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NEW ZEALAND



COUNTRY PROFILE



UNITED NATIONS

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 Country Profile, New Zealand had not updated it and therefore any new changes will appear on our web page: <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 Development Cooperation Division (DEV) of the Ministry of Foreign Affairs and Trade (MFAT) and other New Zealand Government line agencies are involved as appropriate. New Zealand is a strong supporter of the Barbados Programme of Action for Small Island Developing States. Coordination is achieved through regular contact between ministries and relevant aid agencies. Any matters requiring ministerial attention are drafted into widely circulated papers. The Development Cooperation Division regularly seeks input from relevant agencies where specialist expertise is lacking in MFAT and where line agency input to policy implementation is likely. Decision making is retained at central government level via MFAT, although the participation of other agencies/ representatives of civil society is generally sought. Decision-making on the one NZODA programme of special relevance to sustainable development (The Pacific Initiative for the Environment) is informed by a non central Government advisory group.

There are a variety of measures to support agencies and initiatives linked to sustainable development. Examples include: The Pacific Initiative for the Environment; the International Development Association; The Asian Development Fund; the United Nations Development Programme; the Commonwealth Fund for Technical Cooperation; the Global Environment Facility; the IBRD; IFC; ADB; the International Fund for Agricultural Development; and the Commission on Sustainable Development. NZ also facilitates small island state involvement in sustainable development activities including through specific programmes delivered to the Alliance of Small Island States and to the South Pacific Applied Geoscience Commission. Regional integration and cooperation in sustainable development including environmental protection: New Zealand is a founding member of the Pacific Forum, a regional grouping of 16 member states dedicated to regional cooperation. It actively contributes to the South Pacific Regional Environment Programme and the Round Table for Nature Conservation.

New Zealand has been at the forefront of efforts to improve the multilateral trading system including through active participation in the WTO, the Cairns Group and through the promotion of bilateral and sub regional initiatives involving Australia, Asian, Pacific and American trade partners. Import licensing has been removed, trade distorting subsidies have been dismantled and tariffs lowered or eliminated on most traded goods and services. The deregulation of domestic markets has permitted greater competition, including for foreign firms. The government recently announced that it will grant all Least Developed Countries duty free access from 1 July 2001. In addition, least developed and South Pacific countries already benefit from non reciprocal trade preferences. New Zealand does not maintain any quotas. Work is ongoing on improving mutual recognition of standards and conformance.

Representatives of NGOs, civil society, Maori and women sit on an Environment Advisory Group overseeing The Pacific Initiative for the Environment. Linkages with these and other major groups are maintained by ODA administrators on an ongoing basis including with the scientific community and private sector. All delivery and implementation of NZODA projects is via NGOs, multilateral and regional implementing agencies and the private sector (which includes Crown Research Institutes and Crown Owned Enterprises). Close links are maintained with government agencies responsible for women, indigenous people, labour, science, commerce, and farming. NZODA seeks to foster private and public sector cooperation both generally and via specific schemes noted above (PIIDS, ADAF, PPP). Project implementation/delivery is contracted to private sector agents in most cases.

Programmes and Projects: Two regional schemes: Asian Development Assistance Fund (ADAF) and Pacific Island Investment Development (PIDS) scheme are designed to link the New Zealand private sector with developing country private sector initiatives. The Pacific Island Investment Development Scheme (PIIDS) provides an example of official co-funding incentives including for commercial development opportunities. NZODA is also piloting a Public/Private Sector Partnership (PPP) scheme to assist the development of robust in-country public and private sector joint ventures for environmentally sustainable development. NZODA is also the principal donor assisting the development of innovative and private sector linked mechanisms for funding Pacific Island biodiversity conservation.

Status: New Zealand Official Development Assistance has been steadily increasing in recent years. It increased by 35% over 1995-1999, from NZ\$187.6m to NZ\$253.2m. Over this period bilateral ODA increased by 29%; multilateral assistance increased by 57%, and Emergency Relief (included in the Bilateral Programme) by 78%. It is estimated that the private flows to developing countries from New Zealand voluntary agencies (NGOs) decreased by 11% over the 1995-99 period. It is also worth noting there are significant private remittances flowing from New Zealand to Pacific Island states.

At the operational level, challenges are experienced in developing locally owned strategies for sustainable development which translate through into a genuine focus for action. Donor coordination within such nationally owned strategies, once developed, is a further challenge. Coordinating diverse interests also presents challenges, particularly when attempting to establish an agreed framework for action upon which partnership can be based. Institutional challenges include overcoming a lack of support among vested interest groups. Planning for structural adjustment must be done to ensure maximum payoffs from an enhanced competitive environment.

Capacity-Building, Education, Training and Awareness-Raising: Additional funds have been allocated in 2000/01 to a programme of communications aimed to ensure improved public understanding of international development issues including that of sustainability and the role and contribution of New Zealand's Official Development Assistance. Information is channeled through secondary schools curricula, NGO's and community groups. Media people have been targeted for familiarisation visits to Pacific aid projects and a public outreach programme of seminars on NZODA has been introduced this year. There has been Development of Best Practice Guidelines for international development consultants. An Education and Training Plan has been devised by the Ministry of Foreign Affairs and Trade for staff working in its Development Cooperation Division. All categories are targeted by the DEV Education and Training Plan. In addition, NZ has used the PIE to fund an environment training needs assessment for the Pacific region and, as with NZODA bilateral programmes, will respond to requests from developing partners accordingly

Information: The Ministry of Foreign Affairs and Trade publishes a wide variety of reports on international cooperation activities, reports annually to parliament, and maintains a public access website. The Ministry regularly contacts interest groups using telecommunications and internet facilities. Seminars and workshops feature on the Ministry's calendar of events. The Development Cooperation Division of the Ministry offers an internet address of its own.

Research and Technologies: New Zealand is supportive of international initiatives to promote technology transfer for sustainable development. It has ratified treaties which include technology transfer objectives and contributes to multilateral funding facilities utilised for the same ends. NZ Official Development Assistance programmes include strong know-how transfer components and educational themes. The delivery of assistance projects in developing countries involves the tendering and award of supply contracts. Contracts can be structured to promote environmentally sound technologies, in accordance with partner country requirements. Penalties exist for breaches of copyright and patents to guard against the abuse of intellectual property rights. Effective synergies can be achieved between the public and private sectors in promoting environmentally sound technologies. Commercial imperatives are respected by the public sector, which in turn creates economic opportunities for firms and offers cost-effective and commercial solutions to development partners.

Financing: New Zealand Official Development Assistance currently equates to 0.27% of GNP. This has increased from 0.23% in 1995. Private financial flows and multilateral fund facilities are the other major sources for sustainable development funding.

Cooperation: New Zealand strongly supports multilateral efforts to make trade and the environment mutually supportive. New Zealand participates in the OECD Joint Session of Trade and Environment Experts (JEG) and the World Trade Organisation's Committee on Trade and Environment (WTO CTE) (preceded by the GATT Group on Environmental Measures and International Trade (EMIT). Contributions include: UNDP, UNDP Capacity 21, UN Capital Development Fund; OCHA, WFP, UNICEF, UNHCR, UNHFA, UN Fund for Mine Clearance, UNIFEM,

UNDCP, UNIDO, WHO: Tropical Diseases Research, UN Human Rights Programme, Montreal Protocol for the Protection of the Ozone Layer, the Forum Secretariat, Pacific Community, Forum Fisheries Agency, University of the South Pacific, South Pacific Board for Educational Assessments.

Examples of fora in which New Zealand is active include: OECD; the UN and its agencies such as the CSD, UNEP, UNDP; the Forum Fisheries Agency; South Pacific Applied Geoscience Commission; the Pacific Community; the Pacific Islands Forum; International Whaling Commission; South Pacific Regional Environment Programme; the Valdivia Group. NZ is party to agreements, treaties, conventions and protocols related to sustainable development including those with effect in the following areas: weapons and disarmament; biodiversity; fisheries; the seabed and oceans; endangered species; conservation; Antarctica; timber; wetlands; development cooperation; trade; environment; health; intellectual property; energy; commodities; and agriculture.

New Zealand has entered into numerous agreements with trade provisions including those which promote freer trade, the application of sanitary and phytosanitary measures, the application of veterinary and health standards, the control of hazardous or dangerous substances, and the control of trade in certain species.

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

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 3: COMBATING POVERTY

Decision-Making: No information available.

Programmes and Projects: New Zealand provides a comprehensive set of targeted income support programmes with many supplementary programmes to meet individual and family needs. The government has recently announced a package of tax reductions and family assistance measures which will increase the net income of all low income families with dependent children. This set of policies and strategies is geared to reduce economic hardship for individuals and families in a sustainable way within the context of an overall growth strategy for New Zealand. Given the substantial amount of policy work already implemented, and the new programme initiatives which are underway, the government has decided that no specific initiatives or other policy measures are necessary.

Status: New Zealand is fortunate that absolute poverty, as defined in the Programme of Action of the Copenhagen World Summit for Social Development, 1995 is not part of its economic and social environment. Consequently, the Government has stated that there has been no need to develop a plan and a target date for the eradication of absolute poverty. The Government believes that sustained and sustainable economic growth and development is the best way to address poverty in general, stressing the importance of productive employment in developing a dynamic approach to individual and family income, and the efficiency of the "safety net" provided by income support systems. The economic reforms of the past decade have provided a sound framework for economic growth and development. During the past two years a Task Force has recommended, and the government has adopted, policies to improve employment outcomes for New Zealanders, in particular for the young unemployed and for the long-term unemployed.

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 4: CHANGING CONSUMPTION PATTERNS

Decision-Making: There is no single agency that focuses specifically on sustainable consumption and production, but a variety of agencies deal with related issues. The Ministry for the Environment and the Ministry of Foreign Affairs and Trade are the coordinating agencies for the purposes of CSD liaison and communication. Other central agencies involved with sustainable consumption and production issues are the following: Department of Conservation (DOC), Energy Efficiency and Conservation Authority (EECA), Land Information New Zealand (LINZ), Ministry of Fisheries (MFish); Agriculture and Forestry (MAF); Commerce (MCM); Research Science and Technology, (MoRST); and Transport (MoT). The local government in New Zealand is responsible for implementing the Resource Management Act. This legislation aims to promote sustainable management of natural and physical resources. Both regional councils and territorial authorities are directly elected and set their own rates. Functions of territorial authorities include land use consents under the Resource Management Act, noise control, litter control, roading, water supply, sewage reticulation and disposal, rubbish collection and disposal, parks and reserves, libraries, land subdivision, pensioner housing, health inspection, building consents, parking controls and civil defence. Functions of regional councils are generally more limited and include management of air quality, bulk water supply, regional roads and parks and public passenger transport planning.

There are several strategies and policies, and legislation, that promote sustainable consumption and production patterns including: Environment 2010 Strategy, Resource Management Act 1991, Waste Management Policy, Energy Efficiency Strategy, Fisheries Act 1996, Sustainable Land Management Strategy, and Hazardous Substances and New Organisms Act 1996. Legislation and regulations for a number of minimum energy performance standards have been formulated but await an opportunity in the legislative programme. In addition, the following codes of practice, standards and guidelines apply: The ISO 14001 series environmental standard, the European Union's Eco-management and Audit Scheme (EMAS), and the British Standard Specification for EMS (BS 7750), Cleaner production guidelines and Packaging industry code of practice. Consumer protection is provided through a series of legislation such as the Fair Trading Act, Commerce Act, Consumer Guarantees Act, and the Unsolicited Goods and Services Act. Among the specific policy and economic instruments in this area are the following: Polluter pays, Road user charges, and Climate change economic instruments.

New Zealand offers a variety of opportunities for the participation of major groups in the formulation of policy and the development and operation of legislation. These include the use of public discussion documents, public meetings, hui, and other forms of consultation during the formulation of policies, strategies, and plans; and written and oral submissions to parliamentary committees and members of parliament during the formulation of legislation.

Programmes and Projects: An example of a related project is The Government Energy Efficiency Leadership Programme (GEELP), which was launched in September 1993. The programme seeks to reduce energy costs within the public sector and provide a role model for the industrial and commercial sectors to follow. Progress is monitored through the use of Key Performance Indicators rather than quantitative analysis. The performance indicators include the appointment of an energy manager, data reporting, monitoring and targeting, implementation, an energy management plan, and staff education.

Status: The Government's Environment 2010 Strategy contains a framework of overarching goals for the environment. These goals are qualitative, not quantitative. All sustainable production initiatives in industry in New Zealand are undertaken on a voluntary basis. Central and local government agencies commission a variety of research activities relative to sustainable consumption and production to meet their particular information requirements (for example to assist the development of environmental policies). Financial constraints may affect the ability of agencies to implement effective programmes to address issues related to promoting sustainable consumption and production. However, a more binding constraint is likely to be that businesses see the benefits of more sustainable production processes accruing primarily to the community rather than to them, while they face the direct costs of putting such processes in place.

Capacity-Building, Education, Training and Awareness-Raising: The Government's environmental education strategy provides the framework for educating the community to take up environmentally sound behaviour, including that relating to production and consumption. The Energy Efficiency and Conservation Authority disseminates information on energy efficiency through seminars and publications, including a newsletter. The Ministry of Agriculture and Forestry has provided materials (including displays, papers and videos) for teachers of subjects associated with sustainable resource and land use. These materials are designed to advance sustainable agriculture in educational institutions. The packaging industry has developed an education strategy. Various non-governmental organisations in New Zealand promote sustainable consumption and production. An example is The Natural Step Environment Foundation Aotearoa New Zealand, a charitable trust and a subsidiary of the Natural Step International. The Natural Step outlines four system conditions required for sustainable production and use of resources, and recognises that sustainability must be achieved by building consensus between all sectors of the community: government, industry, environmental organisations, the scientific community, households and individuals. Some awareness campaigns are operating at the local government level. An example is the Wellington Regional Council's water conservation awareness campaign.

Information: National level indicators of the state of New Zealand's environment are currently being developed and trialed as part of the Ministry for the Environment's environmental performance indicators programme. The current priority is to pilot and implement indicators for air, freshwater, land, ozone, and climate change. These will be trialed over the next two years and fully implemented in 2000. At the same time, work is continuing to confirm indicators for the marine environment, terrestrial and freshwater biodiversity, and waste, hazardous substances, and toxic contaminants. Indicators for transport, energy, pests, weeds, and diseases are to follow. Current plans provide for these latter sets of indicators to be implemented in the period 2000-2005. The aim is to have a set of core environmental indicators in place by the turn of the century. Once the full suite of indicators is established, consistent information on environmental trends will be used to review and reform policies and research initiatives on a risk basis. The Ministry for the Environment's website allows access to environmental data as part of its environmental performance indicators programme.

The Ministry for the Environment monitors implementation of the Resource Management Act using a variety of methods, including case studies and an Annual Survey of Local Authorities. Information on consumption and production patterns in New Zealand revealed in The State of New Zealand's Environment includes information on water consumption, energy consumption and waste. Existing information to assist policy makers, industry and the general public is available from disparate sources. A variety of Ministry for the Environment publications are generally available on its website. New Zealand has developed, with a local government body (the Auckland Regional Council) a national on-line database of cleaner production case studies.

Research and Technologies: The Energy Efficiency and Conservation Authority was established in 1992 to encourage adoption of technologies that are energy-efficient and use renewable energy resources. The Packaging Accord encourages the adoption of technologies that help reduce packaging waste. The Environmental Choice eco-label helps consumers find products that ease the burden on the environment.

Financing: Some of these activities are financed by baseline Governmental funding to the Ministry for the Environment and other government agencies; others are funded through fixed-duration (non-baseline) funding to the Ministry for the Environment and other agencies. The New Zealand Government also commissions research and activities in this area using the following special public funds: the Public Good Science Fund (PGSF) is the New Zealand Government's major strategic research fund with NZ\$290.7 million allocated in the 1998/99 financial year. The Marsden Fund was established to support excellent research and researchers and to enhance the quality of the research environment by creating increased opportunity to undertake research that is purely curiosity-driven. Sustainable Management Fund: The Ministry for the Environment administers a Sustainable Management Fund (SMF) to pay for research needs in the area of sustainable management. The SMF has an annual budget of approximately NZ\$5.0 million to support community initiatives that help achieve the Government's environmental management priorities. Voluntary adoption of eco-efficient and cleaner production practices by industry is generally self-funded.

Cooperation: New Zealand participates in international fora, including, CSD, OECD, APEC, UNEP, the Australia and New Zealand Environment and Conservation Council (ANZECC), and the South Pacific Regional Environmental Programme (SPREP), the work programmes of which (particularly CSD and OECD) often involve sustainable consumption and production matters.

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS - ENERGY

Decision-Making: The principal government bodies charged with energy policy are the Ministry of Economic Development (formerly the Ministry of Commerce) and the Ministry for the Environment, which has policy oversight of energy efficiency and renewable energy policy. The Treasury advises on taxation policy which affects energy use. Transportation policy advice is provided by the Ministry of Transport, which is undertaking work on measures to reduce greenhouse gas emissions from the transport sector. A formal interdepartmental committee, the Officials Committee on Energy Policy, comprising the Ministries of Economic Development, Environment, the Treasury and the Department of Prime Minister and Cabinet, co-ordinates advice on all major energy policy matters. The Resource Management Act 1991 provides the legislative framework to control the environmental effects of all activities, including energy. The Act is primarily implemented by local government. Where central government retains ownership of commercial activities (in the energy field this is confined to electricity transmission and some generation and retailing) this is undertaken by state-owned independent companies. Local government owned commercial activity is generally also undertaken by arms-length companies.

The Energy Specific Statutes and Regulations include: Electricity Act 1992, Energy Efficiency and Conservation Act 2000, Gas Act 1992, Energy Companies Act 1992, Electricity Industry Reform Act 1998, International Energy Agreement Act 1976, Lake Taupo Compensation Claims Act 1947, Manapouri-Te Anau Development Act 1963, Ministry of Energy Abolition Act 1989, Petroleum Demand Restraint Act 1981, Petroleum Demand Restraint (Regulations Validation and Revocations) Act 1981, Petroleum Sector Reform Act 1988, Electricity (Information Disclosure) Regulations 1999, Gas Information Disclosure Regulations 1997, Electricity Regulations 1997, Gas Regulation 1993, Crown Minerals Act 1991, Crown Minerals (Minerals and Coal) Regulations 1999, Crown Minerals (Petroleum) Regulations 1999, General Statute and Regulation, Resource Management Act 1991, Energy Resources Levy Act 1976.

The Government has recently made public its Energy Policy Framework which sets out the Government's overall energy policy objectives as outlined in the following areas: Energy Efficiency and Renewable, Climate Change, Electricity Reforms, Gas Sector and Transport Sector Reforms. Economic and regulatory measures that are currently under examination include: A carbon charge, Negotiated Greenhouse Gas Agreements with industry on emissions reduction, and Forward trading in emission units.

The development of the National Energy Efficiency and Conservation Strategy and the Government's response to climate change and the Kyoto Protocol are all being subjected to rigorous public consultation processes. Contributions from the nine major groups are being encouraged. For example, between August 2000 and November 2000, the Ministry for the Environment (MfE), the Ministry of Agriculture and Forestry (MAF), and Te Puni Kōkiri (TPK) held 10 regional hui with Māori groups to increase the level of understanding on climate change issues. In addition the private sector is represented through the electricity, gas, oil and coal industries.

Programmes and Projects: From an energy efficiency perspective EECA's current activities deliver greenhouse gas emissions reductions associated with the following programmes: Energy-Wise Business, Energy-Wise Homes, Energy-Wise Information, Energy-Wise Government, Administration of the Crown Energy Efficiency Loan Scheme, Administration of the Energy Saver Fund Grant Scheme.

Status: Energy services are accessible to all urban and virtually all rural households. Electricity reticulation to virtually all parts of country was completed some 50 years ago. As lines to remote areas come up for renewal, they may be replaced by remote area power systems (RAPS). Large parts of the North Island, including all major urban areas, have reticulated natural gas available. Liquid petroleum gas (LPG) is available throughout both the North and South Islands. Petroleum products are available throughout the country. Electricity generation relies heavily on renewable (hydro, geothermal and a small amount of wind) and is therefore largely already sustainable. There are no structural impediments to commercial power generation. Private sector companies operate New Zealand's two wind farms. New Zealand's electricity generation is dominated by renewable resources with hydropower producing around 70-75% of annual electricity needs, depending on rainfall. Geothermal power contributes another

7%. This balance is made up by fossil fuel generation. From 1991 to 1996 Gross Domestic Product (GDP) rose by 16.9% while energy use, (measured by total consumer energy (TCE)) increased by only 11.5% - despite a 9% increase in population. Thus, for a 1% increase in GDP, TCE used increased by only 0.68%.

New Zealand has, for more than a decade, been moving to a completely open market, including major liberalisation of trade. Additionally a major programme of corporatisation and privatisation was undertaken from the mid-1980s. Trade in petroleum products is completely open with both crude oil and refined oil being imported, and locally produced condensate being exported. Because of its geographically isolated position, New Zealand's electricity and gas markets do not include imports or exports (although a small amount of LPG is exported). New Zealand is a net exporter of coal. It is not considered that future trade liberalisation will affect energy allocation and consumption patterns in New Zealand. New Zealand has no active measures to promote the international transfer of energy related technology.

In New Zealand the barriers to the uptake of renewable energy are progressively being addressed. The national energy efficiency and conservation strategy is currently under development. Current government policies and those measures arising out of the Strategy are expected to significantly address various barriers, including: fixed price charging; unclear market signals regarding the cost of CO₂ emissions; lack of investment in renewable R&D; lack of proven market value associated with environmentally friendly renewable energy; and lack of information about renewable energy and government policy options.

Capacity-Building, Education, Training and Awareness-Raising: Promotional activities have tended to be quite closely targeted initiatives, usually designed to encourage particular behavioural changes, rather than mass media generic calls for improved energy efficiency. Much of the promotional effort is channelled through industry associations, targeted presentations and publications designed to foster particular investments in new technology and specific energy efficient behaviours. Energy efficiency promotional efforts are being co-ordinated with climate change communication strategies. Central Government has undertaken no major training programmes. Private sector and state-owned energy market participants make their own individual judgements in deciding what capacity-building measures best suit their businesses. Energy efficiency labelling schemes should provide a tangible basis for promotions encouraging consumers to select energy efficient products and to use them efficiently. A wide range of publications, websites, and seminars on energy efficiency and climate change issues are made available to a wide cross-section of New Zealander.

EECA has made available an energy focused resource kit for secondary schools entitled "Precious Joules". A private sector company markets an energy curriculum resource kit for primary schools. This is distributed to schools with the assistance of line energy companies and Trusts. It includes a facilitated implementation package for the curriculum and energy savings components. An "Energy-Wise Companies Campaign" was launched in August 1994 and now has membership of over 600 of the largest companies in New Zealand. It promotes commitment to energy efficiency at the top management level of companies, and to establish effective partnership between the Government and the private sector to direct management attention to implementation of cost effective energy efficient practices and technologies. The main features of the campaign are: a public commitment to energy management by company chief executives through endorsement of a common charter of key principles; support from and participation of energy suppliers; endorsement of the campaign by the Ministers of Energy, Commerce and Environment; support from major business, consumer and environmental organisations; practical information, advisory and secretariat support from EECA and annual awards to companies making the most significant improvements in energy efficiency.

Information: The Energy Modelling and Statistics Unit of the Ministry of Economic Development compiles statistical information on, and prepares projections of, energy supply and demand and greenhouse gas emissions from the energy sector. This work is required to fulfill New Zealand's international reporting obligations (to the IEA, APEC, UNFCCC etc) and to aid domestic policy development. Statistics New Zealand also collects and publishes a variety of statistics related to the Energy sector e.g. consumers price indices, producers price indices, fuel deliveries by fuel type, coal sales, and trade statistics by fuel type, and production statistics. Energy resource availability is described in the documents 'Energy Outlook to 2020, Ministry of Commerce, February 2000', and

'New Zealand Energy Data File, Ministry of Economic Development, July 2000'. Data and analysis of New Zealand's energy consumption patterns is available in the document 'Energy Outlook to 2020, Ministry of Commerce, February 2000'.

Research and Technologies: There are a large number of bodies, from consultants to industry associations that are actively promoting and applying the full spectrum of energy efficient technologies. Priority has been ascribed to technologies proven overseas and having particular cost effective application in mass markets, such as energy efficient motors and lighting systems. A limited number of energy efficiency and renewable energy technologies are being developed in New Zealand that would contribute to the reduction of greenhouse gases emissions and cleaner production. Some of the more innovative technologies developed recently include: WispergenGen Stirling Cycle engine, which provides heat and power for homes and runs quietly on most liquid or gas fuels; Windflow 500, a wind turbine; Smart-Drain heat exchanger; Sawdust fired boiler; The Vortec wind turbine; Electronic load governor for micro-hydro power generation; and A wool based insulation. The Ministry of Economic Development is leading a review of the Petroleum Products Specifications Regulations 1998. The review will consider consumer, industry, health, safety, environmental, and quality issues in developing recommendations for petroleum standards that are appropriate for New Zealand. A public discussion document will be prepared and released for public comment in March 2001.

Financing: Financing of New Zealand's energy sector is based on a market model where companies, be they private sector or state-owned, make individual decisions regarding new investment in their businesses. There is significant overseas investment in New Zealand energy companies in the electricity, gas and petroleum markets. EECA is financed by central government. The Energy Efficiency and Conservation Authority (EECA) was, in 1994, allocated an additional NZ\$8.45 million over three years for specific measures targeted at improving energy efficiency across all sectors of the economy. Future funding for energy efficiency measures were to be reviewed towards the latter half of 1997, within the context of evolving climate change policies. EECA also manages the Energy Saver Fund, established in 1994-95, which provides NZ\$18 million over five years to promote increased uptake of energy efficiency in the residential sector.

Cooperation: The New Zealand Government has stated its intention to ratify the Kyoto Protocol in 2002. New Zealand also continues to participate in international negotiations over the development of rules for international emissions trading and the assignment of credit for carbon 'sinks' - primarily plantation forests, which absorb carbon dioxide. New Zealand is committed to participate in any international emission trading system that has environmental integrity. New Zealand has fully implemented its obligations under the Montreal Protocol and has ratified or is in the process of ratifying all subsequent amendments.

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CHAPTER 4: CHANGING CONSUMPTION PATTERNS - TRANSPORT

Decision-Making: The Ministry of Transport (MOT) is the primary transport policy adviser to the government. Operational implementation of government policy is undertaken by the Land Transport Safety Authority (LTSA), Civil Aviation Authority (CAA), Maritime Safety Authority (MSA), Transfund and Transit, via legislation and transport rules. The Transport Accident Investigation Commission may make recommendations on policy procedures which may impact on policy development. The LTSA, CAA, MSA, CAA, Transfund and Transit are contracted by the Minister of Transport to carry out specific tasks, which contribute to the achievement of the overall goal of safe, sustainable transport at reasonable cost. The Minister of Transport also has a performance agreement with the Commissioner of Police for the delivery of Traffic Safety and Economic Compliance Outputs. The Police have a transport policy development role through the National Roads Safety Committee. The government's Energy Efficiency and Conservation Authority (EECA) provides operational programmes and related policy advice designed to promote greater uptake of energy efficient practices and technologies in all sectors of the economy, including transport.

The major legislative instruments are: Land Transport Act 1998, Transport Act 1986, Maritime Transport Act 1994, Civil Aviation Act 1990, Transit New Zealand Act 1989 and Road User Charges Act 1977. The Ministry of Transport is in the process of developing land transport policy that is likely to involve a review of funding for better public transport, cycling and walking facilities. The New Zealand Government has indicated that it wishes to develop a New Zealand Transport Strategy which would integrate environmental, economic and social goals, apply to all transport modes and involve co-operation between central, regional and local government. The National Energy Efficiency and Conservation Strategy, to be completed by 1 October 2001, will include a wide range of measures to improve transport sector efficiency, and will form an important component of the government's strategic approach to transport issues.

The following policy initiatives are currently being undertaken: Patronage funding of public transport, Review of land transport management, Review of the specifications of NZ transport, Climate Change initiatives, Vehicle Fleet Emissions Control Strategy (VFECS), Air Quality Review, To Improve Individual Vehicle Performance, To Improve Traffic Conditions, Dedicated traffic force and Road Safety Strategy 2010. The Energy Efficiency and Conservation Authority (EECA) is currently undertaking various transport sector initiatives aimed at improving the energy efficiency of the transport sector.

Statistically valid market research of public opinion is regularly being used as input to major transport investment and policy decisions. The major groups consulted could include industry groups such as transport operators, vehicle manufacturers and resellers, or the vehicle service industry; it could include organisations with an interest in transport safety or environmental outcomes; or it could involve the general public, or specific components of the public, such as motorists, pilots or lobby groups. The private sector has a large role in shipping, aviation, rail and public transport. In roading there is less private involvement.

Programmes and Projects: Incentive measures to induce public participation in environmentally friendly transport are also being undertaken by a number of government agencies. An example of this is the Energy Efficiency and Conservation Authority's Rideshare Software, which facilitates carpooling and efforts by Regional Council's to encourage the use of public transport. New Zealand Road Safety Programme – the Police and the Land Transport Safety authority undertake various projects aimed road safety, including advertising campaigns backed by police enforcement on such issues as drink driving, seatbelts, speed control and traffic speed cameras. The Police also undertake general road patrol.

The following research programmes are being undertaken: Currently Transfund is conducting a major review of the Project Evaluation Manual benefits using conjoint analysis with more focus on road user and passenger transport user benefits. The outcome of this project will impact on the mix of transport projects approved for funding in the future. Foundation for Research Science and Technology transport related research initiatives include projects to Identify Factors to Change People's Transport Use and Sustainable Transportation. Land Transport Safety

Authority projects related to transport and traffic design: Accident prediction for road links and intersections. Assessing passing (overtaking) opportunities. Criteria for safe braking distances for T-intersections on unsealed roads. Investigation of factors affecting crash rates on State Highways at rural accesses. Required performance levels for delineation.

Status: Auckland, Northland and the East Cape/Napier have the greatest and most urgent need for an improved transport system. In general, the provision of transport services is generally adequate, but a number of problems have been identified, including: strategic direction for the transport system, funding system, comparable road and rail prices, delay in decision making, traffic congestion, passenger transport system, emissions and safety, among others. The current New Zealand transport system has gone through a substantial period of reform over the last 20 years, which has made major improvements to the efficiency of the system. Many transport operations have been divested to the private sector in a competitive framework where appropriate; while other public operations have been turned into company structures. The drive to improve transport efficiency has reduced costs to industry and users, and is continuing in order to support New Zealand's export industries and individual mobility demands.

Capacity-Building, Education, Training and Awareness-Raising: The media (newspaper and television) report on events that relate to the environmental impacts of transport and often quote the policies or environmental guidelines of government agencies. Regional Council's, Non-government organizations, local and regional government have, in recent years, provided public information on the impact of transport on the environment. The New Zealand Police and the Land Transport Safety Authority (LTSA) are both funded from the National Roads Fund (NRF) to undertake extensive public education, communication and advertising campaigns on road safety. This includes: school road safety education, advertising on television, radio and billboards, road safety education and training resources, and LTSA's community road safety programme. Most programmes are provided and co-ordinated by the industries involved, for example the Motor Industry Training Organization programmes in schools, technical institutes, and universities. Utilization is also made of specialist university courses in Australia for traffic engineering and Transport Management. Some examples of training initiatives are: the Maritime Safety Authority undertakes an oil spill response, the Airlines Pilot Association undertakes various pilot training programmes, the Land Transport Safety Authority trains staff for compliance activities such as dangerous goods enforcement.

In the 2000/01 financial year the funding the Police and LTSA receive for road safety increased. This has allowed the LTSA in its community road safety programme to place special emphasis on building stronger partnerships with Maori and Pacific Island communities through well targeted local education initiatives. This increase in funding also allowed the LTSA to join the Australian New Car Assessment Programme and ensure the dissemination and publicity of comprehensive information about the safety performance of new vehicles.

Information: The National Traffic Database (NTD) is an inventory of New Zealand's traffic volume counts and road functional classification. The NTD data is a mixture of counts and estimated annual average daily traffic (AADT), one per road asset management system (RAMM) carriageway section, based on 1994 sectioning supplied by Road Controlling Authorities. Work is underway on the possibility of introducing a new database using a Transport Information System (TIS) to enable timely and accurate information gathering, processing and distribution of information to agencies responsible for the planning, funding, construction and operation of the public road network, and others with road sector interests. The Land Transport Safety Authority maintains a database of all motor vehicles registered to go on the road, and a database of all injury and some non-injury crashes. Scientific data on vehicle emissions is also available from the Ministry of Transport through the New Zealand Traffic Emissions Rates (NZTER) database which is available on CD-ROM for a nominal price from the Ministry.

Research and Technologies: The Ministry of Transport is proposing to investigate the introduction of average vehicle efficiency standards. The Energy Efficiency and Conservation Authority has a broad mandate to promote the deployment of energy efficient technologies. New initiatives include the development of criteria for the possible development of a new contestable fund which could be used to promote the early introduction of energy efficient vehicles by fleet owners and operators, which could include technologies using alternative energy sources. Spurred by climate change imperatives Government bodies are expected to develop a detailed work programme, by the

middle of next year, to investigate measures to encourage the uptake of eco-efficient vehicle technologies, including research into alternative fuels.

New Zealand is currently considering proposals to introduce electronic road pricing systems for heavy vehicles, based on GPS systems, so that these vehicles can be charged the full marginal cost of their use. In addition, work is continuing on the use of mobility pricing in urban areas, together with improved passenger transport systems. The Government is currently consulting on a Road Safety Strategy to 2010, which sets a target of reducing the social costs of road accidents by 50%.

The Land Transport Safety Authority and the transport industry are developing a safety rating system for transport operators which will apply incentives for safe operators and penalties for less safe operators as a means of improving road safety. Vehicle Fleet Control Strategy (VFECS) measures to Improve Traffic Conditions: Provide information to territorial local authorities and other roading agencies on actual vehicle emission rates and Promote the use of Environmental Capacity Analysis to measure the effect of different traffic management techniques (such as bus lanes and improved flow), on traffic emissions from busy roads. Intelligent Transport Systems (ITS) technology is being implemented, for example, Electronic message signs and real time traffic monitoring and information provisions.

Financing: All modes of transport other than road transport (rail, ports, air) are privately owned and generally privately funded. The main area that still receives public funding is road transport. However other areas such as public transport (rail, bus, ferries) receive some public funding. Local road infrastructure funding sources - approximately 50% from the National Road Fund and 50% from rates (a levy on land owners); State highway funding sources – 100% funded through the National Road Fund. Enforcement of regulations and standards is partly funded by central government and partly funded by operators within the industries. Central government funding for public transport has been significantly increased under a new patronage funding based scheme. Under this scheme a regions public transport will be funded according to patronage, and will receive increased rates of funding for increases in patronage over an agreed baseline.

Cooperation: New Zealand is party to a large number of multilateral transport-related international agreements across all the transport modes. Due to the fact that New Zealand is an island nation (and does not have any land borders), most of these agreements relate to the maritime and aviation modes. New Zealand is not a party to any bilateral maritime or land transport agreements, except for the following general agreements: Trans Tasman Mutual Recognition Agreement, Australia New Zealand Closer Economic Relations Agreement, New Zealand's Participation in International Organisations and For a. New Zealand is a member and participates actively in many international organizations and other transport related fora, including: Asia Pacific Economic Co-operation (APEC) forum, where New Zealand is currently the lead economy of the APEC Transportation Working Group, International Civil Aviation Organization (ICAO), International Maritime Organization (IMO), Australian Transport Council (ATC) (as an observer), World Road Association – PIARC, REAAA - Road Engineering Association of Asia and Australasia, and Austroads - NZ and Australian state/ territory roading agencies, among others.

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CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

Decision-Making: Several government ministries and departments are concerned with demographic issues. These include: Statistics New Zealand; Department of Social Welfare; Ministry of Housing; Department of Internal Affairs; Ministry of Transport; Ministry of Health; Te Puni Kokiri - Ministry of Maori Development (TPK); and Ministry of Women's Affairs. Other agencies such as the Department of Conservation, the Ministry of Education, and the Ministry for the Environment are also indirectly involved in demographic issues. Additionally, local authorities and women are involved. The New Zealand First Party, a partner in New Zealand's recently formed coalition Government, has proposed the development of a population policy for New Zealand.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: A variety of public information activities contribute to raising awareness of the linkages among population, environment, and sustainable development issues. These include workshops for local government on Agenda 21 follow up, public meetings held during the development of Government's Environment 2010 Strategy, and a variety of local government meetings.

Information: The New Zealand Official Yearbook - a compendium of facts and figures on New Zealand, published annually by Statistics New Zealand - contains data on, among other things, population, social framework, health and safety, education, employment, science and technology, land and environment, national economy, agriculture, forestry and fishing, energy, housing, transport, and trade.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: New Zealand Official Development Assistance (NZODA) has taken particular care to ensure that women are involved in decision making at all levels of population and sustainable development strategies, policies, projects, and programmes. Within NZODA, support for population activities has been channeled mainly through multilateral agencies and international NGOs. The main contribution was NZ\$1 million to the work of the UN Population Fund (UNFPA) and NZ\$750,000 to the International Planned Parenthood Federation. In the South Pacific, New Zealand has supported population and development activities on a small scale. In 1995, NZODA provided some support for reproductive health research and for reprinting the publication, Pacific Islands Populations, originally produced by the South Pacific Commission for the Cairo Conference on Population and Development. In addition, NZODA provided financial assistance for the South Pacific Alliance for Family Health, a regional NGO.

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CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

Decision-Making: The Public Health Commission (PHC) is responsible for improving and protecting public health. The PHC was recently merged with the Ministry of Health. The Ministry of Health, the four regional health authorities who are purchasers of health and disability support services, and public health service providers, all maintain and encourage consultation with key groups and sectors. Territorial authorities are required to consider their statutory responsibilities under the Health Act 1956 to improve, promote and protect public health in their districts. Functions with public health implications include the provision of sanitary works such as waterworks and the collection and safe disposal of sewage; and other areas such as liquor licensing; food hygiene; building legislation compliance; dangerous goods; civil defense; and bylaws for public health. Regional council functions that also influence public health include the management of the adverse effects of discharges of contaminants into the environment, and regional transport policies encompassing access, safety, energy, and environmental issues. Some regional public health service providers (i.e. functions relating to public health medicine and regulation, health protection, health promotion and health education, public health nurses etc.) participate in Local Agenda 21 programmes operated by local government. Collaborative working relationships are encouraged to improve, promote and protect public health at the national and local levels, for example between central government agencies, public health service providers, local government and different sectors, such as environment, education and transport.

Programmes and Projects: The incidence of HIV/AIDS in New Zealand is comparatively low, 9.8 per 100,000. Strategies to combat the spread of HIV/AIDS include the promotion of safe sex, education programmes targeted at high risk groups, and a needle and syringe exchange programme for intravenous drug users. These programmes are wholly or partly funded by the Government through the Ministry of Health, and implemented by Government agencies and non-government organizations such as the NZ AIDS Foundation and the New Zealand Family Planning Association. Two nationally-coordinated programmes for Maori include a sudden infant death syndrome prevention programme and a smoke free programme. Significant changes in road safety policy have been recently implemented to reduce the road death toll. A large education programme is currently underway on drink-driving and speeding, and work is being done on penalties for offences. Other changes under consideration include revised speed limits and more stringent vehicle safety standards.

Status: The PHC published a report on the health status of the New Zealand population in December 1993. The Report noted that despite the "high standard of health" that the country enjoys, "infant mortality has improved only slowly over the last few decades, although more recently, New Zealand saw a dramatic drop in sudden infant death syndrome of 33 percent among Maori and 53 percent among non-Maori between 1989 and 1992." The report demonstrated that New Zealand has high rates of injury and death from road traffic crashes, poisonings and accidents in the home. The incidence of heart disease, melanoma, and cancers of the large bowel and lung is also high. Recent statistics show that New Zealand has one of the highest rates of asthma-related deaths in the world. It also has one of the highest levels of youth suicide in the world, particularly among young males (in the 15-24 year age group). The Ministry of Youth Affairs, with support from the Ministry of Health and TPK, is currently developing a National Youth Suicide Prevention Strategy. The health status of Maori and other Polynesians, for a variety of reasons, is poorer than that of non-Maori and Polynesians.

Community services and high user health cards continue to be the main means in the health sector for ensuring access to health services. For example, for holders of these cards there are no charges for secondary and tertiary medical services. There are also limits in charging for items and consumables, although a range of subsidies are provided for assistance. There are no charges for hospital inpatient services and many day patient and outpatient services.

Capacity-Building, Education, Training and Awareness-Raising: See under "Programmes and Projects".

Information: See under "Status".

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: A number of local authorities in New Zealand have adopted the principles of Agenda 21 in their strategic planning processes, and at least three local authorities (Waitakere, Hamilton and Wellington) have joined the International Council for Local Environmental Initiatives (ICLEI). Hamilton City is one of 21 cities worldwide in ICLEI's Agenda 21 Model Communities Programme. Several local authorities within New Zealand have been active participants in the Healthy Cities-Healthy Communities programme of WHO since 1988. There is considerable potential for the Healthy Cities programme, with its inter-sectoral and collaborative approach, to complement and enhance the development and success of Local Agenda 21s. Some local authorities, for example, Hamilton and Christchurch, are actively promoting sustainable transport systems and have programmes to develop cycle ways and to encourage cycling.

Recent legislative changes have addressed issues of infrastructure and planning that relate to housing. The Resource Management Act put in place a new planning system, with decision making guided by criteria emphasizing impacts on the immediate environment. The Act allows the adoption of a more flexible, integrated and less centralized planning approach. Local authorities are obliged to consult with local communities in preparing their District Plans and these plans play a key role in resource utilization decisions. The Building Act 1991, established a single National Building Code, replacing a number of Acts and regulations and a multitude of individual codes create by local authorities. This helps to reduce building and compliance costs and hence the cost of housing. Guidance on ensuring that buildings are safe, durable, accessible and energy efficient is provided by 23 documents released in August 1992, which are to be updated on a rolling 5year review cycle. As of 1 July 1993, previous housing policies, which relied on subsidized loans and rental housing, were replaced by an Accommodation Supplement which aims to improve housing choices for lower income households by creating a transferable subsidy that is expected to enhance the efficient use of existing housing stock.

Programmes and Projects: No information available.

Status: New Zealand is a predominantly urban society with 85% of the population residing in urban areas and towns. The majority of New Zealanders are physically well-housed, and the adequacy of New Zealand's housing stock is illustrated by statistics which show that in 1991, there were just under 1.2 million permanent dwellings for a population of 3.4 million, or approximately three persons per occupied dwelling. A characteristic of housing stock in New Zealand is the high level of home ownership: 74% of all permanent dwellings were owner-occupied in 1991. Problems of inadequate or insufficient housing are infrequent and isolated, although it is accepted that some groups, particularly those on low incomes, are disadvantaged in finding affordable housing of a suitable standard. Funding to assist the provision of housing for those with special needs is provided through the Community Funding Agency of the Department of Social Welfare.

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 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

Decision-Making: In May 1993, the Government established an UNCED Implementation Officials Group consisting of the Ministry for the Environment (MFE) (convenor), Ministry of Agriculture (MAF), Ministry of Commerce (MCM), Department of Conservation (DOC), Ministry of Foreign Affairs and Trade (MFAT), Ministry of Forestry (MOF), Ministry of Research Science and Technology (MORST), Ministry of Transport (MOT), Ministry of Maori Development - Te Puni Kokiri (TPK), Department of Prime Minister and Cabinet (DPMC), and the Public Health Commission (PHC) (now the Ministry of Health (MOH)).

Both central and local government in New Zealand have important and complementary responsibilities in implementing sustainable resource management through their planning and management responsibilities under New Zealand's Resource Management Act 1991. Such legislation includes: the Forests Amendment Act 1993, the Biosecurity Act 1993, the Fisheries Act 1996, the Hazardous Substances and New Organisms Act 1996, and the Ozone Layer Protection Act 1996. Along with this legislation, the Government has developed a number of strategies and policies that contribute to the achievement of sustainable development. These include: the Environment 2010 Strategy, The Green Package announced in the 1996 Budget, the Research Science and Technology 2010 Strategy, and the New Zealand Coastal Policy Statement (NZCPS), among others.

Central to the development of the plans is consultation with regional government's constituent stakeholders. Regional government has a significant and key role in implementing the Resource Management Act. In planning for resource management, regional councils must prepare policy statements specifying policies and objectives for the management of resources in the region and the methods by which these will be achieved. Regional councils may also prepare regional plans which further detail the use of specific resources. Territorial authorities must prepare district plans which include controlling the effects of land use, controlling noise, and protecting rivers and lakes. The Treaty of Waitangi, signed in 1840 between Maori tribes and the British Crown, provides the basis from which Maori interests are expressed and can be realised. Existing mechanisms for resolving claims by Maori include the Waitangi Tribunal. The Minister of Maori Affairs is required to report to Parliament on an annual basis on progress made by the Government on implementation of Waitangi Tribunal recommendations. The current government policy is that all major claims under the Treaty of Waitangi made by Maori will be resolved by the turn of the century. Quality decision making practice obliges Government to consult widely when making decisions affecting the environment and, more particularly, the Principles of the Treaty of Waitangi require that iwi (Maori tribes) are consulted.

There is no government policy on assistance to major groups but major groups participate in follow-up through their own specific networks, and those that they have with relevant government agencies. Several of the major groups have their own coordination networks. Major groups participate in the design of national policies through the open consultative process of policy formulation. This includes the use of discussion papers, open to public submissions, in the development of policies (e.g. Environment 2010 Strategy). It also includes the opportunity to make submissions to local government on the formulation of their statutory planning documents (e.g. District Plans), and to government during the development of legislation. New Zealand's preparation for CSD meetings is an open process. Delegations to CSD meetings have been small. Both industry and environmental NGO representatives were included in the New Zealand delegation to the 1995 session of CSD.

Programmes and Projects: No information available.

Status: The Resource Management Act provides for public participation in establishing national policy statements, regional policy statements, and regional and district plans. The Resource Management Act focuses on enabling people and communities to provide for the social, economic, and cultural well being and their health and safety while sustaining the potential of natural and physical resources and avoiding, remedying, or mitigating any adverse effects of their activities on the environment. This is a major change from some of the previous laws which prescribed what activities could go where, for example, agriculture or forestry, residential or commercial development. The Act requires a clear definition of environmental outcomes, including sustainable development

limits, but provides freedom of economic and social choice within those limits. Integrated and coordinated approaches to Government decision-making are reflected in policies such as the directive for all government departments to take into account "the collective interest of the Crown" (including specifically its environmental goals) in policy making.

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: Since Rio, several pieces of legislation have been set in place that give effect to many of the Rio Principles and many aspects of Agenda 21 (as well as to the other Rio agreements viz: the Framework Convention on Climate Change (FCCC), the Convention on Biological Diversity (CBD), and the Forests Principles).

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CHAPTER 9: PROTECTION OF THE ATMOSPHERE

Decision-Making: Responsibilities for environmental decision-making are allocated to the level of government most closely affected by the use of the resource. Regional councils, under the Resource Management Act (1991), are charged with achieving “integrated management of the natural and physical resources of the region”. Regional councils have responsibility for granting resource consents to discharge contaminants to air, water or land. Central government (The Ministry for the Environment) can develop national policy statements and environmental standards to address environmental issues affecting the whole nation. These statements and standards set the policy boundaries from which local authorities develop their own policies and regulations. At a national level, executives of all government departments whose activities affect the environment are required to consider environmental goals in their annual budget planning process.

Relevant legislation includes: the Energy Efficiency and Conservation Act 2000, Ozone Layer Protection Act 1996, Resource Management Act 1991, ambient air quality standards, developed in 1994, Energy efficiency standards and labelling of certain electrical goods being considered, and Mandatory removal of lead from vehicle fuel. Under consideration is Mandatory energy performance standards and labeling. Greenhouse gas emissions price measures include a pilot carbon trading scheme pre-2008. Non-price measures include a government leadership programme in energy efficiency, establishing energy efficiency standards and labels, incorporating climate change in transport, waste and agricultural policy development. Policy objectives include the following issues: Green House Gas emissions, Conserving and increasing greenhouse gas sinks, Ozone, Transboundary air pollution, Industrial Pollution. New Zealanders have the opportunity to participate in policy formulation through a variety of means including responding to discussion papers and attending public meetings – both at central and local government level. MfE has regular meetings with non-governmental organisations, industry and professional bodies and climate change is always on the agenda.

Programmes and Projects: In the industrial sector, there are programmes for Voluntary industry agreements (with anticipated replacement by negotiated greenhouse agreements in due course) and Energy performance standards (regulations in preparation). In the agricultural sector multiple research programmes are underway – including modification of rumen bacteria in cattle, efficient irrigation practices, effects of soil pH and N₂O.

Status: There is no specific atmosphere protection strategy in New Zealand per se. New Zealand, as a party to the Montreal Protocol, is committed to phasing out the production and use of ozone depleting substances. New Zealand has several policy initiatives addressing the emission of greenhouse gases, with the intention of ratifying the Kyoto Protocol in mid 2002. New Zealand achieved the national goal of phasing out consumption of all but essential use applications of ozone depleting substances by 1 January 1996. New Zealand is also targeting the phase-out of HCFCs by 2015.

Sinks: Tree planting is sometimes encouraged through some resource consent conditions as offsets to greenhouse gas production and is also indirectly encouraged through pre-emption of an international carbon sink trading scheme. There are no transboundary air pollution problems due to the geographical location of New Zealand in the Southern Pacific Ocean. The 1990 Ministry for the Environment report on climate change impacts concluded that those at the lower end of the socio-economic scale, including Maori, were more likely to be severely impacted.

The rates of new forest planting have varied during the 1990's but have generally declined since 1994. The Asian financial crisis has had an influence in the level of new investment in forest growing in 1999. Small growers are expected to continue to dominate new planting. Because of New Zealand's geographic isolation in the southwest Pacific Ocean, it is virtually free of any major influence of transboundary air pollution resulting from industrial accidents and natural disasters. Air pollution monitoring data shows that air pollution occasionally exceeds international guidelines, usually in traffic corridors but can occur over wider ambient areas in winter. Urban pollution is caused by the cumulative effect of winter time open fires and wood burners, motor vehicle emissions, and in some areas, industrial emissions

Capacity-Building, Education, Training and Awareness-Raising: The Government/MfE is currently developing a comprehensive climate change communication strategy designed to promote public awareness of climate change as an important environmental, social, and economic challenge, and to articulate the Government's policy response to this challenge. Details will be made available through websites, and media. Efforts are being made to inform the public of the international and national issues surrounding climate change and policy options through consultation, and the use of the media. There are targeted media releases from the Climate Change Group within the Ministry for the Environment. The Climate Change Group (MfE) published a summary of climate change issues of New Zealand, entitled "Climate change background information". NIWA provides free copies of its quarterly publication *Water & Atmosphere* to secondary schools throughout the country. The National Institute of Water and Atmospheric Research, in collaboration with the University of Auckland, has developed a joint partnership to encourage the study of climate change processes by postgraduate students. There are many Government funds and private scholarships for PhD and post-PhD studies, as well as for repatriation of scientists working overseas. For example the New Zealand Science Mathematics and Technology Teacher Fellowships (for secondary school teachers) and the Bright Future Scholarships (for graduate students).

Information: Information collection includes routine measurement of GHG, O₃ and depleting substances and surface temperature; rainfall and other standard meteorological data. There is a comprehensive data into public database (NIWA). Indicators include emissions inventories for UNFCCC, and importation of CFCs and HFCs. Publications include: NIWA climate update, MfE publications and discussion documents, NZ and international science journals. Various information such as indicators, air quality (NIWA) database, and inventory reports can be found on the internet.

Research and Technologies: Research and Technologies include the following: Atmospheric changes are measured using balloon and ground-based observations. Measurements are made of UV radiation, of O₃ and O₃-depleting substances, as well as clean air observations of CO₂, CH₄, and N₂O concentrations for climate change science; Instruments used in observing atmospheric changes include gas chromatographs and mass spectrometers; There is an early warning system in place insofar as there is constant measurement and analysis of both climate change and O₃ substances. Within the agricultural sector there are many research projects underway. Scientists are examining the potential to reduce NO₂ emissions by changing the pH level in soil. Scientists are also working on reducing CH₄ and N₂O emissions by changing rumen bacterium in livestock and by testing grass type regimes. Technologies are being developed that will improve the cost effectiveness of non-renewable energy resources, such as wind generation. Science bodies and government officials are currently designing an impact study. Studies on lead and benzene in the air are ongoing. There have been studies and reports prepared on odour control from industrial processes such as composting for mushroom culture, fish processing and pulp and paper. The Land Transport Pricing Study being done by the Ministry of Transport, in bringing together existing material on environmental externalities of land transport (such as those associated with air quality, noise emissions and greenhouse gases), also includes consideration of the health effects of land transport. The Government is also developing a light vehicle fleet model based on New Zealand light vehicle fleet composition in 1992. Once completed, this model will be used to predict the likely vehicle emissions out to 2025 and used to develop policy options to manage emissions from the light vehicle fleet.

Financing: Funding for policy advice in the climate change area was increased significantly in the 2000/2001 financial year. (New Zealand spends around 23 million dollars on climate and climate change research.) There are many travel funds available for overseas research and secondment. For example, the International Science and Technology (ISAT) linkages fund, the Bilateral Research Activities Programme (BRAP), the NZ/USA Science and Technological Co-operative Science Programme (NZ/USA CSP) and the NZ/FRG Scientific and Technological Co-operation (STC) Agreement Programme (FRG).

Cooperation: Ozone-related cooperation includes: Compliance with Montreal Protocol; Participation in international debates and the Meeting of Montreal Protocol Parties; Amendment of terms of the Montreal Protocol; Focusing part of the Overseas Development Assistance budget to assist Pacific Island nations with their Montreal Protocol obligations. NZ is a party to the 1992 United Nations Framework Convention on Climate Change and 1997 Kyoto Protocol; the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, as amended. The

New Zealand Government has announced its intention to ratify the Kyoto protocol by mid 2002. The Montreal Protocol was ratified by New Zealand 21/7/88, UNFCCC was ratified 1993, the London Amendment (1990) was ratified 1/10/90, and the Copenhagen Amendment (1992) was ratified 4/6/93.

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

Decision-Making: The central government agencies primarily responsible for New Zealand's integrated approach to planning and management of land resources are the Ministry of Agriculture (MAF); the Ministry for the Environment (MFE); the Department of Conservation (DOC); Land Information New Zealand (LINZ) (formerly part of the Department of Survey and Land Information (DOSLI); the Ministry of Maori Development - Te Puni Kokiri (TPK); and the Ministry of Research, Science and Technology (MORST). Most of these agencies are members of the UNCED Implementation Officials Group. Specific initiatives take place at community and sector group levels as well as within the local and central government.

The New Zealand Government has accorded control of pests (animal pests, weeds, diseases etc.) a high priority through the introduction of the Biosecurity Act in 1993. This Act seeks to decentralise the control of pest species, make pest control agencies accountable for their actions, and to make the funding of pest control transparent. The Act enables regional and central government agencies to develop Pest Management Strategies for the control of any harmful species to levels consistent with regional or national goals. Regional Councils are working to develop policies and plans to address sustainable land use issues identified through the Regional Policy Statements that they are required to produce under the Resource Management Act 1991. While priority issues vary to reflect regional concerns, accelerated soil erosion and degradation of elite soils are the two most frequently raised issues.

A significant part of the responsibility for land management lies with local authorities and community groups. For example, fifty-five Landcare, community-based groups have been established throughout the country to collaboratively address local problems; Federated Farmers of New Zealand is involved in several projects directed towards establishing farm-based indicators of sustainable land management; Women's Division of Federated Farmers is preparing a resource kit aimed at assisting the establishment of community-based groups; and the Rural Futures Trust is promoting the adoption of Decision Support Systems and sponsoring the development of ecologically-based condition assessment models as tools for better farm management decisions.

The Department of Conservation currently allows over 600 tourism concessionaires to operate in New Zealand's protected areas. A recently adopted Concessions Policy covers all tourism business operating or applying to operate in New Zealand's national parks, reserves and conservation areas. The policy requires all tourism concession applicants to prepare an environmental impact assessment. Tourism concessions will only be granted if they are consistent with the protection of natural resources. A comprehensive public consultation process ensures that concessions are environmentally and socially acceptable and conditions in concession leases and licenses ensure the businesses will be environmentally sustainable.

Programmes and Projects: Several councils have rate-payer funded programmes in place to assist with farm soil conservation and sustainable land management activities. District Councils are also considering how they may best include land use issues in their District Plans. The Waitakere City Council is actively considering urban sustainable land use issues through its Eco-City Project. All councils are considering the best means to implement resource monitoring responsibilities.

Status: Although many of the elements and activities necessary to achieve integrated sustainable land management are in place or being worked on, the Government recognises that a more strategic approach would deliver the desired outcomes more quickly and efficiently. Such an approach is envisaged in the proposed New Zealand land management strategy, *Caring for our Land*. The proposal to develop this strategy is a direct response to both the national significance and the complex nature of current sustainable land use issues, and the need for coordination of the wide range of individuals, groups, and agencies that are involved. *Caring for our Land* will develop a common framework within which priorities for action can be identified, responsibilities and accountabilities accepted, and collaborative work programmes developed. The development and implementation of *Caring for our Land* were identified as priority tasks in the Government's Environment 2010 Strategy. The statutory framework for this is the

Resource Management Act 1991 and the Biosecurity Act 1993. The Government's Sustainable Agriculture Strategy, Quality Products from a Quality Environment, is an important component.

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

Information: No information available.

Research and Technologies: A number of government-led initiatives on sustainable land management are currently underway. MORST's Strategic Consultative Group on Sustainable Land Management Research is working to establish priorities for research and science that will contribute to the achievement of sustainable land management. Key national priorities for sustainable land management research, have been identified in Science for Sustainable Land Management - Towards a New Agenda. The Public Good Science Fund will continue to make a significant investment in sustainable land management research.

Financing: Both the East Coast Forestry Initiative and the Sustainable Agriculture Programme of the MAF are providing support to initiatives directed towards sustainable agriculture throughout the country. The Minister for the Environment's Sustainable Management Fund is providing project support for a broad range of resource management activity, including farmer-based sustainable land management initiatives.

Cooperation: No information available.

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CHAPTER 11: COMBATING DEFORESTATION

Decision-Making: The Government has signaled its desire to promote investment in forest growth through its taxation regime. New Zealand's tax system is such that the costs incurred by a forestry business in planting, tending and maintaining a crop of trees are fully deductible from income of any source in the same year costs are incurred. This system replaced the previous system whereby forest growing costs were deferred until an income was generated from the harvest of that forest. Thus, forest product businesses are now treated in the same way as other businesses in terms of taxation. Voluntary measures that enhance the protection and sustainable management of New Zealand's forest resources include the New Zealand Forest Code of Practice and the New Zealand Forest Accord. The Forest Heritage Trust Fund and Nga Whenua Rahui were established by Government to help achieve the objectives of the Government's Indigenous Forest Policy.

The Imported Tropical Timber Group (ITTG) was formed in response to concern by the New Zealand public, timber trade and conservation NGOs over the link between the import of tropical timbers and unsustainable logging of tropical forests. Since 1991, the ITTG, representing New Zealand conservation organisations, timber importers, and building supply retailers, with the Ministry of Forestry as observer, has been assisting the transition of the New Zealand trade to certified sustainable sources of imported tropical timbers.

Programmes and Projects: No information available.

Status: New Zealand's forests cover about 28% (or 7.5 million hectares) of the country's land area. Of this, 6.2 million hectares is natural forest, and 1.3 million hectares, planted forest. The area of planted forest is currently increasing at about 80,000 hectares per annum, and this rate may be maintained for the next 20 to 30 years. If this happens, New Zealand's planted forests would account for more than 4 million hectares by 2020.

The State owns 4.9 million hectares of the country's natural forest. Most of this is managed for conservation values. Only 164,000 hectares of it is managed for wood production. Under the Forest Amendment Act 1993, areas of natural forest that are used for production must be managed in way that maintains the ability of the forest to continue to provide a full range of products and amenities in perpetuity while retaining the forest's natural values. The ownership of New Zealand's planted forests has undergone considerable change since 1990, with the sale of timber and management rights to much of the State's forest resource. Before 1990, the State owned about half the planted forest. From 1 April 1993, the State owned, or had a commitment to manage, about 20% of the resource. Of the balance, three-quarters is owned by seven major corporations, with considerable offshore investment, while about one-quarter is owned by small companies, local government bodies, partnerships, joint ventures, and farmers.

Maori are significant players in the New Zealand forestry sector. There are approximately 7,000 hectares of Maori-controlled forest, and a further 140,000 hectares of forestry on Maori-owned land. In some regions of New Zealand, this involvement is more significant, for example in Northland, where Maori forestry holdings make up more than 25% of the planted estate. Increasingly, Maori see forestry as a significant vehicle for sustainable capital development to benefit both current and future generations and, in some of the Maori areas, new tribal-based forest companies are emerging.

Capacity-Building, Education, Training and Awareness-Raising: Universities and tertiary educational institutions are responding to student interest in forestry by developing an array of forestry-related courses.

Information: Domestically, forests are included in New Zealand's National Environmental Indicators Programme being coordinated by the Ministry for the Environment.

Research and Technologies: On 1 July 1992, a Crown Research Institute called the New Zealand Forest Research Institute was established to carry out research for the development of New Zealand's forestry products. Research on sustainable management of land resources is provided by other Crown Research Institutes, including Landcare

Research Limited. Forestry is one of the priority areas for science funding, with special emphasis given to forest processing research.

Financing: No information available.

Cooperation: New Zealand is actively involved in the Montreal Process to develop indicators of sustainable forest management.

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CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

Decision-Making: The main government agency responsible for mitigating the effects of drought is the Ministry of Agriculture. Other Government departments involved in the South Island high country and the east coast of the North Island, but not directly involved in combating desertification are the Department of Conservation in respect to crown-owned land; Terra Link New Zealand Limited (formerly part of the Department of Land and Survey Information) in respect of land mapping and use monitoring; and the New Zealand Meteorological Service for meteorological and hydrological monitoring. In addition, the Ministry of Forestry administers forestry initiatives on the east coast of the North Island.

Programmes and Projects: In 1989, the Rabbit and Land Management Programme (RLMP) was established to address the complex bio-physical, economic, social, legal, and institutional issues surrounding the sustainable use of lands in highly rabbit-prone areas. The Rabbit and Land Management Programme addressed serious land degradation on approximately 400,000 hectares of dry tussock grasslands in the South Island high country, about one-eighth of the pastorally occupied high country of the South Island. The RLMP ended in June 1995 but research in this area continues. An important outcome of RLMP has been the involvement of high country farmers in monitoring their land and their recognition of the need to know more about long-term trends in the health of their soils and plants, the performance of their stock and the damage done by pests and weeds. Central government funding for the RLMP averaged NZ\$3.5 million per year for the 5-year programme. This provided approximately 50 % of funding, with roughly 25% each coming from regional councils and participating landholders.

New Zealand is currently focusing on: developing land user, community, research, and agency partnerships to define, achieve and reach consensus on resource protection objectives; development of long-term community-based resource monitoring systems that can meet the needs of land users and regulatory agencies; research at the ecosystem/land use system level and processes and mechanism for information exchange both within land user communities and between research, education and agency interests.

Status: As prolonged droughts are relatively uncommon in New Zealand, there is no specific legislation related to desertification and drought. Climate is influenced by the country's latitude, shape, geographical isolation, and topography, resulting in mild temperatures and year-round wind and rainfall in most areas. Two areas of New Zealand, the east coast of the North Island and the South Island high country, however, are prone to drought. The dry tussock grasslands of the South island high country, characterized by high rugged mountains, extensive basins and river flats, have a "continental", highly variable climate, with extremes of heat and cold, and some parts are in danger of becoming a desert. This is due to a combination of factors including climate, the invasion of hawkweeds, high rabbit populations, and the inappropriate use of some land. This area is classified as semi-arid.

Consistent with the government's economic policies, individual landholders accept that they must manage climatic risks. It is now recognized that disaster relief programmes can contribute to environmental degradation by distorting risk perceptions of land users and thereby encouraging unsustainable use of land and other resources. Where support is provided, it is in a manner that does not reduce individual responsibility for managing risk. Government expenditure on disaster relief, which includes flooding, drought and hail/snow storms has declined from NZ\$72 million in 1988/89 to NZ\$5.6 million in 1992/93.

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

Information: No information available.

Research and Technologies: No information available.

Financing: See under “Programmes and Projects” and “Status”.

Cooperation: The International Convention to Combat Desertification in Countries Experiencing Drought and/or Desertification, Particularly in Africa has not been signed.

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CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

Information on this topic may be found under Chapter 12, **“Desertification and Drought”**.

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CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

Decision-Making: The Central Committee on Agriculture is funded by the central government. The agencies involved are MORST, MAF, MOF, DOC, FRST, Regional Councils, and other key stakeholders including commercial land users, NGOs, and the science community. Several joint initiatives between MAF and other key departments address the action required for managing land resources. The initiatives include the New Zealand Sustainable Land Management Strategy, and the development of a National Science Strategy (NSS) for Sustainable Land Management (SLM). Within MAF's Sustainable Agriculture Facilitation Programme, current work, and the strategy through to the year 2000, are focused on the following key themes: achieving consistent implementation of local government policies and plans developed under the Resource Management Act and the Biosecurity Act, including attention to participation processes; facilitating the brokerage of information and decision support tools and technologies for sustainable agriculture; encouraging the inclusion of sustainable agriculture principles in mainstream education; providing well targeted and appropriate operational research - particularly on understanding the factors contributing to sustainable agriculture systems; development of management planning and decision support systems; and collaborative, participatory community research to support the uptake of sustainable technology and management practices.

Programmes and Projects: No information available.

Status: The Government's Environment 2010 Strategy identifies several areas posing environmental and long-term productive capacity risks for land use. These include: land degradation as a result of soil erosion, soil compaction and other factors; rundown in soil health; and effects of water quality and availability. Actions required for managing land resources include: encouraging land management practices that reduce soil loss, and maintain or enhance the quality of waterways, groundwater, and coastal waters and protect them from suspended sediments, nutrients, harmful microorganisms and other contaminants; avoiding, mitigating, and remedying the impacts of land-related hazards, including flooding, subsidence, and erosion; and developing land management skills and land use systems that will enable people and communities to provide for their social and economic well-being.

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

Information: No information available.

Research and Technologies: The National Science Strategy for Sustainable Land Management (NSS), established by the Government in 1996, is an integral part of the overall Sustainable Land Management Strategy announced by the Government and coordinated by the Ministry for the Environment. The NSS is developed and implemented by a central and three regional committees. A task of the committees will be to improve the still-poor understanding on the part of many New Zealanders of their land resources and how human activities affect them, and the long-term monitoring and assessment of environmental trends, through coordinated science. The committees will also have the key roles of monitoring, coordinating, and advocating science which enhances sustainable land management. They will seek to strengthen the links among science, policy, and land management, enhancing the transfer of the findings of land management research to land users and policy makers.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

Decision-Making: Measures that are available under a variety of legislation (e.g. the Resource Management Act) and agreements (e.g. the Forest Accord) ensure that any use of those forest resources not currently protected, is sustainable and does not contribute to the loss of biodiversity, or result in land degradation. Key issues under action in relation to the Convention on Biological Diversity include: the development of a national biodiversity strategy; investigating the possible establishment of a National Science Strategy for biodiversity; enhancing public and industry awareness of the Convention and of New Zealand's indigenous and endemic biodiversity; measures to address the impacts of harmful alien species; and ensuring that approaches to access to genetic resources are based on mutually agreed terms.

Programmes and Projects: No information available.

Status: The Government of New Zealand undertook a careful analysis of its legislation and policies before ratifying the Convention on Biological Diversity (CBD) in September 1993. In doing so, it considered the status and management of its forests and related dependent ecosystems and species. The protected forested areas provide a significant contribution to in situ conservation of New Zealand's biodiversity.

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 Convention on Biological Diversity was signed in 1992 and ratified in 1993. The Convention on International Trade in Endangered Species of Wild Fauna and Flora was ratified in 1989.

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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: There is no overall government mechanism for identifying and promoting environmentally sound technologies. It has been decided that the market provides the most effective mechanism for achieving this, because individual firms are in the best position to assess their needs and to influence market outcomes. When government has intervened, it has been on specific issues, such as energy efficiency, and has involved promoting objectives rather than specific technologies. Broadly, however, there are incentives to identify and implement the most environmentally sound technologies available for any particular activity. In the context of the Resource Management Act which is effects based and concentrates on the environmental effects of human activities, rather than on the activities themselves. This means that if a particular industrial activity can meet a communities environmental standards, that business should be able to operate in the area. Legislation is in place to protect Intellectual Property Rights (IPRs) and include the Patents Act 1953, the Designs Act 1953 and the Trade Marks Act 1953. These are compatible with applicable international agreements. However, the Acts are not specifically concerned with promoting investments related to the transfer of technologies.

Biotechnologies: In New Zealand the management and control of hazardous substances and new organisms, including those derived from biotechnology, has been done by several agencies and under several different laws and until recently there was no legislation in New Zealand that specifically covered Genetically Modified Organisms (GMOs). The result of long and careful consultation with many sectors of the community, the Hazardous Substances and New Organisms (HSNO) Act was created and provides for a coherent overall system for the management of hazardous substances and new organisms so as to provide for the health and safety of people and the environment. To administer the legislation, the HSNO Act establishes a new agency, the Environmental Risk Management Authority (ERMA). The ERMA is responsible for assessing hazardous substances and new organisms, including GMOs, before they are manufactured, developed, imported or released into the New Zealand environment. Until the ERMA is fully operational, the Ministry for the Environment will continue its responsibilities for administration of two advisory committees: - the Advisory Committee on Novel Genetic Techniques (ACNGT), which is responsible for contained laboratory and glasshouse manipulation work; and the Interim Assessment Group (IAG) for the field testing or release of genetically modified organisms (GMOs).

Programmes and Projects:

Technologies: The Ministry, working with industry, regional and local authorities, and other sector groups, has also established a number of cleaner production demonstration projects throughout the country.

Biotechnologies: No information available.

Status:

Technologies: No information available.

Biotechnologies: In summary, New Zealand has responded to the advent of biotechnology by establishing mechanisms, comparable to similar developments overseas, to safeguard the environmental and public health concerns against possible consequences of an undesirable GMO release into the environment, but at the same time allowing research and development to proceed.

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

Technologies: Some sector-based government departments and regional councils are active in promoting and distributing information on specific aspects of environmentally sound technology, such as energy conservation and efficiency.

Biotechnologies: No information available.

Information:

Technologies: Although there are no central databases on environmentally sound technologies, nor any Government initiatives targeted specifically at environmentally sound technologies, information on

environmentally sound technologies is held by a wide variety of independent and quasi-government agencies. In addition, New Zealand has a sophisticated library and communications system which allows ready access to most publicly available sources of information on environmentally sound technology, both in New Zealand and overseas but there is no centralised process for evaluating the range of technologies being developed overseas. Such evaluation is done on an ad hoc basis, and further work would be required to assess any gaps and deficiencies in the quality and accessibility of information on environmentally sound technologies. With regard to energy efficiency, the Energy Efficiency and Conservation Authority (EECA) is the main information source. The EECA holds information about energy efficient technologies to support government activities and provides information and support services of high quality and easy accessibility to clients. The needs of clients are continuously being reviewed and updated to ensure that the information systems are relevant.

Biotechnologies: No information available.

Research and Technologies:

Technologies: The Ministry of Agriculture (MAF), under its Sustainable Agriculture Facilitation programme, commissions research and distributes information on environmentally sound technology through a publication series. An example of this is a recent report on Treatment of Dairy Shed Effluent which examines each disposal method and the outcomes of using each method. The Ministry of Agriculture has also commissioned research into identifying farm-level constraints and designing strategies to facilitate adoption of new sustainable technologies and farm management practices that are environmentally and economically sustainable. Although there have been similar studies done in the past, this study will concentrate on farmers identifying the constraints to technology uptake and both farmers and researchers providing solutions. Various agricultural industry organisations such as the Meat Research and Development Council (MRDC) and the New Zealand Dairy Board provide information on environmentally sound technologies at the national level. The MRDC runs monitor farms which test technologies and management methods. The results of these practical trials are then published widely so farmers can use the information in running their farm.

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: The main agencies with responsibility for marine environmental matters include: Department of Conservation, Regional Councils, Ministry of Fisheries (Mfish), Ministry of Transport (MoT), Maritime Safety Authority (MSA), Environmental Risk Management Authority (ERMA), Ministry of Commerce (MoC), Land Information New Zealand (LINZ), Ministry of Agriculture and Forestry (MAF), Ministry of Foreign Affairs and Trade (MFAT), Ministry for the Environment (MfE), Ministry of Research, Science and Technology (MoRST), Foundation of Research, Science and Technology (FRST), National Institute of Water and Atmospheric Research (NIWA), Institute of Geological and Nuclear Survey (IGNS), Cawthron Institute, and Universities. The Territorial Sea and Exclusive Economic Zone Act 1977 establishes New Zealand's jurisdiction over the 12 nautical mile territorial sea and 200 nautical mile exclusive economic zone (EEZ) around New Zealand. It provides for the exploration, exploitation, conservation, and management of resources within the EEZ. The Resource Management Act 1991 (RMA) identifies coastal management as being of particular importance and simultaneously defines a new regime for the coastal marine area which extends to the outer edge of the territorial sea. Other relevant legislation includes: NZCPS, Marine Transport Act, Marine Mammals Protection Act, Marine Reserves Act, Fisheries Acts (1986 and 1993), Ballast water and ships hull de-fouling Regulations, Fish and Game Council controls and permits/licenses for fresh water fish, including salmon, Regulations under the Maritime Transport Act, among others. No single coordination mechanism has been established, but interdepartmental interaction is fostered through information consultations and peer review on issues of mutual interest to several agencies and through the consultative process required by the "Cab 100" process for initiatives that require the approval of Cabinet. Within the territorial sea, various Acts that apply may include general principles that facilitate coordination among relevant agencies. New Zealand, as an open democracy, offers a variety of opportunities for the participation of major groups in the formulation of policy and development and operation of legislation. These include the use of public discussion documents, public meetings hui, and other forms of consultation (e.g. telephone submissions) during the formulation of policies, strategies, and plans, and written and oral submissions to parliamentary committees and members of parliament during the formulation of legislation.

Programmes and Projects: A variety of programmes have been instigated at local and regional level to address aspects of integrated coastal zone management, marine environmental protection, and sustainable use and conservation of marine resources. There is a wide variety of activities underway at local levels throughout New Zealand. These include for example Manukau-Harbour restoration work; Royal Forest and Bird Protection Society's Marine Farming Effects Information Kit, through Sustainable Management Fund (SMF), and work on the restoration of Pauatahau Inlet.

Status: New Zealand comprises two main and a number of smaller islands. Their combined area of 270,500 square kilometres. New Zealand is 1,600 kilometres long, and 450 kilometres wide at its widest point. It has a long coastline for its area, the coast is very indented in places and it has many natural harbours. The current major use of its coast are multiple. They include the location of major population centres, fishing, recreation, tourism, mining and oil exploration, and a variety of industries. Fishing and hunting comprised about 0.3% of GDP (based on 1996 data). Shipping impacts on the sustainable management of coastal zones through benthic and shore disturbance in some inland waters. The severity, nature, and frequency of impacts vary widely depending on locality and the industry involved (e.g. tourism, aquaculture, mining, industrial outfalls and spillages, vessel effects, etc.) The Resource Management Act and NZCPS govern the use of resources in coastal areas.

Primary sources of land-based pollution of the marine environment are non-point source (e.g. agricultural and urban run-off), sewage (most of which is treated), industrial discharges and dumping (including spoil and rubbish). Discharges and dumping from vessels are controlled by domestic legislation that complies with MARPOL and the London Convention. Problems are also caused by toxic algal blooms and invasive organisms (introduction of alien species). Priority constraints to implementing effective programmes to address the issues related in the programme areas include: A lack of information/data on the ecosystems concerned - particularly those beyond the range of

investigation by Scuba, and A significant constraint for regional councils is that they face competing demands for their resources.

Capacity-Building, Education, Training and Awareness-Raising: Several New Zealand Universities offer resource management courses, elements of which cover coastal management. Examples include: the University of Otago's New Zealand Marine Studies Centre ("An Environment of Discovery"). This facility provides specialist workshops, summer programmes and study courses for students, educators, special interest groups, industry, regional authorities, the general public, and government departments. The Marine Safety Authority (MSA) holds training courses for oil spill managers and operators of equipment in both regional councils and industry. Campaigns and other efforts to raise awareness of issues related to sustainable development and the oceans and seas include the following: DOC's Conservation week activities, NZ United Nations Association's Ocean Day event; Initiatives of ANZECC's Implementation Group for the Maritime Accidents and Pollution Action Plan (e.g. "Clean Water Campaign", etc.); Environment and Conservation Organisations of Zealand (ECO) Seaviews Conference-Marine Ecosystem Management - Obligations and Opportunities (Wellington February 1998); Royal Forest and Bird Protection Society (general awareness raising campaigns); Greenpeace New Zealand (general awareness raising on marine pollution and other issues); NIWA and the Royal Society of New Zealand's IYO initiatives.

Information: National information available to assist both decision-makers and planners working in coastal areas is available in the following areas: Sustainable management of fishery resources: Fish stock assessments, growth rate data and some other parameters of population dynamics on some major species. Marine pollution: Information on this is patchy (ranging from excellent to zero), and varies with the nature of the pollution. The use of GPS and GIS is fairly common in New Zealand. Since 1993 all foreign owned and domestic fishing boats must have an automatic location communicator - giving the vessel GPS determined location under regulations under the Fisheries Act. Fisheries statistics are available through written reports. In November 1998 the Ministry for the Environment released the discussion document Environmental Performance Indicators: Summary of Proposed Indicators for the Marine Environment.

Research and Technologies: Issues related to the development, transfer and use of environmentally-sound technologies in this programme area include: MSA (Oil spill technology, wool booms in residual oil spill cleanups, oil dispersants, "oil eating" microbes for treatment of waste oil); Development of captive breeding programmes for shellfish (to re-seed depleted areas); Experimental wave and tidal energy generation; Pharmaceutical products from marine organisms (e.g. sponges off Kaikoura); Development of natural health products from marine sources.

Financing: Fisheries research and some aspects of management are funded through government budget allocations and cost recovery from the fishing industry. Protected areas and species research and management are funded through national and regional council budgets and some cost recovery. Some coastal activities partly through local body rates and sector levies.

Cooperation: The UN Convention on the Law of the Sea was ratified by New Zealand on 18 August 1996. A full list of multilateral environmental agreements that New Zealand is signatory to, can be found in the State of New Zealand's Environment (Chapter 4) published by MfE in 1997. The most significant conventions and agreements affecting the management of New Zealand's marine environment include: The Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matters 1972 (the London Convention), The International Convention for the Prevention of Pollution from Ships, 1973/78 (MARPOL), The Convention on Biological Diversity (CBD), UN Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), Convention for the Conservation of Southern Bluefin Tuna (CCSBT), Convention on the Prohibition of Fishing with Long Drift Nets in the South Pacific (Wellington Convention), The Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention), and Convention for the protection of the Natural Resources and Environment of the South Pacific Region 1986 (SPREP), among others.

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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: The Ministry for the Environment is currently developing a coordinated strategy for water management namely the National Agenda for Sustainable Water Management (NASWM). Water management in New Zealand is devolved to Regional and District Councils. Domestic water supply is a local government responsibility. Some irrigation schemes are owned by the private sector, for example the Rangitata Diversion Race is a share holding of local farmers. New Zealand complies with virtually all the relevant recommendations for activities in relation to water management. This is primarily due to the infrastructure established under the Soil Conservation and Rivers Control Act 1941 and the Resource Management Act, (RMA) (and its amendments 1994,1996,1997). The latter also governs the use of water by agriculture, by industry and by households. The New Zealand Drinking Water Standards (Ministry of Health) and the bylaws of Territorial Authorities (e.g. District Councils) also apply to households.

A variety of legislation, strategies and practical guidance measures are in place, or being developed, to prevent pollution of, and conserve freshwater supplies. These include the Resource Management Act (RMA), the National Agenda for Sustainable Water Management (NASWM), the Sustainable Land Management Strategy (SLM), and Health Act 1956 (drinking water standards). Policies vary according to specific regional conditions. No pricing policy is implemented at the national level. Few regional-level pricing policies are being developed. District and City Council rates (local taxes) pay for water infrastructure. Rates are subject to fairly regular review. Specific policies relevant to local circumstances are being developed at the regional level to encourage the efficient allocation of water, for example tradeable permit regimes for specific aquifers. The Soil Conservation and Rivers Control Act 1941 contains provisions with respect to flooding. There is no specific policy to cover droughts, but situations are dealt with in an ad hoc way on a case by case basis. A review of emergency services is currently being undertaken by the Department of Internal Affairs.

The Resource Management Act allows for consultation with all parties (e.g. private sector) on resource management issues. Local government contracts private sector expertise on a variety of water management issues. Policy formulation often includes the release of discussion documents accompanied by a call for public submissions. The analysis of submissions received is taken into account in the iteration of policy. Public submissions, both written and oral, to parliamentary committees is also part of the process of developing legislation. Conflict resolution is conducted through the procedures of the Resource Management Act and Environment Court.

Programmes and Projects: No information available.

Status: New Zealand has a Water Quality Laboratory Registration System for drinking water supplies, based on best international practise. Virtually all waste water in New Zealand undergoes at least primary treatment. In situations where this is not so actions are either being planned or implemented to achieve it. Some local authorities and private sector operations recycle and reuse waste water, but in general there is little use made of recycled waste water. Almost all of New Zealand's urban sewerage is also treated. In terms of specific targets for coverage of water supply and sanitation, with 90% coverage achieved for public reticulated supplies it is generally considered that New Zealand has attained maximum coverage. Under the Building Act 1991 all dwellings must have potable water supplies and satisfactory sanitary facilities. Where necessary, all drinking water is treated before use. The purity of some sources is such that treatment is not required (e.g. some aquifer sourced drinking water supplying 25% of the population).

Pollution of rivers and coastal waters from point sources (i.e. specific sites such as dairy sheds, factories, sewer pipes) has declined over the last 20 to 30 years as treatment systems have been upgraded and alternative disposal methods are developed. Pollution from non-point sources (i.e. diffuse sites such as roads and paddocks) is still a

major problem, particularly on pastoral and horticultural land where organic matter, and sediments wash into waterways or nitrates leach into ground water.

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

Information: Information on water management and development in the agricultural sector is regularly collected by the regional and district councils. Some organisations, such as the Ministry of Agriculture, use information obtained from studies on water management and development in relation to agriculture to publish occasional reports on water issues. For the household sector, usage statistics and water quality data are collected by local authorities and provided to the Ministry of Health for storage on a national database. Based on this data publishes reports on water quality of all drinking water in New Zealand. Regional Councils collect abstraction and discharge data on the industrial sector that are available on request but are not widely distributed on a regular basis.

A lack of base information, including for example data on volumes used (and for what purposes) and the amount of water available e.g. as groundwater, are constraints to policy formulation. However, work developed under State of the Environment reporting and Environmental Indicators Programme will help to provide standardisation of data collection as well as a national environmental oversight. The Ministry for the Environment's Environmental Performance Indicators Programme plans to establish an information management network.

Research and Technologies: Research is conducted largely by Crown Research Institutes, particularly the National Institute of Water and Atmospheric Research Ltd, and the Institute of Geological and Nuclear Sciences Ltd and by Regional Councils. The research is largely funded through contestable programme contracts with the Foundation for Research, Science and Technology, which is the premier funding council for public good research in New Zealand. Smaller amounts of research are funded through the Ministry for the Environment and the Ministry of Health. There is limited research on water technologies, which rely largely on research from the rest of the world. The Government is developing a National Agenda for Sustainable Water Management (NASWM). Research is currently conducted on riparian management, eutrophication of slow flowing shingle rivers, flow requirements for ecosystems, lowland small low-flowing stream ecology, New Zealand indigenous fish, groundwater research, large estuarine research programmes on ecology, processes and function. A significant programme in freshwater/marine trace contaminants especially in sediments is also being conducted.

Financing: See under “Cooperation”.

Cooperation: Approximately 1% of NZODA bilateral assistance can be specifically identified for water resource management and development in the 1997/98 financial year. However, much assistance to regional and multilateral agencies, as well as a significant allocation within the bilateral programme is made to more general programme areas, or to rural/village development, small project, or volunteer assistance schemes within which local allocation decisions are made. These cannot be readily assessed for application to water resource management and development. New Zealand is a Party to the Convention and Statute on the Regime of Navigable Waterways of International Concern 1921 and Additional Protocol 1921. NZ has not entered into or is not taking part in any bilateral, sub-regional or regional agreements concerning the use of international watercourses, lakes, or groundwater.

In May 1997 the UN General Assembly adopted the Convention on the Law of Non Navigational Uses of International Watercourses. NZ voted in favour of the Resolution adopting the Convention on the basis that it represents an important development in international law. However, as an island nation, NZ is not a "watercourse State" as it has no "international watercourses" as those terms are defined in the Convention. NZ has made no decision as to whether it will sign the Convention or become Party to it. New Zealand is a Party to RAMSAR (some wetlands in which groundwater is included).

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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: More information on this topic may be found under Chapters 20-22, in "**Hazardous Wastes**".

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: New Zealand is Party to the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter (1972) but has not yet adopted a position on the November 1996 Protocol to the London Convention. New Zealand attaches importance to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, which it ratified on 20 December 1994. It ratified the Copenhagen Amendment to the Montreal Protocol on 4 June 1993.

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

Decision-Making:

Hazardous wastes: Over the last five years, work has been undertaken to improve current systems for managing both hazardous substances and new organisms. The result of this work is the Hazardous Substances and New Organisms legislation which became law on 10 June 1996. This legislation was prepared with extensive consultation with all stakeholders. The objective of the legislation is to establish a streamlined and up-to-date system, able to respond quickly to advances in technology, for managing hazardous substances and new organisms and their potential risks. Under the new legislation, all hazardous substances and new organisms will be assessed prior to their introduction, development or manufacture in New Zealand, using a public assessment process. An Environmental Risk Management Authority (ERMA) has been established as part of the legislation. ERMA is a regulatory authority which will approve, decline or attach conditions to the importation or manufacture of any new substances or new organisms; approve or endorse codes of practice; design procedures for the control of hazardous substances; and promote information about standards, compliance, and the maintenance and monitoring of these standards. It will operate independently, subject to Ministerial policy direction. A risk-based approach, for the assessment and management of contaminated sites has been completed, based on the Australian and New Zealand Environment and Conservation Council (ANZECC) guidelines. Specific disposal agreements with other OECD countries are in place for the disposal of certain hazardous wastes. A "Green Package", announced as part of the 1996 Budget, also included funding to address hazardous waste management through the development of hazardous waste acceptance criteria for landfills.

Solid wastes: The Ministry for the Environment (MFE) is most concerned with solid waste issues. The Resource Management Act provides part of the framework for dealing with waste issues. Many regional and local councils are developing policies and plans for waste management with advice from the Ministry for the Environment. The Ministry has produced a "Landfill Guideline" for use by local governments and industry. This provides advice on landfill siting, design, operation, and aftercare. It also discusses evaluation and assessment of environmental impacts for existing and closed landfills. The Department of Internal Affairs and the Ministry for the Environment promoted an amendment to the Local Government Act 1974 to clarify the powers of territorial authorities to promote and implement waste minimisation. In 1996 the Local Government Act No 4 was passed. This legislation incorporates the hierarchy of waste management (reduction, reuse, recycling, recovery, treatment, disposal), requires the development of waste management plans by district and city councils; allows the regulation of collection of waste, and provides the ability to levy fees and disposal charges for waste management. MFE is developing regulations for the disposal of sewage from ships within New Zealand's territorial waters. At the individual level, the aim of New Zealand's waste management strategy is to minimise waste, reuse resources, and adopt alternative means of disposal (e.g. making compost). At the industry level, the objective is to "ensure that, wherever practicable, waste generators meet the costs of waste management."

Radioactive wastes: No information available.

Programmes and Projects:

Hazardous wastes: The Ministry for the Environment supports seven demonstration projects on cleaner production techniques, in cooperation with industry and local governments. A "Cleaner Production" booklet which outlines a range of industry case studies has been published. The Ministry also promotes the establishment of further cleaner production projects by local governments and sector groups, and provides advice to councils involved in cleaner production programmes. A manual for industry and councils is being developed. Industry takes a leading role in dealing with chemicals and hazardous wastes. For example, the Chemical Industry Council has a Responsible Care programme for the management of hazardous wastes and chemicals. The oil industry, in conjunction with the relevant government agencies, has produced a guide to the installation of underground storage tanks. This work will be extended to address the removal of old tanks, site remediation, and sampling standards.

Solid wastes: The Government has signed an accord with the packaged goods industry, and assisted the oil industry to put in place a national Used Oil Recovery Programme. Regulatory and economic mechanisms will be pursued to back up voluntary initiatives.

Radioactive wastes: No information available.

Status:

Hazardous wastes: No information available.

Solid wastes: It has been estimated that New Zealand produces about 750-800 kg of municipal waste per person annually. In addition, industry is also a major waste producer with estimates ranging between 300,000 tonnes annually (a 1980s figure) and 600,000 to 1,000,000 tonnes annually (current estimates).

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: Information on the precise nature of the waste stream in New Zealand is poor and a Waste Analysis Protocol has been developed to provide a standard measurement system. This has been promoted to local authorities at a series of seminars around the country. A software package has also been developed to make the Protocol easier to use and make national data available. Information on solid waste is being collated for the first national data report due out in 1997. The further development of a more comprehensive database will be considered as part of the development of national environmental indicators for waste.

Radioactive wastes: No information available.

Research and Technologies:

Hazardous wastes: A study by the Ministry for the Environment has identified a range of sites which, based on past uses, could be contaminated with hazardous substances that may pose a risk to the health of people and ecosystems. These sites cover a wide range of activities, including uses such as service stations. Regional councils, assisted by subsidies from central government, are currently following up this study by carrying out extensive surveys of potentially contaminated sites in their regions. These surveys will help identify specific sites, evaluate risks and develop appropriate containment, remediation and "clean-up" responses.

Solid wastes: The Sustainable Management Fund (SMF), administered by the Ministry for the Environment, has supported several cleaner production projects to encourage innovation and adoption of cleaner production methods and technologies by industries and sectors such as pipfruit, fishing, and hospitals.

Radioactive wastes: No information available.

Financing:

Hazardous wastes: No information available.

Solid wastes: No information available.

Radioactive wastes: No information available.

Cooperation:

Hazardous wastes: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was ratified in 1994, but no information has yet been provided to the Basel Convention Secretariat. New Zealand ratified the Copenhagen Amendment to the Montreal Protocol in 1993.

Solid wastes: No information available.

Radioactive wastes: New Zealand ratified the South Pacific Nuclear Free Zone Treaty and protocols in 1986.

CHAPTERS 24 TO 32: STRENGTHENING THE ROLE OF MAJOR GROUPS

Women: Status: The percentage of women in parliament has increased from 14% in 1989, to 16.5% in 1990 and 29% in 1996. At the local government level there was 35% representation in City Councils and 21% in District Councils in 1989; Cooperation: The Convention on the Elimination of All Forms of Discrimination Against Women was signed on 17 July 1980 and ratified on 10 January 1985. Overseas, New Zealand continues to give priority to ensuring that ODA activities foster the role of women in development. The ODA programme recognises that the roles that women play, their economic contribution, and the constraints on their time and activity, are essential factors in sustainable development. The long-term goal of the Women in Development Policy (WID), adopted in 1992, continues to be the "WID-integration" of all NZODA funded projects. A WID Action Plan was developed in 1994 to implement this policy. A review of the WID Action Plan, carried out in October 1995, concluded that significant progress had been made both in terms of increasing support for WID specific activities and in integrating gender considerations into all projects and programmes.

Children and youth: Capacity-Building, Education, Training and Awareness-Raising: A joint project between the Ministry for the Environment, Ministry of Youth Affairs, and UNICEF was initiated in May 1993, to develop a Youth response to Agenda 21. Thirty thousand copies of a brochure on UNCED were circulated to youth groups and secondary schools around the country. This brochure provided youth with an opportunity to identify areas of Agenda 21 that they considered to be important and to suggest ways in which their community and country can respond to these. A "Youth Response to Agenda 21" is being prepared using the feedback from these responses.

Indigenous people: Decision-making: The Resource Management Act, the Conservation Act, the Environment Act and the Crown Minerals Act provide for explicit Maori involvement in a range of resource management functions. The Ture Whenua Maori Act 1993, emphasizes retention of Maori land by the Maori owners. Maori have been involved in the preparation of policy statements and plans, as well as relevant resource consent applications for development proposals. They are accorded a high level of consultation by local government, and Maori representative communities are attached to local government; Capacity-Building, Education, Training and Awareness-Raising: Information explaining the significance of UNCED for Maori was prepared and distributed to iwi (tribal groups) during a series of interactive workshops on resource management issues held in the winter of 1993. It was intended that feedback from these workshops would be used to prepare a Maori response to Agenda 21.

Non-governmental organizations: Decision-making: There are NGO UNCED Coordinating Committees in Auckland, Wellington, and Christchurch. Other national environment and development NGOs (including umbrella organisations such as ECO and ANGOA) also have active interests in Agenda 21-related issues. However, there is no single national coordinating mechanism for concerted action by NGOs or other major groups on Agenda 21 implementation. On a local level, small community groups such as the Christchurch Otautahi Agenda 21 UNCED-Earth Summit Committee on the Indigenous Ecosystems of Otautahi are involved in promoting the decisions of the Earth Summit, and in particular the biodiversity decisions; Information: A list of environmental groups in New Zealand can be found in the Environmental Directory published by the Ministry for the Environment.

Local authorities: Decision-making: In preparing the various strategic planning documents required by the Resource Management Act (and Local Government Act) most local authorities are giving effect to matters set out in Agenda 21. There is space for territorial authorities to go beyond this if they wish, and an increasing number of local authorities are preparing programmes that can be considered local Agenda 21s. Three local authorities have joined the International Council for Local Environmental Initiatives (ICLEI). Local authorities are obliged to consult with local communities in preparing District Plans which play a key role in resource utilisation decisions;

Capacity-Building, Education, Training and Awareness-Raising: Local authorities play a critical role in coastal management through information and awareness raising campaigns at the regional and local level; Cooperation: Local authorities also participate in the Health Cities-Health Communities programme of WHO.

Workers and trade unions: No information available.

Business and industry: Decision-making: A Business and Environment Conference was held in August 1993 for business leaders to promote concepts of eco-efficiency. The conference offered business leaders the opportunity to share success stories about incorporating environmental considerations into business management, and to learn how their competitors and colleagues are responding to the challenges of sustainable development. This conference was part of an on-going initiative to encourage businesses to regard environmental values as critical success factors in their marketing strategies. Programmes and Projects: Timber importers and building supply retailers have been involved in transforming the country's trade to sustainable sources of imported tropical timbers through the Imported Tropical Timber Group (ITTG). Industry has also assumed a critical role in the handling of chemical and hazardous wastes. The Chemical Industry Council created a Responsible Care programme for the management of hazardous wastes and chemicals. The oil industry has also been involved with the production of a guide to the installation of underground storage tanks.

Scientific and technological community: Decision-making: The implementation of sustainable development projects at the national level involves, in most cases, consultation between the Government and the relevant experts in the science community. Major Group organisations in the scientific and technological community also participate in the design of national sustainable development projects and policies. Examples include the maintenance of clean water supplies, the National Science Strategy for Sustainable Land Management, and the national environmental indicators project; Status: Efforts are being made to improve exchange of knowledge and concerns between the S&T community and the general public. Across all government agencies there is an increasing interest in participatory processes involving the public. The decentralized science system in New Zealand places emphasis on individual science agencies developing their own bilateral and multilateral programmes and linkages; Capacity-Building, Education, Training and Awareness-Raising; Information; Research and Technologies: Crown Research Institutes (CRIs) and Universities now have active strategies for communication with the general public, including producing publications aimed specifically at increasing public awareness. CRIs are required by legislation to transfer knowledge and technology, and therefore must have explicit communication programmes about their science and research. The Royal Society of New Zealand has an active programme of science communication, and the promotion of science ethics and codes of scientific practice, as well as committees in a range of areas related to sustainable development; Financing: The Government assists bilateral and multilateral programmes and linkages with small seed funding through several programmes of the International Science Linkages Fund, a science promotion fund. The Public Good Science Fund (PGSF) requires there to be a technology transfer component within all research bids it funds, including those relevant to sustainable development.

Farmers: Decision-making: The central government agency responsible for strengthening the role of farmers through sustainable agriculture and rural development programmes is the Ministry of Agriculture (MAF). There are numerous farmer and rural community groups that range from specific sheep breed societies to large industry producer boards. Federated Farmers of New Zealand (Inc) is the main sector organisation representing New Zealand farmers. A network of 24 provincial organisations and over 400 local branches provides a locally-based, democratic organisation that gives farmers a collective voice, both within their region and nationally. The New Zealand Federation of Young Farmers Clubs (YFC) and the Women's Division of Federated Farmers are other groups involved; Status: Local rural opportunity groups were formed to take on a diversity of functions and types of activities. Landcare groups, of which there are 90, have operated in New Zealand for many years in order to bring groups in a community together to tackle a common problem such as animal pests, erosion, or any other problem that may affect a rural community. YFC current membership is approximately 3,000 people dispersed throughout 200 clubs in New Zealand. Membership is open to anyone between 15 and 30 years of age. Women's Division Federated Farmers has 410 branches throughout New Zealand which provide opportunities for fellowship, education, community service and action according to local needs. It aims to strengthen rural communities and promote the welfare of rural families.

CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

Decision-Making: No information available.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: In the context of NZODA, capacity building is one of the guiding principles of NZ's development assistance programme. In the Pacific region (the main focus of NZODA) there is a new programme of assistance under development which has capacity development for environment management as its underlying theme. Key policy within this framework is for fully participatory project design and implementation, and for flexibility in the programme to assist the process of participation at appropriate paces and lengths of commitment.

Information: No information available.

Research and Technologies: In terms of tools and methodologies that have been developed to assess and monitor progress in the area of capacity-building, for NZODA projects participatory monitoring is developed at the project level, and mid term reviews and evaluations provide for periodic adjustment/better targeting of projects. Management Services Consultants are contracted by NZODA to supply oversight, facilitation and technical input to major project areas. Regional networking, information exchange, workshopping and tool development is supported by NZODA for regional priorities such as the development of community based approaches to sustainable development.

Cooperation: Through the Official Development Assistance (NZODA) programme, New Zealand contributes to the promotion of sustainable development in developing countries. Many New Zealand development assistance projects have helped to address environmental problems and provide strategies for sustainable development. These include agro-forestry, soil conservation, land-use planning, water resources management, fisheries research and management, aquaculture, geothermal and hydro-electricity planning, environmental education and management training, and forestry conservation.

The New Zealand Government recognises the urgent need for international cooperation to achieve sustainable social and economic development. At UNCED, New Zealand agreed to commit new and additional resources for sustainable development projects of global environmental benefit and has since taken a decision to contribute financially to the Global Environmental Facility (GEF), including an amount of NZ\$10.4 million to the 1994-96 replenishment. About half of this is supplementary to the assessed share. At UNCED, New Zealand joined other developed countries in reaffirming its commitment to reach the accepted UN target of 0.7 % of GNP for ODA. It noted, however, that the availability of additional ODA resources would have to be considered by the Government in the context of domestic economic circumstances. In 1995/96, the total ODA allocation of New Zealand was approximately 0.23% of the country's GNP. The major part of this (over 80%) is an allocation of NZ\$164.670 million for the bilateral and multilateral programmes, administered by the Ministry of Foreign Affairs and Trade.

The small island states of the South Pacific are the major focus of New Zealand's ODA programme. Some 47% of the total ODA figure, that is about NZ\$77 million, goes towards programmes in the South Pacific. The main part of this allocation consists of NZ\$64.9 million for bilateral country programmes in the Pacific. This assistance goes mainly to the Polynesian and Melanesian countries with which New Zealand has traditional links, mainly as members of the Commonwealth. Some NZ\$2.3 million goes towards regional programmes which includes sectoral programmes in education, health, women-in-development, agriculture, good governance, economic development and trade, as well as programmes in private sector development. In addition, NZODA contributes some NZ\$9.5 million to the work of regional agencies in the South Pacific. The regional agencies receiving NZODA support include: The Forum Secretariat, the South Pacific Commission, the South Pacific Regional Environment

Programme, the Forum Fisheries Agency, the South Pacific Applied Geoscience Commission, the University of the South Pacific, and the South Pacific Board for Educational Assessment.

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CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

Decision-Making: Science is provided to Regional Councils who are responsible for resource management at the regional level. At the national level science advice is inputted to departmental policy advice, The Ministry of Research, Science and Technology has a cross-departmental advisory function that also contributes to this. At a lower level, the Government is able to enhance scientific understanding and improve long-term scientific assessment, capacity, and capability in specific areas through its priority-setting process for the Public Good Science Fund (PGSF), which funds about 50% of all government-funded research in New Zealand. This process involves dividing the allocated funding among 17 socio-economic output areas. The most recent priority-setting exercise, which is a highly consultative process, resulted in significant funding increases for outputs relating to primary production industries, energy research, society and culture, natural resources, land and freshwater ecosystems and marine environments, and climate and atmosphere. Within each of the remaining outputs, there is provision for research concerned with the sustainable utilisation/development of resources of the industry in question.

Several aspects of sustainable development are included within the priorities of the PGSF, the government fund for strategic research, but there is no overarching mechanism for prioritising national research for sustainable development. The PGSFs cross-output themes give priority to research related to sustainable development in the following areas - development of a body of knowledge on society and on addressing social issues; development of a body of knowledge on the natural and modified environment and on addressing environmental issues; global climate change (information and implications); and sustainable land management.

National Science Strategies Committees (NSS) have been established to coordinate and advise on research priorities for sustainable land management and climate change, and the appropriateness of a NSSC for biodiversity is also being investigated. The Committees develop science strategies for each area, as well as identifying priority topic areas, funding levels and information transfer needs. The Committees advise the Minister of Research, Science and Technology, and develop the strategies in consultation with the science providers, funders and users of science.

Programmes and Projects: No information available.

Status: No information available.

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

Information: Although no direct attempt has been made to assess New Zealand's national scientific knowledge in the area of sustainable development, the Government has taken a strategic approach to promoting the long-term contribution of research, science, and technology (RS&T) to its social, economic, and environmental objectives, many aspects of which relate to sustainable development. This approach is described in *Research Science & Technology: 2010*, which sets three high-level goals, namely: fostering societal values and attitudes that recognise science and technology as critical to future prosperity; ensuring an adequate level of investment in science as a component in national life which has a cultural value in its own right; and maximising the direct contribution of science and technology to diverse social, economic and environmental goals.

Several Government documents, strategic statements and NSSs have identified research needs and priorities in numerous areas contributing to sustainable development. There is significant science effort in New Zealand toward understanding the physical aspects of sustainable land management (SLM). This area receives 81% of current funding for SLM research, with 4% dedicated to cultural and social aspects and 15% to understanding economic and financial objectives. Although it is recognised that the impact of human behaviour poses the biggest threat to SLM, there is currently little social science input to the management of the land.

Research and Technologies: Specific steps taken to enhance scientific understanding which may, directly or indirectly, underpin sustainable development include: NSSs (a mechanism for coordinating research and advising on priorities). A NSS has recently been established for sustainable land management; Marsden Fund which aims to broaden and deepen the research skill base by supporting excellent science; Technology for Business Growth scheme, to promote technology uptake for business growth by encouraging private investment in RS&T; Technology Uptake and Innovation programme - to encourage technology uptake and innovation through exposure to experts in S&T and the promotion of technological capabilities acquisition.

Financing: The latest R&D statistics, for 1993/94, provide the following break-down of expenditure by key area of activity. In 1993/94 the total R&D undertaken in New Zealand was NZ\$824.8 million, up just over 9% from NZ\$754.5 in 1992/93. The real growth rate of New Zealand's total expenditure on R&D since 1989 has now risen to the same level as that of reference countries (Sweden, Norway, Finland, New Zealand, Austria, and Ireland), and exceeds the rate of growth in the OECD. Through the RS&T: 2010 strategy statement, the Government has committed itself to increasing expenditure from the current 0.57% of GDP to 0.8% by 2010. As part of achieving this goal, the Government is increasing funding for the PGSF from NZ\$256 million to NZ\$330 million over the next 5 years. The estimated funding of R&D by the business sector has increased substantially from NZ\$245.4 million to NZ\$293 million in 1993/94, or from 0.29% of GDP to 0.35% of GDP.

Cooperation: No information available.

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CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

Decision-Making: The Ministry of Education (MOE) is primarily responsible for developing national guidelines on all aspects of education, including national curriculum development objectives. Several other agencies, including the Ministry for the Environment, the Department of Conservation, and the Ministry of Agriculture are also involved to some extent in giving specialist advice. MOE is not currently a standing member of the UNCED Implementation Officials Group, but it uses consultative and contractual approaches to obtain advice on environmental education. Stakeholders consulted include the teaching community, women, youth, indigenous people, and the scientific and technical community. The primary role of the Ministry of Women's Affairs is provision of gender-specific advice to the Government on public policy issues. It has identified a number of key areas for women's progress toward equality. These include work on a greater sharing and valuing of unpaid work and increased employment opportunities; and work in education and training, effective compulsory education for Maori, and effective post-compulsory training, including business skills and industry training.

New Zealand is in the process of developing an environmental education strategy to establish an integrated national approach to environmental education across all sectors of the community. It will be linked to the government's long-term environmental and educational strategies. The strategy--scheduled for completion in May 1998--was developed through a two-year process of consultation with relevant sectors and interested people in the community. Guidelines to assist teachers in integrating environmental education into curriculum subjects are still under consideration by the Ministry of Education and are expected to be completed towards the end of 1998. Consideration is being given to various mechanisms for delivering environmental information and resource material to schools.

Many local authorities are developing innovative approaches, policies and strategies for environmental education, which include business and community education as well as activities with schools. Several local authorities, for example, run water conservation campaigns. To increase public awareness local networks of teachers, NGOs, and central and local government officials are being developed in a number of regions. The primary purpose of these networks, which serve as branches of the New Zealand Association for Environmental Education, is information exchange, especially about local environmental issues and resources.

Programmes and Projects: The Ministry of Agriculture has a Sustainable Agriculture Programme, which aims to raise the awareness of the farming community of sustainable agriculture and related issues. MAF also produces school education kits on sustainable agriculture which seek to educate young people about New Zealand's agriculture and to survey changes in land management and planning. Aside from this programme there are other innovative education activities related to sustainable development such as the "Land care Trust" initiative, administered by the Ministry for the Environment which provides information and training to people interested in establishing land-care groups.

Status: The Education Act 1989 provides for free education in state primary and secondary schools between the ages of five and 19, and attendance is compulsory until the age of 16 years. In 1998 the school leaving age rises to 17. New Zealand is fortunate that absolute poverty as defined by the 1995 Copenhagen Social Summit is not part of its economic and social environment.

Information: The promotion of education for the environment is a stated goal in the government's "Environment 2010 Strategy". The governments' general strategy for education is contained in the document "Education for the 21st Century" which covers from pre school to tertiary levels (and is available to the public from the Ministry of Education.) The Ministry of Education also produces Curriculum Guidelines on specific areas of curriculum. There are seven core curriculum topics namely: health and physical well being; the arts; social studies, technology; science; mathematics; and language and languages. Guideline documents are provided to all schools and are available to the public from the Ministry of Education. Environmental education is treated as a cross curriculum topic.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: NZODA also sponsors a number of regional initiatives in this area. Examples include: Agricultural Institutional Strengthening Project: Papua New Guinea - to increase the teaching and training capabilities of two PNG colleges and enable them to produce quality graduates, especially female, who will assist in increasing agricultural expertise and production. Project is targeted towards improvement of the welfare of rural people through curriculum development, staff training, farm development and management, and gender training and support at the two colleges. Rural Water and Sanitation Schools Project: Solomon Islands - design and training in the use of water and sanitation teaching resources for primary school and kindergarten teachers as part of a joint SIGOV/NZODA/AusAID Rural Water Supply and Sanitation project. Objective to increase access to drinkable water, sanitary facilities and information about sanitation for rural men and women. Assistance to SPREP - specific assistance is given the environmental education programme within the South Pacific Regional Environment Programme.

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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

In signing and ratifying international agreements, the Government of New Zealand uses established mechanisms and consultative processes that consider the relationships and overlaps between agreements. Where new policy is being developed and proposed, all significant proposals require the approval of the Cabinet, usually via the relevant Cabinet Committee. Proposals are required to clearly state the issue under consideration, set out options for change, and evaluate these, reporting on the impact on the public good. Consultation is undertaken in the development of the proposals. Papers are required to be circulated to departments whose interests may be affected so that Ministers are well informed of any impacts on the economy and the environment.

The sponsoring department must attach a signed certificate to each proposal confirming that consultation has occurred and that other departments' views are reflected in the proposal. In addition to this process, where significant reform is being considered, interdepartmental working groups are often established to ensure integrated consideration. Through this process, relationships and overlaps between issues and international agreements are covered and integration and consistency with government is maintained.

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

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CHAPTER 40: INFORMATION FOR DECISION-MAKING

Decision-Making: New Zealand has no single agency responsible for the collection, analysis, management, and dissemination of information and data related to “sustainable development” per se. However, there are several agencies involved with performing these functions for social, economic, and environmental aspects of sustainable development. These include the Ministries of: Environment, Economic Development, Social Policy, External Relations and Trade, Treasury and Statistics. An E-government strategy is currently being developed by State Services Commission (SSC). Among other things the strategy and programme will target data discovery, access, links and interoperability. Other existing mechanisms include: Interdepartmental meetings; consultation among departments in the preparation of Cabinet papers; Memoranda of Understanding or Agreement between relevant agencies/entities; and Multi-departmental project teams.

A variety of instruments address the flow and management of information for decision making in New Zealand. These include: The Statistics Act; The Resource Management Act; The Local Government Act; The National Census; and Numerous private sector surveys on social/economic/ environmental/and political topics. The Ministry for the Environment’s work programme includes a programme on Environmental Performance Indicators. There is an action plan to develop multi agency partnerships, standards, and a linked distributed information network that will provide better access to environmental information

A wide range of entities is involved in this, from individuals through to organisations. Organisations and groups include Universities, Crown Research Institutes, Local Authorities and Government Departments (including, for example, Te Puni Kokiri (the Ministry of Maori Development), and Maruwhenua, (the Ministry for the Environment’s group for the analysis of indigenous peoples’ issues), The private sector, and Industry groups.

Programmes and Projects: E-govt is the main overarching strategy driver (www.ssc.govt.nz). One objective of e-govt (www.ssc.govt.nz) is to strengthen electronic network capabilities, however the programme does not contain a specific section on sustainable development. There are also general programmes (such as Computers in Schools), which will lead to strengthening electronic networking capabilities. Major initiatives in this area include: publication of a report on the state of public health in New Zealand; publication of a report called "Measuring Up" which presents information of New Zealand's atmosphere and climate and other environmental areas; publication of the first State of the Environment Report for New Zealand; the development of a set of National Environmental Indicators; publication of "Community Help" which provides information to rural and urban people on services provided by government departments, state owned enterprises, and non-government agencies; expansion of the "Rural Bulletin" which provides information on government policies and programmes and on rural development initiatives to over 1,500 rural networks; publication of a Community Development Resource Kit by the Department of Internal Affairs which provides information on legal structures and entities needed for sustainable community development activities; and the development of Link Centres which provide information on government activities.

Status: There is no single formalised information network specifically for sustainable development: but there are many relevant internet sites. There are no consolidated data available to allow an objective assessment of this. Development of headline indicators of sustainable development is in progress. These will serve planning, assessment/monitoring, and research ends. Environmental indicators are widely used in New Zealand for planning, decision making, education and research.

The Ministry of Agriculture has commissioned several research programmes for the development of indicators of sustainability of agriculture. MAF has also held seminars with farmers and other government agencies to determine additional indicators. MAF is also currently involved in the OECD development of agri-environmental indicators. The Ministry for the Environment is currently coordinating the development of a core set of environmental indicators, and a framework for gathering, analysing, and releasing such information. The indicators will supply information for regular State of the Environment Reports. While there is a programme to develop a set of national environmental indicators, the Government has not had a specific programme to develop or use indicators of sustainable development at the national, regional, or local level. Central and local government agencies are

developing their own sets of indicators for their own purpose, to assist planning and resource allocation, service provision or other actions. The Maori indicators strand of the Environmental Performance Indicators Programme – is developing indicators that will; meet the expressed needs of whanau, hapu, iwi to retain their cultural integrity of culture and lifestyle; Kia manaaki te taiao (expressing a wish to care for the environment), educate the rangatahi (younger generations), and retain linkages; Manaaki te whanau – kai, care for the family; and, Sustain the mauri o te Taiao (the life force of Maori, and their relationships to the environment, for younger generations) .

Challenges include: The integration of social, economic, and environmental data for decision makers. The storage of and ease of access to/or retrieval of data. Improving the efficiency of distribution networks and data management. Achieving efficient cross institutional/organisational integration and coordination of information. Having agreed metadata standards and compatible distributional networks (computer systems & infrastructure) in operation. Related to this is achieving interoperability – methods for information collection and standards for data transfer.

Capacity-Building, Education, Training and Awareness-Raising: The State of the Environment Reporting and the EPI processes mentioned above promote public awareness and usage of information on sustainable development related issues. The Ministry for the Environment is planning a public outreach programme in connection with preparations for the World Summit on Sustainable Development. The EPI programme provides tools that will allow experts and technical staff to improve the collection assessment, monitoring, management and reporting on a range of information related to indicators.

Research and Technologies: Satellite imagery is being used to identify and map environmental data, and is being used in conjunction with new environmental classification systems, for monitoring and reporting land, freshwater, marine, and biodiversity indicators. The use of extended mark-up language (XML) is being used by MfE and e-govt in a distributed framework for information collection and reporting. Geographic Information Systems (GIS) is also being used for web based reporting and analysis, enabling overlaying of information to assist pre-set queries in web reports. Web based meta data directories will be implemented through the EPI Programme. Portals are being developed for communities of interest, for example a national portal for environmental information

Financing: The Sustainable Management Fund (SMF) – has a funding section on information management and sharing

Cooperation: New Zealand's relationships with the organisations such as the Organisation for Economic Cooperation and Development (OECD), Australian and New Zealand Environment and Conservation Council (ANZECC), Commission on Sustainable Development (CSD), South Pacific Regional Environment Programme (SPREP) involve cooperation on bilateral, regional, and international basis in gathering and sharing information on sustainable development. New Zealand's Official Development Assistance has as one of its guiding principles "building capacity", including institutional strengthening which could include the development and management of information systems. Australia and New Zealand Land Information Council (ANZLIC), is working on common standards for information management, for example metadata. New Zealand has good working relations with Australia on the World Wide Web consortium (W3C) and the Open GIS consortium. In developing both environmental performance indicators and headline indicators of sustainable development New Zealand has drawn on the relevant and related work of the CSD, the OECD, and on the experiences of close neighbours.

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CHAPTER: INDUSTRY

Decision-Making: There is no specific overarching Government policy to promote green industries in New Zealand. However, there are several programmes and initiatives that encourage improved environmental performance by businesses and industries. These include cleaner production initiatives; voluntary waste reduction agreements (e.g. on packaging and waste oil); and "Environmental Choice" (a voluntary ecolabel).

Programmes and Projects: No information available.

Status: In general, green industries would benefit from the Government's overall economic policies which are aimed at creating an environment that is conducive to sustainable economic development and growth along with maintaining an open and internationally competitive economy. Key components include: responsible fiscal management; low inflation; trade liberalisation; reducing the cost of doing business; reducing taxes and tariffs and fostering innovation by marrying up the research and science community with the private sector.

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

Information: The Government's Coalition Agreement also calls for the development of a range of options for company environmental reporting. The MFE is currently developing environmental performance indicators for all resource users, which will allow the measurement of progress towards achieving environmental goals and policies by all sectors.

Research and Technologies: No information available.

Financing: The Ministry for the Environment's Sustainable Management Fund is available to all sectors, including industries, and has funded the development of Environmental Management Systems (EMS).

Cooperation: No information available.

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CHAPTER: SUSTAINABLE TOURISM

Decision-Making: The organizations responsible for sustainable tourism in New Zealand are the Department of Conservation, the Office of Tourism and Sport, and the New Zealand Tourism Board. The Ministry for the Environment and the Parliamentary Commissioner for the Environment also have interests in the subject (e.g., ME's work on Cleaner Production in the Tourism Sector). At the local level, Regional Councils and Territorial Local Authorities are responsible.

Under the Resource Management Act, the statute which controls the use of land, air and water resources, there is an obligation on the relevant authorities to monitor the use of resources and a general obligation to ensure that the aim of sustainable resource management is achieved. In addition, the Department of Conservation monitors activities in National Parks to ensure that they are in line with the appropriate management plans. Tourism operators are required to ensure that their activities conform with the bottom line of sustainable management contained in the RMA. They have a general obligation under the Act to avoid, mitigate or remedy any adverse environmental effects of their activities. About thirty percent of New Zealand's land mass is set aside as national parks (some of which have World Heritage status). Activities in these areas are controlled by the National Parks Act.

The Resource Management Act and the National Parks Act contain detailed guidelines on how to perform an Assessment of Environmental Effects when applying for consent to develop land, water or air or establish a business in a national park. Territorial Local Authorities prepare District Plans (which are essentially resource policies or plans) to guide all resource development, and regional councils prepare a range of policy instruments. Central government can also prepare National Policy Statements on any issue in regard to resource use. No plan has been produced for tourism at this stage. The Department of Conservation also has an Environmental Care Code which is applied to all activity in the National Parks and which stresses day-to-day environmental care. The RMA may impose fines of up to \$200,000. Further fines of \$10,000 per day are payable for continuing offenses. In addition, a sentence of imprisonment of up to two years may be imposed.

All Major Groups can participate in production of the plans and policies that guide resource use. The Resource Management Act sets down a very open and consultative framework to follow. Further, individual applications for resource consent (essential permission to use a resource) are, in some circumstances, opened for public comment.

Programmes and Projects: Major programmes to promote sustainable tourism include the following: Foundation for Research, Science and Technology: This Government Department is funding the following six tourism specific studies: (1) Sustainable Maori Tourism for Tai Tokerau; (2) Impact of Tourism on Sustainability of Trout Fisheries; (3) Improved Management of Tourism Flows and Effects; (4) Developing Special Interest Tourism for Local Economies; (5) Sustainable Tourism; and (6) Improving Service Sector Competitiveness. New Zealand Tourism Board/Office of Tourism and Sport/New Zealand Tourism Association: Resource Management Strategy for Tourism. The Ministry for the Environment's Environmental Indicators Programme is developing indicators for land, air, freshwater, climate change, ozone, the marine environment, terrestrial and freshwater biodiversity and waste. Although not specifically focused on tourism, the indicators will be of value to all resource users, including the tourism sector.

New Zealand's "clean and green" image is a cornerstone of the country's international marketing programmes. Eco-tours and environmentally-friendly activities are widely available. Individual companies such as Whale Watch Kaikoura are earning an international reputation for their approach. Environmental Hotels of Auckland is a successful pilot to a wider Environmental Hotels of New Zealand Programme. Hotels are voluntary members, and the scheme provides information on energy savings and resource savings for commercial accommodation establishments.

Status: Overall, the need to act in a sustainable manner, to protect the resource that makes tourism possible, appears to be generally and widely accepted. Tourism currently plays the following role in the economy: earnings of \$4.3 billion, or 15.3 percent of GDP; 1.4 million visitors per annum; 150,000 New Zealanders, or 8.8 percent of

the workforce, are estimated to be reliant on tourism; 16,500 small and medium enterprises (13,500 of which employ fewer than five people); 6.5 percent of the total Goods and Services Tax (GST) take approximately \$353 million. From 1988 to 1998, tourism in New Zealand grew by 58 percent. New Zealand recognizes that the Maori heritage has an important role to play in tourism. This role is constantly being defined and refined over time. Sustainable tourism is being pursued on many varied fronts; however, some commentators have noted the lack of a co-ordinated strategic approach. Such an approach may help improve sustainable management.

Capacity-Building, Education, Training and Awareness-Raising: Education on the environment and sustainability is widespread in schools, polytechnics and universities. Awareness programmes on sustainable tourism are carried out through the Department of Conservation's Environmental Care Code. The Department of Conservation also has visitor centres of various sizes in most national parks. At popular parks these centres serve upwards of 100,000 people per annum. The centres contain a wide range of information on nature and the environment and on caring for the environment/appropriate use of national parks, etc. Aspects of New Zealand's marketing campaigns are specifically geared to attract environmentally-conscious tourists. Further, as noted previously, New Zealand's whole marketing strategy is underpinned by an image on New Zealand as "clean and green" environment.

Information: Internally, the Ministry for the Environment, Department of Conservation, Office of Tourism and Sport, New Zealand Tourism Board and the Parliamentary Commissioner for the Environment promote -- through publications, web sites, and their routine contacts with relevant stakeholders -- the concept of sustainable tourism. A wide range of information is available from best practice manuals (APEC, Ministry for the Environment, Ministry of Agriculture and Forestry), to policy and academic literature. There is no single point of access for information, which varies across the country. Potential users will find a variety of information by use of standard web search techniques. The Ministry for the Environment's Environmental Indicators Programme, while not specific to tourism, will provide useful information for tourism, a resource user. FRST sponsored projects will also contribute significantly in this field.

District and regional resource plans cover the whole country. They are not tourism specific but offer an inventory of resources and ecosystems which vary in quality and depth of detail. LINZ (Land Information NZ) has various topographic maps of various levels of detail for the whole country. Individual regions may have tourism resource inventories of their own. Various organizations such as botanical societies, entomological societies and other specialist interest groups have assembled flora and fauna inventories and ecosystem information for areas where tourism occurs. DOC also holds such information.

Research and Technologies: Environmental Hotels of Auckland was a successful pilot study that looked at energy savings and waste minimisation in selected Auckland Hotels. This pilot is in the process of being taken "national" by the New Zealand Tourism Industry Association. It is a voluntary programme.

Financing: Various funding arrangements exist. Some government funds are available e.g. through science funding for research and limited funding for some non-commercial development. Industry associations provide some funding for information provision and assistance. Tourism marketing funding is provided by Government and industry. For the most part, there are no external assistance programmes.

Cooperation: Cooperation with local authorities takes place as outlined in terms of resource management in previous questions. The private sector is active in promoting New Zealand's "clean and green" image and in pursuing sustainable developments. New Zealand's Official Development Assistance (NZODA) programme contributes to the promotion of sustainable development in developing countries. Many NZODA projects have helped to address environmental problems and provide strategies for sustainable development. These include work on eco-tourism. Full details (including programme profiles) can be found at the Ministry of Foreign Affairs and Trade's Development Cooperation Division's web site.

New Zealand provides assistance to ecotourism in both the Pacific and Asia regions. Under the NZODA bilateral programme a number of specific projects are supported including: Solomon Islands - World Heritage Project; Fiji -

Koroyanitu and Bouma Projects; Project design is proceeding for ecotourism projects in the Philippines. Under regional funding New Zealand has recently established a new programme, the Pacific Initiative for the Environment which has prioritised ecotourism within sustainable resource use for particular assistance. To date regional training has been assisted and a regional review workshop of Pacific ecotourism development has been run. Outputs from the workshop are expected to attract further requests for funding assistance from this programme.

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