



TONGA NATIONAL CAPACITY SELF ASSESSMENT FOR GLOBAL ENVIRONMENT MANAGEMENT



THEMATIC ASSESSMENT REPORT *for the* UNITED NATIONS CONVENTION *to* COMBAT DESERTIFICATION *in* TONGA

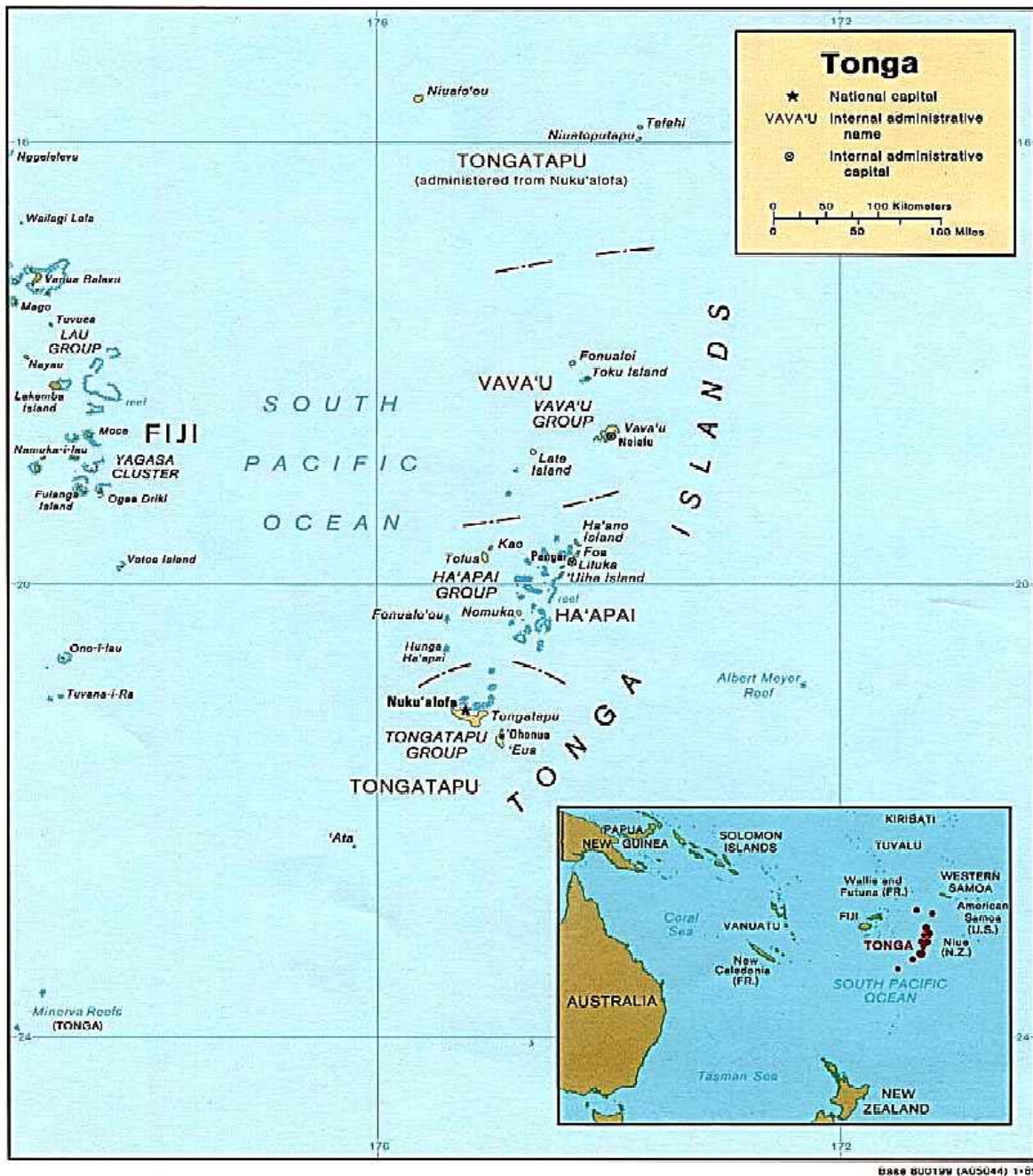
2007

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Figure 1: MAP OF TONGA



Source: Tonga On Line, 2006



EXECUTIVE SUMMARY

The global impacts of desertification and land degradation prompted the United Nations Organization to adopt the United Nations Convention to Combat Desertification (UNCCD) in 1994. Tonga acceded to the UNCCD on September 25, 1998 and ratified the Convention in December 24, 1998. Under the UNCCD all parties to the Convention are expected to meet their national and international commitment to implement key activities.

This report is the result of the National Capacity self-Assessment to identify and characterize critical capacity constraints relevant to effective environmental management in Tonga, and to develop a plan of action to address these constraints, in a co-ordinated manner to fulfil its obligation under the United Nation Convention to Combat Desertification (UNCCD).

The assessment was conducted at three levels within the context of the commonly accepted definition of capacity building as the actions needed to enhance the ability of individuals, institutions and systems to make and implement decisions and perform functions in an effective, efficient and sustainable manner. It was conducted by review of documentation, interviews and workshops with the following specific objectives:

- a. identification of priority issues under the Land Degradation thematic area;
- b. identification of capacity constraints, bottlenecks in the Land Degradation thematic area at the assessment levels referred to above; and
- c. evaluation and prioritization of capacity issues within the Land degradation thematic area.

Land degradation represents a serious environmental problem for Tonga. Tonga's limited land coupled with a high population growth rate in the urban center has put considerable pressure on the country's natural resources. Land degradation in Tonga occurs in the form of increasing clearance of forest land for farming; wind and water caused soil erosion; overgrazing of roaming pigs; overuse of land resulting in low fertility, serious drought, and increasing mining of sand from coastal area.

The progress to date showed very little has been made with respect to Tonga meeting its obligation for UNCCD other than attending COP meetings and regional workshops. The thematic assessment focused on the identification of issues related to the implementation of the UN Convention to Combat Desertification, and further on analyzing the related capacity problems with proposed recommendations.

RECOMMENDATIONS:

1. That a special unit should be set up and supported by a proactive Working Committee/Task Force. The Committee will be responsible for the expeditious development of the NAP and other key activities of UNCCD. Proposed Working Committee should be comprised of:
 - Focal Point - Ministry of Agriculture and Food
 - Secretariat - Department of Environment
 - Member - Ministry of Forestry
 - Member - Ministry of Lands, Survey and Natural Resources
 - Member - Ministry of Work/ Disaster Management Committee
 - Member - Representative from NGOs/Private Sector(can co-opt members from others when required)
2. That the Working Committee/Task Force be responsible for the expeditious development of the National Plan of Action and reporting commitments of UNCCD.
3. Adequate resources be allocated to support appropriate researches by relevant Ministries in area of land degradation, mitigation and rehabilitation.
4. School curricula and adult education programmes for environmental protection and land management planning be strengthened.
5. Coordination of effective dissemination of information relevant to awareness raising and enhancing technical competence.
6. Capacity building of communities, NGOs and other implementing agencies through technical workshops and practical training.
7. Promotion and empowerment of community action groups to enhance participation in community planning and decision making.
8. A promotion strategy that re-instigates and invigorates use of radio and other media.
9. Identify key land users such as farmers and ensure involvement in planning, implementing and monitoring of land management programmes.
10. Financing and funding support by the Secretariat to assist stakeholders in accessing financial mechanisms in support of UNCCD related activities;
11. Government to support activities under the Conventions; and other financial mechanisms and incentives.



ACRONYMS

ADB	Asian Development Bank
CBD	Convention of Biological Diversity
CPD	Central Planning Department
CSD	Commission on Sustainable Development
DoE	Department of Environment
DCL	Department of Crown Law
GEF	Global Environment Facility
MAF	Ministry of Agriculture and Food
MD	Meteorological Division
MDG	Millennium Development Goals
MFA	Ministry of Foreign Affairs
MLNRS	Ministry of Lands, Survey, and Natural Resource
MoF	Ministry of Forestry
MOW	Ministry of Work
MSP	Medium Sized Project
NAP	National Action Plan
NCSA	National Capacity Self-Assessment
NECC	National Environment Coordination Committee
NESC	National Environment Steering Committee
NGOs	Non-Governmental Organisations
PACD	Plan of Action to Combat Desertification
PASA	Pesticide Awareness and Sustainable Agriculture
PC	Project Coordinator
POPs	Persistent Organic Pollutants
SLM	Sustainable Land Management
SPBCP	South Pacific Biodiversity Conservation Programme
SPREP	Secretariat of the Pacific Regional Environment Programme
SRA	Strategic Result Area
TDT	Tonga Development Trust
TEMPP	Tonga Environment Management and Planning Project
TVB	Tonga Visitors Bureau
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USP	University of the South Pacific



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1.0 INTRODUCTION

The global impacts of desertification and land degradation prompted the United Nations Organization to adopt the United Nations Convention to Combat Desertification (UNCCD) in 1994. Tonga acceded to the UNCCD on September 25, 1998 and it was ratified in December 24, 1998. Under the UNCCD all parties to the Convention are expected to meet their national and international commitment to implement key activities.

This stocktaking and thematic assessment report is one of the results of the National Capacity Self-Assessment for effective environmental management in Tonga, a project executed by the Department of Environment. The National Capacity Self-Assessment project's main output is to firstly identify capacity issues in Tonga that hinder it in addressing its obligations under the 3 Rio Conventions (United Nations Convention to Combat Desertification, United Nations Convention on Biological Diversity and the United Nations Framework Convention for Climate Change) and in knowing these capacity constraints develop a plan of action to effectively address these obligations.

The National Capacity Self- Assessment is being conducted at three levels within the context of the commonly accepted definition of capacity building as the actions needed to enhance the ability of individuals, institutions and systems to make and implement decisions and perform functions in an effective, efficient and sustainable manner:

- Individual- Capacity building at this level refers to the process of changing attitudes and behaviours, usually through training activities which disseminate knowledge and develop skills.
- Institutional- Capacity building at this level aims at the development of the institution as a total system and focuses on the overall performance of the organization, its functional capabilities as well as its ability to adapt to change.
- Systemic- At this level capacity building is concerned with the creation of enabling environments' i.e. the overall policy, economic, regulatory and accountability framework within which the individuals and institutions operate.

The Land Degradation Thematic Self-assessment has the following specific objectives:

- a. identification of priority issues under the Land Degradation thematic area;
- b. identification of capacity constraints, bottlenecks in the Land Degradation thematic area at the assessment levels referred to above; and
- c. evaluation and prioritization of capacity issues within the Land degradation thematic area.

The review analysis of existing documents, including the Stocktaking Report on the status of implementation with respect to this convention, and other relevant national reports was one approach used to achieve these objectives. This analysis is aimed at identifying established priorities, capacity constraints and needs, as well as the identification of any existing information gaps. The assessment of national capacity is aimed at answering the following questions:

- “What are the priority issues of the country in its role as a party of the UNCCD?”
- What specific constraints are preventing adequate responses to these issues? And
- How do these constraints affect the ability of the country to meet its obligations under the UNCCD?”

The assessment was conducted by review of documentation, interviews and workshops.

1.1 KINGDOM OF TONGA PROFILE

1.1.1 Geography

The Kingdom of Tonga lies between latitudes 15 and 24 degrees South and longitudes 173 and 177 degrees West. It is an archipelago of 172 coral and volcanic islands, of which 36 are inhabited, spread over 360,000 km² of territorial seas in the South Pacific. The majority of the islands are very small in size, ranging from those of only a few hectares to Tongatapu, the largest island, with an area of 265 km². The total land area is 747 km² aggregated into four major groups of Tongatapu and ‘Eua (370 km²), Ha’apai (119 km²), Vava’u (143 km²) and the two Niuas (71 km²). The largest of these is Tongatapu on which Nuku’alofa the capital is located, and where about 68 percent of the total population resides.

1.1.2 Geology/Geomorphology

The islands of Tonga were formed on the tops of two parallel submarine ridges stretching from Southwest to Northeast and enclosing a fifty-kilometer wide trough. Several volcanoes, some of which are still active, exist along the western ridge, while many coral islands have formed along the eastern ridge, among them the Vava’u and Ha’apai island groups (Trangmar, 1992). Two types of coral islands can be distinguished;

- The low coral islands**, to which the Ha’apai group belongs, are flat and undulated islands of sand which rise to 15 meters above sea level and were formed on the coral reef platforms.
- The raised coral islands**, which have been tilted by earth pressures, show a marked topography. Tongatapu, ‘Eua and the Vava’u group belong to this coral island type. Soil fertility is good, most of the islands consisting of uplifted coral with an overlying soil developed from volcanic ash.

1.1.3 Climate

The climate of the Tonga archipelago is tropical maritime mild to warm, humid and moderately wet throughout the year, with a mean annual rainfall varying from approximately 1,770mm on Tongatapu and 2,350mm on Vava’u. Table 1 contains some basic climatic data for the three main regions from 1986–2004.

Table 1: Mean annual temperatures and total rainfall for the three main island groups

Group	Mean Annual Temperatures (in °C)	Total Annual Rainfall (in mm)
Tongatapu	24.4	1728
Ha’apai	25.6	1780
Vava’u	26.5	2180

Source: Civil Aviation Department, 2005



There is a marked seasonality in the Tongan rainfall with two main seasons. The rainy season is characterised by a mean monthly annual rainfall of up to 250mm and an average monthly temperature of more than 26 °C. The "hot wet season" lasts from November to April, and about 65 percent of the total annual rainfall occurs during the wet season. The "cool and dry season" is from May to October, and has a mean monthly rainfall of less than 130 mm and lower temperatures of around 22°C. Rainfall seasonality is most marked on the Vava'u and the Ha'apai island groups. High humidity occurs throughout the year. The annual mean humidity ranges from 77 percent in Tongatapu to 79 percent in Vava'u. The prevailing winds are Southeast Trade winds, which dominate during the months of May to October, a period when rainfall is lowest and when periodic water shortages occur, especially in the warmer season. Tonga is vulnerable to the effects of the El Nino Southern Oscillation (ENSO), with the warm events falling in the years of below average rainfall.

1.1.4 Soils

Tonga is fortunate in being endowed with a good climate for agriculture and with fertile soils. The islands are of volcanic and coral origin. The soils of Tonga comprise two main soil types: a clay soil and a sandy soil (*tou'one*). The clay soil, known locally as *kelefatu*, varies in texture from light loams through to heavy clays, and is derived from weathered volcanic ash overlying coral bedrock and is highly friable, fertile and generally drains fairly quickly (Studied, 1983). It covers most of Tongatapu and Vava'u, and some parts of Ha'apai, often to a depth of two metres. However, regardless of texture, these soils have a moderate to high natural fertility due principally to the incomplete weathering of the volcanic ash. Because the soils are generally friable and free draining, and because of the mild, humid climate, plant litter decomposes quickly and the rapid circulation of plant nutrients contributes to the level of fertility (Halavatau and Asghar, 1989).

The second main soil type is sandy soil, known in Tonga as *tou'one*, and comprises sandy and less fertile soils. It is derived almost entirely from coral sand, and hence is mostly confined to the low coral island narrow strips along the coast. Sandy soil is particularly widespread in the low coral islands of the Ha'apai group, where they occupy up to half of the area of some of the settled islands. The organic content of *tou'one* soils is easily depleted and the structure adversely affected by frequent cultivation. Crops grown on sandy soil generally yield less compared to those grown on *kelefatu* and are more vulnerable to short-term droughts. Some coastal *tou'one* areas are subjected to flood by high tides or storms and so are too salty for general agriculture. Otherwise, given careful management to conserve organic matter and structure, and with plant nutrients added as required, soils of the *tou'one* class are suitable for a variety of crops. But in the absence of these strict conditions, the productivity of these soils may decline seriously, and this is already happening in some areas, especially in Ha'apai

1.1.5 Land Tenure

Land is the most important productive asset in Tonga to which the livelihood of most Tongans is intimately tied for their immediate subsistence and cash transactions. Tonga's land tenure system has undoubtedly provided many benefits to its people, but pressures are now increasing for some adjustments to meet the needs of changing social and economic circumstances. The land tenure system increasingly impacts on the extent of farming as well as on how farming is carried out. Access to land is crucial to the economic situation, power, prestige and security of any individual or family.

Tonga has a unique land tenure system, based on the traditional hierarchical structure of society which secures the rights of individual landholders to a degree unparalleled in neighbouring Pacific Islands states. The Land Act elaborates that all land became the property of the Crown and was divided into royal, government and noble estates. From these estates all adult males are entitled to a tax allotment for his garden (*'api tukuhau*) of 3.34 hectares, and a smaller dwelling known as a town allotment (*'api kolo*) of 0.16 hectares. Allotments are made upon application from either the hereditary estates, or from Government land, depending on where the applicant is lawfully resident, and once registered the title is inheritable, according to strict rules of successions set out in the Constitution. There are four land tenure categories - the King's estates, the Royal Family's estates, the estates of the nobles and chiefs, and Government land. Only the last two categories of land are available for allotment as *'api* land.

Table 2: Land Distribution in Tonga

USE	Percentage of Total
Allotment	62.8%
Unallocated Government land	11.4%
Unallocated noble's land	6.9%
Leases	8.4%
Small islands, lakes, lagoons	10.5%

Source: Land Survey report, 2006

1.2 MAJOR LAND DEGRADATION PROBLEMS IN TONGA

Land degradation represents a serious environmental problem for Tonga, being an agricultural country with a lack of land resources. Tonga's limited land, coupled with a high population growth rate in the urban centre has put considerable pressure on the country's natural resources. Land degradation and desertification in Tonga occurs most noticeably in certain areas. For example in regions where there is;

- clearance of forest land for farming
- wind and water caused soil erosion
- overgrazing of livestock
- land occupied by roaming pigs
- climate change related events causing tropical cyclones and El Nino induced drought

1.2.1 Forest Clearance for residential purposes and farming

The profound change in Tonga's agricultural system is largely characterized by the shift from traditional agricultural practices to large scale (mainly squash production) commercial agricultural activities. This has resulted not only in the change in land use, but also in the extensive use of commercial fertilizers and pesticides, especially on the main island of Tongatapu and 'Eua. Mangroves have been cleared for residential purposes and agricultural development has resulted in the destruction of the indigenous forest resources to the extent that there is now only some 4,000 hectares of hardwood forest on the most inaccessible areas of 'Eua.

Photo 1: Squash cultivation is evidence of a shift from traditional agricultural practices



1.2.2 Soil Erosion

The clearing of land contributes to land degradation in the form of soil erosion. Soil erosion is more profound in islands that have a steep land formation like Vava’u and ‘Eua. Studies have shown that topsoil is eroded off the land and transported to other nearby ecosystems, which in turn affect that ecosystem’s health and the sustainability of living organisms that inhabit it.

Photo 2: Severe soil erosion in Tefisi village with top soil deposited in nearby marine ecosystem



1.2.3 Tropical Cyclone

Natural disasters such as tropical cyclones are another cause of land degradation and these are particularly common in Tonga. The accompanying strong winds and salt spray lead to land degradation. The cyclone season for Tonga runs from December through to April although deviations outside this period occur. Tonga experiences an average of two tropical cyclones per year. In the last nine years, five notable cyclones

occurred (in 1990, 1992, 1993, 1995, and 1997) which were the most destructive in terms of the severity of damage and the vast area affected.

Historical records indicate an increased trend in tropical cyclone frequency in the South West Pacific since the 1960s. It is also apparent that a corresponding relationship exists between increased cyclone activity in Tonga and the El Nino phenomenon. With the anticipated increase in the occurrence of El Nino events and the potential impacts of climate change, there is a growing need to strengthen specialized warning and advisory services on tropical cyclones and related climatic events.

Photo 3: Aftermath of tropical cyclone Cora most area affected by salt spray in 'Eua



1.2.4 Roaming pigs

Pigs are the most important animal kept by Tongan smallholders for consumption especially at feasts and as gifts in the social system. Pigs are also the livestock which cause the most land degradation problems. The issue of the extensive damages caused by unconfined pigs is a complex one. On one hand, everyone including their owners regards pigs as pests that destroy crops, health, and the aesthetic value of the country side, thwart tourism, and instigate serious soil erosion in townships and roadsides. Yet on the other hand, pigs play a necessary and valuable role in the many religious/traditional and national obligations of families and more than 70% of households own pigs that are never confined.

Photo 4: Roaming pigs in action and damaging the environment



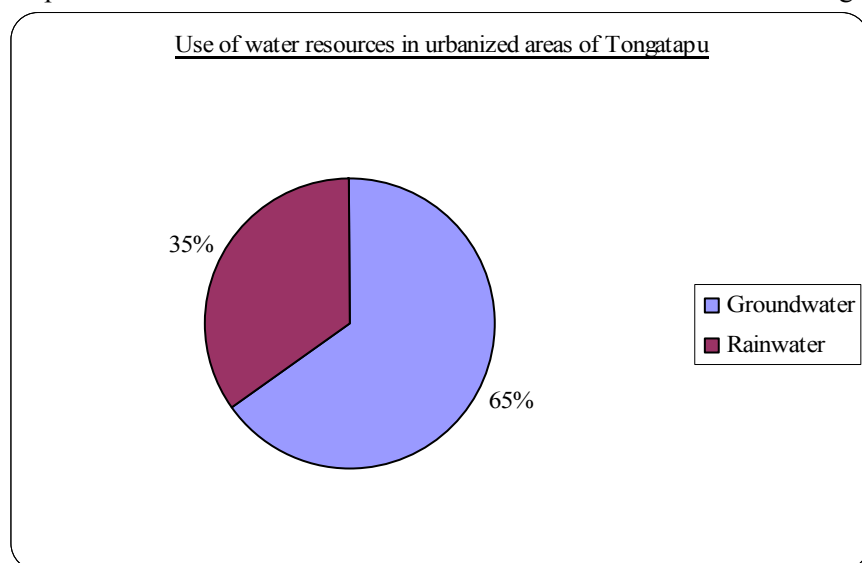
1.2.5 Drought

The UNCCD article 1C describes drought as “*the naturally occurring phenomena that exists when precipitation has been significantly below normal record levels, causing serious hydrological imbalances that adversely affect land resource production systems.*”

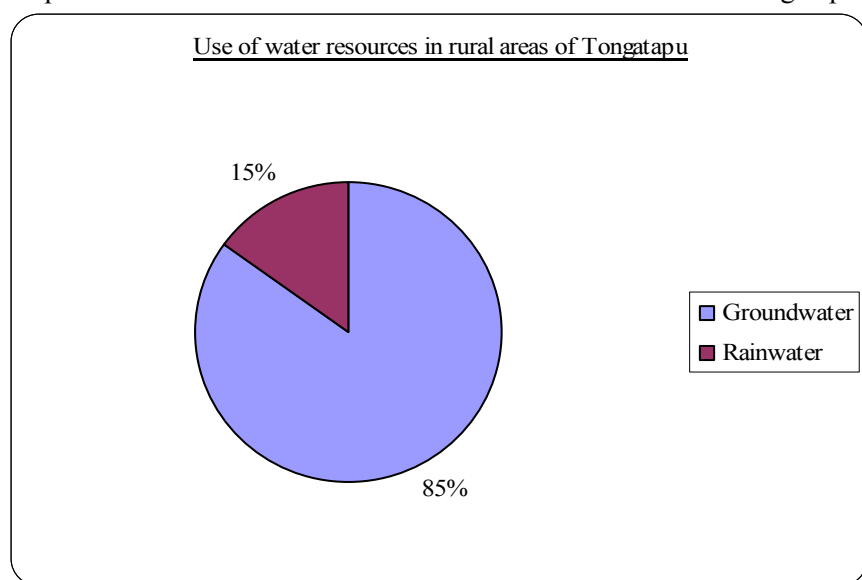
During the dry season, rainfall is lower than normal in the dry zone of Tonga, mainly in the Ha’apai group of islands and Southern Tonga. A few months of this below average rainfall can cause drought conditions. The persistence of prolonged droughts in Tonga is associated with the El Nino event which results in below average rainfall for Tonga. These conditions can be severe if the event is strong and particularly if the precipitation during the wet season has been lower than normal. The 1997/1998 strong El Nino event caused drought in Tonga especially affecting the Tongatapu and Ha’apai groups. ‘Utoikamanu (1993) notes that of the three main island groups, Ha’apai is the most vulnerable to drought because of the shallow and porous nature of the soils with poor water holding capacity.

Drought periods have been calculated to occur every 2.4 years. The resource most noticeably affected during drought is water. The main source of water for Tonga is groundwater which is supplemented by rainwater (Graph 1a and 1b). With the projected decrease in below average rainfalls due to climate change, peoples’ livelihoods will be affected as potable rainwater for drinking decreases. This will lead to an increase in groundwater extraction resulting in thinning of the fresh water lens and more room for mixing with the underlying saltwater zone. Saltwater intrusion may also take place with the lowering of the water table to below mean sea level.

Graph 1a: Source and use of water resources in urbanized areas of Tongatapu



Graph 1b: Source and use of water resources in rural areas of Tongatapu



UNCCD National Action Plan, 2006

Given the country's dependence on its agricultural production, droughts have caused severe impact on agricultural production with significant drops in the level of both export and domestic agricultural production. This was most notable with squash exports where Tonga failed to achieve the required quota during drought-affected years. Such low and inconsistent production and quality, is a major problem particularly in maintaining the export markets. This was also identified by the Participatory Rural appraisal under the DSAP project in which farmers identified soil water stress as one of the key problems causing low agricultural productivity.

Photo 5: Severe drought causing stunted growth in coconuts and sweet potatoes



1.2.6 Coastal Erosion

Much of the northern coastline of Hahake (Niutoua to Nukuleka) is eroding. However, there are no known details of coastal erosion rates in this region. The villages of Kolonga, Manuka and Nukuleka, and a large part of the road are exposed to coastal erosion. A large number of ad hoc and poorly constructed seawalls (all in a damaged state) provide little protection. A detailed study of erosion and inundation on the eastern coast of Hihifo (Kolovai to Ha'atafu) by Tappin (2003) showed that the erosion (loss of land) is linked to inundation of low-lying areas and episodic (tropical cyclone) events. Strong north-easterly winds (albeit infrequent) can also cause wave conditions at high tide which cause erosion along this coast.

Photo 6: Severe coastal erosion from sand mining



1.2.7 Tongan's livelihoods affected

The above problems all contribute to desertification, severity of drought and magnitude of land degradation in the Kingdom of Tonga. If this degradation continues unabated, peoples' livelihoods will be adversely affected in a major way. The decreases in fertility and productivity of the land, decrease in quality and quantity of agricultural supply for food and the economy, loss of settlement or agricultural land and soil

through erosion, decrease of water resources both rainfall and groundwater and the salinisation of ground water will ultimately have a detrimental impact on the government's vision for a high quality of life for all the people of the Kingdom.

1.3 THE UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION (UNCCD)

1.3.1 Introduction

In 1977, the United Nations Conference on Desertification (UNCOD) adopted a Plan of Action to Combat Desertification (PACD). However, despite this and other efforts, the United Nations Environment Programme (UNEP) concluded in 1991 that the problem of land degradation in arid, semi-arid and dry sub-humid areas had intensified. At the United Nations Conference on Environment and Development (UNCED) (the "Earth Summit"), held in Rio de Janeiro in 1992, there was a call for a new integrated approach to the problem, emphasizing the need for action to promote sustainable development at the community level. It called on the United Nations General Assembly to establish an Intergovernmental Negotiating Committee to prepare, by June 1994, a Convention to Combat Desertification, particularly in Africa. The Convention was adopted in Paris on June 17, 1994 and opened for signature on 14-15 October 1994. The Convention came into force on December 26, 1996. Tonga acceded to the Convention in November 1998. Tonga's focal point for the Convention is Mr. Va'inga Tone, Acting Secretary for Foreign Affairs.

1.3.2 Objective

The objective of this Convention is "to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in affected areas." Desertification is the degradation of land in arid, semi-arid, and dry sub-humid areas. It is caused primarily by human activities and climatic variations. Desertification does not refer to the expansion of existing deserts. It occurs because dry land ecosystems, which cover over one third of the world's land area, are extremely vulnerable to over-exploitation and inappropriate land use. Poverty, political instability, deforestation, overgrazing, and bad irrigation practices can all undermine the land's productivity. Over 250 million people are directly affected by desertification. In addition, some one billion people in over one hundred countries are at risk. These people include many of the world's poorest, most marginalized, and politically weak citizens.

1.3.3 UNCCD Principles

Article 3 sets out the principles by which Parties should be guided, in order to achieve the objective of the Convention and to implement its provisions. These include:

- Community participation in decisions on the design and implementation of programmes to combat desertification and/or mitigate the effects of drought;



- Improve cooperation and coordination at sub regional, regional and international levels; and
- Develop, in a spirit of partnership, cooperation among all levels of government, communities, non-governmental organizations and landholders to establish a better understanding of the nature and value of land and scarce water resources in affected areas and to work towards their sustainable use.

1.4 NATIONAL CAPACITY NEEDS SELF ASSESSMENT (NCSA)

The objective of this project is to carry out an assessment of Tonga's capacity to address and implement global environmental issues, in particular those relating to Tonga's obligations under the Convention on Biological Diversity (CBD), the Framework Convention on Climate Change (UNFCCC), and the Convention to Combat Desertification (UNCCD). This objective will be achieved through a series of internal self-assessments to be carried out by the government agencies and organizations (the stakeholders) that have direct responsibilities for environment management and development matters in Tonga.

The ultimate aim of the NCSA is to catalyse domestic and externally assisted action to meet Tonga's needs and priorities for capacity building in a well-planned and coordinated manner. It is important to note that the existing sister conventions, namely Climate Change and Convention of Biological Diversity have also incorporated into their action/mitigation plans land degradation issues. It is therefore pertinent to increase harmonization between these conventions and resultant projects through the strengthening of interdepartmental linkages to avoid duplication.

2.0 METHODOLOGY

The National Capacity Self Assessment for the UNCCD convention in Tonga was conducted with guidance from the “**National Capacity Self-Assessments: A Resource Kit**” prepared by Global Environment Facility (GEF). The Assessments were prepared through an in-depth analysis.

2.1 STOCKTAKING

The initial phase involved listing the requirements under the UNCCD convention and the Stocktaking by a desk study. Given the paucity of information available and limited local knowledge on the UNCCD, the team decided that the desk study was the most appropriate method to use. The findings from this phase provided the situation analysis, which formed the basis of the thematic assessment. From this, the analysis identifies which requirements are not being met; the layers of underlying causes, the contributing factors and the key barriers.

2.2 IDENTIFICATION OF MAJOR STAKEHOLDER

Identification of the parties concerned therewith (stakeholders). The process of selecting the stakeholders resulted in a list of institutions/organizations involved with activities connected with each UNCCD, specifying the official position or the reason of consideration, as well as its possible role within the NCSA Project framework and/or in the implementation of its Action Plan.

2.3 THEMATIC ASSESSMENTS

The second stage was the thematic assessments phase which include the:

- preparation of a thematic profile on land degradation/desertification, situational analysis that provides an understanding of the baseline situation for the project.
- identifying, reviewing or confirming priority issues within the thematic area;
- identifying capacity constraints for priority issues; and
- identifying opportunities for capacity buildings to address the identified constraints for the thematic area.

This phase included interviews of potential and/or key stakeholders, reviews of reports and documents, and focus group consultations. The assessment aimed at three main fields: legislative, institutional, policies and strategies and consisted of collecting information and synthesizing the existing documents. This included the most important normative documents containing direct or indirect provisions in relation with the UNCCD's implementation, the most important institutions/organizations in Tonga bearing either direct or indirect responsibilities in the implementation thereof as well as the policies, strategies and action plans comprising also elements relating to desertification.

3.0 NATIONAL OBLIGATIONS UNDER THE CONVENTION TO COMBAT DESERTIFICATION

The obligations outlined below are obligations that reflect the object and spirit of the Convention to Combat Desertification. Tonga must take positive actions to realise these obligations and refrain from doing acts in the contrary. It appears that none of the Annexes I to IV of the Convention to Combat Desertification apply to Tonga, as they are regional implementation plans for Africa, Asia, Latin America, Caribbean and Northern Mediterranean. Accordingly, Tonga's obligations were identified on the assumptions that it is a small developing country as well as an "affected country".

3.1 NATIONAL PLANS, STRATEGIES AND PROGRAMMES TO COMBAT DESERTIFICATION AND MITIGATE DROUGHT:

- To implement their obligations under the Convention, individually or jointly, through existing or prospective bilateral and multilateral arrangements or a combination thereof, emphasizing the need to coordinate efforts and develop a coherent long-term strategy at all levels: Art 4(1).
- To adopt an integrated approach addressing the physical, biological and socio-economic aspects of the processes of desertification and drought: Art 4(2) (a).
- To establish strategies and priorities, within the framework of sustainable development plans and/or policies, to combat desertification and mitigate the effects of drought: Art 5(b).
- To prepare, make public and implement national action programmesⁱ, utilizing and building, to the extent possible, on existing relevant successful plans and programmes, and sub regional and regional action programmesⁱⁱ, as the central element of the strategy to combat desertification and mitigate the effects of drought: Art 9(1).
- To integrate strategies for poverty eradication into efforts to combat desertification and mitigate the effects of drought: Art 4(2) (c).
- To give due priority to combating desertification and mitigating the effects of drought, and allocate adequate resources in accordance with their circumstances and capabilities: Art 5(a).
- To address the underlying causes of desertification and pay special attention to the socio- economic factors contributing to desertification processes: Art 5(c).

3.2 INTERNATIONAL AND REGIONAL COOPERATION:

- To give due attention, within the relevant international and regional bodies, to the situation of affected developing country Parties with regard to international trade, marketing arrangements and debt with a view to establishing an enabling international economic environment conducive to the promotion of sustainable development: Art 4(2)(b).
- To promote cooperation among affected country Parties in the fields of environmental protection and the conservation of land and water resources, as they relate to desertification and drought: Art 4(2)(d).

ⁱ In accordance with the requirements of Article 10(2) to (4), using the measures specified in Article 13(1) and to coordinate action programmes according to Art 14.

ⁱⁱ In accordance with the requirements of Article 11.

- To strengthen sub regional, regional and international cooperationⁱⁱⁱ: Art 4(2) (e).
- To cooperate within relevant intergovernmental organizations: Art 4(2) (f).
- To promote the use of existing bilateral and multilateral financial mechanisms and arrangements that mobilize and channel substantial financial resources to affected developing country Parties in combating desertification and mitigating the effects of drought: Art 4(2) (h).
- To encourage organs, funds and programmes of the United Nations system and other relevant intergovernmental organizations, academic institutions, the scientific community and non-governmental organizations in a position to cooperate, in accordance with their mandates and capabilities, to support the elaboration, implementation and follow-up of action programmes: Art 9(3).

3.2.1 Education and public awareness:

- To promote awareness and facilitate the participation of local populations, particularly women and youth, with the support of non-governmental organizations, in efforts to combat desertification and mitigate the effects of drought: Art 5(d).
- To cooperate with each other and through competent intergovernmental organizations, as well as with non-governmental organizations, in undertaking and supporting public awareness and educational programmes in both affected and, where relevant, unaffected country Parties to promote understanding of the causes and effects of desertification and drought and of the importance of meeting the objective of this Convention: Art 19(3).

3.3 TECHNICAL AND SCIENTIFIC COOPERATION:

- To promote technical and scientific cooperation in the fields of combating desertification and mitigating the effects of drought through appropriate national, sub regional, regional and international institutions: Art 17(1).

3.4 JOINT RESEARCH PROGRAMMES:

- To encourage the coordination of activities carried out under the Convention and under other relevant international agreements, particularly the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity, in order to derive maximum benefit from activities under each agreement while avoiding duplication of effort and encourage the conduct of joint programmes, particularly in the fields of research, training, systematic observation and information collection and exchange, to the extent that such activities may contribute to achieving the objectives of the agreements concerned: Art 8(1).

3.5 INFORMATION AND DATA COLLECTION:

- To integrate and coordinate the collection, analysis and exchange of relevant short term and long term data and information: Art 16.

3.6 TRAINING TECHNOLOGY:

- To promote, finance and/or facilitate the financing of the transfer, acquisition, adaptation and development of environmentally sound, economically viable and socially acceptable technologies

ⁱⁱⁱ International cooperation should be in accordance with Article 12.



relevant to combating desertification and/or mitigating the effects of drought, with a view to contributing to the achievement of sustainable development in affected areas: Art 18(1).

- To protect, promote and use in particular relevant traditional and local technology, knowledge, know-how and practices: Art 18(2).

3.7 LEGISLATION:

- To provide an enabling environment by strengthening, as appropriate, relevant existing legislation and, where they do not exist, enacting new laws and establishing long-term policies and action programmes: Art 5(e).

3.8 CAPACITY-BUILDING:

- To promote, as appropriate, capacity- building: Art 19(1) –
 - through the full participation of local people and the cooperation of non-governmental and local organizations;
 - by strengthening training and research capacity at the national level in the field of desertification and drought;
 - by establishing/strengthening support and extension services to disseminate relevant technology methods and techniques more effectively, and by training field agents and members of rural organizations in participatory approaches for the conservation and sustainable use of natural resources;
 - by fostering the use and dissemination of the knowledge, know-how and practices of local people in technical cooperation programmes;
 - by adapting relevant environmentally sound technology and traditional methods of agriculture and pastoralism to modern socio-economic conditions;
 - by providing appropriate training and technology in the use of alternative energy sources;
 - through cooperation to strengthen the capacity of affected developing country Parties to develop and implement programmes in the field of collection, analysis and exchange of information pursuant to article 16;
 - through innovative ways of promoting alternative livelihoods, including training in new skills;
 - by training of decision makers, managers, and personnel who are responsible for the collection and analysis of data for the dissemination and use of early warning information on drought conditions and for food production;
 - through more effective operation of existing national institutions and legal frameworks, creation of new ones, strengthening of strategic planning and management; and
 - by means of exchange visitor programmes to enhance capacity building in affected country Parties through a long-term, interactive process of learning and study.
- To review available capacity and facilities at the local and national levels, and the potential for strengthening them: Art 19(2).
- To determine institutional mechanisms, if appropriate, keeping in mind the need to avoid duplication: Art 4(2) (g).



3.9 FINANCIAL RESOURCES:

To make every effort to ensure that adequate financial resources are available for programmes to combat desertification and mitigate the effects of drought: Art 20(1).

- To undertake to mobilize adequate financial resources for the implementation of their national action programmes: Art 20(3).



4.0 COUNTRY ACTIVITIES UNDER UNCCD

The achievements of Tonga as a Party of the UNCCD are summarized below;

- **National Focal Point**, Secretary of Foreign Affairs
 - **Operational Focal Point**, Director of Agriculture, Forestry, Food and Fisheries
- Submission of first and second national reports at COP meetings
- Participation in all Conference of Parties since 1998 and attendance at six UNCCD regional meetings financed by the UNCCD Secretariat by MAF, DoE and Foreign Affairs
 - Securing of funds from SPREP for financing the preparation of National Action Plan and funds from UNDP for preparation of the third national report
 - Preparation of National Action Plan
 - Preparation of Third National Report
- Preparation of proposal for implementation of MSP Portfolio Project for Sustainable Land Management
 - Public Awareness for UNCCD mainstreamed through the NCSA, NAP and third national report activities

The Ministry of Foreign Affairs is the national focal point and the Ministry of Agriculture, Food, Forestry and Fisheries is the operational focal point for the UNCCD. The Department of Environment is the implementing agency for the UNCCD and takes the lead role in coordinating the implementation of activities under the UNCCD.

4.1 FIRST AND SECOND NATIONAL REPORT TO UNCCD

Tonga's first and second national report have already been prepared and submitted to the Secretariat of the UNCCD.

4.1.1 Capacity Building for Sustainable Land Management Project

In 2004, the Department of Environment sought financial assistance from the Global Environment Facility (GEF) through United Nations Development Programme (UNDP) to prepare Tonga's project document proposal for the implementation of the Capacity Building for Sustainable Land Management Project (SLM) in the Kingdom. The Department is the focal point for the GEF and with its approval was given assistance for the preparation of the proposal. The SLM project is under the Operational Programme 15 of the UNCCD and is regarded as a Medium Sized Project (MSP).

The Department has prepared the project document proposal for approval by GEF to implement the SLM however it is currently securing Tonga's co-financing share in the project which amounts to half of the total project funds.

4.1.2 National Action Plan (NAP)

The National Action Plan (NAP) is regarded as the “core” obligation of the Convention and must be prepared by countries signing on to the Convention. Tonga has signed the Convention in 1998 however it is yet to prepare a NAP. The obstacle that delayed the preparation activities of the NAP were due to limited financial resources of involved agencies to produce the NAP.

The Department in 2005 took the lead in identifying possible sources of assistance to prepare Tonga’s NAP. Assistance was secured through consultations with the South Pacific Regional Environment Programme (SPREP) and work commenced in early 2006. A technical working group of local consultants from the relevant agencies were identified to draft Tonga’s NAP. The NAP was prepared in 2006 and most importantly contains actions in critical sectors such as forestry, water, soil, climate, land tenure and agriculture that when implemented will assist in curbing the impacts and level of desertification, drought and land degradation.

4.2 THIRD NATIONAL REPORT TO UNCCD

UNDP offered financial assistance to countries that have not yet prepared their third national report to enable them to do so. Assistance was requested and secured by the Department of Environment and the same technical working group that drafted the NAP were utilized to also draft the third national report. The report was prepared in 2006.

4.2.1 Public Awareness for UNCCD mainstreamed through the SLM, NCSA, NAP and third national report activities

The implementation of the NCSA provided the opportunity to gather relevant information regarding the activities that Tonga has implemented to address UNCCD. Awareness programmes conducted by the NCSA to distribute this information and of the capacity status of Tonga in addressing its obligation under UNCCD, was the first real opportunity to make the public aware that Tonga is a party to the UNCCD and the Convention’s objectives.

The implementation activities coordinated by the Department of Environment for initiating the preparation of the SLM, NAP and third national report also increased the awareness of relevant agencies to the UNCCD about its obligations and opportunities that are available for Tonga to access in order to meet these obligations.

5.0 STOCKTAKING REVIEW OF TONGA'S IMPLEMENTATION FRAMEWORK FOR UNCCD

5.1 INSTITUTIONAL ARRANGEMENTS AND FRAMEWORK

Institutional framework related to implementation of UNCCD currently in Tonga comprises: governmental institutions, nongovernmental organizations, including those representing the private sector.

5.1.1 Governmental Institutions

5.1.1.1 *Department of Environment (DoE)*

The Department of Environment is the central authority that elaborates policies, strategies and plans for environmental protection and also environmental protection legislation. DoE coordinates and supervises the application of environmental legislation and the implementation of policies, strategies and plans for environmental protection. The DoE is the Government Focal Point for SPREP and the Stockholm Convention and is the Operational Focal Point for the GEF. DoE is also the Executing Agency for the Strategic Action Programme for International Waters, the UNDP/GEF Enabling Activities, the Biosafety Initiative, the NBSAP, POPs, and Ozone Depleting Substances and is the Competent Authority for Tonga under the Waigani Convention^{iv}. The 2004-2007 Corporate Plan for the DoE provides a new mission 'to sustain the integrity of the ecosystems of Tonga to support life and livelihood'.

The Minister for the Environment is the chair for the National Environment Coordination Committee (NECC) which serves as the coordinating body for all environmental projects and programmes in the Kingdom of Tonga. The NECC comprises representatives from other relevant government agencies and NGOs with responsibilities for the conservation and management of Tonga's environment.

5.1.1.2 *Ministry of Agriculture, Food, Forestry and Fisheries (MAFFF)*

MAFFF is mainly responsible for the implementation of Government policy through most aspects of agriculture and food security. The mission of the agricultural and food division of the MAFFF is 'to provide clients with appropriate and timely agricultural technologies and services'. Since agriculture is the dominant land use in Tonga, the MAFFF plays an important role in ensuring the sustainability and profitability of agricultural lands in the Kingdom. MAFFF's main role now is in policy formulation and the provision of technical advice and extension services to stakeholders in the agriculture sector. The MAFFF Research and Extension Division supports the achievement of MAFFF's objectives through participatory approach in the development and transfer of appropriate agricultural technologies, and through the application of effective systems to communicate technical information to clients. The dissemination of technical information and establishment of links with clients is through the Extension staff.

^{iv} The Waigani Convention is the Convention to Ban the Importation by Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region.

The Quarantine and Quality Management Division of MAFFF aims to avoid the introduction of unwanted pests and diseases that could have devastating effects on the local environment and assists in monitoring the health of watersheds on 'Eua from soil erosion and agricultural practices. MAFFF participates in the NBSAP and Biosafety technical working groups and there has been effective collaboration between the Ministry and DoE on several environment projects.

MAFFF's Livestock Division function is to ensure the quality and safety of food from animal and animal products for national consumption. In particular, the Livestock Division function is to ensure the well-being of animals through handling reported veterinary cases; to control and eradicate animal diseases and to promote the animal industry and animal feed in order to reduce imports. It envisions that the animal industry will become a well-developed commercial sector producing quality animal and animal products to local demand and for export if in excess.

The Division of Forestry under the MAFFF manages the utilization of the nation's forest resources in a sustainable manner. Tonga does not yet have a forest policy but this is an undertaking that the division is considering. The Division of Forestry involvement in environmental projects in the past has mainly been through the officer in charge of the Division of Forestry who has been directly involved in the Technical Working Committee of the NBSAP. The Division of Forestry operates tree nurseries producing tree seedlings for planting throughout the country. It also looks after the remaining indigenous forest and protected areas in the Kingdom.

5.1.1.3 Ministry of Lands, Survey and Natural Resources (MLNSR)

The Ministry of Lands, Survey and Natural Resources (MLNSR) has primary responsibility for land ownership and land management issues in Tonga. The Minister of the MLNSR has responsibility for coastal areas under the Lands Act and prior to the establishment of the DoE, this Ministry had responsibility for environment and conservation matters in the country.

The Ministry is responsible for collection, refining, and storage of land data, which includes titles; land use, geodetic, cadastral and topographic areas. Key roles include the effective management of land through accurate recording of ownership registration and transfer land information, sound advice, and timely customer service, and to deliver services to uphold the sustainable management of a) mineral resources, b) water resources, c) coastal zone, d) hydrocarbons & e) geohazards.

The MLNSR works with the DoE and MAFFF too through having areas set aside as reserve lands under the Lands Act and subsequently using the appropriate laws, for example the National Parks Act, to convert the reserve land into a protected area.

5.1.1.4 Central Planning Department (CPD)

The role of the CPD is to offer leadership in the preparation and implementation of national socioeconomic development strategies that will link growth with equity and environmental sustainability and as the primary coordination point for external donors. Furthermore, CPD has a central role to play in the incorporation of sustainable development principles into economic planning through its role in developing the MTDS and the

critical coordination role it can play in bringing environmental and natural resource development agencies to develop balanced development strategies.

5.1.1.5 Ministry of Foreign Affairs (MFA)

The key role of the MFA is to advise on foreign relation matters and administer the government's foreign policy, to promote international cooperation, peace and security and to foster respect for international law and treaty obligations. MFA plays the leading role in coordinating input to, and negotiating, all international conventions. The Secretary of MFA is the National Contact point for UNCCD, and works closely with line agencies that assume responsibility for implementation of convention obligations once signed. It serves as the center for convention-related information but does not have the technical capacity to review or comment on reports prepared by line Ministries for the secretariats of international conventions, including the UNCCD.

5.1.1.6 Department of Crown Law (DCL)

The key role of the DCL is to provide legal advice and legal representation for the State and its agencies in constitutional, international and domestic legal matters and proceedings. The DCL plays a central role in assisting the government to review proposed international agreements and the legal consequences for the government in signing the agreement. The DCL also assists in developing domestic legislation to implement convention obligations, where required or desirable.

5.1.1.7 Ministry of Tourism (MOT)

MOT, with assistance from NZAID is implementing a programme to promote the sustainable development of tourism with an emphasis on nature-based tourism in Tonga. Eco-tourism projects have been established on the islands of Vava'u and 'Eua, both focusing on whale-watching and guided national park tours. Although MOT does not have much say in the way land is managed in Tonga, however, it does provide advice to hotel developers and proprietors relating to the local circumstances and conditions (including environment) that they need to be aware of.

The **Meteorological Division** (MD) of the Ministry of Civil Aviation now has the capacity to provide weather forecasting and predictions, which was previously provided, by other countries such as Fiji, New Zealand or Australia. Although MD has the capacity to forecast droughts and other extreme climatic events, it is currently looking for further assistance to build its capacity to be able to predict extreme events 3 months in advance. There is no specific Act of Parliament relating to meteorological services and the MD is looking for funding to engage a legal expert to draft such an Act. The MD is an active member of the Technical Working Committee of the Climate Change project in Tonga and was involved in the drafting of Tonga's Initial National Communication Report to the UNFCCC.

5.1.1.8 Ministry of Work (MOW)

The Ministry of Work (MOW) key role is to provide appropriate infrastructure for transport such as roads and wharves, and it is also responsible for other public works construction. MOW also has a National Disaster Management Unit, which is responsible for developing and implementing policies and programmes to achieve and maintain an appropriate state of national and sectoral preparedness for coping with all

emergency situations which may affect Tonga; providing assistance and appropriate training programmes and consulting services related to all aspects of disaster preparedness, disaster mitigation, loss reduction, and disaster management.

5.1.1.9 Non-government Organizations (NGOs)

NGOs have an important role in addressing capacity needs within communities. Programmes include education and training in conservation and environmental skills, technical support skills to support the development aspect of the programmes and working closely with communities and implementing on-the-ground activities. NGOs may be a valuable resource on which to draw in addressing capacity constraints identified in the NCSA process. Prominent local NGOs include the TANGO, Tonga Trust, ‘Aloua Ma’a Tonga, Langafonua ‘a Fafine Tonga, Civil Society Forum of Tonga and churches.

The *Tonga Community Development Trust* (TCDT) is one of many local NGOs active in environment work in the Kingdom. It promotes and implements a number of community-based development projects such as the Pesticide Awareness and Sustainable Agriculture (PASA) project which aims to wean farmers away from the use of pesticides and to introduce organic farming as a better alternative. According to TCDT, more and more small farmers are turning away from the use of pesticides but convincing the larger, commercial producers to do the same remains a challenge.

5.1.1.10 Industry Bodies

Tonga also has industry bodies such as business councils, which represent most of Tonga’s industry interests (for example, the Chamber of Commerce and Industry), through to sector specific bodies (such as the Squash Exporters Council). The primary roles of the industry bodies are to promote the industry within Tonga and internationally and to work with the Government to assist in making the operation of industries and Government more efficient, so as to maximize the economic benefits to Tonga and company shareholders. The goodwill and involvement of industry bodies is integral to achieving sustainable development in Tonga. In their representative role, industry bodies represent the stakeholders most involved in development. In their leadership role, industry bodies may be able to facilitate change to increase sustainability of development.

5.2 EXISTING LEGAL AND REGULATORY FRAMEWORK

While there is no existing legislation specifically addressing the concerns of the UNCCD, there is however, some legislation that bears some relevance to the issues addressed in UNCCD. The following legislations currently administered by the Department of Environment and other Government Ministries are found to be relevant to the implementation of the UNCCD.

5.2.1 Environment Impact Assessment Act 2003

The purpose of this Act is to ensure that the environmental implications and any relevant conditions attached to any development are fully described and assessed to reduce possible environmental impacts. It requires that all major projects^v be accompanied by an environment impact assessment^{vi}. All major projects

^v “major project” means any development activity as determined by the Minister under this Act (Section 2).

are to be referred to the Environment Assessment Committee, whose functions include the review and recommendation of conditions to be attached to major projects and the means by which they should be implemented, to the determining authorities.

Under the Act, strict financial and imprisonment penalties are imposed for non-compliance and for offences such as carrying out a development activity without approval. On an administrative note, this is the only Act that gives legal identity to the Department of Environment, whose mandate is to administer all environmental issues.

5.2.2 Forests Act (Cap. 126)

This Act sets aside certain forest areas as reserves by a declaration of His Majesty in Council. It also provides for the control and regulation of such areas by empowering forests officers or police officers to; for example, interrogate any person found in possession of a forest produce^{vii} within a forest reserve or reserved area.

5.2.3 Land Act (Cap. 132) and Land Regulations

This Act governs all the land in Tonga, be it royal estate, crown land or town/tax allotments. Section 22(1)(e) empowers the Minister of Lands to make regulations regulating the cutting, getting and removal of timber, sand, stone, metals, and material on and from Crown Land or any holding.

The Land (Timber) Regulations 1967 allows a person to cut or remove timber from any Crown Land upon the issuance of a permit by the Minister of Lands, subject to the payment of a royalty. An offence against this regulation is punishable by a penalty not exceeding \$10.

The Land (Removal of Sand) Regulations 1936 allows the taking or removal of sand from the foreshore other than the foreshore within the limits of any harbour upon the issuance of a permit by the Minister of Lands. An offence against this regulation is punishable by a penalty not exceeding \$100 or if in default, imprisonment not exceeding 3 months.

The Land (Quarry) Regulations 1985 states that no person should allow his tax allotment to be used as a quarry and prohibits the removal from a tax allotment of any stone. An offence against this regulation is punishable by a penalty not exceeding \$100.

5.2.4 Parks and Reserves Act (Cap. 89)

This Act provides for the establishment, preservation and administration of parks and reserves. Parks are to be administered for the benefit and enjoyment of the people of Tonga with freedom of entry and recreation by all persons. Reserves are to be administered for the protection, preservation and maintenance of any

^{vi} “environment impact assessment” means the study and evaluation of the potential effects that a development project may have on the environment (Section 2).

^{vii} “forest produce” includes trees, timber, firewood, branchwood, poles, bamboos, slabs, chips etc (Section 2).

valuable feature of such reserve, and activities therein. Marine reserves are to be administered for the protection, preservation and control of any aquatic form of life and any organic or inorganic matter therein.

5.2.5 Education Act (Cap. 86)

Section 34 states that the Minister of Education has the power to determine the curricula to be taught in Government Schools. Accordingly, like religious instructions is allowed in Government Schools, the basic principles of environment management and the Conventions could be incorporated into the curricula, which will promote education and awareness of the issues it addresses.

5.2.6 Pounds and Animals Act 1988

This act deals with trespass by cattle (a major problems in some areas such as Vava'u, where foraging pigs cause much damage to land and crops) and their impoundment and it also contains a section on cruelty to animals. "Cattle" in the Act is defined to cover pigs, goats and horses, as well as cattle in the normal sense.

5.2.7 Limited Scope of Existing Laws:

The existing legal framework in Tonga is very limited in scope and does not cover all aspects of desertification and land degradation. Each piece of legislation deals with a specific aspect of the environment and there is no umbrella environmental legislation.

The Environment Impact Assessment Act 2003 may be the widest piece of legislation in terms of its scope in that it deals with any impact on the environment. However, its scope is limited only to environmental impacts caused by "major projects". This term is defined in section 2 of the Act, which empowers the Minister of Fisheries to determine what a major project is.

Section 8(2)(a) to (d) of the Environment Impact Assessment Act lists aspects of the environment which may be affected by major projects, which the Minister of Fisheries should take into account in an assessment of a major project. It includes the ecosystem, areas and landscapes of importance, land, water, sites and areas of importance to the heritage of the people.

Section 8(2)(e) of the Environment Impact Assessment Act requires the Minister of Fisheries to pay particular attention to likely environmental effects of a major project such as (or which may result in) pollution, contribution to occurrence of natural hazards (soil erosion, flooding, tidal inundation, or hazardous substances), introduction of species or types not previously present that might adversely affect the environment and biodiversity, environmental effects that are uncertain and the allocation or depletion of any natural and physical resources.

The Environment Impact Assessment Act seems to provide a comprehensive framework that safeguards and allows assessment of environmental effects before major projects are implemented. However, section 7 of the Environment Impact Assessment Act states that the procedure for the assessment of major projects should be prescribed by regulations. As of date, draft Environment Impact Assessment Regulations are still being processed through the legislative process. Consequently, the assessment framework contained in the

Environment Impact Assessment Act cannot be fully implemented as long as the regulations are not yet put in effect.

Furthermore, a literal interpretation of the term “major project” implies that it is likely to apply to projects of a substantive nature. However, individuals contribute to adverse effects on the environment in living their everyday lives. Their actions, if considered collectively, may be just as detrimental as those caused by major projects.

5.2.8 Existing Laws do not address all Matters in Conventions

Existing legislation does not address all the obligations required of Tonga in the Conventions. In terms of the Convention to Combat Desertification, there are no laws which require for example, the integrating and coordination of the collection, analysis and exchange of relevant short term and long term data and information (Article 16) and the promotion of capacity building (Article 19(1)).

It is important that laws containing the obligations of a State party like Tonga are in place as it will provide legal force on State parties to perform such obligations. Otherwise, State parties would not be legally obliged to abide by the requirements of the Conventions at a national level and this will minimize the effectiveness of the Convention.

However, in the absence of such laws, State parties may voluntarily implement obligations, particularly, if obligations are incorporated into their policy matters or plans. For example, the obligation to develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity under Article 6(a) of the Convention on Biological Diversity may be incorporated into the national plan and/policy of the relevant Ministry or Department.

In light of the discussion of Tonga’s obligations under the Convention for the Combat of Desertification, and the discussion of the existing legal framework and its assessment, it is recommended that a Combat of Desertification Bill be drafted to implement the UNCCD.

Policies, Plans and Strategies

5.3 NATIONAL LEVEL

The main policy and strategy documents guiding the development of the country are covered in the Strategic Development Plan VII, (SDP7). At the institutional level, each line ministry has its own Corporate Plan and Annual Programme which embody the operational strategy of the Ministry to implement the policies and strategies for development provided in the National Development Plan. It consists of a list of projects and activities to be implemented by the Ministry in a particular fiscal year.

Beside line ministries, Cabinet-level island development committees have been formed for each island group. Under the direction of these committees, aid packages providing funding for rural development, institutional and infrastructure facilities, are currently being planned for each respective island group. At the district and village levels, there are elected officers. They serve as a link between the government and the people, passing on government directives, making representations to government on behalf of their

communities, and handling official duties. There are also Non Government Organisations (NGOs) such as churches, FSP, farmers' groups and associations, credit agencies (Tonga Development Bank), parastatals (Tonga Water Board) and representatives of the private sector and agri-industry.

5.3.1 National Action Plan (NAP)

Tonga prepared its NAP in 2006 as a tool to combat desertification, drought and minimise land degradation. Land degradation is more common and easily visible in Tonga than desertification and drought. It is accelerated not only by natural factors but also by anthropogenic factors such as agricultural development, infrastructure activities and harvesting of commercial tree and plant commodities. These factors have been the leading cause for the decline of natural forest cover to a mere 5.5 percent of Tonga's total land area (Pacific Island Economies, 1995).

A factor that hinders forest or land vegetation conservation in Tonga is the lack of formal National Forest Policy or Land Use Policy. This absence has allowed massive forest degradation up to the present times. Furthermore, existing forestry related policies are not sufficient to address the alarming rate of degradation. It was identified in the formulation process for the SLM proposal during consultations, that there is a need for a land use policy to monitor the unsustainable use of land especially land that is leased for a short period for export targeted agricultural cultivation. It was noted by town officers that because there is insecurity in short term leases for most farmers, there is a tendency for them to reap as much benefit as they can from the land in the shortest time ignoring any need for the long term sustainable management of the land. Land leasing in all forms needs adequate reviewing. There has also been a recent initiative funded by FAO to formulate a national forestry policy. NAP activities which include undertaking nationwide consultations and securing political support to endorse draft document will help ensure the effectiveness of this policy when implemented.

Also included in the NAP are actions that will assist in strengthening related institutions to combat forest degradations and increase community education and awareness at all levels essential to any rural development. This involves actions such as promoting active tree planting programmes, making more opportunities available for formal training of government and private sector communities, and creating formal environmental related programmes at the tertiary level focusing on specific studies in areas such as botany, plant anatomy and health which are areas of high priority national training needs. Upgrading of the current Geographical information system (GIS) of the Ministry of Lands and Survey and Natural Resources to include locating and displaying areas in Tonga that are minimum to severe in land degradation status and the need to train staff to update the system regularly were identified in the NAP.

Land degradation in the form of soil erosion is an adverse effect of land and forestry clearance for the various uses mentioned. This coupled with high intensity rainfall that often accompanies tropical cyclones accelerates the level of erosion especially in the outer islands of high and steep landforms like 'Eua and Vava'u. Ecosystems are affected when topsoil is transported in concentrations of sediment and debris causing contamination of marine water and its inhabitants. Amongst its actions to combat desertification and drought and minimise land degradation, NAP also includes several strategies to curb the rate of soil erosion. These include a short term target of promoting the adoption of mulch technology by Tongan farmers, which should help secure high crop yields; a long term target of protecting the 43 km² of high to

very high desertification risk land area of Tonga by promoting soil conservation technologies such as hedgerows on hill slopes, longer fallow periods, tilling of soil only when it's not raining, crop rotation, use of organic and mineral fertilizer; and also by empowering farmer's groups, women and youth groups, NGOs and other communal groups to take full responsibility as caretakers of Tonga's soil resources by minimizing all the desertification and land degradation risks.

Desertification or desert ecosystems are not immediately associated with island countries such as Tonga. However, due to climate changes and droughts, Tonga is affected by desertification noticeable in water resources. Changes in rainfall patterns mainly occur in association with tropical cyclones and El Nino events. The long term records show a decreasing rainfall trend (fig 3). During the dry season, rainfall in the dry zone of Tonga (Ha'apai group of islands and Southern Tonga) is lower than normal. A few months of below average rainfall can cause drought conditions. Below average rainfall in Tonga and persistent prolonged droughts are associated with El Nino events. These conditions can be severe if the event is strong and particularly if the precipitation during the wet season has been lower than normal. The 1997/1998 strong El Nino event caused drought in Tonga especially affecting Tongatapu and the Ha'apai group.

Extreme events associated with tropical cyclones such as storm surges, high seas and gale force winds cause increased coastal erosion and inundation of low lying areas these adverse effects will be exacerbated by projected mean sea level rises. There are already examples of these occurrences on Tongatapu especially during past El Niño episodes. Storm surges during 1982/1983 and 1997/1998, cyclone season (November–April) and El Nino events, caused inundation of land in the low lying areas of the northern parts of Tongatapu, especially the western part of Nuku'alofa (Sopu, Hala'ovave and part of Kolomotu'a on the lagoon side). Overtopping by waves or inundation by high sea levels has caused seawater intrusion into freshwater lenses hence reducing the availability of potable freshwater.

Droughts can significantly hinder the long-term economic growth of smaller countries like Tonga. Indirect and secondary effects on the local and national economy may include reduction in family income, decline in production and national income. Drought has caused severe economic loss and social disruption in Tonga according to past events. The 1997/1998 drought caused a loss in agricultural production and water shortages which was felt in most parts of Tongatapu and Ha'apai. Past records show a number of tropical cyclones and drought, which have severely affected Tonga causing extensive damages to agriculture and infrastructure and affecting 20 per cent of Tonga's population and economic loss. The initial relief and rehabilitation cost for Vava'u alone after tropical cyclone Waka was approximately T\$80 (US\$40) million and for the drought in 1997/1998, the government spent about T\$270 000 to ship water to Ha'apai to relieve water shortages. These costs are indicative of the huge burden on the Tongan Government and its people who go through periodic suffering and losses. The NAP outlined several key actions such as the need to upgrade meteorological instruments to ensure accurate and timely weather and climate information. Also in need of upgrading and strengthening are national and international meteorological communication systems links for efficient reception and dissemination of warnings and advisories to government and public sectors. Implementation of these actions will result in a more effective warning system that would maximize preparedness and response, reducing government costs and mortality numbers.

Indirect policies with relevance to desertification, drought and land degradation

There also exist current policies that have indirect relations to the UNCCD that have been approved by Cabinet or Privy Council. With financial assistance from the ADB, IUCN and SPREP, the Kingdom of Tonga, in 1993 prepared an Action Strategy for managing its environment. This followed revisions to an earlier Environment Management Plan for the Kingdom for the period 1989-1990. The Action Strategy outlined key environmental issues in the Kingdom and identified strategies to address them. As such, the strategy was an important first step to ensuring sustainable economic development and environmental management for the Kingdom of Tonga.

The already concluded UNDP/GEF-funded South Pacific Biodiversity Conservation Programme (SPBCP) provided funding support for the establishment and management of the Ha'apai Conservation Area Project since 1995. An important aspect of the project was the building of capacity within the then Ministry of Lands, Survey and Natural Resources and the communities on Ha'apai to jointly manage the resources of the conservation area. An inventory of the forest resources on the islands of Kao and Tofua in Ha'apai was undertaken as part of this project.

In 1992, the University of the South Pacific (USP), with financial assistance from UNEP, carried out a study on the implications of climate change and sea level rise for the Kingdom of Tonga. Some key recommendations from this study included, (i) the dissemination of information about appropriate sea wall design; (ii) that mangrove clearing be curbed by legislation; (iii) that current legislation covering coastal sand mining be enforced, and (iv) that a national strategy be developed with regard to future climate change and sea level rise.

From 1998 to 2001, the Government of Australia, through AusAID, funded the Tonga Environmental Management and Planning Project (TEMPP) which aimed at strengthening the government's capacity to implement sustainable development principles, procedures and standards. The specific objective of this project was to strengthen institutional capacity especially of MLSNR to carry out its environmental mandate. Capacity building activities carried out under the TEMPP included training needs assessments, on-the-job training, short term attachments to relevant agencies in Australia, and two graduate scholarships in Australia and Fiji.

The Strategic Action Programme for the International Waters funded by GEF, UNDP and SPREP which is currently coordinated by the Department of Environment addresses waste management issues, underground and coastal waters pollution. The international waters project established a pilot project in Nukuhetulu village on composting of household waste to be used as organic fertilizer for their gardens and agricultural crops. This addresses the issue of overuse of pesticides on agricultural crops that was identified in the Sustainable land management proposal as one of the causes of land degradation in Tonga. The International Waters project also with the assistance of the Tonga Water Board and Ministry of Lands, Survey and Natural Resources drafted a Water Management Bill that will ensure the cleanliness and sustainability of Tonga's underground water resources.

The Department of Environment is the executing agency for the UNDP/GEF Tonga Climate Change Enabling Activities project. National activities that have been conducted focused on the preparation of



Tonga's First National Communications report, green house gas inventory, mitigation and analysis, vulnerability and adaptation and a national action plan. The Climate change project addressed climatic changes regarding natural disasters and mitigation measures to minimize the impacts of these natural disasters. A climate change policy has been approved by Cabinet in January 2006.

The Department of Environment is the executing agency for the National Biodiversity Strategy and Action Plan project aiming at conservation of biodiversity and its habitats. National activities include stocktaking, identification and analysis of conservation strategies. An important output of the project is the preparation of Tonga's action plan to conserve its biodiversity. This action plan when implemented will address minimization of land degradation by conservation of forest and floral biodiversity.

The Department of Environment has the mandate to coordinate and execute the implementation of the Phase II of the Management of Persistent Organic Pollutants in Tonga. The activities to be carried out are divided into four stages: inventories of PCBs and POP wastes; collection, packaging and shipping to disposal facility; destruction of wastes and project and contract management. It was identified that the majority of persistent organic pollutants are agricultural chemicals. Although this project does not conduct ground activities for the minimization of pesticide overuse in agricultural practices in Tonga, it does raise public awareness of the negative environmental and health impacts of pesticides regarded as POP's.

A one-year GEF/UNEP-supported Biosafety project provided assistance for the development of a National Biosafety Framework for the Kingdom of Tonga. National inventories have been completed and stakeholder consultations were carried out. A capacity needs assessment has been conducted while biosafety management framework and biosafety legislation are currently being developed.

Tonga's report on the implementation of the Barbados Programme of Action (Report to WSSD) provides a detailed and comprehensive account of progress made by the government of Tonga in implementing the recommendations and outcomes of the United Nations Conference on Environment and Development (UNCED). Tonga's First National Status Report on the Millennium Development Goals (MDG) also provides a useful assessment of the current status of implementation of the goals, targets and indicators of the MDG. It identifies what the issues/ problems are, analyzes the actions needed to be taken, and outlines government's policy response to these. In essence, the report examines how achievable the goals, targets and indicators are within the context of Tonga's current social, economic and financial climate.

5.3.2 Operational Focal Point for Global Environment Facility (GEF)

The Department of Environment is the operational focal point for the Global Environment Facility (GEF), the global mechanism that funds the implementation of the GEF focal area of land degradation under the Convention. It is also the funding source for other areas such as climate change, biodiversity, international water and renewable energy. Complementary to this mandate, the Department provides the technical input to the Ministry of Foreign Affairs in environmental matters/issues that are addressed by relevant agency of the United Nation (i.e. UNDP, UNEP, and UN Commission on Sustainable Development (CSD)) and regional inter-governmental organization.

5.3.3 National Environmental Coordination Committee (NECC)

The NECC was established by a Cabinet Decision in January 2005 as the single committee to coordinate and approve all activities of international funded project currently executed by the Department and future projects also. The NECC is chaired by the Minister of Environment and the Director of Environment acts as Deputy Chairman. The members of the NECC comprise of Heads of Government agencies and the president of the umbrella Non-Government Organisation (TANGO). Other members included are the Director of Health, Director of Agriculture and Food, Secretary for Finance, Secretary for Labour, Commerce and Industries, Secretary for Lands, Survey and Natural Resources, Secretary for Foreign Affairs, Secretary for Fisheries, Solicitor General, Head of the Technical and Sustainable Development Division within the Department of Environment and the Project Coordinator of the project concerned also within the Department acts as Secretary.

The Director of MAF and Secretary of MLSNR, which are among the key agencies in implementation of UNCCD obligations are members of the NECC. It is anticipated given that the Department will be implementing and coordinating the SLM and NAP activities, the NECC will have the primary responsibility of managing the implementation of these obligations under the Convention. However, since its establishment the NECC has not conducted an official meeting due to the absence of some of its core members. This is a problem that has to be addressed.

5.3.4 Regional Level

5.3.4.1 UNCCD Regional Action Plan

During Pacific regional consultations in 2005 and 2006 there were initiatives to draft an action plan specifically for the combined Pacific islands to address desertification, drought and land degradation. Despite showing support for the initiative, it was agreed that countries first address and complete their respective national action plans.

5.4 STAKEHOLDER PARTICIPATION AND EDUCATION

The successful implementation of UNCCD activities relies on effective stakeholders' participation and education. It is envisaged that a national consultation workshop be conducted to introduce the convention to key stakeholders including town and district officers and other non-government organizations. The views of these stakeholders and experiences will be taken into account and included in the formulation of the National Plan of Action. It is expected that this stakeholder involvement and participation will continue with the establishment of a technical working group for detailed project preparation and implementation.

5.5 MONITORING AND EVALUATION

The key Ministries Corporate Plans is the Department's 3 year strategic plan for the 2006-2008 planning period. The purpose of the Plan is to outline the programmes and objectives of the Department of Environment in addressing the Government's National Development Priorities (SDP 7), specifically, the Strategic Result Area (SRA) 8 – 'the sustainable utilisation and management of natural resources and the environment'. The Plan also formally describes the future direction of the Department, and provides a

management tool for senior officers of the Department to monitor its progress through its Annual Management Plans.

The Annual Management Plan defines the activities that the Department will implement each year to achieve the Corporate Plan programmes and objectives. The annual plans activities are presented on an output basis. It is expected that the annual management plans and annual reports of relevant ministries will provide adequate information for monitoring and evaluation of UNCCD activities. However with the proposed set up of a specialized unit and steering committee for UNCCD, regular reporting from the unit should guide monitoring and evaluation activities.

5.6 RESOURCES

5.6.1 Financial Resources

Under Government Budgets funds granted to the Ministries and agencies most relevant to addressing and combating desertification, drought and minimizing land degradation have always been inadequate. For the 2005/2006 financial year, the Department of Environment was allocated approximately \$TOP 400,000. This amount was to cover the operational costs and salaries of staff at the Nuku'alofa, Vava'u and Ha'apai Offices. The Department has experienced significant financial difficulties and effectively addressing environmental issues that contribute to land degradation has been unrealistic with insufficient government funding. Thus, the Department needs to seek donor funds to enable them to better address these land degradation issues.

The Ministry of Agriculture, Food, and Forestry for the financial year 2003/2004 received TOP \$6,732,311 from the government budget allocation however about 46.5 % of this was for salaries, and operational costs accounted for the difference. Lack of funding has inhibited the development of the agriculture sector in Tonga. Lack of development funds for appropriate supporting infrastructures (e.g. fumigation, cool storage and blast freezers) has inhibited trading and investment in agriculture. This highlights the need for the Ministry to prioritize and find an optimal balance between increasing demands for agricultural exports (considering the economic situation), and commitment to food security sustainability.

Ministry of Agriculture, Forestry and Food Budget Estimate 1998/99 – 2003/04

	1998/99	1999/2000	2000/2001	2001/2002	2003/2003	2003/04
Salary	2,220,657	2,842,088	3,852,542	4,304,266	3,032,129	3,133,774
Operation	4,138,475	4,986,207	4,028,540	3,658,046	3,394,888	3,598,537
TOTAL	6,359,132	7,828,295	7,881,082	7,962,312	6,427,017	6,732,311

5.6.2 Human Resources

The Department of Environment currently has 14 established staff working in the various sections of the Department. Two are Officers in charge of the Departments outer island offices in Vava'u and Ha'apai. In the Department's structure, some sections are not yet established due to lack of staff to coordinate the activities of that section. One of the aims of the Department is to increase the number of qualified established staff. There are 15 contracted members of staff that are employed under the GEF funded



projects executed by the Department. They are only contracted for the duration of the project and upon completion, leave the Department.

The Tonga Visitors Bureau has about 44 permanent staff and 23 of them are at the senior officer level. There are offices in Vava'u, Ha'apai and 'Eua which are responsible for the development of tourism in those regions. At present the Department has sufficient numbers of staff to carry out its normal roles especially at the senior levels. The Tonga Visitors Bureau has made efforts to improve its capability to perform its whole range of responsibilities. Most of the vacancies at the senior levels have been filled by employees with the appropriate skills and qualifications. The technological capacity of the Department has also been upgraded since 2001. This has made substantial impact on the efficiency of staff performance. In addition, aid donors have also provided technical expertise on short-term basis to supplement the skills available at the Tonga Visitors Bureau. The Tonga Visitors Bureau is benefiting from projects funded by the aid donors in the tourism sector.

6.0 NATIONAL ISSUES AND PRIORITIES IN UNCCD

The stocktaking phase of this Project assessed Tonga's capacity to implement the United Nations Convention to Combat Desertification, and noted the following constraints hindering the fulfilment of obligations assumed under Convention. Table 3 summarizes the major issues identified and rated according to priorities.

Table 3: Issues Prioritization Matrix

ISSUES	Priority Ranking (High-1, medium-2, low-3)
1. The absence of a Unit for Convention's Implementation, and the non- operation of a National Committee to combat drought, land degradation and desertification. Current activities by some of the key ministries are on ad hoc basis, and lack co-ordination.	1
2. The lack of a clear National Strategy to Combat Drought, Land Degradation and no National Action Programme (NAP) drawn up yet as requested of member countries. The major activities developed at present in CCD relevant fields rely exclusively on general sectoral policies or strategies in only some of the respective Ministries.	1
3. There is low level of awareness or lack of knowledge of UNCCD in key agencies and stakeholders.	1
4. There is no specific system in place for early warning of drought and land degradation to respond to the drought effects prevention and lack of any system for monitoring land degradation, ecosystems condition, and social condition in the affected areas.	1
5. Lack of programmes and specific measures for raising public awareness of the effects of drought, land degradation or desertification.	1
6. Lack of specific measures for improving the economic environment in the areas affected by drought, land degradation or desertification.	1
7. Lack of research programmes for problems specific to drought, land degradation and desertification.	1
8. Lack of a system for data collecting, transmitting, processing and periodical reporting of the implementation status for the National Action Programme; lack of transparency of the relevant institutions.	2
9. Reduced knowledge and insufficient implementation of long-lasting practices for land usage in the areas affected by drought, land and ecosystems degradation and desertification.	1
10. Lack of system of parameters to evaluate risks and identify the areas affected by degradation.	2
11. Deficiencies in the educational system of schools, and inappropriate school curricula and education programmes with regards to social and economic issues, market requirements at the local and national level.	1
12. Insufficient number of permanent education and improvement programmes for the active specialists in the field of agricultural and environmental consultancy with regards to drought, land degradation and desertification related issues.	1
13. Insignificant activities carried on by nongovernmental organizations for CDD specific fields and lack of communication and cooperation with the public authority so that the measures for dissemination and raising public awareness could be efficient.	2



7.0 UNCCD CAPACITY NEEDS

The analysis of implementing the obligations assumed under United Nations Convention to Combat Desertification emphasized a series of capacity problems at the systemic, institutional and individual level. In Table 4 a Capacity Constraints Matrix revisits the priority areas in terms of capacity issues at the individual, institutional and system levels with proposed improvement measures.

Table 4: Major Issues and recommended measures at Systemic, Institutional, and Individual Level

	Problem/Issue	Measures at Systemic Level	Measures at Institutional Level	Measures at Individual Level
1.	The absence of a Unit for Convention's Implementation, and the non-operation of a National Committee to combat drought, land degradation and desertification. Current activities by some of the key ministries are on ad hoc basis, and lack co-ordination.	<ul style="list-style-type: none"> • Improve institutional support by setting up a special Unit for Convention's implementation; • Need to set up an operational National Committee to co-ordinate Combat Drought, Land Degradation and Desertification 	<ul style="list-style-type: none"> • Establish programme, budget and support staff at key ministries 	
2	No unified national strategy and respective action plan for combating desertification/land degradation is in place	<ul style="list-style-type: none"> • It is necessary to update public policy on combating desertification/land degradation and develop respective complex state action plan • Develop and formulate a National Action Programme to combat drought, land degradation and desertification 	<ul style="list-style-type: none"> • Department of Environment, Ministries of Agriculture and Forestry, shall ensure development of action plans 	<ul style="list-style-type: none"> • Planning Specialists should be identified and trained within the mentioned institutions
3.	Desertification/land degradation problems are not integrated into sectoral and other development plans	<ul style="list-style-type: none"> • Improvement in the capacity of planning, validation and implementation of strategies and programmes on drought, land degradation at the national level. 	<ul style="list-style-type: none"> • Department of Environment, Ministries of Agriculture and Forestry, shall develop special proposals for improvement of planning practices 	<ul style="list-style-type: none"> • Government seek technical experts, and ensure their respective training/retraining
4.	Lack of specific legislation for UNCCD and some existing legislation need revision and enforcement.	<ul style="list-style-type: none"> • The legislative framework shall be assessed by the experts, who will provide their advices for its harmonization and integration, and development of respective amendments • Need for appropriate legislations and land tenure and land use policies in place to prevent unnecessary exploitation of land. 	<ul style="list-style-type: none"> • Department of Crown Law and relevant ministries shall ensure implementation of the mentioned measures. 	



	Problem/Issue	Measures at Systemic Level	Measures at Institutional Level	Measures at Individual Level
		<ul style="list-style-type: none"> Enforcement and strengthening of laws related to illicit mining of sand activities which can contribute significantly to land degradation. 		
5.	The database used for assessment of desertification/land degradation processes and respective decision making is insufficient, obsolete and not reliable.	<p>The following activities shall be performed:</p> <ul style="list-style-type: none"> identification of informational needs and development of general indicators and supervision methodologies; identification of the bodies responsible for monitoring and collection/processing/storage of information; 	<ul style="list-style-type: none"> Key ministries (Environment, Agriculture, Forestry) should develop the respective legal proposals, ensure collection and consolidation of information concerning desertification/land degradation 	<ul style="list-style-type: none"> Staff responsible for collection and processing information should be trained
6.	Inadequate research programmes for problems specific to drought, land degradation and desertification	<ul style="list-style-type: none"> Increase the capacity of relevant organizations via the necessary facilities/equipment and resources to undertake appropriate research. Develop methods to measure and collect data related to the water requirements of the different crops, and the water demands at the different stages of crop growth and development. 	<ul style="list-style-type: none"> Key ministries (Environment, Agriculture, and Forestry) should develop research proposals that are of relevance to the implementation of UNCCD and related issues and, provide appropriate technological advice to the public. Through the effective participation of land users/farmers at all stages of research, development and testing of improved technology/practices 	<ul style="list-style-type: none"> Research Staff should be trained
7.	There is no specific system in place for early warning of drought and land degradation to respond to the drought effects prevention	<ul style="list-style-type: none"> Introduce and implement effective systems for the forecasting of drought and the development of effective early warning and forecasting systems, which will include the development of drought indices. 	<ul style="list-style-type: none"> Department of Civil Aviation shall develop special proposals for system improvement 	<ul style="list-style-type: none"> Research Staff should be trained
8.	Public awareness on desertification/land degradation issues is very low and effective land use traditions are lost.	<ul style="list-style-type: none"> Develop active national and village environmental education campaign on sustainable agriculture, forestry and land rehabilitation. Publication of resources in books, leaflets, fliers, and videos. Production of materials that would be applicable for the schools to incorporate into their curriculum. Improvement in information and communication through including data and 	<ul style="list-style-type: none"> Key ministries (Education, Environment, Agriculture, Forestry) shall ensure development of respective legislative amendments, educational programmes, guidelines and informational materials 	<ul style="list-style-type: none"> The respective personnel shall be trained and/or retrained



	Problem/Issue	Measures at Systemic Level	Measures at Institutional Level	Measures at Individual Level
		<p>information concerning drought, land degradation and desertification - related issues in Tonga.</p> <ul style="list-style-type: none"> To identify areas most at risk to land degradation, through land capability and soil suitability maps and advise landowners accordingly. 		

8.0 CONCLUSION AND RECOMMENDATIONS

The thematic assessment focused on the identification of issues related to the implementation of the UN Convention to Combat Desertification, and further on analyzing the related capacity problems with proposed actions.

Institutional arrangements to facilitate its commitments and obligations under the UN CCD

In order for Tonga to effectively monitor compliance with the provisions of the UNCCD there is urgent need to reconsider the official focal point into a Ministry that will best serve the convention requirement and that has the capacity to implement prescribed obligations. MAF plays a central role in land management and degradation issues in Tonga and should be mandated with the Focal Point responsible for the national commitments under the UNCCD. However, substantial collaboration between all government departments is required, especially with the Department of Environment and Ministry of Forestry, the land related departments in the MLNSR.

The analysis of constraints has highlighted a need to clearly articulate responsibilities and resolve discrepancies between organizational responsibilities and mandates. There is a need to facilitate co-ordination of planning and information sharing between Government departments, NGOs, donors and research bodies to reduce duplication and maximise benefits derived from these collective efforts.

Recommendation:

That a special unit should be set up and supported by a proactive Working Committee/Task Force. The Committee will be responsible for the expeditious development of the NAP and other key activities of UNCCD. Proposed Working Committee should comprise:

- Focal Point - Ministry of Agriculture and Food*
 - Secretariat - Department of Environment*
 - Member - Division of Forestry*
 - Member - Ministry of Lands, Survey and Natural Resources*
 - Member - Ministry of Work/ Disaster Management Committee*
 - Member - Representative from NGOs/Private Sector*
- (can co-opt members from others when required)*

Improve Tonga's capacity to meet its Reporting Requirements under the UN CCD

There is urgent need to strengthen the national capacity to meet its reporting commitments under the UNCCD and activities will be focused on increasing autonomy and sustainability of reporting measures. Key activities will include preparation and distribution of quarterly reports for the COP by the Focal Point.

Recommendation:

That the Working Committee/Task Force be responsible for the expeditious development and reporting commitments of UNCCD.

Capacity strengthening to ensure research and monitoring in the area of land degradation, mitigation and rehabilitation

Structures exist for the facilitation and coordination of research in Tonga and there is an urgent need for capacity strengthening relevant Ministries to make them more effective in terms of providing appropriate researches. This would help to strengthen the information basis upon which to inform policy decisions and revisions. This is dependant upon appropriate, sustained financing mechanisms and a coordinated focused definition of the national priorities.

Recommendation:

Adequate resources allocated to support appropriate researches by relevant Ministries in the area of land degradation, mitigation and rehabilitation.

Appropriate awareness programmes for the public on land degradation

There is a need for co-ordinated efforts in disseminating information with the aim of increasing awareness of the effects of land degradation as well as the appropriate rehabilitation and mitigation measures. This should be structured around information pertaining to the causes of land degradation and most importantly technologies which would mitigate and rehabilitate the effects of land degradation.

Recommendations:

- *Strengthening school curricula 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.*
- *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 strategy that re-instigates and invigorates use of radio and other media.*
- *Identify key land users such as farmers and ensure involvement in the planning, implementing and monitoring of land management programmes.*

Financial capacity to fulfill its obligations and commitments under the UNNCD

There is a need for the commitment of financial resources adequate to sustain activities in-line with the commitments assumed by the UN Conventions and in the realization of sustainable development objectives.

Recommendations:

- *Financing and funding support by the Secretariat to assist stakeholders in accessing financial mechanisms in support of UN CCD related activities;*
- *Government support activities under the Conventions; and other financial mechanisms and incentives.*

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