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TONGA



COUNTRY PROFILE



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INTRODUCTION - 2002 COUNTRY PROFILES SERIES

Agenda 21, adopted at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, underscored the important role that States play in the implementation of the Agenda at the national level. It recommended that States consider preparing national reports and communicating the information therein to the Commission on Sustainable Development (CSD) including, activities they undertake to implement Agenda 21, the obstacles and challenges they confront, and other environment and development issues they find relevant.

As a result, in 1993 governments began preparing national reports for submission to the CSD. After two years of following this practice, the CSD decided that a summarized version of national reports submitted thus far would be useful. Subsequently, the CSD Secretariat published the first Country Profiles series in 1997 on the occasion of the five-year review of the Earth Summit (Rio + 5). The series summarized, on a country-by-country basis, all the national reports submitted between 1994 and 1996. Each Profile covered the status of all Agenda 21 chapters.

The purpose of Country Profiles is to:

- Help countries monitor their own progress;
- Share experiences and information with others; and,
- Serve as institutional memory to track and record national actions undertaken to implement Agenda 21.

A second series of Country Profiles is being published on the occasion of the World Summit on Sustainable Development being held in Johannesburg from August 26 to September 4, 2002. Each profile covers all 40 chapters of Agenda 21, as well as those issues that have been separately addressed by the CSD since 1997, including trade, energy, transport, sustainable tourism and industry.

The 2002 Country Profiles series provides the most comprehensive overview to date of the status of implementation of Agenda 21 at the national level. Each Country Profile is based on information updated from that contained in the national reports submitted annually by governments.

Preparing national reports is often a challenging exercise. It can also be a productive and rewarding one in terms of taking stock of what has been achieved and by increasing communication, coordination and cooperation among a range of national agencies, institutions and groups. Hopefully, the information contained in this series of Country Profiles will serve as a useful tool for learning from the experience and knowledge gained by each country in its pursuit of sustainable development.

NOTE TO READERS

The 2002 Country Profiles Series provides information on the implementation of Agenda 21 on a country-by-country and chapter-by-chapter basis (with the exception of chapters 1 and 23, which are preambles). Since Rio 1992, the Commission on Sustainable Development has specifically addressed other topics not included as separate chapters in Agenda 21. These issues of trade, industry, energy, transport and sustainable tourism are, therefore, treated as distinct sections in the Country Profiles. In instances where several Agenda 21 chapters are closely related, for example, chapters 20 to 22 which cover environmentally sound management of hazardous, solid and radioactive wastes, and chapters 24 to 32 which refer to strengthening of major groups, the information appears under a single heading in the Country Profile Series. Lastly, chapters 16 and 34, which deal with environmentally sound management of biotechnology, and transfer of environmentally sound technology, cooperation, capacity-building respectively, are presented together under one heading in those Country Profiles where information is relatively scarce.

At the release of this publication, Tonga had updated the chapters on the Social Aspects of Sustainable Development in its Country Profile. The remaining chapters were updated and therefore they contain information that is valid.

To the extent that the relevant chapters are updated by Tonga, they shall be included in the final version of the Profile that will be posted to the United Nations Sustainable Development website:

<http://www.un.org/esa/agenda21/natlinfo>

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LIST OF COMMONLY USED ACRONYMS

ACS	Association of Caribbean States
AMCEN	Africa Ministerial Conference on the Environment
AMU	Arab Maghreb Union
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CARICOM	The Caribbean Community and Common Market
CBD	Convention on Biological Diversity
CIS	Commonwealth of Independent States
CGIAR	Consultative Group on International Agricultural Research
CILSS	Permanent Inter-State Committee for Drought Control in the Sahel
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COMESA	Common Market for Eastern and Southern Africa
CSD	Commission on Sustainable Development of the United Nations
DESA	Department for Economic and Social Affairs
ECA	Economic Commission for Africa
ECCAS	Economic Community for Central African States
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean
ECOWAS	Economic Community of West African States
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ESCAP	Economic and Social Commission for Asia and the Pacific
ESCWA	Economic and Social Commission for Western Asia
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FIDA	Foundation for International Development Assistance
GATT	General Agreement on Tariffs and Trade
GAW	Global Atmosphere Watch (WMO)
GEF	Global Environment Facility
GEMS	Global Environmental Monitoring System (UNEP)
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GLOBE	Global Legislators Organisation for a Balanced Environment
GOS	Global Observing System (WMO/WWW)
GRID	Global Resource Information Database
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IAEA	International Atomic Energy Agency
ICSC	International Civil Service Commission
ICSU	International Council of Scientific Unions
ICT	Information and Communication Technology
ICTSD	International Centre for Trade and Sustainable Development
IEEA	Integrated Environmental and Economic Accounting
IFAD	International Fund for Agricultural Development

IFCS	Intergovernmental Forum on Chemical Safety
IGADD	Intergovernmental Authority on Drought and Development
ILO	International Labour Organisation
IMF	International Monetary Fund
IMO	International Maritime Organization
IOC	Intergovernmental Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
IPCS	International Programme on Chemical Safety
IPM	Integrated Pest Management
IRPTC	International Register of Potentially Toxic Chemicals
ISDR	International Strategy for Disaster Reduction
ISO	International Organization for Standardization
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature and Natural Resources
LA21	Local Agenda 21
LDCs	Least Developed Countries
MARPOL	International Convention for the Prevention of Pollution from Ships
MEAs	Multilateral Environmental Agreements
NEAP	National Environmental Action Plan
NEPAD	New Partnership for Africa's Development
NGOs	Non-Governmental Organizations
NSDS	National Sustainable Development Strategies
OAS	Organization of American States
OAU	Organization for African Unity
ODA	Official Development Assistance/Overseas Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
PRSP	Poverty Reduction Strategy Papers
SACEP	South Asian Cooperative Environment Programme
SADC	Southern African Development Community
SARD	Sustainable Agriculture and Rural Development
SIDS	Small Island Developing States
SPREP	South Pacific Regional Environment Programme
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNCED	United Nations Conference on Environment and Development
UNCCD	United Nations Convention to Combat Desertification
UNCHS	United Nations Centre for Human Settlements (Habitat)
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDRO	Office of the United Nations Disaster Relief Coordinator
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change

UNFF	United Nations Forum on Forests
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNIFEM	United Nations Development Fund for Women
UNU	United Nations University
WFC	World Food Council
WHO	World Health Organization

WMO	World Meteorological Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization
WWF	World Wildlife Fund
WWW	World Weather Watch (WMO)

CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES

Decision-Making: The Ministry of Foreign Affairs is the official arm of the Government dealing with most aid assistance to Tonga especially bilateral assistance from Australia, New Zealand and Japan. Multilateral assistance is coordinated by various ministries: Assistance from regional organizations such as the Forum Secretariat and the Secretariat to the Pacific Community is coordinated by the Ministry of Lands, Survey and Natural Resources; the Ministry of Fisheries coordinated assistance from Forum Fisheries Agencies; the Ministry of Finance coordinates assistance from international financial institutions such as the Asia Development Bank (ADB), World Bank and International Monetary Fund (IMF); and, the Central Planning Department coordinates assistance from Tonga's bilateral partners with the exception of the EU, which is coordinated through the Ministry of Foreign Affairs.

At present, there are no mechanisms in Tonga whereby all these different kinds of assistance mentioned above are coordinated. Also, there are no mechanisms to coordinate efforts concerning international cooperation/development assistance for sustainable development.

Each of the ministries mentioned above manages funds from their respective sources. The Central Planning Department has the mandate for coordinating development in Tonga. Unfortunately, the Department is only able to do so within the areas of bilateral assistance and some multilateral assistance that comes through the Department such as funds from United Nations Development Programme (UNDP).

The Government ministries are the lowest levels of public authority to which decisions with regards to international relations and cooperation are delegated. Whilst this is so, ministries are only able to recommend to government what international cooperation should the government adopt with final decision being with Cabinet and the Ministry of Foreign Affairs. On the bilateral scene, many of Major Groups are consulted, including: NGOs; Business and Industry; Local Authorities; Youth; and Women in particular (see Chapter 24, "*Strengthening the Role of Major Groups: Women*," of this Profile for more information on Women's involvement in decision-making on international programmes). See also under **Status**.

Programmes and Projects: Whilst Tonga is eligible for Global Environment Facility (GEF) assistance; the country has recently accessed such funds although there has been difficulty in implementing projects that have both local and global environmental significance.

UNDP currently has one project under GEF, which is the TON/99/G31-Climate Change National Communication (Enabling Activity). The second project, which is currently in the process of being finalized for submission to New York, is the National Biodiversity Conservation Strategy Action Plan and First Report to the COP. Under the UNDP Multilateral Programme with the Government of Tonga, there exist two projects: TON/97/001- Gender Support Facility; and TON/98/001- National Retirement Benefit Scheme.

All assistances from Tonga's main bilateral partners, Australia, New Zealand and Japan, aim at promoting sustainable development. However, the focus of each partner varies. Japan now focuses on assistance to the grassroots and large projects will only be considered if it is of environmental significance such as the "Nuku'alofa, Water Supply Project." Australia and New Zealand's assistance continue to focus on human resource development through scholarships and training.

The Grant Assistance for Grassroots Project is made available to cover the cost of relatively small projects for which assistance under the Grant Assistance for General Projects has been difficult to obtain. This year, the Government of Japan also has a General Grant Aid Project in Tonga, the Nuku'alofa Water Supply Improvement Project for a total of approximately T\$18.4 million, its main objectives are: improving such as replacement of deteriorated distribution capacities and supply pressure and renewal of the disinfections system; seeing to establish renewal of the disinfections system; and establishing leakage control and maintenance programmes.

The Australian Government seeks to continue its work to help the Government of Tonga to effectively implement key elements of its development plan. Support provided within the policy and investment thrust of the plan. However, underlying these two broad strategies is the commitment to assist the Government to address public sector reform. Aid assistance also supports education and training, health and an environment project. In addition, Australia provides Aid on a geographic basis to the Ha'apai island group, aiming at improving the quality of life of the area through a combination of infrastructure and training programmes.

The Government of New Zealand's Bilateral assistance/ODA (NZODA) to Tonga focuses on: Human Resource Development; Development of State Owned Enterprises and Private Sector; Regional Development; Small Projects; Health; and Civil Aviation; and, Law and Order. New Zealand supports the activities mentioned above because of their contribution to lasting improvements in the economic, social and political conditions of men, women and children in Tonga. This means that support for economic strategies which are equitable, maintain the natural resource base and the quality of the environment and provide the greatest level of self-reliance possible.

The institutional strengthening projects are provided under the AusAID and NZODA mainly through technical assistance to build capacity in the design and implementation of the economic policies, public administration, etc.

AusAID provides: Tonga Fisheries Management Project; Tonga Tourism Development Project; Health Sector Management Project; Legal Institutions Project; Road Safety Project; Design and operation of efficient tax and accounting systems, financial institutions and markets; Revenue Strengthening Project; Programme Budget Project; and, Promotion of Entrepreneurship. NZODA supports: Small Business Enterprise Center; Environmental Research, Management, Conservation; Tonga Environmental Management and Planning Project; Ha'apai Conservation Area Project (jointly funded by the South Pacific Regional Environment Programme/SPREP); and, Agro-forestry development project.

No information available.

Status: There are no such laws, regulations or directives in Tonga that address matters concerning cooperation of sustainable development at sub-regional, regional and international levels. There are no foreign policy regulations or directives related to Agenda 21.

The bilateral programmes with the Governments of New Zealand and Australia both have a set budgeted for Tonga. From New Zealand (NZ), Tonga received a NZ\$5.6 million grant per financial year. This is usually programmed to be fully spent; however, if there is any discrepancy in the actual expenditure of the program and the planned aid program, it may only amount to a small amount of the program. Similarly, the Australian Aid program to Tonga, the budgeted allocation amounts to Australian Dollar (A\$) 9.4 million and the actual expenditure is usually along the same lines. These allocations from NZ and Australia have been maintained in nominal terms for the past 5 years.

Lack of a variety of institutional support to trade is a major obstacle. Only one institution has been set up, the Tonga Trade, but it lacks professional staff and finance, therefore, not yet effective in eliminating trade barriers.

High trade tariffs particularly on imports are the major structural barrier to trade. However, the Ministry of Finance is in the process of reforming trade tariffs in line with trade liberalization philosophy. Lack of sound policies has been identified as an inhibiting factor for private sector development and foreign direct investment.

Capacity-Building, Education, Training and Awareness-Raising: No concrete effort has been made to identify measures to strengthen international cooperation in these areas.

Information: Information and data on bilateral, sub-regional, and regional or multilateral/international cooperation is only available from source and is not readily disseminated to the general public.

Research and Technologies: No information available.

Financing: See under **Status** and **Chapter 33** of this Profile.

Cooperation: See under **Programmes and Projects**.

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CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES - TRADE

Decision-Making: At present, Tonga is trying to become a World Trade Organization (WTO) member. As an observant member to WTO, Tonga is in the process of developing domestic policies in line with WTO guidelines.

Programmes and Projects: Trading programmes include: Tonga-Fiji Trade Agreement; Forum Secretariat is trying to establish a Free Trade Area for Pacific Island Member Countries.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: See under **Programmes and Projects**.

* * *

CHAPTER 3: COMBATING POVERTY

Decision-Making: The emphasis on rural and regional development has been an avenue that the Government has targeted to mitigate poverty. The establishment of a Rural and Regional Development Unit within the Planning Department by Government to direct assistance to improve the quality of life of “disadvantage residents” perceived vulnerable to poverty in Tonga. See also under **Status**.

Programmes and Projects: See under **Status**.

Status: There is no standard definition for poverty for the Pacific. Similarly, there is yet to be a specific policy on poverty to direct or inform the Government, apart from sectoral policies that aim to improve the overall standard of living of the Tongan people. It is likely that the concept of poverty evident in Western and Asian societies may not exist in Tonga.

No recent household income and expenditure survey on which firm conclusions can be assessed. However small scale surveys indicated that household expenditure tended to exceed income in most cases particularly in urban Nuku’alofa.

At present, there are no systems whereby domestic savings are mobilized. However, in the meantime, a proposal by the UNDP and the ILO to set up a National Retirement Benefits Scheme on a contributory basis is currently underway. The Scheme considers three main target groups identified as appropriate to Tonga and these include: those self-employed in the subsistence economy; those uncovered full-time wage and salary earners; and people relying on remittances.

A feasible model for Tonga’s population had been calculated to be the one that encompass the above three target areas. The expected fund balance by the year 2050 is projected at \$350.5 million. Further to the establishment of this Scheme, there are further plans to merge all existing funds under one National Retirement Benefit Fund.

Several government monopolies such as the Tonga Commodities Board and to some degree the Tonga Electric Power Board have been deregulated by the government, which led to loss of employment.

On comparative scale, Tonga ranks sixth (6) in terms of the UNDP Index (HDI) out of 14 Pacific Island state, just below Fiji and above Samoa in 1999. Tonga’s relatively high ranking arises from its social achievements in the provision of universal primary education, public health services, water and sanitation which have produced an almost universally literate population with an average life expectancy of 70.7 years, based on calculations in 1996.

However on a Global Composite Vulnerability Index, which measures vulnerability to external economic shocks and natural disasters, Tonga ranked third most vulnerable out of 111 countries. For instance, tropical cyclone Waka in December 31st 2001 devastated the North Island groups (the Niuas, Vava’u and part of Ha’apai), wrecking its commercial fishery, tourism facilities and agricultural farms in Vava’u. The estimated total cost of damages inflicted by tropical cyclone Waka was estimated at \$104 million pa’anga.

Capacity-Building, Education, Training and Awareness-Raising: See **Chapter 36** of this Profile.

Information: See under **Status**.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS

Decision-Making: No information available.

Programmes and Projects: See **Chapters 4-Energy** and **4-Transport** of this Profile.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies:

Financing: No information available.

Cooperation: No information available.

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS - ENERGY

Decision-Making: Decisions concerning energy issues are carried out by different bodies rather than a centralized one. Tonga Electric Power Board regulates electricity production, distribution/transmission, and consumption behaviors. The Competent Authority of the Ministry of Labor, Commerce and Industries regulates/monitors the prices of imported petroleum products. The Energy Planning Unit of the Ministry of Land, Survey and Natural Resources designs, implements, evaluates renewable energy projects, and formulates policy/guidelines for the solar electrification of the rural/remote islands. The Mineral Resource Unit of the Ministry of Lands, Survey and Natural Resources implements Mineral Act, which governs mineral and oil exploration. Traffic Department of the Ministry of Police and Prisons formulates road transportation policies, enforces legislation, etc.

All matters and decisions regarding energy issues rest ultimately with the Privy Council and Cabinet. Policies and other energy issues that require political decisions are formulated at the Ministerial level at which the respective Ministry/Department assumes the responsibility to ensure that a resolution is reached.

Respective departments/ministries/boards hold the necessary authority required for the effective and efficient management. However, authorities can be delegated to the lower level if deemed necessary. Privy Council and Cabinet also hold the privileges and prerogatives to delegate authority to official/no-official bodies as it sees fit. At the lowest level, a village committee has been delegated the authority to manage the technical and financial matters of solar lighting project funded by the EU and other donors. Therefore, the village committees remain accountable to the Energy Planning Unit under the Ministry for Lands, Survey and Natural Resources.

Minerals Act governs all mineral and oil related exploration. Tonga Electric Power Board Act regulates and sets the standard for electricity production, distribution and transmission. Pricing Control Act provides the Competent Authority with the power to determine the prices for certain goods and at the same time monitors the international market value for other goods.

Tonga Solar Electrification Programme Guidelines defines the roles and responsibilities, code of practice for using solar.

Incentives are limited to duty exemptions for the following goods - oil for power generation, solar hardware for the remote islands provided Government orders the goods. In addition, oil prices for power generation are negotiated to ensure that price does not affect tariff. A set rate is charged to lower power consumers.

Tonga does not have a national sustainable energy strategy.

The national short-term strategic goals for developing rural areas are aimed at improving accessibility of rural low-income families to electricity through viable technology (renewable technology), which has minimal environmental damages. Priority areas include the outer islands of Ha'apai, Vava'u and the Niua's. Improving the accessibility of energy to rural households continues to be a national development priority.

Private businesses are encouraged to participate in formulating and planning strategies for energy sector management. Village committees for solar lighting projects are required to include women as official members of the Committees. In addition, NGOs participate in planning and designing energy projects (solar lighting) for the remote islands.

Recent restructuring of the Utility involved the privatization of power production (Shoreline Ltd.). Private local electrical companies (i.e. private electrical companies include: Silapelu; Fonua; and Koli Moa) operate as distributors of hardware and appliances, including minor electrical tasks such as wiring. Rural households with stand-alone solar lighting systems are responsible for the care taking role while the overall management of the solar electrification programmes rests with the Energy Planning Unit.

Programmes and Projects: The Tonga Electric Power Board (TEPB) during 1998 aimed at improving effectiveness and efficient delivery of energy services to customers' nation-wide through carrying out investigations to determine the capacity required for expanding the current energy available to rural low-income households.

Given the economic costs associated with supplying electricity to remote islands low-income families and constraints facing the TEPB, donor assistance is necessary to finance capital costs in providing solar lighting to the remote islands of Tonga.

Rehabilitation of generators for power generation was carried out by the local utility to increase machinery efficiency.

Gas emission reduction programmes include: restricting the importation of vehicles which are not fuel-efficient and approved more than 10 years; tuning vehicles and increasing the importation of unleaded fuels; promoting and encouraging car pooling promoted and encouraged; and imposing annual and quarterly fitness test requirements on all vehicles. See also under **Capacity-Building, Education, Training and Awareness-Raising**.

Status: All urban centers in the country have access to energy as well as all rural areas on the main islands of Tonga. However, the remote islands of Tonga do not have access to sustainable energy and this is the focus of this country's current sustainable energy strategy.

In the long run, energy supply for the rural areas should be self sufficient and sustainable. On the other hand, commercial activities (especially in the commercial centers), which are energy intensive, will be focused on efficiency techniques and be driven by conservation principles. A balance of renewable and non-renewable energy consumption should be achieved.

The recent rapid development of the commercial sector and the growing demand for energy by the residential sector has had tremendous impact on the current consumption and has created serious implications on the capability of the supplier to meet future demands for power. In addition, the growing number of vehicles imported into Tonga during the past two years has also escalated the demand for petrol and other related services. At present, the transportation sector consumes more than 80% of the total petroleum imported annually. In terms of renewable energy, the growing number of stand-alone solar systems in the remote islands has reduced the demand and pressure for energy supply through conventional methods.

Balance of energy sources available is as follows: Imported petroleum products — 46%; Biomass — 47%; Electricity — 5%; and, Renewable — 1%.

Reticulated electricity (diesel generated) is available to 95% of Tongatapu household and commercial consumers and about 80% of the country's household. On the outer islands, a total of 578 photovoltaic systems (granted by bilateral aid programme) provide lighting only. A significant number use kerosene lanterns.

Energy trends during the past 5 years revealed a growing demand in the main commercial centers (Nuku'alofa, Pangai) for commercial based activities. Petroleum products for power generation jumped from 15% in 1994 to 19% in 1998. Fuel energy has increased immensely due to increasing import of vehicles and domestic/international flights.

Tonga is a small island nation, which relies heavily on imported petroleum products for developing its commercial activities; therefore, the country is highly sensitive to rising costs for oil and other petroleum products overseas. The recent (1st Quarter 2000) accelerated costs of oil (T\$1.05/litre) have affected individual consumers (mainly vehicle owners) and the power tariff (now at T\$0.34). Despite the lack of data which reflects the drop in petrol consumption, feedback from the gas stations indicated that the sale of diesel and gasoline have dropped dramatically.

In 1997, the electricity tariff dropped (from T\$0.37/unit to T\$0.27/unit) following the privatization of power generation and was supported by duty exemptions of diesel for power generation only. The power sales grew by more than 30% indicating that power consumption and accessibility has increased.

The extensive environmental degradation visible is limited to land degradation from dumping of waste oil, growing air pollution caused by increasing traffic congestion and power generation, waste land created as a result of clearing trees for agricultural purposes limiting the future supply of fuel wood.

Institutional barriers remain ultimately with the lack of coordination due to various authorities held, this includes: the limited number of people with adequate skills and knowledge; lack of appropriate policies that reflect on the real prices of energy; and absence of certain regulations which provides guidance for certain activities.

Major challenges to meet the financial requirements for implementation of environment-friendly energy policies and strategies include the provision of appropriate incentives for the private businesses to participate actively. Renewable energy technology equipment, which is imported into Tonga, should be exempted from high duty and taxes. Presently, only government purchases are duty and tax exempt.

Capacity-Building, Education, Training and Awareness-Raising: Energy conservation and consumer education programmes have been promoted through: promoting public awareness through the media (radio, TV and newspapers); tree planting to promote sustainability of fuel wood supply; developing energy conservation curriculum; and, conducting, and participating in national and regional training programmes for local technicians,

mechanics, and machinery operators as well as providing training/workshops for government officials, private sector (business owners, technicians, and operators), at village levels (women community development groups), and primary/secondary schools.

Media campaigns include: 2x radio programmes per month; publications of energy conservation guides, leaflets, stickers, or posters for consumers; and TV spots aired during prime time.

Tree planting involves distribution of free fuel wood trees and seedlings. Curriculum development for primary/secondary schools focused on activities, which encourage students to explore different sources of energy, its uses and the environmental impact of energy activities. An economic and technological dimension is taken into account in the activity designs but a large part of the energy curriculum was designed to encourage the creativity of individual students. Furthermore, art competitions were aimed at revealing the students' impression of energy in relation to his/her interpretations of the environment. Training programmes involve on the job training of skilled operators as well as workshops for unskilled operators/owners of machines. Major training programmes were initiated by the Pacific Regional Energy Programme (PREP), which was funded by the EU and aimed at strengthening the capability of the energy sector in the region by developing the skills and knowledge of human resources. Member countries were provided with fund to execute its own prioritized national training programmes while the Forum Secretariat Energy Division implemented regional workshops for energy statisticians, technicians, drivers, etc. Target groups for the national training programme were operators of small stand alone diesel generators, island solar technicians, service providers for refrigerators and air conditions, etc. A number of workshops were designed for women, which covered conservation measures for running electrical appliances, cooking, driving, etc.

Information: Energy information is commonly disseminated through submission reports, proposals, presentations at meetings/workshops/training, etc. The Energy Planning Unit (EPU) submits reports to regional organizations (the South Pacific Applied Geoscience Commission (SOPAC), etc) at regional meetings and to Donors at the completion of projects, all of which are available to Forum members countries and the Donor community. Specifically, the EPU presents country reports at regional meetings, workshops and local training programme in the Pacific, Asia and occasionally Europe.

Furthermore, the TEPB management submits annually a report to the Board of Directors of which is also available to the public. The TEPB also submits report to the Asian Development Bank (ADB) with which it collaborates to ensure that the Utility has the capability and capacity to meet the growing power demand. Energy information available to the public is limited to news reports, energy consumer guides, radio programmes, and TV documentaries. See also under **Capacity-Building, Education, Training and Awareness-Raising**.

Research and Technologies: Progress to date has accelerated with the utilization of solar energy for hot water heating and lighting in the remote islands (now 578 systems installed and 300 planned for 2001 at Ha'apai), research activities for wind potential and biomass resource assessment. Biomass continues to remain a household fuel for cooking in the remote islands and has continued to decline due to the widespread availability and convenience of gas cookers. Nuclear energy is not an option for Tonga given environmental risks associated with this technology.

The abundant sunshine in Tonga confirms the need to harness the indigenous energy sources. However, risks associated with harnessing solar, wind and wave energy is rather limited. Clearing of trees for farming purposes in certain areas has reduced the potential supply of fuel wood and contributed to soil erosion.

No new technology has been developed in Tonga. However, the country is open to try and demonstrate technologies that have been proven. In addition, there is no new transportation mode, which is being devised or implemented in Tonga with a view to improve fuel efficiency. However, promotion of fuel efficiency is a continuous programme.

Financing: Local public fund is restricted to staff salary, office equipment (photocopiers, some computers), supply of office space and stationeries. Private electrical companies are financed initially by Banks (Tonga Development Bank) through loans.

Funding for efforts to raise awareness of remote islanders, through regional workshops, to identify alternative financial source required for the capital costs incurred in providing solar energy to these islands, rather than their

reliance on donor assistance. In addition to this, there has been an attempt to improve dialogue with financial institutions such as the commercial Banks as a possible alternative source of finance to donor funds. However, there is still a heavy reliance on donor assistance to finance solar projects to the outer island of Tonga. See also under **Cooperation**.

Cooperation: Tonga is party to regional agreement by the South Pacific Forum and Secretariat to the South Pacific (SPC), under which regional organizations exist, such as the South Pacific Applied Geoscience Commission (SOPAC) and the South Pacific Regional Environment Programme (SPREP).

The Pacific Islands Climate Change Assistance Programme (PICCAP) and Pacific Regional Energy Assessment 2001 Project (PREA 2001) have been proposed by the SPREP to assess the barriers (technical, financial, institutional, etc.) for sustainable development or renewable energy initiatives in the Pacific.

There are no programmes to provide alternatives to unsustainable energy sources to urban centers. For rural areas, this is pursued through solar electrification of the remote islands financed by donor community (EU, NZ, Australia, France, and JICA) through regional and bilateral aid programme. These electrification projects have provided lighting for remote islands and a solar refrigerator for Niua Fo'ou.

A large fund for energy projects (about 80%) originates from Donor aid programme, especially the Asian Development Bank (ADB) for power development and rural electrification (solar projects) and energy conservation, institutional strengthening projects supported by EU, Governments of France, Australia, New Zealand, Japan, Forum Secretariat, SOPAC, SPC, UNDP, SPREP, and United Nations Educational, Scientific and Cultural Organization (UNESCO).

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS - TRANSPORT

Decision-Making: Transport in Tonga is managed under three categories: land; sea; and air. Land transportation is managed by the Ministry of Works, which is responsible for constructing and maintaining roads and the Ministry of Police, responsible for road signs and markings plus road safety issues; Sea transport, including its safety, is the responsibility of the Ministry of Marine and Ports; and, Air transport is under the responsibility of the Ministry of Civil Aviation, which regulates and controls air traffic operations, safety standards and related issues.

Land transport is governed by: Traffic Act Cap 156 (Amendments Act in 91 and 97), Bicycle Registration Act Cap 157, and Roads Act Cap 155. Sea transport is governed by: Shipping Act Cap 136 (shipping Amended Act 99); Carriage of Goods by Sea Act Cap 141; Carriage of passengers and luggage by sea Act 142; Harbors Act Cap 137 (Amendments 92, 94, and 987); Wharfs Act Cap 138 (Amendment 92, 94, 97 and 98), Dock Regulations Act Cap 140 (Amendments 92), Shipping (Limitation of Liability Act) Cap 143; Marine Insurance Act Cap 144; and, Ports Authority Act 1998. Air transport is governed by: Civil Aviation Act Cap 151; Aerodomes Act Cap 152; Aircraft Offences Act Cap 153m carriage by Air Act 1991. These laws have not been modified since the Rio Summit to reflect on issues highlighted.

Although Tonga does not have an integrated transport strategy, Tonga's last Five-Year Development Plan contains strategies for urban planning, rural development and transport infrastructure. Tonga's draft strategic plan contains an integrated infrastructure strategy, which is yet to be published. Decision-making is only made by public officials. Once these decisions are made, then the rest of the public is informed and awareness campaigns are implemented. However, people in rural areas are able to participate if roads or access to a village needs improvement, the villagers themselves will raise the bulk of the funds required to undertake the work and request only for government subsidy. For example, with road construction, villages requiring road improvement or upgrade will provide construction materials and the government subsidy is through the provision of equipment and expertise. See **Chapter 17** of this Profile (for more information on sea transport) and also under **Status**.

Programmes and Projects: Presently, a Road Safety Project (RSP) is about to commence and is to be sponsored by AusAID. RSP funded by AusAID aims to address and reduce traffic-related accidents and damages, it will also assist in the design of transport and traffic system in Tonga. To improve traffic congestion in the populated areas, traffic police officers are now stationed during the peak hours at points of congestion to assist the flow of traffic and ease congestion. Tonga does not have traffic lights or roundabouts, thus the use of traffic officers have greatly improved the flow of traffic to and from the main urban centers during peak hours improving efficiency.

Status: The scattered nature of the islands of Tonga means that all modes of transport are essential and the value of each differs from island to island. The bulk of Tonga's population, 68.5 % live on the main island of Tongatapu where there is a high demand for good road system network. However, there is also a strong need for a good system of air and sea transport to facilitate trade with Tonga's trading partners. On the outer islands namely 'Eua, Ha'apai, Vava'u and two Niuas, not only require good road networks but also good sea and air transport to maintain trade and transportation links with both the main Island of Tongatapu and the rest of the world.

In terms of land transport infrastructure, Tonga has a limited land resource, and as the bulk of the land has been sub-divided, it is not likely that the total length of road networks in the country can be increased. The objective of road transport at present is to move towards a more sustainable method to keep up with road maintenance and rehabilitation. The bulk of road network in Tonga was constructed from aid resources. These resources will not continue to flow into this sector, thus it is crucial for government to move forward a sustainable method for managing its physical infrastructure. Tonga now has a comprehensive road network system and all parts of the Island can now be accessed by road. The next task is to upgrade the road network so that all roads are sealed. This is a goal that the Ministry of Works is working towards achieving.

All public transport in Tonga is operated by the private sector such as buses, taxi, boats, and ferries. These are run without the government subsidy with the exception of the shipping service to Tonga's most remote islands, the Niuas that is subsidized by the government. The other exception is with air transport. Tonga has its own airline, to which it has invested. The Government has thus subsidized this industry. A study undertaken by the Asian Development Bank (ADB) suggested that Tonga move towards a policy of cost recovery for infrastructure, and specifically for road transport. This is perceived to be the only way that infrastructure in Tonga can be managed at a

sustainable manner. This is also a policy position that the government is considering in its next plan, Strategic Development Plan 7 (2001-2003).

Other than using traffic policy to facilitate the flow of traffic, there are no other schemes at present. The upcoming Road Safety Project to be funded by Australia aims to address these issues.

There are no incentives at present to encourage non-motorized transportation. It is only along the main road of Tongatapu, the main island of Tonga, that footpaths have been constructed thus, there is no infrastructure to support or promote a non-motorized system of transport. The provision of transport services to the public and private appears adequate in Tonga. However, for commercial purposes, there is scope for growth and improvement. For example, there is a commercial need for adequate airfreight space to facilitate Tonga's export of fresh produce, such as fish and other perishables. Transport uses all petrol (98%) is imported. Electricity generation is the single largest consumer of diesel (45%), followed by road transport (36%). Leaded gasoline has been totally phased out of Tonga. There is no data on vehicle emissions in Tonga and there are no policies or programmes at present to reduce it. The present transport system in Tonga appears efficient. However, the greatest challenge facing this country is the ability to maintain and to sustainably manage these assets. This is indeed a great challenge that Tonga is at present unable to undertake. There have been some efforts to promote car-pooling but, it was not successful.

Capacity-Building, Education, Training and Awareness-Raising: Environmental awareness campaigns are run to inform the public on specific issues. The impact of transport on the environment is not a very pressing issue for Tonga; this topic has not been given much attention in public awareness campaigns. However, Tonga has recognized that there is a growing traffic and vehicle problem in the country and will address the issue in the next Strategic Plan. Road safety issues are aired on public and police radio programmes, which inform the public about weekly traffic violations and accidents. These are sponsored by the Traffic Section of the Ministry of Police. Environmental issues are a part of the syllabus for primary and secondary schools. However, relationship between transport and the environment is not specifically covered. To facilitate the exploration of specific issues, the schools run posters, organize competitions on essay and poetry and these cover a wide range of issues for students to learn in depth about transport and the environment. Tonga has not had much training on the issues of transport and the environment, it is anticipated that the Road Safety Project that is to commence soon will address it.

Information: Traffic information is gathered and maintained through a manual system with the Traffic Section of the Ministry of Police. One of the objectives of the upcoming Road Safety Project is to computerize this system, which will facilitate better traffic management.

Research and Technologies: No information available.

Financing: The supply of fuel is solely with the private sector.

Cooperation: Tonga has relied on the assistance of bilateral and multilateral partners. These mechanisms are used to date. Donors have traditionally funded infrastructure construction. Major donors to infrastructure development in Tonga include: Japan; ADB; AusAID; and the EU. New Zealand also assists with the construction of rural and agricultural roads.

See also under **Status**.

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CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: Tonga's demographic profile is characterized by, a high migration rate (estimated net migration rate – 2.0%), declining mortality (14.4 per 1000 live births) and fertility (4.15 per women), and a gradual increase in life expectancy (69.8 and 71.7 male and female respectively). The interaction of these processes has led to a declining rate of population growth revealed in the most recent census of 1996 (Statistics Department, Tonga Government). This has consequently altered the nature of the population's age structure, whereby there is an increase in the working age. On the other hand, there is a slight increase in the dependent population.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: The 1996 census estimates Tonga's crude birth rate (CBR) to be 30.4 and the crude death rate (CDR) at 7.5. This gives a natural population growth of 2.3 % per annum. However, the 1986-1996 inter-censal period indicates that Tonga's annual population growth rate was 0.3 % suggesting an annual net migration rate of approximately –2.0 % (Population Census 1996: Administrative Report and General Tables). This means that an estimated 1905 people leave Tonga annually (Tonga Population Profile based on 1996 Census).

According to the *Demographic Analysis Summary & Population Projections, 1999* (Statistics Department), in the year 2000, estimated population is 100,2831 and sex ratio is 103 per 100 females. In 2000, the percentages of youth and elderly population in ratio to the total population are as follows: total population under age 15 — 37.4%; male population aged 60+ — 8.1%; female population aged 60+ — 8.4%; and, sex ratio in the population aged 60+ — 100 per 100 females. See under **Status** and also **Chapter 6** of this Profile.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

Decision-Making: See under **Status** .

Programmes and Projects: No information available.

Status: Tongan access rate to health care services is very impressive at 100 %. Infectious diseases are very much under control, which is attributed by good standard of water and sanitation facilities as well as developing of primary health care delivery system that focused on both communicable diseases and maternal and child health.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: The reflection of Tongas impressive performance on maternal and child health is revealed on the obstetric and immunization indicators. The total fertility rate (TFR) has been stable between 1995 and 1999, fluctuating between 3.1 and 3.8. According to Draft National Health Plan 2000-2005, 2000 (Ministry of Health), Tonga's infant mortality rate (IMR) is estimated at 14.42 per 1,000 live births in 1999 a decline from 19 in the 1996 population census. Tonga is currently one of the best performing Pacific island countries in terms of IMR. This is a decline from 26 in 1986. The advances made in maternal and child health have made an impressive impact on the national maternal mortality rate.

The life expectancy at birth for Tonga is estimated at 69.8 years for males and 71.7 years for females. These indicators suggest that mortality has decreased during the 1986-1996 inter-censal period (67.6 years for males and 70.7 years for females). The slow decline in mortality, however, could be attributed to an increase in non-communicable diseases (cancer, diabetes and heart disease) associated with lifestyle factors such as changing consumption of traditional food high in fibre to processed food high in fat and sugar, smoking and reduced physical activity.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: Although Tonga's population growth rate over the last inter-censal period has been relatively low at 0.3 %, 'Eua and Tongatapu experienced higher growth during the same period. It needs to be noted that Tongatapu grew at a lower rate during the decade 1986-1996 compared to the decade 1976-1986. Much of the recent growth in Tongatapu is probably due to in-migration from Ha'apai and Niuas, both of which showed negative growth during the same period. This is not surprising, given that the Niuas are very remote, and the Niuas and Ha'apai do not offer as many employment opportunities, among other reasons, compared to Vava'u and Tongatapu.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: The distribution of Tonga's population is fairly the same pattern as was in the 1986 census.

Table 1: Population Distribution by Division, 1986 & 1996

Division	1986	Population %	1996	Population %	Average annual growth rate (%) 1976-1986	Average annual growth rate (%) 1986-1996
Tongatapu	63794	67.4	6979	68.5	1.1	0.5
Vava'u	15175	16.0	15715	16.1	0.1	0.4
Ha'apai	8919	9.4	8138	8.3	-	0.9
'Eua	4393	4.6	4934	5.0	-0.2	1.2
Niuas	2368	2.5	2018	2.1	0.2	-1.5
Nuku'alofa	21383	22.6	22400	22.9	1.6	0.5
Total	94649	100.0	97784	100.0	0.5	0.3

Source: Statistics Department: *1996 Census Report*.

A total of 97784 people were enumerated in the Kingdom of Tonga at the 1996 census. The population is unevenly distributed amongst the island groups with more than two-thirds (69%) living on Tongatapu, of which almost a quarter (23%) live in the capital, Nuku'alofa.

The average household size is 6.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

Decision-Making: See **Chapter 2** of this Profile.

Programmes and Projects: See **Chapter 2** of this Profile.

Status: Agenda 21 is yet to be ratified and translated into domestic policies. Building multi-stakeholder partnerships have not yet been attempted in Tonga.

Capacity-Building, Education, Training and Awareness-Raising: Tonga's assistance from UNDP has focused on sustainable development with emphasis on capacity building and gender. Capacity-building is most needed in the area of project management and administration. See also **Chapter 36** of this Profile.

Information: The government information is disseminated through radio, television and newspapers by the Information Unit in the Prime Minister's Office. Open forums are not used. At present, Tonga does not have a World Wide Web Site. There are no fixed mechanisms whereby information is disseminated and shared at the national and international levels. See also Chapter 9 of this Profile.

Research and Technologies: See **Chapters 4 Energy and 9 and 34** (on *Technologies* under **Status**) of this Profile.

Financing: Some projects are funded under bilateral programmes by New Zealand, Australia, France, UN, EU, etc. and multilateral cooperation. See also under **Chapters 2 and 33** of this Profile.

Cooperation: Tonga has signed many international conventions such as Conservation of Biological Diversity, Montreal Protocol, Kyoto Protocol, and United Nations Framework Convention on Climate Change (UNFCCC). Tonga has not ratified them yet. Promotion of international transfer of knowledge is commonly made through sharing information with international/regional organizations with common work goals. Local experts are attached with international/regional organizations for training purposes and during which professional experiences with technology are shared and developed. Furthermore, projects are proposed for regional cooperation/effort with the aim to trial/demonstrate and transfer technology to participating agencies. There are international initiatives for climate change as well as for infrastructural development such as roads, health, transportation, etc, which directly impact the sector. See also under **Chapter 2** and under the heading **Cooperation** in the various chapters of this Profile.

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CHAPTER 9: PROTECTION OF THE ATMOSPHERE

Decision-Making: There is no one organization responsible for the atmosphere issues in Tonga.

Presently, no single organization is responsible for the atmosphere issues in Tonga but the responsibility is shared among the ministries of: Lands, Survey and Natural Resources; Labor, Commerce and Industries; Health. The Ministry of Lands, Survey and Natural Resources is responsible for environmental impact assessments to ensure that development is environmentally sustainable. The Ministry of Labor, Commerce and Industries are responsible for approving new licenses for industry and commerce. The Ministry of Health is involved if there appears to be a threat to the health of the population of Tonga. Meteorological office is responsible for climatic reporting, monitoring, disaster and relief.

The Inter Department Environment Committee (IDEC) was set up to coordinate activities pertaining to the environment. However, this committee was replaced by a ministerial committee, which has not met and is inactive. Thus, at present, there does not exist a mechanism whereby efforts to protect the atmosphere are coordinated.

Government ministries are the lowest level of public authority to which decision-making is delegated.

At present, there are no laws, regulations or directives to address the protection of the atmosphere in Tonga.

Tonga has yet to develop strategies to incorporate international convention's concepts into domestic policies and programmes.

Programmes and Projects: See under **Research and Technologies and Cooperation.**

Status: Tonga has a small forest on the Island of 'Eua which could be regarded as a possible greenhouse sink.

Capacity-Building, Education, Training and Awareness-Raising: Education syllabus promotes environmental awareness through poster, poetry and essay competitions. Whilst these competitions do not focus entirely on the effects of climate change, they do, however, cover environmental issues in general and students select to study and write about topics of their own choice. In this way, a broad range of environmental issues is covered each year and to date, issues on climate change have been consistently featured.

Information: If the general public including the schools request information relating to climate change, they approach the Environment Planning Unit in the Ministry of Lands, Survey and Natural Resources for further details. See also under **Research and Technologies and Cooperation.**

Research and Technologies: The only technology used in Tonga is the Tidal gauge, which measures sea level rise and contributes to this field. Data is collected by the Ministry of Lands, Survey and Natural Resources and sent to Flinders University, Australia for assessment.

Tonga works with National Tidal Facility, Flinders University, Adelaide, Australia. Data on the sea level is collected and sent to Flinders University for assessment of the sea level rise. Other than this, there is no local research institute.

Financing: See under **Cooperation.**

Cooperation: The sea level monitoring stations throughout the Pacific funded by Australia aims at gathering data to assess the sea level rise. UNDP has currently approved US\$325,000 for Tonga to prepare its first national communication to the Conference of Parties of the United Nations Framework Convention on Climate Change (UNFCCC). This project on Climate Change National Communication (Enabling Activity) involves establishing an inventory of greenhouse gases, assessment of potential impacts of climate change and its adverse effects, and the preparation of the first national communication.

Tonga has signed the following conventions: UNFCCC; Montreal and Kyoto Protocols. Tonga has not yet worked towards full compliance with the above-mentioned protocols.

The Pacific Island for Climate Change Assistance Programme (PICCCAP) is a classic example of a coordinated effort in the region to respond to climate change issues. The Pacific Islands Climate Change Assistance Programme (PICCAP) is a 3 year regional project currently being implemented by the South Pacific Regional Environment

Programme (SPREP) for 10 Pacific Island countries as a response to UNFCC. The project aims at member countries meeting their reporting requirement under the Convention.

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CHAPTER 10: INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF LAND RESOURCES

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 11: COMBATING DEFORESTATION

Decision-Making: No information available.

Programmes and Projects: See Chapters 2 and 4-Energy (under **Capacity-Building, Education, Training and Awareness-Raising**) of this Profile.

Status: Whilst replanting and reforestation programmes have been pursued, these have been relatively small with limited success.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

Decision-Making: See **Chapter 3** of this Profile for information on policy on rural development in Tonga.

Programmes and Projects: See **Chapter 2** of this Profile.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

Decision-Making: No information available.

Programmes and Projects: Ha'apai Conservation Area Project, jointly funded by New Zealand and the South Pacific Regional Environment Programme (SPREP), has been undertaken.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: Tonga has signed the Convention on Biological Diversity.
See also under **Programmes and Projects**.

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CHAPTERS 16 AND 34: ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY AND TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY, COOPERATION AND CAPACITY-BUILDING.

Decision-Making:

Technologies: No information available.

Biotechnologies: No information available.

Programmes and Projects:

Technologies: No information available.

Biotechnologies: No information available.

Status:

Technologies: There have been various attempts to transfer not just environmentally sound technology but appropriate technology but, this has been limited to photovoltaic for domestic lighting. However, overall for Tonga there isn't a guiding policy that specifically aims at transferring environmentally sound technology and know-how. Such initiatives are left to individual ministries and private sector to initiate and to implement.

Biotechnologies: No information available.

Capacity-Building, Education, Training and Awareness-Raising:

Technologies: No information available.

Biotechnologies: No information available.

Information:

Technologies: No information available.

Biotechnologies: No information available.

Research and Technologies:

Technologies: No information available.

Biotechnologies: No information available.

Financing:

Technologies: No information available.

Biotechnologies: No information available.

Cooperation:

Technologies: No information available.

Biotechnologies: No information available.

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CHAPTER 17: PROTECTION OF THE OCEANS, ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES.

Decision-Making: A new Prevention of Marine Pollution Bill is now being processed dealing with prevention of marine pollution matters as prescribed under the International Convention for the Prevention of Pollution of the Sea by Oil (MARPOL) 73/78, the Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), London, Intervention, Fund and the United Nations Convention on the Law of the Sea. A new Ports Safety Bill deals particularly with pollution matters in a port area.

Proposed Bills are circulated to the maritime industry, and the Chamber of Commerce and local communities are consulted for comments before a Bill is processed to Cabinet. Comments to the Proposed Bill or workshop are held where the issues are discussed and amendments agreed upon. The Ministry of Marine and Ports is responsible for sea transportation, landing requirements, etc. See also under **Chapter 4-Transport** for more information on sea transportation).

Programmes and Projects: Tonga Fisheries Management Project is provided by AusAID.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: The Prevention of Marine Pollution Bill was developed and drafted by South Pacific Commission and to some degree South Pacific Regional Environment Programme. As a member of IMO, Tonga has acceded and adopted numerous marine environment and safety of ships Conventions. See also under **Decision-Making**.

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**CHAPTER 18: PROTECTION OF THE QUALITY AND SUPPLY OF FRESHWATER RESOURCES:
APPLICATION OF INTEGRATED APPROACHES TO THE DEVELOPMENT,
MANAGEMENT AND USE OF WATER RESOURCES.**

Decision-Making: No information available.

Programmes and Projects: “Nuku’alofa, Water Supply Project” has been initiated with the support from Japan.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: See under **Programmes and Projects**.

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**CHAPTER 19: ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS,
INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN
TOXIC AND DANGEROUS PRODUCTS.**

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTERS 20 TO 22: ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS, SOLID AND RADIOACTIVE WASTES

Decision-Making:

Hazardous Wastes: No information available.

Solid Wastes: No information available.

Radioactive Wastes: No information available.

Programmes and Projects:

Hazardous Wastes: No information available.

Solid Waste: No information available.

Radioactive Wastes: No information available.

Status:

Hazardous Wastes: No information available.

Solid Wastes: No information available.

Radioactive Wastes: No information available.

Capacity-Building, Education, Training and Awareness-Raising:

Hazardous Wastes: No information available.

Solid Wastes: No information available.

Radioactive Wastes: No information available.

Information:

Hazardous Wastes: No information available.

Solid Wastes: No information available.

Radioactive Wastes: No information available.

Research and Technologies:

Hazardous Wastes: No information available.

Solid Wastes: No information available.

Radioactive Wastes: No information available.

Financing:

Hazardous Wastes: No information available.

Solid Wastes: No information available.

Radioactive Wastes: No information available.

Cooperation:

Hazardous Wastes: No information available.

Solid Wastes: No information available.

Radioactive Wastes: No information available.

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CHAPTERS 24 TO 32: STRENGTHENING THE ROLE OF MAJOR GROUPS

Women: Decision-Making: It is only women's groups that have an established role in decision-making process within the government and in participation in international programmes and activities. Whilst other Major Groups are consulted in decision-making process, women groups, represented by Women In Development Center (WIDC) of the Prime Minister's Office, are represented in many international negotiations. The establishment of the WIDC in the Prime Minister's Office has ensured that women's participation in the decision-making process coupled with the priority given to them by all of Tonga's development partners and strengthened their role.

Children and Youth: No information available.

Indigenous People: No information available.

Non-governmental Organizations: No information available.

Local Authorities: No information available.

Workers and Trade Unions: No information available.

Business and Industry: No information available.

Scientific and Technological Community: No information available.

Farmers: No information available.

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CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

Decision-Making: The Development Coordination Committee ensures that investment is distributed evenly in different sectors and that it is within the government priorities. High Level Consultations are also held between the Tonga Government and bilateral aid donors to consider allocations for areas of investment that is seen as a priority. In order to attract foreign investment, the Ministry of Labor, Commerce and Industries coordinates the implementation of the Industrial Development Incentive and foreign in certain sectors namely manufacturing, Tourism, Fisheries and Agriculture.

Programmes and Projects: See Chapter 2 of this Profile.

Status: ODA accounts for about 85 to 95 % of Tonga's development budget. Thus Tonga is highly reliant on ODA for development. The percentages of distribution of New Zealand (NZ)'s and Australian bilateral aid to Tonga are shown in the tables below.

Table 1: Percentage Distribution of the Tonga – New Zealand Bilateral Aid 1998/1999

Sector	Approved 1998/1999 (NZ\$'000)	% Share 1998/1999
Human Resource Development	3,460	57%
Development of Private Sector & State Owned Enterprises	1,165	19%
Regional Development	700	11%
Others	800	13%
Total	6,125	100%
Budget	5,600	

Table 2: Percentage Distribution of the Tonga-Australia Bilateral Aid 1999/2000, 1998/1999

Sector	Propose 1999/2000 (A\$'000)	%Share 1999/2000	Allocation 1998/1999	% Share 1998/1999
Public Sector Reform	2,380	22%	1,635	16%
Education and Training	2,900	26%	2,755	28%
Health	1,140	10%	760	8%
Natural Resource Management	2,732	25%	2,022	20%
Ha'apai	950	9%	2,060	21%
Others	680	6%	680	7%
New Projects	200	2%		
Total	10,982	100%	9,912	100%
Budget Allocation (A\$ million)	9.4		9.4	
Over-Programing	1,582	17%		

Multilateral sources include: UNDP, EU and the Asian Development Bank (ADB). However, although their assistance to contribute to sustainable development, they do not specifically target sustainable development projects.

Capacity-Building, Education, Training and Awareness-Raising: See under Status .

Information: See under Status .

Research and Technologies: No information available.

Cooperation: See under Status and Chapter 2 of this Profile.

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CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: See chapters 4-**Energy**, 9 (under **Research and Technologies**) and 34 (under **Status**) of this Profile.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

Decision-Making: Over the past years, the Tonga government and Ministry of Education have taken positive steps to align the country's training and education systems with the country's manpower and development needs.

Education is compulsory for ages six (6) to fourteen (14) and is one of the priority areas for Government's public investment as stated in the Strategic Development Plan 7 (SDP7). Primary education (class 1 to class 6) is provided free to everyone.

Programmes and Projects: Substantial development in post-secondary education has been achieved especially with the introduction of Diploma level studies and various certificate level courses in technical areas such as hospitality, computing and general engineering. These are operated and coordinated by local post-secondary institutions.

Distance education facilities have been introduced by the Community Development Training Centre (CDTC) that offers a variety of courses, the technical courses offered at the Tonga Maritime Polytechnic Institute (TMPI) with predominantly male enrolment, the Tonga Institute of Education (teachers training college) and the Ministry of Health. Queen Salote School of Nursing is geared to train future teachers and nurses of Tonga, the Tonga Defense Force and the Ministry of Police respective schools, the University of the South Pacific extension and others controlling by Non-government authority are playing a major role in developing the post secondary education sector. However, most of these courses are held in Nuku'alofa, the outer islands being disadvantaged. See also under **Capacity-Building, Education, Training and Awareness-Raising** in the various chapters of this Profile.

Status: The Tongan population has appeared to take advantage of the educational opportunities available, which is evident from the fact that during the period of 1986-1996 tertiary education attainment increased from 1.5% to 3.6%. Previously, Tonga's current educational system, like that of many of other Pacific island countries does not take into account the problems faced by young school leavers. Instead of promoting the potential for gainful self-employment or marketable skills, they tend to have strong motivation for wage employment, often in government establishments. Lack of job opportunities in the labour market together with the limitation in vocational and technical training further worsens the students' desire for a paid job. To date, the curricula offered in the government and non-government systems include a range of more vocationally oriented subjects to cater for students who are not achieving through academic examinations.

Information: According to the Ministry of Education's Annual Report, 2000, students' enrolment in primary schooling in 2000 is 166,973, with the enrolment ratio of 114 boys per 100 girls. Student enrolment in secondary schooling in 2000 is 14,955 with the enrolment ratio of 104 boys per 100 girls. Access rate to primary schooling is universal (100%). Education attainment of the population in 1996 is shown in the table below:

Education level	Number of persons	%
No schooling	1685	2.0
Primary	28057 34.0	
Secondary	49925 60.4	
Tertiary	2998 3.6	
Total	82665	100.0

Source: Statistics Department: *1996 Census Report*.

In 1996, literacy rate in 1996 was 98.5%, estimated adult (15+) illiteracy rate 1.1%, and, illiterate rate among persons aged 25+, 1.3%.

Research and Technologies: No information available.

Financing: Public expenditure on education 1999/2000 is 12.2% of the Government budget.

Cooperation: No information available.

**CHAPTER 37: NATIONAL MECHANISMS AND INTERNATIONAL COOPERATION FOR
CAPACITY-BUILDING IN DEVELOPING COUNTRIES.**

This issue has been covered either under Chapter 2 or under the heading **Cooperation** in the various chapters of this Profile.

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CHAPTER 38: INTERNATIONAL INSTITUTIONAL ARRANGEMENTS

This issue deals mainly with activities undertaken by the UN System.

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CHAPTER 39: INTERNATIONAL LEGAL INSTRUMENTS AND MECHANISMS

This issue has been covered under the heading **Cooperation** in the various chapters of this Profile.

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CHAPTER 40: INFORMATION FOR DECISION-MAKING

Decision-Making: The Central Planning Department is responsible for the overall coordination of sustainable development at national level, however, data collection, analysis, management and dissemination of information is the responsibility of line ministries with the Statistics Department as the umbrella organization. These sources of information are neither collated nor coordinated.

There is one level of the government in Tonga operating at the national level. This is the lowest level of government; the government ministries are the lowest level to which information management is delegated.

The Information Unit at the Prime Minister's Office is responsible for disseminating all government information through press release circulated amongst government ministries and departments, and the media. An Act to improve security amongst Government Officers and Employees had been enacted as Act 8 of 1964, which concerns the release of information by government civil servants who should seek the approval of the employee's head of department. A system of economic and social indicators presently exists in Tonga. However, there are no environmental or institutional indicators for sustainable development. Economic and Social data are used by the Ministry of Finance and Central Planning Department in Programme Budget Policy formulation and sustainable development planning respectively.

Programmes and Projects: See under **Status**.

Status: The private sector is active in newspapers and TV services.

Information is most widely disseminated through the radio and newspapers, which are the most popular means of communication. Television coverage in Tonga can only be transmitted to the main island of Tongatapu where 68.5% of Tonga's population lives. Internet use has also been introduced, but again operates best on the main island of Tongatapu. However, costs are high thus access is restricted.

The main challenges Tonga is facing are both technological (in terms of computers, software, equipment, printing machinery, internet facilities, etc) and also financial. Tonga does not have the financial resources to implement an effective information system at present. Technical expertise should also be considered in transferring the skills and technical know-how for the local staff. The whole of Tonga has access to information. However, there is a great need to improve the efficiency for telephone and Internet. Hurricane seasons (November - March), destabilizes the outer islands thus, there is great need or improved information access.

Tonga does not have a system whereby information flow is managed and there is no guiding legislation.

Tonga has not yet developed indicators for sustainable development. Although economic and social indicators exist, there are no indicators for the area of the environment and no overall indicators for sustainable development. As such, there is no harmonization of data at either national or international level; there is no comprehensive international information network. There is a need to develop indicators for sustainable development, and this will require capacity-building and training in this area as well as a system whereby efforts can be coordinated.

See also under the heading **Information** in the various chapters of this Profile, especially chapters 3, 5, 6, 7 and 36, for information on economic and social indicators.

Capacity-Building, Education, Training and Awareness-Raising: Capacity-building of information related to traditional and indigenous knowledge is an area of great activity in Tonga. Knowledge and practice in the area of traditional medicine and oral history are examples of issues where there is organized approach for their preservation.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

CHAPTER: INDUSTRY

Decision-Making: No information available.

Programmes and Projects: See Chapter 2 of this Profile.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: See **Chapter 2** of this Profile.

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CHAPTER: SUSTAINABLE TOURISM

Decision-Making: No information available.

Programmes and Projects: Tonga Tourism Development Project has been provided by AusAid.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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