination and networking, and project formulation and implementation.

Refer to Appendix VII which contains some important conclusions and recommendations from the regional El Niño social and economic drought impact assessment and mitigation study in 1999 by Chris Lightfoot for the Disaster Management Unit (DMU) of the South Pacific Geoscience Commission (SOPAC).

(2) Review of the Land Conservation and Improvement Act

The Land Conservation and Improvement Act (LCIA) of 1953 had established the Land Conservation Board, whose main function is to “exercise general supervision over land and water resources,” disseminate information; recommend appropriate legislation; and make general or particular conservation orders or closing orders; or require landowners to execute works for the conservation of land and water resources.

Its primary concerns since the early 1970’s has been drainage but in the early 1990’s it has changed to sustainable land and water resources management. The proposed amendment in the early 2002 included the formulation and implementation of the National Land Use Plan as one of its core functions. The Board has proposed the amendment of the LC&I Act and reformulation of it, as the Land and Water Resources Management Act with its Board renamed as the Land and Water Management Board of Fiji.

The first phase of the review was from November 2007 to January 2008. A stakeholder consultative workshop was conducted in January 2008. The legislation currently is with the Solicitor General’s office for legal drafting. There would be a series of consultative meetings/workshop that would be held before a final version would be submitted to Cabinet by the end of 2008.

The review highlights the institutional strengthening of the Land Use Section, both financial and human resources, to effectively serve as the secretariat of the Board, as stipulated under the Act.

The proposed amendment includes the increasing of its membership from the current nine (9) members to fourteen (14) to include the participation of important land and water resources stakeholders. The amendment also includes the need to have independent human and financial resources for the Board to be able to be more efficient and effective in carrying out its function independently and more importantly its commitment to the provisions of the UNCCD.

This legislation, though outdated is one of the most important pieces of legislation that addresses proper land husbandry and land management practices. Finally in 2008 after decades of proposition, the revised Act has finally reached the office of the Solicitor General for legal vetting. However, the Ministry of agriculture should continue to pressure the Solicitor General's Office to expedite the process to eliminate any further delays.

In past years the delay in its review has reflected on the lack of political will. It is hoped that this new piece of legislation would be fully supported by Government and that the Secretariat be provided with the necessary resources to effectively and fully implement the provisions of the new legislation.

(3) Environment Management Act of 2005.

They key features of the EMA 2005 are:

- The setting up of a National Environment Council (NEC) to coordinate the formulation of environment related policies and plans;
- The requirement for Environment Impact Assessments to be binding on all parties, including Government;
- Permits to discharge waste and pollutants into the environment;
- National Resource Inventories, National Resource Management Plan, National State of the Environment Report, and the National Environment Strategy; and
- Declarations, enforcement orders, stop work notices will ensure environmental compliance according to laws.

Development Constraints and Challenges

The major environmental problems include: deforestation, land degradation, air and water pollution, inappropriate refuse disposal, climate change and sea-level rise, outdated legislation and its inadequate enforcement, and limited public awareness. It is hoped that the implementation of the Environment Management Act and related programmes, and allocation of adequate resources, will assist in addressing some of these issues.

The Department of Environment (DOE) is responsible for implementing the Environment Management Act. The DOE is also the focal point for the UNFCCC and CBD. From the

SWOT analysis carried out for the Department, it is critically under staffed and under resourced. Almost fifty percent of the DOE staff comprises projects and volunteers staff.

(4) National Rural Land Use Policy and Plan

In November, 1998 a review on the rural land use in Fiji began with the assistance of the South Pacific Community/ Pacific German (GTZ) Forestry/Agroforestry Program. This resulted in the formulation of a National Rural Land Use Policy. The National Rural Land Use Policy document was endorsed by Cabinet on the 22nd of June, 2005. This policy document will be used as the guide for the formulation of the National Rural Land Use Plan or National Land Use Plan.

One of the constraints to effectively managing the land resources of Fiji is that there are many stakeholders with conflicting interests. The formulation of a National Rural Land Use Policy is indeed an excellent opportunity to bring together all stakeholders within a framework to ensure the sustainable use of the land resources and the equitable sharing of the benefits for all parties concerned. To keep the momentum moving until an endorsed working policy is achieved, the coordinating agency which is the Land Use Section needs to be provided with the necessary resources to oversee its implementation and enforcement.

(5) Fiji Forest Policy Statement

In 2003, the Forestry Department stated the need to “redefine forest policy to reflect the adoption of appropriate sustainable forest management system to ensure the full and successful implementation of current strategic directions and landowner aspiration on the management of their resources (DOF 2003) The formulation and endorsement by Cabinet in 2005, of the Fiji Forest Policy was an important step in achieving consensus of all stakeholders on policies and implementation measures towards conservation and sustainable management of the Nation’s forest resources.

In the pursuit of increased exports and emphasis on downstream processing, technology development and adaptation and human resource development are two critical areas that need addressing. The participation of resource owners in the industry needs to be carefully crafted with the necessary training and capacity building provided to them.

Like any resource, the forest resources of Fiji are finite and can be exhausted. It is in the interest of current and future generations that sustainable forest management is adhered to and practiced.

Similar to the National Rural Land Use Policy, one of the constraints to effectively managing the forest resources of Fiji is that there are also many stakeholders with conflicting interests. The formulation of a Fiji Forest Policy is indeed also an excellent opportunity to bring together all stakeholders within a framework to ensure the sustainable use of the forest resources and the equitable sharing of benefits for all parties concerned. To keep the momentum moving until an endorsed working policy is achieved,

the coordinating agency which is the Forestry Department needs to be provided with the necessary resources to oversee its implementation and enforcement.

(6) Watershed Management Master Plan

In August, 1996 the Japanese International Cooperation Agency (JICA) began a two year study on the watershed management and flood control for the four major river systems namely; the Rewa, Ba, Nadi and the Sigatoka rivers. The study was carried out in order to formulate the basis of a Master Plan for the Watershed Management and Flood Control for all the major river system in Fiji. The study ended in October, 1998 with a coherent Watershed Plans for the main rivers.

The Land and Water Resources Management Division of the Ministry of Agriculture have carried out some work on watershed management, predominantly related to river engineering. Studies related to watershed management of major rivers of the main island have been completed through Japanese aid. However there is no national watershed management master plan developed as yet. With the provision of adequate resources the Division would then embark on formulating a national watershed management master plan.

(7) National Natural Disaster Management Plan

Fiji is susceptible to variety of natural hazards such as the tropical cyclones, floods, storm surges, landslide, drought, earthquakes, tsunami and forest fires. In recognizing the need, the Government of Fiji (GOF) formulated a National Plan for Natural Disaster Management under the Natural Disaster Management Act of 1998. The plan seeks to strengthen coordination, collaboration and resources mobilisation amongst stakeholders in the prevention, mitigation and handling of natural disasters.

Collaborating institutions includes: the Earthquake Seismology Section of the Mineral Resources Department responsible for monitoring earthquakes in Fiji and the South Pacific; the Meteorological Service within which is the Regional Specialized Meteorological Center for the South Pacific; the National Building Code to reduce vulnerability to cyclones and earthquake shocks; and relevant Non Government Agencies, such as the Red Cross, Foundation of the People of the South Pacific, Fiji Council of Social Services, Salvation Army, Save the Children Fund, churches and others with international partners such as the Food and Agriculture Organisation (FAO) of the United Nations.

There is a need to develop Response Plans and Early Warning Systems for floods, earthquakes and tsunamis, in order to provide people with time and confidence to deal with such events and to facilitate more rapid Government intervention.

Mainstreaming disaster risk reduction into other sectoral development plans, policies and programmes are crucial for sustainable development and community resilience.

The Fiji Red Cross works closely with the divisional commissioners and provincial administrators/ district officers and provides invaluable support during emergency relief operations. There is a need to continue to strengthen relationships with Disaster

Management partners, including the Red Cross, civil society, as well as the FRANZ group, the EU, ADB, World Bank, UNDP and SOPAC.

The National Disaster Management Office takes the lead role in coordinating programmes and activities related to natural disasters. Apart from responding to drought, they also are required to respond to other hazards which include cyclones, floods, and others. With limited funding and staff high turnover, the Unit would mainly be resigned to planning and responding to disasters, with limited potential for undertaking major disaster mitigation initiatives and programmes. For the last three years three senior staff, one of whom being the Director, left the unit. Apart from the loss of institutional memory, this has caused a lot of strain for the remaining staff to keep the momentum moving, particularly on policy review, coordination and networking, and project formulation and implementation.

(8) Climate Change Vulnerability and Adaptation Assessment and Strategic Plan.

Fiji is a signatory to the UN Framework on Climate Change therefore it is obliged to provide a National Communication document that includes information on climate change vulnerability and adaptation implementation policies and strategies.

The adaptation strategies identified include;

- improved understanding of the coastal dynamics through data collection exercise and monitoring programs. Structural or bio-engineered coastal protection projects inquire site specific data and analysis before being considered
- examination of coastal protection options for reducing erosion risk
- land use planning
- protection of mangrove and reefs which are natural protection system
- adequate pollution control, to prevent reef die-off
- use of setbacks from shoreline and low lying areas in the construction of buildings and mangrove replanting in degraded areas.

Refer to the thematic assessment for the United Nations Convention on Climate Change for a thorough discussion on the implementation of the Convention.

(9) National Biodiversity Strategy and Action Plan (NBSAP)

The NBSAP was prepared through the Department of Environment which is also the National Focal Point for the United Nation Convention for Bio- Diversity in 1999. After consultation with different stakeholders at different levels from local to national, a strategy was formulated on conserving the genetic, species and ecosystem diversity of the country. It focuses on six focal areas;

- community support-awareness, involvement and ownership
- improving knowledge
- developing protected areas
- species conservation
- control of invasive species and
- capacity building and strengthening

The strategy observes that Fiji has only a rudimentary system of protected areas and that it is time to create "site of national significance program" that would provide legal protection and establish management plans. It also identifies institutional and capacity building as a very vital aspect of the commitment.

Refer to the thematic assessment for the United Nations Convention on Biological Diversity for a thorough discussion on the implementation of the Convention.

(10) Mangrove Management Plan

In 1985, a Mangrove Management Plan for Fiji was formulated. It contains a characterisation, policies and maps of the mangrove location, types and use zones for the main islands of Viti Levu, Vanua Levu, Ovalau, Gau and Kadavu.

This document is still being used for decision- making purposes on foreshore reclamation of mangrove by the Department of Land and Surveys.

This is a management plan that requires urgent review and enforcement by parliamentary act. Most representatives of both the Lands Department and the Forestry Department are vaguely aware of the plan, though it is supposedly a document which should guide developments in foreshore/mangrove areas. In the current context, one can assume that most of the foreshore developments occur without adherence to the mangrove management plan.

3.3 INSTITUTIONAL & INDIVIDUAL CAPACITY

With reference to Article 10, Section 2 (c)

“Give particular attention to the implementation of preventive measures for lands that are not yet degraded or which are only slightly degraded.”

There are approximately fifteen (15) relevant national programmes addressing issues related to the control or mitigation of land degradation. The details of these programmes can be found in the 2007 Fiji NAP.

(1) Soil Surveys and Soil Correlation Program

The program was carried out from 1981 to 2001 where the National Soils Surveys was completed by 1985 and the soils were classified according to the International Soil Taxonomy based on the USDA system which is currently being used as the international standards as the primary system with soil series. These has also being correlated to Fiji National Soil Classification System which locally known as Twyford and Wright (1965).

The soil surveys for the two main islands have already being completed. The surveys for the other island needs to be carried out. Therefore funding will be required for the continuation of this programme as well as provisions for training or up-skilling of staff in carrying out soil surveys and soil correlation activities.

(2) Soil and Crop Evaluation Project.

The Soil and Crop Evaluation Project was a five year project that had been jointly funded by Fiji, New Zealand and Australia. It began in June, 1993 with an overall objective to contribute to self sufficiency in Fiji of food crops, and an increase in export earnings by definition and demonstration of crop nutrient requirements on the soil suitable for sustainable cropping systems in Fiji.

All of the agricultural research stations have been surveyed. The SCEP project was to establish trials with selected economically important crops in the various soil series for the assessment of crop nutrient requirements. This information would then be used by the agricultural officers and land use officers for providing effective advice to land users. However due to change in management, the project focused shifted towards extension type activities and capacity building such as providing funds for postgraduate training. As a consequence the original objective of the SCEP project was not fully achieved.

(3) Geographical Information Systems

In 1994 with the assistance of the AusAID of Australia, the NZODA of New Zealand and the Fiji Government through the Soil and Crop Evaluation Project established the MAFF Geographical Information Systems and it was housed under the Land Use Planning Section of the Research Division and now of the Department of Land Resources Planning and Development. To date the Land Use Section have digitised and have stored the database of Taveuni Island and the two main island of Viti Levu and Vanua Levu and several small islands in the Lau Group.

The Land Use Section have also imported information such as the cadastral mapping systems, roads, river systems, native land mapping systems, forest inventory, geological information and other information from data custodians such as the Native Land Trust Board, Forestry Dept. Fiji Land Information Systems and others. These stored databases are retrieved, manipulated and analysed for different outputs according to the needs of the clients, to make informed quality decision for the sustainable uses of their resources.

Four staff of the Land Use Section have been trained on GIS applications. However to effectively derive the benefits the technology provides, most if not all the senior land use officers should be trained in the use of the technology, up to the advanced level. This would facilitate the interaction and effective transfer of information from the computer terminals to the land users. The current GIS mapping system is on a 1:50,000 scale while scale at the land parcel level (5 – 15 hectares) still needs aerial photo interpretation. Therefore training of staff in this technology is required, to cover scales of 1:3,000 – 5,000 and as well as playing a complementary role of rechecking and verifying GIS data.

There is no specific funding allocation for system maintenance, repairs or upgrades.

GIS units have been established in the three divisional sections, though these need strengthening in terms of the provision of relevant hardware as well as soft ware upgrades.

(4) Participatory Land Use Plan

In late 1999 the Land Use Section of the Research Division and later of DLRPD took the initiative to establish a participatory land use planning approach as a pilot project in the Bemana District in the province of Nadroga, in collaboration with the Extension Division of MASLR, Native Land Trust Board, Ministry of Fijian Affairs, Ministry of Fisheries and Forests, civil societies such as the WWF and the Foundation of the People of the South Pacific (USP), resources owners and other stakeholders.

This would be the basis of future integrated or holistic approach to land resources planning, development and management programs. It emphasizes the importance of a bottom up approach to land use planning and one of its main objectives is to establish local land care groups, to empower communities to efficiently and effectively develop and manage their resources and create land stewardship amongst the resources owners and users.

This was a “one off” request by the then Land Development and Resettlement Unit. There were two project sites, Bemana in the province of Nadroga and Nagonenicolo in the province of Naitasiri. For these projects, the finalization and endorsement of the plans by the community have yet to be achieved. Funding will be required to complete the process in these sites. Furthermore for the initiative to be truly participatory, other relevant stakeholders need to be involved.

This is a very important initiative that needs to be sustained. Funding for the continuation of this programme should be sought, both through Fiji government and external funding.

(5) Integrated Agriculture Development Program

In early 2001 the integrated agriculture development program was endorsed by MASLR and carried out as a pilot project with assistance from Regional Development, Cooperative Dept, Health Dept., Native Land Trust Board, Fijian Affairs Board, Environment Dept. and other stakeholders focusing on bottom up or participatory approach to land development and management.

A pilot project was carried out in the District/Tikina of Toga in the Province of Rewa, Central Division. The program was initiated by the MASLR and fully supported by the Commissioner Central who is the head of administration in the Division, thus the formation of the Central Division Integrated Development Team (CDIDT).

The members of the CDIDT are from the various government and non- government agencies in the Division, who shared the view that agricultural development needs to be planned, implemented and monitored in an integrated or multi-sectoral way. This is to ensure a more balanced approach to development as well as optimal using of available resources through the mobilising of both human and financial resources to be able to accomplish community development projects within the Division.

There are many benefits of this approach, one being the efficient use of time and financial resources. This is also one way of addressing the issue of conflicting mandates of various institutions. Whenever there is an opportunity or whenever there is funding, this approach should be followed.

To sustain the programme in the project site, adequate funding is required. In the absence of this, sustainability would not be achieved.

(6) Agroforestry Program

The Fiji/German Project supported agroforestry in Fiji under the German bilateral program from 1987-1994. The project focuses on the agroforestry practice with alley cropping and moved to regional multi-lateral program in 1995. The Agroforestry project was established within the MAFFA's Extension Division and then transferred to the Land Use Section of the Research Division and now of Department of Land Resources Planning and Development (DLRPD) in February, 1997 to assist clients to adopt the advocated agroforestry practices.

Regional organizations such as the German Technical Corporation (GTZ) and the Pacific Regional Agriculture Program (PRAP) assisted DLRPD on agroforestry research. The research on *Erythrina subumbrans (Drala)* and *calliandra* leguminous tree variety as a soil fertility improvement species was tested out on acid soils of the uplands of Fiji. Other research activities includes the surveys of traditional agroforestry practices in Fiji, of which information was gathered and documented to assist the DLRPD provide a range of technologies that could be adapted to meet the conservation and economic needs of the people.

The programme, through the years has produced important data and findings related to agroforestry technology. The agroforestry project is now incorporated into all SLM projects, including model farms. However the concept needs to be disseminated to all village and farming communities and farmers, so that the benefits of the technology could be achieved in Fiji, particularly in areas where monocultivation have been predominantly practiced.

One of the positive outcomes of the agroforestry programme is the merging of the SLM and SFM concept. The integration of these two concepts was applied in the Drawa Project.

(7) Awareness and Training on Sustainable Land Management

The Land Use Section of LRPD, the Research and Extension Division of MAFF/MASLR, other Ministries, NGOs and civil society such as the Foundation of the People of the South Pacific, University of the South Pacific, WWF and others have jointly carried out awareness and training on land degradation, disseminating information on sustainable development and transferring of low cost sustainable land management technologies for sloping land farmers as well as for the school children and other stakeholders. The long-term vision is to set up land husbandry/care groups in various communities in Fiji to empower communities to oversee the sustainable development and management of their natural resources.

In 2008, approximately twenty awareness sessions on SLM have been conducted to various communities around Fiji. Funding is required to sustain this initiative as well as incorporate the use of various media such as television and radio programmes.

(8) Transfer of Sustainable Land Management Technologies (SLMT)

In 1997 when the Commodity Development Framework (CDF) program was implemented, the results of the IBSRAM/ Pacificland and Agroforestry on farm research program were transferred to farmers' field throughout the Central, Eastern, Western and Northern Division of Fiji. Recognizing the effectiveness of vetiver grass, pineapple with the inclusion of leguminous and nitrogen-fixing tree species such as calliandra, erythrina and gliricidia on contours to act as living barriers, nutrient pumps as well as hedgerows. This program is similar to the Sloping Agriculture Land Technology (SALT) Program implemented in the Asian countries. Altogether 300 farmers have adopted the low cost sustainable land management technologies all over Fiji and more have been waiting for technical assistance.

The programme involved the actual establishment of demonstration farms. This was similar to the DSAP, though funding was from the CDF. The program needs the support of donor partners to assist in the dissemination and implementation of the SLMT program to reduce or minimise land degradation.

(9) Drought Mitigation

In 1998, Fiji experienced the worst drought since rainfall records began in 1942, it recorded low rainfall than usual in October to April wet season. Damages to agricultural crops were estimated at US\$10 million. Food and Agriculture Organisation (FAO) assisted with planting material and inputs while the Government of Finland supported the drought mitigation and preparedness training and awareness program. The government of Fiji assisted the sugar cane farmers by providing US\$ 21 Million for crop rehabilitation program. The South Pacific Applied Geoscience Commission (SOPAC) assisted the Fiji Government in providing technical assessments on drought mitigation related to the 1998 drought episode, refer to Appendix VI.

The drought mitigation plan has yet to be formulated by the National Disaster Management Office and then be endorsed by Cabinet. Limited finance and lack of human resources are two major constraints in finalizing the plan.

(10) Land Use Options in the Fiji Sugar Industry

In light of the ongoing international trade reforms, Fiji faces major challenges as it addresses its obligation under the World Trade Organisation (WTO). The challenges are particularly acute in the face of current reforms in the European Union and USA agricultural sector and the expected loss of the preferential access for the Fiji sugar to these markets.

To access the impact of the trade liberalization, the AUSAID through the Australian Center for International Agricultural Research (ACIAR) funded a project beginning in January, 1999, with an overall goal to assist Fiji Government, the Fiji Sugar Industry and most importantly the small holder sugar cane farmers to better adjust to expected reduction and eventually loss in the preferential access to EU and USA markets. It also

needs to prepare itself to compete with other sugar exporting countries in the world market.

This was also a strategy to encourage the Fiji Sugar Industry to improve its economic, social and environmental performance through voluntary initiatives, taking into account initiatives such as that is set by the International Organisation for the Standardisation (ISO) standards.

The program was shelved during the political impasse of May 2000, but the program resumed with low intensity. The research was finally concluded in early 2008.

For assessing the options, the assessment of land currently under cane was to be carried out to identify land most suitable for sustainable cane production and land unsuitable for cane but suitable for other land uses such as for crop diversification on crops such as pineapple, mangoes, pawpaw, pigeon peas, floriculture, livestock grazing, forestry and other uses.

The NZODA, under the National Adaptation Strategy, funded this assessment survey from 2005 to 2008. What would be required now is funding to actually implement the programme at the farm level.

(11) Land Capability Classification

In 1977 the Fiji Ministry of Agriculture Fisheries and Forest adopted a Land Use Capability Classification Guideline which was adopted from the New Zealand version of the USDA Land Use Capability Guideline. Land use capability classification surveys are carried out by the Land Use Section, DLRPD for feasibility studies on land resources, to assess the capability of that land to sustain production for different uses.

Land use capability is a systematic arrangement of the different kinds of lands according to those properties that determine its capacity for permanent sustained production. The word "capability" is used in the sense of "suitability for productive use" after taking into account the physical limitations the land may have.

This capacity depends largely on the physical qualities of the soil and the environment, these are frequently far from ideal, and the difference between the ideal and the actual is regarded as limitations imposed by these soil qualities and the environment.

These limitations affect the productivity of the land, the number and complexity of corrective practices needed and the type and intensity of the land use. The degree of limitations can be assessed from (a) susceptibility to erosion,(b) steepness of slope, (c) liability to flooding, wetness, or drought, (d) salinity,(e) depth of soil, (f) soil texture, structure and fertility,(g) stoniness, and (h) climate.

The soil resources data in conjunction with the land capability classification should be the basis for land use planning whether at the local or national level. Firstly, the Focal Point should strive to get legal recognition of the land capability classification system.

Secondly, the Focal Point, through the support of the LCB, should use this information to formulate a national land zoning scheme, and be endorsed by Cabinet. There are far too many developments, particularly urban expansion onto prime agricultural lands that simply indicates the absence of an endorsed national land zoning scheme.

(12) Integration of Sustainable Land Management (SLM) and Sustainable Forestry Management (SFM)

In early 2000 The SPC/GTZ Regional Project for Forestry and Agroforestry in collaboration with the Department of Land Resources Planning and Development (MASLR) and the Forestry Department of Ministry of Fisheries and Forests (MFF) have integrated the sustainable land management (SLM) and the sustainable forestry management (SFM) technologies as a pilot project, in collaboration with the Extension Division of MASLR, Cooperative Department, Fijian Affairs Board(FAB), Native Land Trust Board(NLTB), Fiji Forest Industry (FFI), land owners and other stakeholders, by using Drawa Block, an area that consists of five (5) villages and covers more than 8,500 hectares of virgin forest in Vanua Levu(second largest island in Fiji).

The project has assisted in the formation of a Landowners Committee and a SFM/SLM Working Committee. The members comprises of senior members from; NLTB, FAB, MASLR, Forestry Depart., Cooperative Dept. FFI including the Chairman of the Landowners Committee. The Landowners Committee has begun with the advocacy for the formation of Land Care groups within the project area.

The synergies derived from combining the sustainable land management and sustainable forestry management initiatives augers very well with the idea of integrating the United Nation Convention to Combat Desertification/Land Degradation, United Nation Convention for Bio-Diversity and the United Nation Framework for Climate Change principles.

With the project coming to an end in 2008, it is the hope of the stakeholders that the model could be transferred or voluntarily taken up by interested communities to sustainably manage their forest and natural resources. However to facilitate the process, continued support from GTZ will still be required as well as further funding from donors.

(13) Integrated Coastal Resources Management

The Institute of Applied Science (IAS) of the University of the South Pacific based in Fiji, the University of Rhode Island Coastal Resources Center, USA and the Government of Fiji are working in partnership and have initiated a program known as the Integrated Coastal Management for Fiji which was launched after a National Workshop held in April, 2002.

The coastal areas are of vital importance to Fiji society and its national development. Most of the urban centers and vast majority of villages are located on the shore, along with much of the population, agriculture, industry and commerce. Therefore as result of population increase, rapid coastal development and increasing utilisation of coastal resources these has resulted in various impacts on the coastal environment which includes; loss of habitat and

biodiversity, inappropriate solid waste management, mismanagement of chemical wastes, pollution of air and water ways, land degradation etc.

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), University of the South Pacific(USP), resources owners and users. The programs identified the Coral Coast of Fiji as its pilot project area.

The initiative focuses on various issues including waste management and coastal water quality, marine resources management, village governance, alternative income generation and coastal development planning. The Coral Coast area is the pilot site to demonstrate how stakeholders can work together to make decisions and develop localized plans. A national ICM committee was established to advise, learn and discuss policy level issues from the pilot site. The project's other aim was to assist national government departments in implementing sustainable tourism and addressing waste management.

Liquid waste and the pollution of coastal waters by nutrients was the most critical issue identified on the Coral Coast. Strategies have been developed to reduce the pollution. Composting toilets and an artificial wetland have been built as well as sawdust pigpens trialed to absorb waste. Several resorts have also upgraded their sewerage systems. The effects of these interventions are being monitored as well as status of coastal water quality. Solid waste management activities include clean up campaigns and recycling of waste such as tin cans and plastic bottles. Other important issues include depleting fisheries and coral harvesting and coastal erosion.

There were three ICM newsletters published, the first in September 2003, the second in December 2004, and the third in July 2006. IAS produced five publications namely:

- Progress and Lessons Learned Document (for details of project and activities carried out);
- Booklet in Fijian on Guidelines for Village-based Tourism;
- Booklet on Environmentally Friendly Tourism for Resorts and Hotels;
- Guideline for Constructing Composting Toilet; and
- Brochure in Fijian on Coastal Erosion.

Due to lack of funding, this programme was discontinued in 2007. Integrated Coastal Zone Management is a cross cutting issue for the three Conventions, these are the UNCCD, UNFCCC and the CBD. Therefore the focal points should ensure that funding for this programme should be sought from GEF. For any future programmes however, there should be balanced emphasis on both coastal/marine and inland based activities. The programme described above was relatively restricted to coastal/marine activities.

(14) Development of Landcare Groups

The successful implementation of the National Rural Land Use Policy and Plan depends very much on a delivery framework that combines top down and bottom up approach to facilitate communication between communities and government agencies. There is a need for a coordinating mechanism whereby government programs are complemented and strengthened by activities of the groups of stakeholder at community level.

At community levels resources owners and users need to be organized and empowered to plan and manage their resources, in order to provide the bottom up input necessary in the interactive resources management. A mechanism to facilitate this is through the group based concept where the resources owners and users are organized into local resources management groups, widely known internationally as the Landcare Groups.

This Land Use Section initiative started in 2005. The Fiji National Landcare Steering Committee has already been formed. The chairperson is the head of the Land Use section. The committee comprises most of the stakeholders including non-governmental organizations. The committee has already formulated its vision, mission, goals and action plans. The plan is that the various land care groups would be formed during the SLM GEF funded project.

(15) Medium Size Project (MSP) for Capacity Building and Mainstreaming of Sustainable Land Management in Fiji

This is a GEF funded project administered under the United Nation Development Programme (UNDP) Fiji office. This is a four year project and the implementation is scheduled to begin in 2008.

The objective of the project is to combat land degradation and mitigate its effects through the enhancement of sustainable land management (SLM) capacities into the planning, development and utilization of land to enhance environmental, social and economic well being of Fiji.

The envisaged outcomes of the project are:

- *Increased knowledge and awareness of land degradation and the utility of SLM;*
- *Enhanced individual and institutional capacities for SLM;*
- *Mainstreaming of SLM; and*
- *Technical support for SLM at district, provincial and national level enhanced.*

With reference to Article 10, Section 2(g)

“Require regular review of, and progress reports on, their implementation.”

Besides annual reporting, all government sectoral activities required quarterly reporting. As most of their recent projects are externally funded, they are also required to adhere to the various reporting guidelines by the donors for the purpose of accounting for fund expenditures as well as monitoring progress.

The Focal Point has submitted three national reports plus a National Action Plan to the UNCCD since it rectified the Convention in 1998.

Most of the programmes and projects undertaken to date have been outside the ambit of the UNCCD. There is a commitment by the Focal Point as stated in the NAP that the projects funded under the Convention would meet the stipulated strict reporting guidelines.

For reporting of current and future projects, it is recommended that both outputs and outcomes be reported. This would give a clearer picture of the success and effectiveness of each project or programme in relation to its intended objectives.

3.2.2 Institutional & Individual Capacity at Regional Level

As discussed earlier in subchapter 3.2.2, the remaining existing capacity under institutional and individual

(1) Soil Loss Research and Development of Sustainable Land Management Technologies

The International Board for Soil Research and Management (IBSRAM)/ Pacificland Network Program was established in 1991 to assist in the soil loss research as well as to develop and disseminate appropriate technologies for their sloping agricultural lands. The program was initially funded by the Asian Development Bank and in the later years by AusAid. It ended in December, 1999, but continued with internal funding from the Fiji government.

The program was a joint effort between the Department of Land Resources Planning and Development, Extension and Research Division of MASLR, resources owners and users. The technologies identified were being assessed against the farmer's current practice. It includes vetiver grass strips, pineapple hedgerows and other crops such as kava or leguminous tree species that were selected collaboratively by the researchers and farmers. For example soil loss rate on a ginger plot where no conservation is practiced yielded more than 50 tons per hectare per year compared to the soil loss index in the tropics of 13.5 ton per hectare per year. But in the ginger plot where the low cost sustainable land management technologies such as vetiver grass as hedge rows were practiced it yielded less than one (1) ton per hectare per year of soil loss.

This research programme was very beneficial in that it gave the Land Use section the scientific basis upon which to confidently transfer the technology to farmers. However, funding for conducting similar research in other climatic zones with different crop types is also needed, particularly in the sugarcane belt.

(2) Pacific Regional Agriculture Program

In 1993 the PRAP/ European Union Project 1- for Farming System in low lands assisted the Land Use Section of Research Division and now of DLRPD with the agroforestry research by using *Erythrina subumbrans* as a fertility improvement species in collaboration with the SPC/GTZ Regional Forestry and Agroforestry Program. The

research was carried out on acidic upland soils. The program also collated information on traditional agroforestry practices in Fiji.

One of the important contributions of the PRAP Project was the capacity building aspect of mainstreaming Participatory Rural Appraisal (PRA) into the agricultural program. PRA is a practical approach to creating a context where local people or communities can identify, discuss and solve their own problems. The involvement of communities or land users or resources owners from the planning to the implementation of the projects is very important if the projects are to be sustainable. Therefore the people's participation is crucial and this empowers them to make good informed decision on the balancing of resources between development and conservation.

A group was formed comprising members from within the Ministry and from other stakeholders. The existence of this group needs to be sustained through continued engagement in projects as well as participation in refresher trainings.

(3) Development of integrated farming approaches for sustainable crop production in environmentally- constrained systems in the Pacific region (CROP PRO Project).

In November, 2001 the European Community CROP PRO three years funded project was launched in Suva, Fiji, with an overall objective to develop an integrated farming approaches for sustainable crop production in environmentally constrained systems in the South Pacific region, aiming at increasing crop productivity and decreasing land degradation.

The research program was being carried out in three Pacific Island Countries namely Samoa, Tonga and Fiji. The Fiji component is being managed by the Department of Land Resources Planning and Development in collaboration with Eco-consultant (Fiji), MAF (Tonga), University of the South Pacific, Alafua Campus, Samoa and METI, Alterra Green World Research Institute, the Netherlands, Hort-Research (NZ) and University of Louvain- Belgium.

This was a three year project which focused on sediment loads and discharge in relation to catchment characteristics. The area studied was at Savutalele, a relatively small catchment between the Suva-Nausori corridor. Parameters gathered included soils, present land use, rainfall, discharge, sediment loads, etc. The data was then used to test the Lixemburg Soil Erosion model. Hopefully this type of research is up-scaled to a watershed level, under an appropriately funded watershed management study programme.

(4) Development of Sustainable Agriculture in the Pacific Project.

Development of Sustainable Agriculture in the Pacific (DSAP) is a regional project being implemented in 10 Pacific Island Countries, executed by SPC. The project is funded by the European Union and its main purpose is to increase sustainable agricultural production on farm families in participating countries. The main strategy for achieving

this emphasis is the dissemination of technologies based on the farmer livelihood needs and building national institutional capacity in the use of participatory approaches in sustainable agriculture development.

The key target outputs are as follows;

- Improved systems to identify farmers' production problems and solutions
- Appropriate technologies identified.
- Participatory extensional skills upgraded for National Research and Extension staff
- Appropriate technologies scaled up and promoted.
- Enhanced capabilities in extension communications.

For this project, one of the most successful sites is Tilivalevu. In recent years, the focus had shifted from project implementation to training and capacity building.

4.0 ASSESSMENT OF CAPACITY NEEDS

4.1 METHODOLOGY

The various tools used for capacity assessment for this study at the three levels – systemic, organizational and individual include the following: Desk Study; Workshops; Capacity Development Training; Interview; Stake holder consultations; Field Trips/Visits; SWOT Analysis; Root Cause Analysis; and Gap Analysis.

- **Desk Study**

The desk study and literature review was conducted from available documents and publications, but not limited to the following:

- UNCCD;
- Project Document of NCSA;
- Information paper on the Project;
- Selected reports already available in the Department of Agriculture;
- Selected reports available from relevant institutions;
- Legal and regulatory framework study of relevant legislations, including Environment Management Act;
- Mission and Vision statements of key organizations; and
- Reports from regional and international organizations such as SPC, SPREP, SOPAC, USP and GTZ.

- **Interview**

Discussions and interviews were a part of the process from the very inception as interview provides first hand and best information not otherwise available easily. Mostly questions pertaining to all three levels - systemic, organizational and individual were posed to officials during visits and response solicited on challenges, constraints and capacity needs based on their ground experience

- **Questionnaires**

Questionnaires were prepared and sent to various Ministries before the Capacity Development training was imparted (Appendix I). Also questionnaires on various areas covering three levels of capacity were prepared and administered during SWOT Analysis (Appendix IV). The questionnaire was also used as a guide in the interview process.

- **Workshops**

Two workshops were conducted to facilitate the assessment. They included:

- July 29-30, 2008 – Southern Cross Hotel Suva (24 Participants from various Ministries, INGOs, Embassies , USP etc); and
- Aug 12, 2008 – Hotel Takia, Labasa (For the benefit of officials from Northern Province. Ten (10) participants from various Ministries and Fiji Development Bank attended)

The objectives of the workshops were:

- Capacity building - definitions of key concepts;
- Concept of Capacity Development at three levels-Individual, Institutional and systemic;
- National Capacity Self Assessment;
- Review of existing frameworks and guidelines for Capacity Assessment;
- Obligations under three conventions and Fiji's Baseline Stocktake information;
- National Capacity Self Assessment Constraints;
- Share lessons of experience in the application of Capacity Assessment; and
- Gathering thoughts on Capacity Development Strategy & Action Plan

- **Capacity Development Training**

As lack of capacity has been increasingly recognized as a main obstacle to sustainable development capacity training programme for 2 hours duration for various key stake holders were planned covering areas such as concept of capacity, levels- systemic, organizational and individual, NCSA concepts etc. The programme was conducted in the following departments:

- Department of Fisheries;
- Ministry of Mineral Resources Development;
- Department of Land;
- Ministry of Agriculture;

- Department of Forest, Labasa;
- Department of Forest, Suva;
- Agriculture Research, Sigatoka;
- Department of Agriculture, Western Division, Lautoka; and
- Quarantine Section, Nadi International Airport

- **Stakeholder Consultations**

Discussions/consultations with key stakeholders was one of the important components of this assignment and consultations were held through:

- Meeting representatives from Departments;
- Discussions during meetings/workshops;
- Brainstorming Sessions; and
- Interaction during capacity development training programmes

- **SWOT Analysis**

SWOT Analysis is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project. It involves specifying the objective of the project and identifying the internal and external factors that are favourable and unfavourable to achieving that objective

The SWOT analysis is aimed at consolidating and interpreting the findings from the review of commitments contained in the UNCCD and Fiji's response as Party to the Convention. The SWOT was based on consolidation and interpretation of findings from the stock-take review and assessment culminating in a consultative analysis with key stakeholders. The SWOT aids in identifying gaps, by looking at strengths and weaknesses in existing structures, policies and approaches in relation to the Conventions obligations and commitments.

In SWOT strengths and weaknesses are internal where as opportunities and threats are external. The nature of the Conventions means that internal factors reside largely in government structures and processes, whilst external factors refer primarily to matters outside of the government

SWOTs are used as inputs to the creative generation of possible strategies, by asking and answering each of the following four questions:

- How can we use each strength?
- How can we stop each weakness?
- How can we exploit each opportunity?
- How can we defend against each threat?

SWOT analysis was conducted for all three levels of capacity – Systemic, Organizational and Individual. It was conducted at several organizations during training and discussions and the synopsis is as under with reference to the UNCCD.

SWOT Analysis was conducted in the following organizations:

- Department of Fisheries;
- Ministry of Mineral Resources Development;
- Department of Lands;
- Land and Water Resources Management Division of the Ministry of Agriculture;
- Department of Forests, Suva;
- Department of Environment, Suva;
- Nacocolevu Agriculture Research Station, Sigatoka;
- Department of Agriculture, Western Division, Lautoka;
- Fiji Meteorology Services, Nadi; and
- Quarantine Section, Nadi International Airport

(Refer to Appendix IV for the results of the SWOT analysis.)

- **Field visits to relevant project sites**

As a part of the assessment field/project visits were undertaken to obtain first hand information on the ground realities. Besides it also provided an opportunity to interview the key officials and understand the challenges, constraints they face in execution of projects and their capacity development needs. Projects visited include:

- OISCA, Sigatoka;
- Agriculture Office, Sigatoka;
- Forestry Department Office, Sigatoka;
- Agriculture Research Station, Nadi;
- Fiji Meteorological Services, Nadi;
- Dreketi Rice Irrigation Project (Ministry of Agriculture);
- Forest Department, Labasa;
- Macuata Tikina Holdings Limited, Labasa;
- Fiji Forest Industries, Malau;
- DRAWA (Sustainable Forest Management) Project;
- Forestry Nursery Project, Korotari;
- Seaqaqa Research Centre, Ministry of Agriculture, Nacocolevu;
- Pine Plantation, Nabou, Nadroga;
- Butoni Wind Farm;
- SLM Project Site, Vavinaqiri, Nadroga; and
- Tropic Woods Mill Complex, Lautoka

(The details of visits and points brought out during discussions are in Appendix V)

4.2 FINDINGS

4.2.1 SWOT Analysis

SWOT Analysis was conducted in the following organizations:

- Department of Fisheries
- Ministry of Mineral Resources Development

- Department of Lands
- Ministry of Agriculture
- Department of Forests, Suva
- Department of Environment, Suva
- Nacocolevu Agriculture Research Station, Sigatoka;
- Department of Agriculture, Western Division, Lautoka;
- Fiji Meteorology Services, Nadi; and
- Quarantine Section, Nadi International Airport

Table 3. Overview of findings from the SWOT analysis

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ➤ Strong commitment to principles of sustainable development ➤ Signatory to all UN Conventions – CCD, FCCC and CBD ➤ Institutional framework strong & clearly defined ➤ Community structures strong and sustaining popular support ➤ Policy framework in place to support initiatives and strategies ➤ Size of country mitigates well for initiatives and programs ➤ Technical capacity available for preparation of national action plans ➤ Public awareness and educational system comparatively strong ➤ Tertiary level syllabus available at the regional university (USP) on Environment Studies and the Fiji Institute of Technology (FIT) through the School of General Studies. ➤ Active awareness programme ➤ Capacity exists within areas of expertise under the CCD ➤ Individual commitment ➤ Action plans, articulate clear priorities with respect to financial and human resources ➤ Awareness for conservation of nature ➤ Comprehensive Policy framework ➤ Vision and Mission Statements 	<ul style="list-style-type: none"> ➤ Organizational structures poorly articulated ➤ Policy – institutional linkages poorly defined ➤ Policy & legislation difficult to apply ➤ Weak penalties ➤ Lack of financial commitment ➤ Lack coordination of research ➤ Implementation slow ➤ No established link between policy development & economic planning ➤ No integrated research & monitoring strategy ➤ Lack of communication and linkages ➤ Reliance on consultants for reporting ➤ Lack of specific mandates relating to Convention(UNCCD) ➤ Research requests going to wrong institution /division or department ➤ Weak communication and linkages ➤ Overlapping responsibilities & policies ➤ Little awareness about UN Conventions ➤ Mission and vision statements too broad /generic ➤ International conventions have not been incorporated in to Fiji’s Laws and regulations ➤ Minimum downward

available in key Ministries	<ul style="list-style-type: none"> ➤ communication ➤ Lack of adequate skilled manpower ➤ Lack of technology ➤ Not enough fund for research ➤ Too many agencies with conflicting agenda ➤ No integrated research & monitoring strategy ➤ Low internal communication ➤ GIS information slow ➤ Low participation at high level decision making
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ➤ The UN Conventions ➤ Strong international & regional policy environment ➤ Strong regional activities and research ➤ Non-enforceable multi-lateral agreements? ➤ Action plans, articulates clear priorities between financial and human resources ➤ Funding available through international organizations ➤ Some networking exists between stake holders 	<ul style="list-style-type: none"> ➤ Lack of enforceability of multi-lateral agreements ➤ Non-compliance with Conventions ➤ Poor performance ➤ Lack of objective self analysis & criticism ➤ Motivation coordination & responsibility ➤ Donor dependency - willingness of donors decreased over past 10yrs ➤ Donors not finding proper government channels to facilitate donor funding ➤ Donor time frames and lack of clarity ➤ Lack of enforceability of Multi-lateral Agreements ➤ Changes in Government policies ➤ Funding priorities might change ➤ Donor dependency ➤ Donor time frames and lack of clarity

4.2.2 Root Cause Analysis

During the workshops and training programmes stakeholders' participation was critical and the same was facilitated through brainstorming and conducting plenary sessions. The following are some of the issues that emerged which were identified as the root causes of the specific weaknesses, which are constraints to capacity development.

- Lack of awareness is one of the biggest challenges. A lot of people are vaguely aware of three UN conventions, but not knowledgeable enough to understand responsibilities in the correct perspective.
- Technical and skilled manpower is another common constraint in all departments including the focal points.
- Retention of staff is a constraint identified by many institutions in the government sector. A lack of incentives seems to cause attrition from the public service.
- Lack of finances is often cited as another common problem. The problem is that there are competing factors all vying for the same funds, which are limited.
- It was agreed by all that greater communication among all stakeholders is key to ensuring greater participation and involvement.
- Lack of data/information on land degradation with insufficient coordination among and within the relevant agencies was identified as another root cause.

4.2.3 Gap Analysis

The purpose of gap analysis was to find out the various areas where there exists gap between existing and desired capacity level. Some of the issues identified during the analysis are:

- Lack of definition of Convention requirements (Awareness is there, but specific requirements are not widely known)
- Lack of appropriate mandates to implement the provisions of the Act. (Revision of the Land Conservation and Improvement Act required to make it more appropriate)
- Weak penalties for violations don't act as deterrent for offenders
- Lack of skilled staff to address obligations under the convention (high turnover of staffs in technical category is a matter of concern for almost all departments.
- Fiji Environmental Management Act is generic and yet to include specific measures critical to desertification issues)
- Inadequate policy linkages across the Conventions (specific actions required to develop policies for each convention followed by procedures for meticulous implementation)
- Inefficient information collation and dissemination by Focal Points (more coordination required between focal points and other stake holders)
- Difficult and time consuming reporting mechanisms (collation and synthesis for the purpose of reporting is time consuming and laborious. It often involves a repetitive process of re-starting and reviewing with each reporting period)
- Inadequate feedback mechanisms to stakeholders (tasks being done by various departments needs mapping so that duplication of efforts avoided)
- Poor financial access and support for implementation (though funds are available both through government and international agencies like GEF & UNDP etc., but donors have their own timeframes and conditions and therefore more than one agency at times compete for the same fund)

- Poor institutional knowledge and redundancy due to high levels of staff turn-over (the skilled staff take away intuitional memory as other were not trained for technical tasks)
- Insufficient capacity enhancement / mobilization as a result of unfocused capacity development (capacity exists, but needs to be further reinforced, developed and strengthened)
- Limited research framework / strategy to provide baseline data (limited research facilities available, especially at government level. But other INGOs and academic institutes are also conducting research which could be used. Government may like to enter in to MOUs with INGOs /Research Institutions. In some cases MOUs exists but need better monitoring and coordination)
- Inadequate integration of activities related to conventions (many organizations-NGOs, government , INGOs and USP etc are working in field of environment and their synergy needs to be integrated)
- Low levels of awareness and participation by stakeholders (adequate awareness and knowledge is sine qua non for proper implementation)
- Lack of training and material in environmental management (at all level training on environment issues is a definite requirement to comprehend the UN conventions in the correct perspective)
- Poor utilization of the media to advocate the Conventions and raise awareness (media has great role to play in raising awareness)

5.0 CONCLUSIONS & RECOMMENDATIONS

5.1 FULFILLMENT OF FIJI'S UNCCD CONVENTION OBLIGATIONS

Formulation of effective legislations and policies and implementation of effective policies and strategies

There are relevant strategies and priorities that have been formulated and these have been included in the Fiji's Strategic Development Plan (2007-2011). These include: Land Resource Development and Management; Disaster Risk Reduction and Disaster Management; and Sustainable Management and Development of Forest Resources. Fiji's Strategic Development Plan also links the national initiatives to the Millennium Development Goals (MDG).

Fiji is currently reviewing the Land Conservation and Improvement Act, and should be endorsed through Cabinet by the end of 2008. Hopefully with this endorsement, the revised Act would be implemented and enforced by 2009.

The Rural Land Use and the Fiji Forest policy have both been endorsed. Hopefully the positive outcomes, in terms of the policy guidance they provide to the stakeholders and community would be realized in the coming years.

Building consensus and partnerships among all stakeholders

Specifically for the UNCCD, the Focal Point has put in place a consultative framework whereby all relevant stakeholders can contribute to the implementation of the national programme. These include the NCB, the National Steering committee and the involvement of the land care committees. Regional organizations and NGOs are represented in this various committees.

The formulation of the Rural Land Use Policy and the Fiji Forest Policy presented excellent opportunities of bringing together all relevant stakeholders to contribute to the sustainable management of the soil and forest resources.

Implementation of programmes and projects

There are relevant projects implemented by relevant Departments and organizations, either jointly or independently. Most of the projects have been externally funded. Though this is acceptable, it could also be a threat as funding at times may be dictated by external factors. For instance, a six million (Fiji dollars) ADB funded Alternative Livelihood Program earmarked for 2006-2011 period was withdrawn due to the 6th December political upheaval. It is welcoming to note that a half a million US\$ GEF grant has been approved for a Medium Size Project for Capacity building and mainstreaming on sustainable land management in Fiji. This is a four year project commencing on June 2008.

Mobilization of information and knowledge

At the policy and institutional level, particularly those involved with the various relevant national committees, including the National Coordinating Body, information and awareness on sustainable land management, including land degradation and the UNCCD Convention, have been well disseminated. However at the field level, apart from the Land Use Section, the level of awareness and understanding is relatively low. It is envisaged that the implementation of relevant projects such as the GEF funded capacity building and mainstreaming of SLM would provide the needed boost for the mobilization of information and knowledge.

Monitor, evaluate and report

The Focal Point has submitted three national reports plus a National Action Plan to the UNCCD since it rectified the Convention in 1998.

It should be noted that most of the reporting of projects and programmes are biased towards reporting of the outputs as compared to the outcomes. For instance the reporting should not only document the numbers of farmers involved, but should also include the adoption rate of the technology, the extent of the area covered during the introductory phase and three to five years after the introduction of the initiative and the assessment of the socio-economic benefits accrued to the farmers. Balanced reporting of both the

outputs and the outcomes would give a clearer picture of the success and effectiveness of each project or programme in relation to its intended objectives.

Most of the programmes and projects undertaken to date however have been outside the ambit of the UNCCD. There is a commitment by the Focal Point as stated in the NAP that the projects funded under the Convention would meet the stipulated strict reporting guidelines.

5.2 CURRENT RESOURCES STATUS OF THE NATIONAL FOCAL POINT

The Land Use Section of the Department of Agriculture currently comprises nineteen (19) staff. Two of the staff are funded by the Sustainable Land Management (SLM) Project. Recently, with the down sizing of the civil servants, the Public Service Commission had withdrawn two positions, resulting in the drop of the number of staff from twenty one (21). The nineteen staff are stationed in the three major divisions, the Central Division (11), Western Division (3), and Northern Division (5).

Of the thirteen (13) professional and technical staff, two are degree holders, while six are diploma holders (Diploma in Tropical Agriculture) from the Fiji College of Agriculture. There are in total eight (8) vehicles, Central Division (3), Western Division (2) and Northern Division (3). All of the vehicles were purchased prior to the year 2000.

The Land Use Section is the Secretariat of the Land Conservation Board. There is no budgetary allocation for the Board to fulfill its obligations under the Land Conservation and Improvement Act. For the years since the Secretariat was shifted to the Land Use Section, the Section's operational funds have been used to support the work of the Board.

The national government provides mainly operational funds, while capital funds are minimal. There were no capital fund allocated for 2007 and 2008. Most of the past and current projects were and are externally funded.

With the current resources, without capital funding from Government and sustained funding from donors, the Focal Point would not be able to effectively fulfill its corporate objectives, including Fiji's UNCCD commitments.

Table 1. Fiji Government Budgetary Allocation for the UNCCD Focal Point

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
Amount F\$000.00's	300	200	200	200	200	120	100	100	100

Year	2006	2007	2008
Amount F\$000.00's	100	Nil	Nil**

** 2008-nil only funds from Venezuela Grant and GEF Medium Size Project/ Sustainable Land Management (SLM) project

Venezuela Grant: \$99,000 US (This is a 2 year project scheduled for 2007 – 2009. The Focal Point received the funds late in 2007 and actually started using the fund in 2008)

GEF/UNDP SLM project: 475,000 US (This is a 4 year project scheduled for 2008 – 2011)

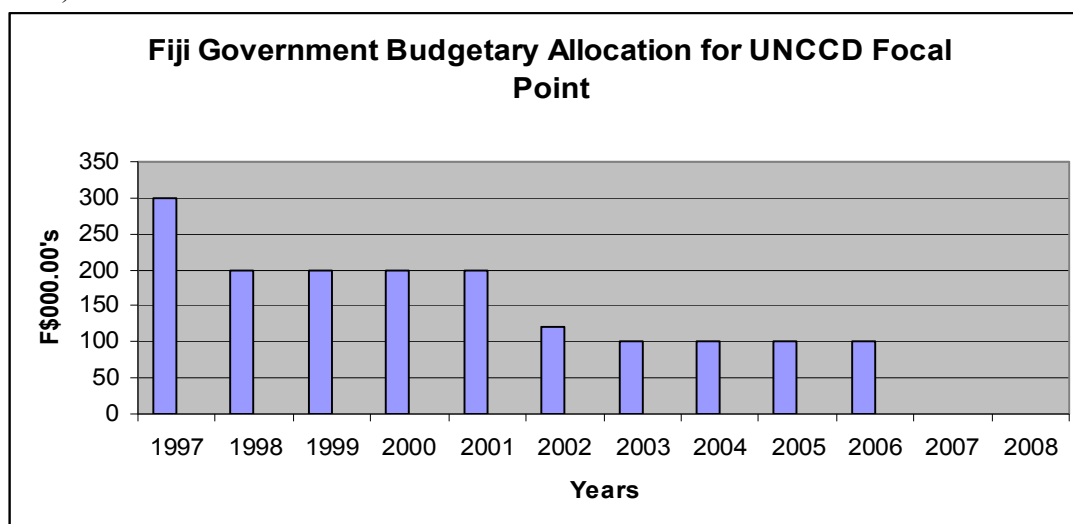


Table 2. Funding sources of some relevant projects implemented by the UNCCD Focal Point and other relevant stakeholders, including regional organizations.

	Name of Project	Project implemented within the frame of NAP/SRAP/RAP	Timeframe	Partners Involved	Overall Budget - F\$ (approximate)
1	Sustainable Land Management	NAP	1997 - 2007	Fiji Government	\$100,000.00 (annually)
2	Development of Sustainable Agriculture in the Pacific (DSAP)	SRAP	2004 - 2008	SPC/Fiji Government	\$600,000.00
3	Development of Integrated Farming Approaches (CROPPO)	RAP	2002 - 2007	EU/ Fiji Government	\$250,000.00
4	Watershed Management	NAP	Ongoing	Fiji Government	\$1 million
5	Climate Change Adaptation Program	SRAP	2003 - 2005	SPREP/Fiji Government (CDAMPIC)	\$120,000.00
6	Slopeland Farming Program (Extension component of SLM)	NAP	2005 - Ongoing	Fiji Government	\$100,000.00
7	Tikina Based Profile	NAP	2004 - 2006	Fiji Government	\$250,000.00

H	Name of Project	Project implemented within the frame of NAP/SRAP/RAP	Timeframe	Partners Involved	Overall Budget - F\$ (approximate)
8	Farming Assistance Scheme	NAP	1997 - Ongoing	Fiji Government	1997 – 2005 (\$4 million) 2006 – 2008 (\$4 million)
9	Sustainable Forest Management	SRAP	1994 - 2007	SPC/GTZ/Fiji Government	\$2 million

[Note: NAP – National Agricultural Programme, RAP – Regional Agricultural Programme, SRAP – Sub-regional Agricultural Programme.]

5.2.1 Gaps Towards Achieving Obligations /Identified Projects Proposed in the NAP

Seven projects have been identified under the national reports communicated to the UNCCD Convention. Funding and implementation of these projects will ensure that relevant stakeholders, including resource owners and users to sustainably managed land-based resources, thereby addressing the objectives of the UNCCD, besides supplying and meeting local and national socio-economic needs and aspirations.

Project 1: Development of an Institutional Capability for Integrated Land Use Planning

Objective: To establish an independent Land Use Authority, staffed with a range of appropriate expertise, having access to authority and direct support to the executive; the Authority having both the support of the rural people and authority and resources of government.

Project 2: National Land Use Planning

Objective: To prepare a participatory national land use plan based on physical land resource evaluation and extensive formal public consultation.

Project 3: National Land Zoning

Objective: To prepare a 1:25,000 scale national land zoning map (plus 1:5,000 scale zoning maps in the peri-urban areas) with definitions and guidelines for each zones as to rationalise location and direction of future non-rural land uses and to protect land for food production.

Project 4: National Contemporary Land Use Mapping

Objective: To produce a 1:50,000 scale contemporary land use map of the Republic using remotely sensed data and field survey techniques.

Project 5: Integrated Rural Resource Database Development and Applications

Objective: To develop a computerised Land Resources Information System (LRIS), comprising thematic databases covering agro-climatic factors, soils, topography, vegetation and present land use, linked to a GIS to display combination of these, and other data in support of rational land use policy, planning and utilisation.

Project 6: Adaptive Research and Extension in Land Husbandry Technologies

Objective: To develop a well-resourced and integrated research and extension program comprising suitably qualified MAF staff conducting adaptive sustainable land management (SLM) and ‘best practice’ research and effectively disseminating ecologically sound and socially acceptable land husbandry technologies to land users through targeted and innovative techniques.

Project 7: National Sustainable Land Management, Education and Awareness Program

Objective: To create a high level of public understanding about land use policy and legislation, in particular specified land-husbandry and ‘best practice’ clauses in land leases with the purpose of reducing land degradation and increasing productivity from the land through sustainable land management (SLM).

5.3 RECOMMENDATIONS

5.3.1 Systemic Capacity

As follows are the analysis & recommendations from the assessment.

- The development of an appropriate system of accountability for the focal point of the Convention within the system of government for ensuring that the country not only meets its obligations as a party of the UNCCD, but benefits fairly from its participation as a Party.
- Poverty and its attendant problems is one of the greatest factors undermining the realization of sustainable land use management. Many of the provisions under the UNCCD require broad interventions at the systemic level and needs to be addressed through various policies and programmes
- The expeditious and timely dissemination of relevant information, such as reports of COP and other activities associated with the UNCCD to the key implementation agencies.
- Political understanding and commitment to the principles of the UNCCD are needed to create an enabling environment. This process requires sensitization of appropriate institutions and individuals.
- A comprehensive assessment of the factors that cause drought and the mapping of drought areas as the basis for the expeditious development of and the periodic review should facilitate the development of more effective monitoring programmes.
- There is a need for synchronization of national policy, legal and regulatory frameworks between national, divisional and district/local levels.
- The acquisition of appropriate technology which will allow more effective management and distribution of the country’s water resources and adequate financing for existing projects and programmes.
- The development of an effective and comprehensive public education programme which targets not only the wider public but which will ensure that personnel in key implementing agencies are informed of the country’s obligations in the UNCCD and the role that they are expected to play in meeting these obligations.

- The legislative and regulatory framework for the successful implementation which allows the country to meet its obligations as a Party of the UNCCD exists but there is need for enforcement of existing laws, stricter penalties and the development of appropriate legislation to prevent the growing conversion of agricultural lands to residential and other commercial uses.
- There is also need to prepare a comprehensive national action plan focused on capacity building that will identify follow-up projects, overall goals, specific objectives to be achieved and course of action;
- Steps need to be initiated to identify ways to coordinate and harmonize overlapping activities among the three Conventions and to help ensure effective national measures to protect the environment
- Strengthening school curricula, tertiary education and adult education programmes for environmental protection and land management planning.
- Coordination of effective dissemination of information relevant to awareness raising and enhancing technical competence.
- Financial incentives for development of sustainable rural projects.

5.3.2 Institutional Capacity

As follows are the analysis & recommendations from the assessment.

- The existing organizational framework, under which the Land Use Section exists, (the Focal Point of the UNCCD) does not make provisions for the additional responsibilities therein for a person to be specifically accountable for all activities relating to UNCCD.
- Integration of specific reference into the job descriptions of Focal Points would ensure greater involvement and would foster responsibility.
- Focal point should prepare and distribute quarterly reports. These should detail activities undertaken relating to the UNCCD, update progress on legislative measures, policy development, stakeholder engagement and other activities. This will assist in preparing reports for the COP.
- Development of an appropriate information management system for tracking project progress, stakeholder activities, policy measures etc.
- Responsibility being vested in a few individuals in key departments which results in limited institutional memory with a single expert for a given department. This means that if those persons leave they take with them all of the acquired knowledge and experience.
- There is a need for a more clearly defined organizational mandate to ensure coordination, cooperation, integration and partnership between all stakeholders. This would also facilitate holistic planning and implementation of land degradation rehabilitation and mitigation programmes.
- Communication of policies and policy instruments should be disseminated to provincial and local level to raise awareness and commitment.
- Capacity building of communities, NGOs and other implementing agencies through technical workshops and practical training.
- Promotion and empowerment of community action groups to enhance participation in community planning and decision making.

- Promotion of the interaction and coordination between all stakeholders, in particular at community levels.
- Promotion strategy that re-instigates and invigorates use of radio, TV and other media.
- Identify key land users such as communities and private land owners and ensure their involvement in planning, implementing and monitoring of land management programmes.
- Effective implementation of policies and policy instruments will ensure adherence to fulfilling obligations.
- Greater communication among all stakeholders is key to ensuring greater participation and involvement.
- Retention of staff is a constraint identified by many institutions in the government sector. A lack of incentives seems to cause attrition from the public service which needs to be addressed.
- There is a need for good administrators and/or strategic managers who know how to work the Government system to source funds from within the government machinery to support the coordination and implementation of the conventions.

5.3.3 Individual Capacity

As follows are the analysis & recommendations from the assessment.

- Continued skills development and other forms of training for remaining abreast of latest developments.
- Foster understanding of importance of experiences and attitudes as it involves change human attitude towards nature.
- There is a definite need for specialists, such as soil chemists, soil scientists, geomorphologists, remote sensing and survey and land use planning etc.
- The relatively small size of Fiji affords the country many advantages in the identification, monitoring and management of land issues. But it also means that the country has a limited capacity to support full-time employed professionals. It is therefore important to identify, develop and consolidate a critical mass of scientists and practitioners.
- Staff turnover is considered high. The issue of staff leaving to take advantage of the better salaries within the private sector or neighbouring countries needs to be addressed.
- Government should support the development of staff through sponsoring of tertiary studies either through own funding with assistance of external financial support through the institutions. Study leave should be given with the position of the employee retained so that he returns to his parent department after the studies.
- Low levels of individual awareness and knowledge limit the ability for discussion, decision-making and action. This translates into an apparent unwillingness among community members and local resource users to participate in the design and implementation of projects.
- Successful interventions are dependent upon sufficient capacity of individual community members in planning and implementation of rehabilitation measures. So community representatives should be targeted in awareness campaigns.

- There is need for training in agricultural soil conservation and land management techniques, soil fertility management, sloping agriculture land technology, agro-forestry and irrigation management, and livestock and grazing management.
- In the road sector, training is needed for road engineers and private contractors in environment-friendly road construction techniques including bioengineering.
- In the mining sector, there is need for training in mining engineering, environmental management of mining operations including environmental restoration of mined areas.
- In the urban development sector, there is need for training on urban landscape planning and management.

APPENDIX I: THE QUESTIONNAIRE

Ministry/ Department:

Date:

1. Are you aware of the United Nations conventions on Climate change, biodiversity and land degradation?
2. Are the employee also broadly aware of the provisions?
3. Are the employees aware of priority issues that your institution has to address in order to effectively implement the conventions?
4. Do you have the legal and administrative authority to discharge the tasks relating to your department?
5. Does the structure of the employees adequate proportionate to the tasks to be accomplished?
6. Has adequate infrastructure and equipments allocated for specific activities?
7. Is there a system for following-up the actions and is it effective?
8. Do you have skilled manpower to perform the tasks under the obligations relating to your organization?
9. Is training contemplated or conducted for employees?
10. Has any training needs assessment conducted?
11. Do you have adequate funds to meet your part towards the obligation?
12. Is communication used (visual, audio or audio visual) effective for employees to understand their role?
13. Are the activities frequently monitored?
14. Has any evaluation done concerning the tasks to be achieved under the conventions?
15. Was any meeting /conference held during the last 4 months for achieving the targets under the obligations?
16. What difficulties do you experience in execution of your tasks relating to these obligations under the conventions? **(Please Tick)**
 - (a) Difficulties related to policy
 - (b) Difficulties in authority
 - (c) Difficulties related to human resources
 - (d) Difficulties related to financial matters
 - (e) Difficulties relating to understanding by employees
 - (f) Other difficulties (Please Specify)

APPENDIX II: CAPACITY ASSESSMENT AREAS

<p style="text-align: center;">SYSTEMIC</p> <ul style="list-style-type: none">➤ Policy frameworks➤ Performance Assessment➤ Legal/regulatory framework➤ Accountability➤ Information flow➤ Programme review➤ Risks assessment
<p style="text-align: center;">ORGANIZATIONAL</p> <ul style="list-style-type: none">➤ Mission, vision & direction➤ Programme measures➤ Structuring options➤ Functions and processes➤ Management of Human resources➤ Financial Management and control➤ Information management
<p style="text-align: center;">INDIVIDUAL</p> <ul style="list-style-type: none">➤ Job requirements & skill levels➤ Training/ retraining➤ Learning and on-the –job training➤ Career Progression➤ Accountability & ethics➤ Personal and professional networking➤ Performance conduct➤ Security and incentives➤ Values and integrity➤ Morale and motivation➤ Interdependencies➤ Communication skills

APPENDIX III: CAPACITY DEVELOPMENT INCEPTION WORKSHOP

As follows are some of the issues raised during the Capacity Development Inception Workshop held on the 29-30 July 2008, Southern Cross Hotel, Suva.

ROUNDTABLE DISCUSSION

Some of the constraints identified during the discussions were:

- Lack of Appropriate Mandates
- Poor Policy Linkages
- Duplication of works
- Ineffective Feedback Mechanisms
- Limited Financial Access and Support
- Institutional Knowledge and Redundancy
- Capacity Enhancement / Mobilization
- Lack of Research Framework / Strategy
- Lack of Integrated Approach to Conventions
- Low Levels of Awareness and Participation
- Lack of Training
- Low Media Utilization

ROUNDTABLE DISCUSSION POINTS

ACTION	AGENCY	CAPACITY DEVELOPMENT
Outreach	Department of Environment & Focal Points for conventions	Joint outreach Programmes, linking Rio-Conventions to Sustainable development strategy
Awareness raising	Department of Environment & Focal Points for conventions	More use of media for awareness, targeting high-level decision makers and the general public. CCC, CCD and CBD linked to sustainable development strategies for politicians and in curricula
Specific Legislation to combat climate change	Department of Environment & Focal Points for conventions	Should be brought to the notice of Government at Ministerial level for suitable legislation
Prioritization of activities, complementarily, mainstreaming into existing policies	Department of Environment & Focal Points for conventions	Enabling activities, Inter-linkages of case studies with NCSA. Policy coordination, joint preparation for negotiation, integrated implementation strategies
Multi-stakeholder participation	Department of Environment & Focal Points for conventions	Strengthened ownership, information and experience sharing across levels (national & local)

ACTION	AGENCY	CAPACITY DEVELOPMENT
Identify and reduce overlaps of duties	Department of Environment & Focal Points for conventions	Reduction in duplication of efforts and enhancement of efficiency
Community participation in the preventative activities, as well as awareness raising	Department of Environment & Focal Points for conventions	Ownership of community
Conduct study and research on the effects on three thematic areas	Department of Environment & Focal Points for conventions	More awareness and knowledge gathering
Feedback on Implementation	Department of Environment & Focal Points for conventions	More effective monitoring & Evaluation mechanism

APPENDIX IV: SWOT ANALYSIS OF VARIOUS DEPARTMENTS

Department of Fisheries - Government of Fiji

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ➤ Signatory to all UN Conventions – CCD, FCCC and CBD ➤ Ratification ➤ Having legislations ➤ Comprehensive Policy framework ➤ Vision and Mission Statements available ➤ Individual commitment ➤ Job descriptions regularly updated ➤ Networking with stake holders and Ministries 	<ul style="list-style-type: none"> ➤ Outdated Act ➤ Team bonding “fragile” ➤ Insufficient time and qualified staff ➤ Lack awareness about UN Conventions ➤ Non alignment of convention provisions in national Acts ➤ Mission and vision statements too broad /generic ➤ High turnover of qualified staff
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ➤ The UN Conventions ➤ Funding available through international organizations ➤ Lot of research in the region 	<ul style="list-style-type: none"> ➤ Lack of enforceability of multi-lateral Agreements ➤ Donor dependency ➤ Good positions available outside for qualified staff

Department of Lands - Government of Fiji

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ➤ Signatory to all UN Conventions – CCD, FCCC and CBD ➤ Having Acts & Regulations for decision making ➤ Vision and Mission Statements available ➤ Convention requirements incorporated in to mission and vision statements ➤ Regular review of job descriptions ➤ Regular consultations with key stake holders 	<ul style="list-style-type: none"> ➤ Land conservation policy weak ➤ Lack of awareness of UN conventions ➤ Lack of awareness of national legislations ➤ Overlapping legislations ➤ Low internal communication ➤ Weak penalties ➤ Lack of financial resources ➤ High turnover of qualified staff ➤ GIS information is low ➤ High turnover of qualified staff ➤ Less interaction between stakeholders and various committees ➤ Low participation in high level decision

➤ Information well managed and lot of information available on site	making
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ➤ Donor funding ➤ Networking with external agencies ➤ Research by various other agencies (USP, INGOs etc.) in Pacific region on these subjects ➤ Availability of external consultants 	<ul style="list-style-type: none"> ➤ Lack of enforceability of multi-lateral Agreements ➤ Changes in Government policies ➤ Funding priorities might change ➤ Donor dependency ➤ Donor time frames and lack of clarity

Department of Mineral Resources - Government of Fiji

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ➤ Signatory to all UN Conventions – CCD, FCCC and CBD ➤ Vision and Mission Statements available ➤ Individual commitment 	<ul style="list-style-type: none"> ➤ Lack of awareness about UN Conventions ➤ Lack of technically qualified staff ➤ Lack of coordination with focal points ➤ Lack of coordination with key stakeholders ➤ High staff turnover
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ➤ Funding available through international organizations ➤ Some networking exists between stake holders ➤ Research by various other agencies (USP, INGOs, etc) in Pacific region on these subjects 	<ul style="list-style-type: none"> ➤ Lack of enforceability of multi-lateral Agreements ➤ Changes in Government policies ➤ Funding priorities might change ➤ Donor dependency ➤ Donor time frames and lack of clarity

Department of Forest - Government of Fiji

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ➤ Signatory to all UN Conventions – CCD, FCCC and CBD ➤ Laws/legislations exist 	<ul style="list-style-type: none"> ➤ Low awareness about UN Conventions ➤ Legislations need revision ➤ Lack of value added training

<ul style="list-style-type: none"> ➤ Committed staff ➤ Reasonably good networking with stake holders ➤ Some awareness for conservation of nature ➤ Relevant projects on FSM like DRAWA ➤ Access to information ➤ Vision and Mission Statements available ➤ Job descriptions available ➤ Job related training imparted ➤ Good communication- lateral, upward and downward 	<ul style="list-style-type: none"> ➤ Lack of technical human resources ➤ Lack of financial resources ➤ Minimum downward communication ➤ Lack of adequate skilled human resources ➤ High turnover in skilled grades
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ➤ Projects available ➤ Scholarships available for further study through Commission ➤ Partnership with INGOs and academic institutions 	<ul style="list-style-type: none"> ➤ Political instability ➤ Better job opportunities outside for skilled staff ➤ Commercial/economic activities takes precedence over conservation issues ➤ Forced reduction of staff by 10 percent

Department of Agriculture - Government of Fiji

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ➤ Signatory to all UN Conventions – CCD, FCCC and CBD ➤ Awareness for environment issues ➤ Having acts/legislations ➤ Vision and Mission Statements available ➤ Well qualified and experienced staff ➤ High staff commitment ➤ Job descriptions exist ➤ Reasonably well infrastructure ➤ Need based training ➤ Accountability for decisions 	<ul style="list-style-type: none"> ➤ Insufficient local capacity ➤ Legislations need updating ➤ High technical staff turnover ➤ Lack of finance ➤ Lack of resources ➤ More coordination required with focal point and other stakeholders ➤ Gap in sharing information with key stakeholders ➤ Limited access to modern technology ➤ Lack of incentives ➤ Lengthy grievance procedures ➤ Lots of expatriate staff ➤ Overlapping responsibilities & policies ➤ No watershed management master plan yet developed ➤ Implementation slow

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ➤ Donor funding ➤ Availability of external consultants ➤ Research in Pacific region by other agencies on environment issues ➤ Funding available through international organizations 	<ul style="list-style-type: none"> ➤ Legislations outdated ➤ Proposals are adequately financed and amounts reduced at Finance Ministry ➤ Overlapping legislations ➤ Weak penalties for violations ➤ Changes in Government policies ➤ Funding priorities might change ➤ Donor dependency

Northern Division Stakeholders' Workshop

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ➤ Have Laws/legislations ➤ Having reasonably well skilled staff ➤ Mission and vision statements exist in Departments ➤ Job description available ➤ Workshops were conducted in the past on UN conventions ➤ Information management ➤ Good networking (locally) ➤ Effective control ➤ Awareness for environment issues ➤ Training Needs Analysis done ➤ Job related training imparted 	<ul style="list-style-type: none"> ➤ Legislations need updating ➤ High technical staff turnover ➤ Lack of resources ➤ Unrealistic job descriptions/profiles ➤ Lack of incentives ➤ More coordination required with focal point and other stakeholders ➤ Gap in sharing information with key stakeholders
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ➤ Donor funding ➤ Availability of external consultants ➤ Research in Pacific region by other agencies on environment issues ➤ Funding available through international organizations 	<ul style="list-style-type: none"> ➤ Legislations outdated ➤ Better job opportunities for qualified people outside government organizations ➤ Overlapping legislations ➤ Weak penalties for violations ➤ High Donor dependency

Department of Environment - Government of Fiji

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ➤ Signatory to all UN Conventions – CCD,FCCC and CBD ➤ Having legislations (ODS Act, NBSAP etc) ➤ Vision and Mission Statements available ➤ Job Descriptions current ➤ Networking with stake holders and Ministries (e.g. Forest, Fisheries etc) ➤ Reasonably good infrastructure including internet & Library ➤ Good management of information ➤ Committed individual staffs ➤ Skills available to meet reporting criteria under the conventions 	<ul style="list-style-type: none"> ➤ Revision of legislations required ➤ Lack qualified staff relating to UN conventions ➤ High turnover of qualified staff, especially those technically qualified ➤ Less incentives ➤ No assured career progression ➤ No incentives for volunteers though they work on full time basis ➤ No induction/orientation training given on joining the Department ➤ Out of 32 staff only 10 are established staff, 12 unestablished staff and balance of 11 are volunteers ➤ No centralized information system where information from sections could be accessed ➤ Staff functioning in isolation rather than as a team ➤ Lack of monitoring of MOUs of NGOs
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> ➤ Funding available through international organizations ➤ Lot of research in the Pacific region in environment issues ➤ Volunteers available ➤ Services of external consultants ➤ MOUs with NGOs ➤ Training opportunities available for staff 	<ul style="list-style-type: none"> ➤ Donor dependency for projects ➤ Good positions available outside for qualified staff ➤ Data/information used by NGOs to pursue their own interest ➤ Volunteers leave after experience with DOE for better job prospects outside ➤ Change of Funding pattern by donors

APPENDIX V: INFORMATION DERIVED FROM FIELD/PROJECT VISITS

Organization and people	Discussion			
	UNFCCC	UNCCD	CBD	ISSUES
19/06/08				
OISCA - SIGATOKA				
-Mr.Sairusi Masi -Jyui -Tsutomi Yoshida -Established 1990, Training programmes -staff 9 -Environmental focus activist-children's focus -Youth Dev. 5wks	Afforestation programmes with pines, mahogany and native trees on fallow talasiga grass hills	1995- & Yadua - Plant mangrove (MPA) sites: Yadua, <i>Naboutini, Korotoga, Tagaqe, Komave, Nakorotubu</i> -1.8million of pines -fruits, root crops & vegetables - Promotion of sustainable agriculture	-Coral registration -Plant 100,000 species of mangroves and 600 seedlings -Coral propaganda -28 coral sites	-No links to conventions -Reservation to be part of existing NGOs -Piracy of their original management & scientific tools -Very little govt. support -Need govt. support -Need financial support as more communities are seeking their programmes -emphasis on garbage control & environmental management
-Member of Fiji Forum of non-state actions (PFONSA) -attached to Ministry of Youth -work in 25countries -Work mostly with communities and native reserve land				
AGRICULTURE - SIGATOKA				
Mr. Mausio Petero Mr.Amena Banuve	Livestock breeding -goat -Beef Livestock technology	Collaboration with Landuse –Tilivalevu & Vavinaqiri on slope farming -produce seedling for: Tomatoes, eggplant, chilies, pawpaw & okra	-Research-cereal, vegetables & fruits -Exotic introduction into domestic env. -conservation of native fruits & veg., e.g.-domestication of OTA	-40% are subsistence farmers (Sigatoka) -awareness of convention but no direct link to corporate goals -pro-environmentalists
4 Divisions-research, extension farms -Animal husbandry & Quarantine	-Expand production of farmers from subsistence to semi-full time commercial	Extension works: -grow agriculture -transfer of tech -Get food -alleviate poverty -provide support -align prospective buyers -Awareness programmes involves: Land usage, marginal landuse	Quarantine: Bilateral Quarantine Agreement (BQA) -fruit flies +host: -mango, breadfruit, eggplant & pawpaw - Awareness programmes involves: use of chemical	-ask datasets 10-60years Statistics -enquire from main office at Toa Street, Vatuwaqa
FORESTRY -SIGATOKA				
Mr. Jone Rausoi -Inspection on logging -Set up of logging code of	Preserved trees Reforestation	Reforestation of mahogany trees -yasi trees in	Certification of timber for natives and commercial	-Only 2 staff -lack of transport -lack of office

practice -Are covered: Nawaicoba - Namatakula,		Tilivalevu -new trend in Afforestation: in grass land		equipment, e.g.computers -need car and computer and telephone/fax -lack of fund
-Before focus on commercial interests, but now, more on env. management		-OHS liase with Forestry inventory in Colo-i-suva.		-Lack of awareness -Lack of human resources to monitor logging -main stakeholders are always absent during hammer measurements
Organization and people	Discussion			
	UNFCCC	UNCCD	CBD	ISSUES
AGRICULTURE-NADI				
Mr. Rajesh Dutt & 4 technical staff		Suitability of crop in the field	-Watershed management in Nawaka & Nasau	No alignment to three conventions except UNCCD in the area of landuse
-Attending aprox.40,000 farmers -Work with Taiwan Technical assistance		Crops involved with are: -pawpaw, chilly, peas tomatoes	BQA Seedling	-Issue with land water based capacity and sustainability -Nadi back road agriculture has been turned into commercial lots
QUARANTINE- AGRICULTURE-NADI				
Mere Salusalu-Senior officer -Quarantine Exporter -Accreditation -Bi-lateral Quarantine Commodities -B QA -Border control -Post Border Control	-Fumigation chamber -X-ray Chamber		Handled controlled substances (Ozone licenses) -record of stocks	-Customs handled all border securities and Quarantine only does the inspection -suggestion that Quarantine need to be empowered to handle some of the customs duties-such as stocktake and handling of controlled substances etc
Fiji MET Nadi				
Mr. Simon McGree-Manager for Climate Change -Mr. Ravin Kumar	-ENSO-Fiji Climate -tidal gauge (3 stations) -Sea level data for tsunamis			Do not align to convention except with WMO on climate predictions -Very little technical and in-depth analysis of work carried out by academic institutions except Prof.Terry and Prof. Koshy of USP, Fiji.
Provide data for: FSC, Agriculture dept, academic institutions & laymen etc.	Climate predictions and forecasts	Seasonal weather report		-Work with Australian weather sites report -very high turnover of employees -very little technical workers -data are only for technical interpretation & not analysis due to lack of skills.

LAUTOKA HOTEL CONFERENCE ROOM – 20/06/08				
Organization and people	UNFCCC	UNCCD	CBD	ISSUES
Agriculture		<p>Tikina Based Landuse project to do with fertility side of the soil is in the West.</p> <p>-Has demo site in Savusavu for sustainable landuse pilot project.</p> <p>-GIS systems and maps</p>		
Fiji Electricity Authority	<p>Thermal & Renewal energy. Objective to generate renewable energy 2011.</p> <p>Waste management -liquid, -water & -Air.</p> <p>Waste Generated includes scrap metals, liquid waste includes hydrocarbon.</p> <p>-Currently monitoring air emissions so to establish baseline information's on what is emitted in compliance with EMA.</p> <p>Nadarivatu-hydro-to be of international compliance</p> <p>Lists of Dams/Power unit:</p> <ol style="list-style-type: none"> 1. Monsavu 2. Wainaqei Dam 3. Wind Station Sigatoka 4. FSC 5. Tropic Wood 6. Kinoya 7. Suva 8. Savusavu 9. Nadi 		Biodiversity –FEA does not play a role with CBD but they have national sites reserved / inundated areas- Monasavu	<p>-Knowledge of Convention is lacking</p> <p>-but do aware of renewable energy under the UNFCCC</p> <p>-Butoni Wind Mills comes under the Carbon trade Market</p> <p>-Most projects funded by international donors (World Bank) and come with international guidelines.</p> <p>-Constraints is that funding is less thus They have cut down projects on renewable energy.</p>
Mamanuca Environment Society	<p>- Upgrade Waste management systems</p> <p>-Barge systems to transport solid waste and work with</p>		Capacity awareness for resource developments and resource management	<p>-Oil spillage</p> <p>-Newly formed since 2002. It is a Malolo and Mamanuca island initiative.</p> <p>Funded by Resort</p>

	contractors -80% working recycling wastes -vulnerabilities of island and its coastal area to effects from mainland such as sugarcane farming and logging. -Mamanuca and Malolo are vulnerable to flash floods and daily operation.		-Problems with inland dumping of waste from Nadi -coral reef restorations -Work closely with gov. to protect biodiversity.	members, PB Oil and ANZ -Committee consist of resort owners, only one local member. -Lack of awareness on waste management. Main issue in the island is the containment of waste in the barge system. -They do not align with the 3 conventions -lack of funding -negative representations & human resources -difficult to restore and maintain coral reefs in particular impact of effluents from to development -HR only 3 permanent staffs with a wide coverage area.
OVERALL ISSUES FACED BY STAKEHOLDERS <ul style="list-style-type: none"> - Lack of awareness (information) - Lack of human resources - Implementation constraints - Financial constraints - Compliances of requirements - Working with other stakeholders - Confusion of objectives, corporate goals and policies 				

Dreketi Rice Irrigation Project (Ministry of Agriculture) – August 13, 2008

The project caters to a vast area for irrigation and has a lot of potential for further growth and involving communities in accomplishing the objectives. Some of the challenges and constraints brought out during discussions with concerned staff were:

- Involving community by increasing their participation
- Lack of training for staff
- Lack of awareness of UN conventions
- Lack of adequate infrastructure (internet, electricity etc)

Forest Department, Labasa – August 13, 2008

The head of forest Department briefed us on the works and projects undertaken by the organizations and some of the challenges and constraints brought out were:

- Weak penalties for violations
- Lack of staffs
- Lack of vehicles
- Lack of facilities (like no fax , internet etc)
- Slow surveillance and monitoring
- Lack of adequate awareness

MACUATA TIKINA HOLDINGS LIMITED, LABASA-August 13, 2008

It is a project relating to marine activities and the head of the project Mr. Ratu Aisea Katonivere briefed on the activities which included protection of 9 marine areas (over 1001 square kms), issuing license, regulating fishing and enforcing a code of ethics like:

- No fishing in MPA (marine protected areas)
- No use of gill nets
- No fishing on Sundays
- No spilling of oil
- No use of gas cylinders/compressors etc

He further brought out some of the challenges and constraints:

- No incentive from Government
- Commercial fishing and poaching
- Though some awareness of conservation of nature exists, it needs to be increased
- Urgent requirement of a community owned ice plant to preserve fish so that there is equitable distribution of profit

FIJI FOREST INDUSTRIES- August 13, 2008

The Fiji Forest Industries (FFI) is a private sector venture, but works in close collaboration with Forest Department from where it gets its raw materials. Mr. Saiyad Shameem, FFI Accountant, briefed us on the various activities and constraints:

- Forest regulations not strictly followed
- Violation of rules in favour of contractors in few cases
- Lack of awareness of staff on UN conventions
- Monitoring by Forest Department lacking

DRAWA (SUSTAINBLE FOREST MANAGEMENT PROJECT) - August 13, 2008

The SFM project aims to bring substantial improvement in the socio economic development of the people. It has an area of 6345 ha with 429 beneficiaries- 210 females and 210 males. The objective is overall development of the rural people and protects the environment. The head of the project identified some of the challenges and constraints as:

- Brining the concept of SFM to the community was a great challenge
- To respect all groups and different communities is a challenge
- Lack of adequate infrastructure
- More training facilities required

FORESTRY NURSERY PROJECT, KOROTARI- August 14, 2008

The nursery provides the seedlings/planting materials for the Community Forestry Development Programme (CFD). The communities are expected to provide free labour for planting. Some of the constraints faced are:

- Lack of adequate knowledge and interest by local communities
- Local communities refuse to plant free though they are the ultimate beneficiaries

- Difficulty in bringing the concept to the community so that they understand the concept well and whole heartedly participate in the programme.

SEAQAQA RESEARCH CENTRE, MINISTRY OF AGRICULTURE, August 14, 2008

The research centre conducts research on tropical fruits and on areas relating to dry zone. They develop the technology and the same is implemented through the departmental extension officers. Some of the constraints and challenges emerged during discussions were:

- Government want quick results whereas development of technology is a very long process (7-8 years) and this creates some conflicts
- Bad career path for scientists
- Lack of basic infrastructure – electricity, phone, internet, vehicles etc
- Donor reliant (heavy dependency on donors like JICA, NZAID, Aus AID etc)
- Some scientists studying abroad with help for those countries like Australia and India etc , but more avenues and government initiative required
- Demand driven approach rather than more innovation

FISHERIES DEPARTMENT, SAVUSAVU- 14 August 2008

The fisheries department has 12 projects and some of the challenges and constraints brought out during discussions were:

- Contract staffs are not made permanent even after 12 years of service
- Lack of training on best practices followed in other countries
- Lack of resources such as office space, internet, phone, building etc
- Lots of noise pollution and a result they tend to talk at a much louder voice
- Awareness of UN conventions lacking
- Out dated laws

APPENDIX VI: CONCLUSION AND RECOMMENDATIONS FROM THE REGIONAL EL NIÑO SOCIAL AND ECONOMIC DROUGHT IMPACT ASSESSMENT AND MITIGATION STUDY

The report was prepared in November 1999 by Chris Lightfoot for the Disaster Management Unit (DMU) of the South Pacific Geoscience Commission (SOPAC).

A. Conclusions

- Despite being the worst drought in Fiji's recorded history the 1997/98 drought was only a short-term setback for the economy. The underlying problem of low investment is much more serious constraint on medium-to long-term development. This outcome can largely be attributed to the effective measures that were taken to address the undeniably serious problems that arose during the drought.
- The measures taken by the Government, NGOs and other agencies to address the pressing needs of families in distress helped minimize the social distress caused by the drought. While there are undoubtedly some families who were tipped into poverty by the drought Fiji's underlying problems with poverty and poor nutrition existed well before 1997/98. It would therefore be wrong to attribute the existence of these problems to the drought.
- The rapid recovery of the overall economy is largely attributable to the speed with which the sugarcane industry and cash cropping recovered. Most of the agricultural sector had fully recovered within 12 months of the breaking of the drought. In particular the sugarcane rehabilitation program was extremely effective. Not only did it overcome many of the problems caused by the drought, it also addressed some of the serious under investment that existed before the drought.
- There are however some notable exceptions to this economic recovery. Tree crops and other perennial crops are still suffering and some may never recover. Families that rely on these crops for much of their livelihood will find it difficult to make a living over the next few years. It will also take several years for livestock numbers to rebuild.
- Given that El Niño events will occur again, Fiji will have to face more droughts in the future. The most useful thing that can come out of this exercise is some understanding of how to cope with those future events. It must be kept in mind that Fiji has come through the worst drought on record in fairly good shape. It would be foolish to ignore the lessons of the last few years but equally it would also be foolish to embark on grand schemes to address problems that may not occur again for decades.
- In most cases basic "housekeeping" combined with sound planning, improved forecasting and the acceptance that alleviation is a sensible response to severe events will be sufficient to prepare Fiji for future droughts.
- The most effective mitigation strategy is to prepare and publicize timely forecasts. If properly warned most people will take action to minimize the impact of a disaster.
 - Some of the key lessons to be learned from the 1997/98 drought are the need for:
 - a) Planning
 - i. Effective drought response strategy
 - ii. Better dissemination of forecasts
 - iii. Education of community in appropriate responses to drought
 - iv. Appropriate and timely alleviation plans
 - b) Water and Environment

- i. Improved household self reliance for drinking water
- ii. Better management of the reticulated water system
- iii. Identification and mapping of groundwater resources
- iv. Clearer understanding of the impact of pine plantations on stream flows
- v. More active management of the various watersheds
- c) Income and Production
 - i. Improved understanding of drought-tolerant crops
 - ii. Better understanding of where and when to plant
 - iii. Procedures for moving stock out of drought-affected areas

B. Recommendations

- As emphasized throughout this report, the reaction to drought or any disaster should include a mix of alleviation and mitigation. The following will focus on a few of the key areas that should be addressed.
- Planning: The Government should develop a formal response protocol along similar lines to the cyclone warning procedure. For example the drought warning system could have five stages:
 - a) *general preparedness*, involves planning and public education.
 - b) *nine months indicative warning*, an early warning and advice to households and farmers on how to start preparing for a possible drought.
 - c) *six month firm warning*, confirmed that drought is imminent
 - d) *three months severity warning*, advise the severity and provide specific warning to districts likely to be worst affected
 - e) *alleviation*, initiate alleviation measures
 - f) *breaking of the drought*: declare the drought over.
- It is not sufficient to have a response protocol. It is also important that the community knows how to react to the warnings. This would require a public education campaign, which would in turn require the investment of time and resources by Government agencies. Selected officers need to know how to react and when and how to disseminate necessary information to the community. This need not be expensive but it should be undertaken as a normal part of Government planning processes.
- Water and Environment: By definition the damage caused by drought is ultimately the result of lack of water both for household and for agricultural purposes. Although these are quite distinct aspects of the impact of a drought they can be addressed through a single action. There is ample evidence to show the Fiji needs a Water Master Plan. The problems with the reticulated water supply were brought to a head during the drought and its aftermath, the increasing reliance on delivered water by many households and confusion about the availability and location of ground-water all need to be resolved.
- The knee-jerk reaction to solving the agricultural problems presented by a drought is almost always to suggest developing an irrigation scheme. Large-scale irrigation simply as a drought mitigation measure will not be economically viable. Small-scale schemes that have low capital investment and access to reliable water may be viable. It was beyond the scope of this study to analyse the viability of alternative irrigation, strategies suffice it to say that first and foremost it is necessary to identify reliable water sources.

- The pilot work done of SPOT 4 images for this study should be extended to cover Fiji. It is possible to purchase images taken at the height of the drought for most of the main islands. These images can be used in conjunction with earlier hydrological surveys to identify reliable sources of groundwater. This information would be useful for normal agricultural development and invaluable when Fiji is next faced with a serious drought.
- Food and Nutrition: Another common reaction to mitigating drought is to suggest that landowners plant drought-tolerant crops and resurrect traditional food preservation techniques. There are good reasons why these activities are no longer common. However while it makes little sense to invest much time and effort into the crops and techniques it would be unfortunate if the knowledge was lost. MAFF and Food and Nutrition should be asked to examine the feasibility maintaining planting materials for these crops and documenting the techniques traditionally used to preserve food.
- In summary, the Fiji Government should:
 - a) Provide whatever support is necessary to ensure the Fiji Meteorological Service continues to develop its forecasting services.
 - b) Develop a response protocol for droughts.
 - c) Instruct Government agencies to include drought training in their normal staff training schedule.
 - d) Develop and implement a comprehensive Water Master Plan, including
 - i. Mapping Fiji's water resources
 - ii. Ensuring the water reticulation system functions effectively
 - iii. Introducing a user pays policy for water deliveries
 - iv. Requiring schools and other community services to maintain their water catchment systems
 - e) Investigate the feasibility of establishing planting material reserved for drought tolerant crops
 - f) Encourage the Food & Nutrition Committee and NOGs to foster the skills for traditional food preservation.
- In addition to the issues addressed above there are various health, education and poverty issues that caused difficulties during the drought. In several instances these were underlying issues that are on-going problems. They may be exacerbated by a drought but droughts are seldom the sole cause. In the circumstances these are issues that should be addressed regardless of the prevailing climatic conditions.
- Where a drought does exacerbate the social problems they should be addressed by appropriate alleviation measures. In this regard one issue that should be considered is the nature of alleviation provided. In the 1997/98 drought the affected families were provided with food rations. Many these families also required some supplementary cash support, particularly those who had children at school. Some consideration should be given to a mix of cash and in-kind support provided when alleviating the impact of a disaster. Cash is often cheaper to provide (the delivery costs are far less), can be very cost-effective and is often more useful than aid-in-kind.

APPENDIX VII: THE CONSULTATION PROCESS

A: List of persons consulted

Epeli Nasome	Director, Department of Environment
Asaeli Tubakibau	Director, Land Resources Planning and Dev. Division
Osea Bolawaqatabu	Principal Research Officer, Land Use Section
Maria Elder	Senior Research Officer, Land Use Section
Atish Prasad	Agricultural Officer, Land Use Section
Inoke Ratukalou	Land Use & Resource Policy Advisor, SPC
Christine Fung	Land Use Planning Specialist, GTZ Forestry Project
Pajiliai Dobui	Acting Principal Disaster Management Officer
Makereta Sauturaga	Director, Department of Energy
Atama Tamata	Senior Surveyor, Lands Department
Simon McGree	Senior Climate Officer, Fiji Meteorological Services
Lakahman Mudaliar	Actg. Director, Land and Water Resources Mgt. (LWRM)
Collin Simmons	Actg. PAO, LWRM
Jone Matawalu	Agricultural Officer, Dreketi
Mahendra Kumar	Technical Officer, Dreketi, LWRM
Noa Vakacegu	Divisional Head of Forestry, Labasa
Murray Isimeli	Actg. Director, Political and Treaties Division
Jone Feresi	Environment Engineer, FEA
Kameli Vueta	Forestry Extension Officer, Labasa
George Vuki	Manager, Tropic Woods, Lautoka
Osea Rasea	Agricultural Officer, Sigatoka
Jalesi Mateboto	Community Forestry Specialist, SPC/GTZ
Amrit Nath	Actg. Chief Economist, EP&S, Ministry of Agriculture
Bale Tamata	Manager, Env. Unit, IAS/USP

B: Workshop Participants

Refer to NCSA Workshop reports, Department of Environment, for list of participants.

- July 29-30, 2008 – Southern Cross Hotel Suva (24 Participants from various Ministries, INGOs, Embassies, and CROP representatives)
- Aug 12, 2008 – Hotel Takia, Labasa (For benefit of officials in the Northern Division. 10 participants from various Ministries and Fiji Development Bank attended)
- June 20, 2008 – Lautoka Hotel (For the officials in the Western Division)

C. Capacity Development Training/SWOT Exercise

Refer to NCSA Unit Capacity Development Training reports, Department of Environment, for list of participants.

- Department of Fisheries;
- Ministry of Mineral Resources Development;
- Department of Land;
- Ministry of Agriculture;
- Department of Forest, Labasa;

- Department of Forest, Suva;
- Agriculture Research, Sigatoka;
- Department of Agriculture, Western Division, Lautoka; and
- Quarantine Section, Nadi International Airport.

D. Member of the NCSA Steering Committee that reviewed the UNCCD Thematic Assessment Report.

- Mr Paula Taukei – Ministry of Indigenous Affairs
- Ms Christine Fung – SPC- GTZ
- Ms Meretui Nabuabuabua – Culture and Heritage
- Mr Samuela Lagataki – Department of Forestry
- Mr Sunia Waqanibete – Fisheries Department
- Ms Maria Elder – Landuse and Resource Planning Division (Ministry of Agriculture).

APPENDIX VIII: LIST OF DOCUMENTS REVIEWED

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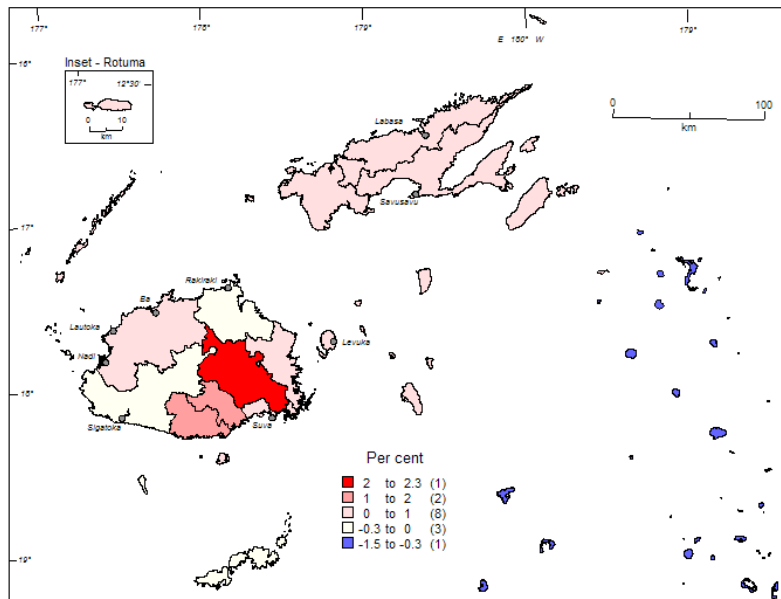
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APPENDIX IX: MAPS REVIEWED

Growth Rate

average annual rate of growth by province.



Fiji Bureau of Stats

APPENDIX X: BIBLIOGRAPHY OF SUPPLEMENTARY LITERATURE

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