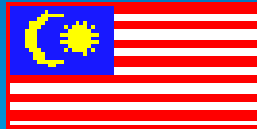


# JOHANNESBURG SUMMIT 2002

MALAYSIA



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.

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## LIST OF COMMONLY USED ACRONYMS

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

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

UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNIFEM	United Nations Development Fund for Women
UNU	United Nations University
WFC	World Food Council
WHO	World Health Organization
WMO	World Meteorological Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization
WWF	World Wildlife Fund
WWW	World Weather Watch (WMO)



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

**Decision-Making:** the Ministry of Foreign Affairs spearheads international Cooperation, while the External Assistance Section of the Economic Planning Unit is responsible for coordinating incoming bilateral and multilateral assistance, as well as managing the Malaysian Technical Cooperation Programme (MTCP). Given the openness of Malaysia's economy, the economic dimension assumes significance in the conduct of the country's foreign policy. Malaysia also assumes a proactive posture in addressing the emerging regional and global issues. National development planning is addressed in the nation's two primary policy initiatives, the ten-year Outline Perspective Plans and the five-year Malaysia Plans, which set out the broad policy objectives for the overall economic development of the country. The Second Outline Perspective Plan (1991-2000) provided the platform for the implementation of the National Development Policy (NDP), which was aimed at achieving, balanced development and strengthening Malaysia's position as a modern industrial-based economy. The Eighth Malaysia Plan (2001-2005) in turn recognizes that an integrated and coordinated approach is needed to support sustainable development objectives. See also under **Status**.

**Programmes and Projects:** Vision 2020 is Malaysia's overarching development policy objective. Vision 2020 describes the long-term development aspirations of Malaysia and emphasizes that Malaysia, in pursuit of economic development, will "ensure that her invaluable natural resources are not wasted"; that is, "the land must remain productive and fertile, the atmosphere clear and clean, the water unpolluted, the forest resources capable of regeneration, able to yield the needs of the national development. The beauty of the land must not be desecrated for its own sake or for economic advancement." An appropriate mix of policies, practices and technologies has been put in place to ensure socially and environmentally sustainable economic development. Internationally, highlighting the Government's continuing commitment to the spirit of South-South cooperation, the MTCP expanded both its overall coverage as well as its areas of technical cooperation.

**Status:** Malaysia continues to actively participate in international cooperation in line with the strategy to promote the realization of greater collective self-reliance among developing countries. Efforts were intensified towards strengthening international cooperation at the bilateral, regional and multilateral levels, in line with the common goal of economic development. Efforts will continue to be taken to promote international cooperation at all levels to foster a more equitable global relationship where South countries participate in a meaningful manner in the decision-making process on issues that affect them.

With regard to international cooperation on environmental and sustainable development, Malaysia will continue to monitor as well as participate in international negotiations on environmental, economic and social conditions. Participation has a twofold purpose, the first is to ensure that proposed policies and measures do not unduly impose restrictions on Malaysia's development; and the second is to ensure that there is no discrimination against products from developing countries based on their environmental characteristics. Domestically, Malaysia will continue to take the necessary steps to fulfill its Convention obligations and to ensure that its programmes and projects are in line with its commitments.

**Capacity-Building, Education, Training and Awareness-Raising:** Training programmes are being organized by the Malaysian Technical Cooperation Programme (MTCP) and the National Institute of Public Administration (INTAN) to train local officials and officials from other developing countries on economic and environmental management. The MTCP will be expanded to build institutional capacities of the South countries as a group, towards the goal of collective self-reliance. At the same time, Malaysia will continue to cooperate with development partners for capacity building, especially in the development of a knowledge-based economy.

**Information:** No information available.

**Research and Technologies:** Engaged in a twofold approach, Malaysia continues to seek development assistance to promote technology transfer of suitable industrial and other technologies, and also encourages the evolution of domestic research initiatives towards establishing local solutions in various sectors.

**Financing:** Foreign investment in Malaysia is encouraged, particularly in the area of high-end technology, non-labour intensive and non-polluting industry, and conditions have been liberalized to this end. Several fiscal and financial incentives have been announced to facilitate increased foreign investment. In terms of technical assistance, Malaysia continued to receive technical assistance from development partners.

**Cooperation:** Malaysia participates actively in a number of international organizations and agreements. Efforts will continue to promote international cooperation at all levels. The aim is to foster a more equitable global relationship, where South countries participate in a meaningful manner in the decision-making processes on issues that affect them.

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

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

**Programmes and Projects:** Structural adjustment programmes have been implemented to broaden the economic base from resource-intensive to manufacturing and export-oriented trade. Malaysia's emphasis is both on export-oriented trade, basically centered on the electrical and electronics industries, and the development of resource-based industries, which include utilization of wood, rubber, palm oil, cocoa, and other natural resources. These products are also targeted for the export market.

**Status:** No information available.

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

**Information:** The Ministry of International Trade and Industry (MITI) publishes the Malaysia International Trade and Industry Report on an annual basis. The report is distributed to government agencies, foreign embassies and trade and industry associations. Updated information on trade and investment is made available via the Internet at the following websites: <http://www.miti.gov.my>; <http://www.mida.gov.my>; <http://www.matrade.gov.my>; and <http://www.epu.jpm.my>.

**Research and Technologies:** No information available.

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

**Cooperation:** No information available.

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## CHAPTER 3: COMBATING POVERTY

**Decision-Making:** The formulation of poverty alleviation policies and programmes in Malaysia has been led by the Prime Minister's Department and coordinated by the Economic Planning Unit. The Inter-Agency Planning Group (IAPG) on Poverty Eradication and Income Distribution meets regularly to assess achievements and formulate new policies and strategies regarding poverty and income distribution. The process has been a multi-tiered one, involving village leaders at the lowest level, the federal, state and local levels of the public service machinery, the Cabinet and, at the very top, Parliament. In addition, non-governmental organizations (NGOs) and the state-based Poverty Eradication Foundations are also voluntarily involved themselves in helping to reduce poverty in Malaysia, with the support of the private sector. Several Government corporations, namely the Federal Land Development Authority (FELDA), Federal Land Consolidation and Rehabilitation Authority (FELCRA) and Rubber Industry Smallholders Development Authority (RISDA) contributed to a special scheme to eradicate hardcore poverty. The private sector and NGOs have also complemented these efforts.

**Programmes and Projects:** The Government spearheads poverty eradication efforts by promoting income-generating projects, providing amenities to improve the quality of life and implementing programmes to inculcate positive values among the poor. The Government implemented specific development programmes for the indigenous community, the *Orang Asli*, which included economic and social programmes that improved their standard of living. The Department of Social Welfare, Malaysia implements various programmes, which enable the poor and low-income groups to combat poverty by providing financial aid to the most affected groups.

**Status:** The incidence of poverty in Malaysia decreased from 8.7 per cent in 1995 to 7.5 per cent in 1999. During the Seventh Malaysia Plan period (1996-2000), the focus of anti poverty programmes was directed at the hard-core poor, spearheaded by a special programme called the Hard-core Poor Development Programme (PPRT). As a result, the incidence of hardcore poor decreased from 2.1 per cent in 1995 to 1.4 per cent in 1999. In the current Eighth Malaysia Plan, (2001-2005), the thrust of poverty eradication is to re-orientate the poverty eradication programmes with the aim of reducing the incidence of hardcore poverty to 0.5 per cent and general poverty to 5.5 per cent by the year 2005.

**Capacity-Building, Education, Training and Awareness-Raising:** Some of the pertinent issues include the provision of training, in terms of attitudinal change as well as the application of improved production technology and small-scale industry among agricultural households, and general education for children of poor households, especially in rural areas.

**Information:** Various agencies are involved in the collection of information and data on poverty related issues. Besides the Department of Statistics, the Economic Planning Unit, the Implementation Coordination Unit and the Ministry of Rural Development conduct regular studies and surveys to gather information and assess the impact of poverty reduction programmes.

**Financing:** Anti-poverty programmes in Malaysia have been mostly funded domestically, either through public or private sources. The success of programmes, as allocated from the Seventh and Eighth Malaysia Plans, to alleviate poverty and provide economic opportunities has demonstrated the effectiveness of the nation's efforts to raise the standard of living of all Malaysians.

**Cooperation:** Malaysia has been actively involved in sharing its successful experience in poverty alleviation in a number of regional and international seminars and workshops, organized by ESCAP, ECOSOC, UNDP, the Commonwealth Secretariat, UNCTAD and the United Nations, as well as through bilateral arrangement with individual countries. Many representatives from countries in Africa, Asia, South America and the Middle East have come to Malaysia to observe and study various programmes and development strategies to alleviate poverty.

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## CHAPTER 4: CHANGING CONSUMPTION PATTERNS

**Decision-Making:** The Ministry of Consumer Affairs, the Department of Environment, and the Ministry of Education among others play vital roles in raising awareness and promoting sustainable consumption.

**Programmes and Projects:** Changes in consumption patterns are best reflected in improvements made in the energy and transport sectors, in addition to the gains made in efficiencies in several areas, including the waste management programmes. See under the headings **Programmes and Projects** and **Capacity-Building, Education, Training and Awareness-Raising** in various chapters of this Profile, especially 4-Energy, 4-Transport, and 20-22. To ensure a more efficient waste management system, the privatization of solid waste management was started on an interim basis. The Government also conducted awareness campaigns to encourage the reduction, reuse and recycling of waste materials.

**Status:** No information available.

**Capacity-Building, Education, Training and Awareness-Raising:** Specific long-term campaigns are being implemented to change consumption patterns. Most efforts must come through consumer education programmes and campaigns. Public awareness campaigns are carried out by NGOs and government agencies and consumer groups are active partners in controlling consumption. Efforts are under way to integrate consumer education into the formal education system. See also under **Capacity-Building, Education, Training and Awareness-Raising** in chapters, **Energy** and **Transport** of this Profile.

**Information:** Energy Related Websites are as follows: on energy-related information - [www.epu.jpm.my](http://www.epu.jpm.my); the Ministry of Energy, Communications and Multimedia - [www.ktkm.gov.my](http://www.ktkm.gov.my); the Ministry of Science, Technology and the Environment - [www.mastic.gov.my/kstas](http://www.mastic.gov.my/kstas); Malaysia Palm Oil Board - [www.porim.gov.my](http://www.porim.gov.my); Standards and Industrial Research Institute of Malaysia (SIRIM Bhd.) - [www.sirim.my](http://www.sirim.my); Malaysia Energy Centre - [www.ptm.org.my](http://www.ptm.org.my); Forest Research Institute of Malaysia - [www.frim.gov.my](http://www.frim.gov.my); Tenaga Nasional Bhd. - [www.tnb.com.my](http://www.tnb.com.my); and the Ministry of Transport - [www.mot.gov.my](http://www.mot.gov.my).

**Research and Technologies:** See under **Research and Technologies** in **Chapter 4-Energy** of this Profile.

**Financing:** Financing of public transport systems in Malaysia is based on the partnership concept between the government and private sector interests. See also under **Financing** in chapters, **Energy** and **Transport** of this Profile.

**Cooperation:** Assistance is sought for the development of awareness programmes and to prevent dumping of unsustainable products and production technology and techniques in Malaysia. See also under **Cooperation** in chapters, **Energy and Transport**, of this Profile.

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## CHAPTER 4: CHANGING CONSUMPTION PATTERNS - ENERGY

**Decision-Making:** See under **Decision-Making** in **Chapter 4** of this Profile.

**Programmes and Projects:** Malaysia's National Energy Policy (1979) aims to ensure the provision of an adequate, secure and cost-effective energy supply in the country. This policy, together with the National Depletion Policy (1980), ensures the sustainable development of the energy sector. In order to provide a more optimum energy mix in the country, the Four Fuel Diversification Policy (1981) now incorporates Renewable Energy (RE) as a fifth fuel. A holistic approach was adopted in promoting the utilization of renewable resources such as biomass, biogas, municipal waste, solar and mini-hydro. The inclusion of energy efficiency in the 8MP marked an important step in energy conservation. Energy efficiency will be implemented through Demand Side Management (DSM) and the enforcement of the Energy Efficiency Regulations, which include amendments to the Building By-Laws. Efforts will also be taken to promote energy management in specified installations in the industrial sector and in new integrated complexes and townships.

See also under **Research and Technologies**.

**Status:** No information available.

**Capacity-Building, Education, Training and Awareness-Raising:** A Center for Renewable Energy and Energy Efficiency (CETREE) has been established at the Universiti Sains Malaysia. CETREE develops energy efficiency and renewable energy curricula for schools and universities and is actively conducting seminars and workshops on RE and EE. The Malaysian Energy Centre (PTM) established in 1998 is the focal point for energy research and training.

**Information:** See under **Information** in **Chapter 4** of this Profile.

**Research and Technologies:** Progress made since UNCED in development and utilization of alternative/renewable technology include the following: Renewable Energy Policy and National Energy Efficiency Strategy are being formulated for implementation in 2001; and National Renewable Energy Programme being planned for implementation beginning 2001. Alternative sources of energy being considered include methyl ester from palm oil or palm diesel, fuel cell, and hybrid cell and hydrogen fuel technology. Research is also being conducted on the improvement of quality of supply; reliability, efficiency and optimization of equipment, plant and system.

**Financing:** Malaysia is able to secure funding for energy-related programmes through its national budgets. However, foreign donor programmes working with local institutions and agencies have also provided some technical assistance and energy-related studies.

**Cooperation:** The energy sector has benefited from both multilateral and bilateral cooperation programmes that offer technical assistance, training and attachment programmes.

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## CHAPTER 4: CHANGING CONSUMPTION PATTERNS - TRANSPORT

**Decision-Making:** Improving the public transport system is a continuing effort undertaken by the government to encourage the use of public transport among commuters.

**Programmes and Projects:** A monorail track is being built in the city of Kuala Lumpur to complement the two existing LRT systems servicing the greater metropolis. As for bus services, a merger programme to alleviate congestion and improve services is being implemented to reduce the number of bus operators in the city. The government has also encouraged taxi operators in Kuala Lumpur and the surrounding areas to utilize natural gas instead of diesel fuel as an environmental friendly energy option.

**Status:** No information available.

**Capacity-Building, Education, Training and Awareness-Raising:** With substantial improvements in public transport systems and price controls, the Government continues to encourage greater use of existing transportation alternatives to decrease traffic congestion and associated pollution. Media campaigns to introduce new transportation services and explain the personal and environmental benefits of utilizing alternative means to commute continue to be broadcast as rail, bus and other systems are integrated for public use.

**Information:** See under **Information** in **Chapter 4** of this Profile.

**Research and Technologies:** No information available.

**Financing:** The government provides the infrastructure, such as highways and rail tracks, while private operators are responsible for running and maintaining the service for public use.

**Cooperation:** Malaysia participates actively in regional cooperation programme in particular the ASEAN programme on transport, which involves inter-state transport, multi-modal transport and goods in transit.

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## CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

**Decision-Making:** Several agencies oversee the issues involved in population growth and human resource development. The Economic Planning Unit takes a macro overview of the demographic situation, closely supported by the Department of Statistics and the National Population and Family Development Board (NPFDB), established in 1966 under the Population and Family Development Act (Revised 1988) as a statutory body.

The Malaysian government has taken steps towards the formulation of a National Plan of Action on Population and Development (NPA). This plan of action is based on the findings and recommendations of the Strategic Plan Studies on the Implementation of the National Population Policy conducted in 1992 and the 1994 International Conference on Population and Development (ICPD) Programme of Action (POA). Major target groups include the general population, families, married women in the reproductive age group (15-49 years), youth and children.

**Programmes and Projects:** See under **Decision-Making** and **Capacity-Building, Education, Training and Awareness-Raising**.

**Status:** It is estimated that the Malaysian population increased at an annual rate of 2.4 per cent during the period 1996-2000, to reach 23.27 million in 2000. The rate of population growth continued to slow down with the declining fertility rate as the country progressed towards a developed nation status. The median age of the population in 2000 was 23.9 years. The proportion of the population living in urban areas continued to increase from 55.1 per cent in 1995 to 61.8 per cent in 2000, growing at an average annual rate of 4.8 per cent.

**Capacity-Building, Education, Training and Awareness-Raising:** Issues on which Malaysia is building its capacity include: population, family and reproductive health research which include research in contraceptive technology; and, reproductive health service delivery which include family planning and family counseling.

**Information:** The Department of Statistics publishes pertinent data on the population and growth trends occurring in Malaysia, as well as additional information on social and other programmes. Other government agencies provide publications, statistical data and updates on activities on their respective websites to keep the public informed.

**Research and Technologies:** Although no specific research, except for Census Surveys, is being conducted for demographics alone, government departments continue to monitor and seek appropriate measures to improve the quality of life for both rural and urban citizens and ensure environmental protection.

**Financing:** The population and family development programmes and activities are domestically funded. International financing is sought for special activities.

**Cooperation:** Malaysia cooperates with United Nation Population Fund (UNFPA), Economic and Social Commission for Asia and Pacific (ESCAP), Association of South East Asian Nations (ASEAN), World Health Organization and United Nations Children Fund (UNICEF).

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## CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

**Decision-Making:** The Ministry of Health takes the lead role in initiating efforts to coordinate, collaborate and resolve issues in health and the environment. The District Health Office is responsible for preventive programmes such as communicable disease control, vector control as well as environmental sanitation. Disease control activities are also undertaken by local authorities with internal health inspectorates and play an important role in the detection and prevention of communicable diseases in urban and semi-urban areas.

Concerted efforts of various agencies in health and health related agencies in both the public and private sectors have been obtained in implementing environmental health measures such as occupational health and safety and the Healthy City Concept. See also under **Programmes and Projects**.

**Programmes and Projects:** Health promotion and disease prevention programmes continued to be accorded high priority. The activities were carried out with better integration and cooperation of the private sector and non-governmental organizations (NGOs). The programmes took into account the increasing affluence of society and its sedentary and stress-filled lifestyles. They emphasized the promotion of a healthy lifestyle, better nutrition, immunization, safe water supply as well as food quality and safety.

The environmental health and sanitation in the rural areas has been provided by the Ministry of Health to supplement the coverage of safe piped water supply. Environmental health measures and activities are being implemented to support sustainable development and enhance the status and quality of life of the people. See also under **Status**.

**Status:** The thrust of the health sector was focused on improving the health status of the population. Emphasis was placed on the promotion of health with the support and commitment of the community and improving access to health facilities. Health programmes also took into account the changing pattern of diseases, escalating cost and rising public expectations. Health promotion and disease prevention programmes continued to be accorded high priority. These efforts led to significant improvements in the health status of the population as evidenced by the increasing life expectancy at birth and reduction of infant and toddler mortality rates. The immunization programme achieved 100 per cent coverage for BCG, 94.1 per cent for the triple antigen vaccine, 93.4 per cent for poliomyelitis and 86.2 per cent for measles. Malaysia was declared a polio-free area in 2000.

Significant progress has been made in establishing an extensive health care delivery system for the rural population, through a network of health facilities supported by an organized system of referral. Health Centres, now called Health Clinics, focus on all four components of preventive, curative and rehabilitative services such as communicable disease control, treatment of early conditions and diseases, maternal and child health services, family planning and health education. To further facilitate these clinics to be a one-stop centre, new programmes for the elderly, adolescent, mental health, workers health and rehabilitation have been added. Rural Health Clinics, now called Community Nurse Clinics, provide maternal and child health services and basic curative services. Mobile teams make regular visits to pockets of population in remote areas and special institutions. District hospitals provide curative care for both medical and dental problems. Large District Hospitals also provide basic specialists services. In the urban areas, the establishment of polyclinics provides affordable outpatient services. The population also has access to private clinics and hospitals.

**Capacity-Building, Education, Training and Awareness-Raising:** To ensure quality care and cater for the expanding health programmes, continuous training of in-service medical and health personnel is emphasized. The relative shortage of trained health personnel is a constraint to the health care system. Remedial measures include increasing the intake of medical students in local universities, recruiting foreign doctors and nurses and the re-employment of retired health personnel. Private institutions are being given permission to run twinning programmes for medical students with established medical facilities/universities overseas as well as nursing colleges. Improved service conditions for doctors and specialists are also being offered by the government. See also under **Status**.

**Information:** The healthy lifestyle campaign disseminated information on incidents and prevention of contagious diseases such as human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), tuberculosis and dengue. Health-related information is available on the web: the Ministry of Health - [www.moh.gov.my](http://www.moh.gov.my); and the Ministry of Education - [www.moe.gov.my](http://www.moe.gov.my).

**Research and Technologies:** Considerable research has already been undertaken in vector-borne diseases, nutritional disorder and diarrheas. Much of the work done on community diagnosis has contributed to the development of the rural health services and their expansion in the early 60's and 70's. Research institutions such as the Institute for Medical Research (IMR) carry out a broad range of biomedical and health development-oriented research as well as act as a reference laboratory and provide sophisticated diagnostic services. The Government established the Environmental Health Research Centre at IMR, and the research capacities of the National Institutes of Health (NIH) were upgraded. The IMR achieved a major breakthrough with the discovery and commercialization of *Bacillus thuringiensis*, which destroyed the larva of mosquitoes. The Public Health Institute, as a lead agency in health system research, collaborates with programme directors and universities to identify research needs in the prevention, control and management of diseases to serve as resource to its teaching programmes for basic and post-basic health courses.

**Financing:** Local financial resources allocated for the health sector during the Eighth Malaysia Plan (2001 - 2005) amounted to RM5, 500 million, which is 5.0 percent of the total development allocation for the period. Funding from external aid agencies will still be required for specific training and research programmes and the purchase of specialized skills.

**Cooperation:** Malaysia continues to rely on the World Health Organization and other international bodies for the development and improvement of various types of vaccines.

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## CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT

**Decision-Making:** Housing and other social services continue to be a priority of Malaysia's development programmes aimed at improving the quality of life and contributing towards the formation of a caring society.

Land use planning practices in Malaysia are guided by the Town and Country Planning Act 1976 (Act 172). These include amongst others, the overall conservation, use and development of lands in the country; the need to prepare development plans and measures to ensure development conforms to appropriate development plans. The Total Planning Doctrine, which was formulated with the premise of attaining sustainable urban development, forms a guiding principle in present development planning activities, such as in the planning of townships and in the preparation of planning guidelines. The Doctrine emphasizes that humans are the focal point for development, in line with Principle 1 of the Rio Declaration, which sees human beings at the centre of concerns for sustainable development.

The preparation of development plans (Structure and Local Plans) has been a continuous effort by the Town and Country Planning Department. To date Structure Plans for all 145 local authorities in Peninsular Malaysia have been prepared and ten of these have been revised. With regard to Local Plans, 110 have been prepared and ten more are under preparation. Though these plans differ in details, they have a common objective to ensure that the process of urbanization occurs in the most systematic manner to have a balance between physical and human development, thus resulting in economic growth and ultimately a better quality of living environment.

**Programmes and Projects:** The objective of Malaysia's housing programme is to increase accessibility to adequate, affordable and quality houses for all income groups. Priority is accorded to the development of low- and low medium-cost houses. Several measures were taken by the Government to accelerate the implementation of housing programmes, particularly low-cost housing. These included the extension of the Low-Cost Housing Revolving Fund to the private sector to implement new projects and the introduction of a new pricing scheme. A special low-cost housing programme was also launched with the objective of resettling squatters in urban areas. As part of the efforts to provide better housing and living conditions to rural people, several housing programmes such as the Site and Services, Traditional Village Regrouping and Rehabilitation of Dilapidated Houses Programme, were extended.

**Status:** During the period 1996-2000, 800,000 units of houses were planned for construction to meet housing needs. However, a total of 859,480 units or 107.4 per cent of the target was completed. The private sector, which targeted to build 570,000 units, has completed 737, 856 units or 129.4 per cent of the target. Distribution wise, 95.3 per cent of houses in the low-cost category were completed, compared with 291.8 per cent in the medium- and high-cost category. In an effort to increase the quality of low-cost houses, new designs with a floor area of 60 square metres incorporating three bedrooms as well as washing and drying areas, especially in high-rise buildings, were introduced. Greater emphasis was also given to R&D in the housing sector, especially with regard to production of cheaper and more efficient building materials, better construction techniques and life-costing estimation of multi-storey housing.

**Capacity-Building, Education, Training and Awareness-Raising:** Training is being stressed to improve skills and technical capability, as well as to take into account environmental considerations. The public awareness campaign on the importance of conserving water will be intensified to raise awareness and deter losses from NRW.

**Information:** Training is being stressed to improve skills and technical capability, as well as to take into account environmental considerations. The public awareness campaign on the importance of conserving water will be intensified to raise awareness and deter losses from NRW.

**Research and Technologies:** R&D activities related to production of cheaper and more efficient building materials, better construction techniques and life-costing estimation of multi-storey housing were undertaken by the

universities and the private sector. Under the Eighth Plan, the Government will establish the Malaysian Human Settlement and Urbanization Research Institute (MAHSURI) to conduct R&D on issues related to human settlement and urbanization. This will include housing design and technology, especially technical research on alternative building materials as well as industrialized building systems. In addition, studies will also be carried out to formulate a comprehensive policy on housing to ensure sustainable housing development.

**Financing:** Use of funds by developers is monitored and regulated by the Housing Developers Regulations of 1991. Lending and funding incentives are available to help developers and buyers. Incentives include a special fund to subsidize and promote the construction of low cost houses, better terms of housing loan to house buyers, better financing facilities to promote the construction of low to medium priced houses and allocation of houses for rent to the very poor. Domestic resources are generally adequate.

**Cooperation:** There are specific requirements needed for external assistance, including the upgrading of engineering skills and experience for the development of high-rise buildings and major infrastructure projects such as highways and airports.

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## CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

**Decision-Making:** Efforts are underway to strengthen the legislative framework through continuous review, updating and amending where practical to meet future needs. In addition, Malaysia is developing expertise and tools such as environmental auditing and natural resources accounting to help quantify impacts on the cost of environmental regulation. In particular, a system of Natural Resource Accounting is being developed to illustrate the effects of economic development on the natural resource base and the refinement of economic indicators.

Malaysia also uses five-year plans, which seek to implement strategies and programmes and allocate funds to realize the objectives and commitments of the National Development Policy. The results of the Rio process generally, and of Agenda 21 particularly, were incorporated and, where appropriate, integrated into the national planning process. Overall, environmental and natural resource management is guided by long-term sustainability needs and improvement in the quality of life. The policy aims at promoting economic, social and cultural progress through environmentally-sound and sustainable development. Emphasis will be placed on addressing environmental and resource management issues in an integrated and holistic manner. Steps will be taken to identify prudent, cost-effective and appropriate management approaches that yield multiple benefits in order to ensure that development is sustainable and resilient.

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

**Status:** Steps will be taken to strengthen the database for environmental decision-making by introducing the use of sustainable development indicators. The system will include natural resource accounting, environmental auditing and environmental costing. Efforts will be directed at collecting data in an integrated manner to facilitate analysis on the sustainability of a sector or state. These indicators of sustainability will enable the Government to ascertain the impact various sectors have on the environment, making it easier to plan remedial

Land use planning will be strengthened and regulations introduced to control access to biological resources, and to address biosafety issues relating to genetically modified organisms. The overall management of marine affairs will be reviewed to address multiple-use conflicts in marine areas, alleviate pressure on the marine environment and to enhance marine and coastal biological diversity. The Government will continue to monitor and participate in international environmental negotiations to ensure that measures proposed at these fora do not impose restrictions on Malaysia's development or discriminate against products based on their environmental characteristics.

Overall, in the period 1996-2000, the Malaysian economy recorded an average GDP growth of 4.7 per cent per annum, surpassing the revised target of 3.0 per cent. This remarkable performance of the economy, despite the severe contraction in 1998 arising from the East Asian financial crisis, has contributed to increasing prosperity for all Malaysians. The primary challenge for the Malaysian economy is now that of transforming the economy from one that is investment-driven to one that is productivity- and quality-driven, through enhancing the efficiency of labour and capital, skills upgrading, capital deepening and improving management and entrepreneurship. Concomitant with this will be the need to accelerate the shift towards higher value-added activities that are labour saving as well as capital- and technology-intensive. Such a shift requires the strengthening of the science and technology base and enhancing research and development capability.

**Capacity-Building, Education, Training and Awareness-Raising:** Environmental education and public awareness programmes have been stepped up in cooperation with NGOs and the private sector, to educate the public on environmental and conservation issues to realize the goal of sustainable development.

**Information:** On the industrial front, SIRIM Berhad established a Cleaner Technology Extension Service and a Cleaner Technology Information Service, which offered services in *cleaner technology* audits, contract research, and consultancy as well as on the technical aspects of waste management, occupational safety and health as well as risk assessments.

**Research and Technologies:** On the industrial front, SIRIM Berhad established a Cleaner Technology Extension Service and a Cleaner Technology Information Service, which offered services in cleaner technology audits, contract research, and consultancy and on the technical aspects of waste management, occupational safety and health as well as risk assessments.

**Financing:** Funds for programmes and projects to promote environmental protection initiatives and cleaner technologies are mainly from the Malaysia Government's annual budget. In addition, donor agencies provide funding for specific programmes related to pollution control and other environmental activities.

**Cooperation:** Malaysia participates actively with regional and international organizations to support environmental protection programmes and demonstration projects to highlight the application of technology transfer. The Department of Environment participates in bilateral and regional programmes to facilitate environmental issues of mutual concern.

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## CHAPTER 9: PROTECTION OF THE ATMOSPHERE

**Decision-Making:** A National Steering Committee (NSC) on the protection of the ozone layer has been set up under the Ministry of Science, Technology and Environment in 1985 to oversee the implementation of the National Action Plan on ODS with representatives from government agencies, industrial sectors and NGOs. The NCS on climatic change was set up in 1994 to formulate policies, strategies and action plans to address climate change concerns. The NSC comprises members from the government agencies, NGOs and research institutions.

**Programmes and Projects:** As of December 1998, the Multilateral Fund for Malaysia approved 109 projects and activities amounting to US\$30 million. Out of 70 countries, which received assistance from the Fund, Malaysia, is leading the list in terms of number of projects completed and phase-out of CFCs and halon. According to a report by UNDP, Malaysia ranks highest in CFC project completion score.

The Initial National Communication, which among others, detailed the inventory of greenhouse gas emissions, the impact of climate change to the country and strategies to be taken to address climate change issues was prepared and submitted to the Secretariat of the UNFCCC in 2000. A number of projects have been undertaken through GEF funding, such as the Industrial Energy Efficiency Improvement Project and the Palm Oil Mill Biomass Project.

**Status:** On the occasion of the 10th anniversary of the Vienna Convention for the protection of the ozone layer, UNEP bestowed the 1995 Global Ozone Award to Malaysia. In 1996, Malaysia received the Stratospheric Ozone Protection Award from USEPA.

**Capacity-Building, Education, Training and Awareness-Raising:** Many activities are carried out, including regular awareness promotion through mass media, seminars, children's painting competition, dissemination of publications, close consultation with industries and the Annual Malaysia Ozone Protection Award.

**Information:** The Department of Environment publishes annual Environmental Quality Reports to update the public on its programmes and action plans to reduce ozone depleting substances and other atmospheric pollutants at: [www.jas.sains.my](http://www.jas.sains.my).

**Research and Technologies:** Malaysia's once CFC-dependent industries are thriving on new technologies that enhance their competitive edge.

**Financing:** The cost to Malaysia of phasing out chlorofluorocarbons and halons and switching to alternatives has been estimated at US\$ 270 million.

**Cooperation:** Malaysia acceded to both the 1985 Vienna Convention and the 1987 Montreal Protocol on August 1989. In 1993, Malaysia ratified the London and Copenhagen Amendments to the Montreal Protocol. Malaysia deposited its instrument of ratification on the Montreal Amendment and the Beijing Amendment in October 2001. Technical and financial assistance from the Multilateral Fund of the Montreal Protocol has been a catalyst for conversion to non-CFC technologies. Regional cooperation activity includes ODS NETWORK/SEAP, which established since 1993 as well assistance from CIDA, JICA and UNEP. Malaysia ratified the UNFCCC in 1994 and signed the Kyoto Protocol in 1998.

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

**Decision-Making:** Land use planning is an important instrument towards integrated planning and management of land resources through proper use, conservation and development of land regulated by the Town and Country Planning Act 1976 (Act 172). An advisory body, the Town and Country Planning Department of the Ministry of Housing and Local Government administers the Town and Country Planning Act of 1976. Under the provision of this Act, State Planning Committees (SPCs) have been formed to advise the State Government on matters pertaining to the use, conservation and development of land within the respective State.

Preparation of development plans under Act 172 includes a public participatory mechanism, which involves public consultation during the planning process.

In an attempt to achieve sustainable development, Act 172 was strengthened and updated in 1995 (Act A933), particularly with regard to the protection of the natural environment from the impacts of development. Amendments include the preservation and planting of trees, preservation of natural topography, provision of open spaces and a requirement for submitting development proposal reports in all planning permission application.

**Programmes and Projects:** The Government will intensify on-going efforts as well as introduce new approaches to strengthen land use planning. This will include the identification of integrated planning for environmentally sensitive areas. All states will be encouraged to identify, map and gazette environmentally sensitive areas, to prevent inappropriate development from encroaching into these areas. In addition, new physical planning guidelines will be developed to improve environmental quality and conserve natural resources. Among others, these guidelines will cover urban regeneration, “brownfield” development in urban areas, optimal land development and development in catchments.

**Status:** Physical planning guidelines were established to ensure sustainable development. A total of 32 guidelines were issued by the TCPD, covering development of coastal areas, islands, open space, housing, retention ponds, solid waste disposal, and conservation of trees and for environmentally sensitive areas. The main weakness in human resources is lack of expertise and knowledge in ensuring that land use planning integrates environmental aspects to the fullest to achieve sustainable development.

**Capacity-Building, Education, Training and Awareness-Raising:** Community-based programmes were carried out with local wardens to alert residents about cleanliness campaigns and action plans. The sustainable urban development projects in Sabah and Sarawak focused on public participation to address environmental deterioration.

**Information:** No information available.

**Research and Technologies:** No information available.

**Financing:** Most programmes and activities carried out are funded under the existing national budgets.

**Cooperation:** International financing is sought for activities requiring technology transfer and technical cooperation. The Danish Cooperation on Environment and Development (DANCED) programme instituted two main projects with the local authorities towards integrating sustainable urban development objectives.

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## CHAPTER 11: COMBATING DEFORESTATION

**Decision-Making:** Malaysia is committed to sustainable forest management and her commitment is reflected in the progress made on forest matters since UNCED. The National Forestry Policy adopted in 1978 and revised in 1992 and the amendments of the National Forestry Act, 1984 (amended 1993) have been accorded greater emphasis to environmental protection and conservation of biological diversity. New provisions were incorporated into the Revised Policy covering forest legislation, agro-forestry, community forestry to conservation of biological diversity and international cooperation. In line with her commitment to the Convention on Biological Diversity (CBD), the National Policy on Biological Diversity was developed in 1998 to provide the direction for the nation to implement strategies, action plans and programmes on biological diversity for the conservation and sustainable utilization of its resources. In Malaysia, the national forest programme is part of the national sustainable development strategy, as well as an integral component of the national integrated land management strategy. Effective mechanisms are in place to harmonize cross - sectoral policies related to forests through the formation of consultative councils such as National Forestry Council (NFC) and the National Land Council (NCL).

**Programmes and Projects:** Malaysia has embarked on numerous projects aimed at promoting and implementing sustainable forest management practices. The following represent some of the key projects carried out to maximize natural resource management:

*Implementation of Criteria and Indicators for Sustainable Forest Management:* A National Committee on Sustainable Forest Management in Malaysia was established to ensure full implementation of ITTO Guidelines;

*Criteria Assessment Project:* Malaysia has also undertaken an assessment on current forest management practices in several states based on a phased approach in accordance with Malaysian Criteria and Indicators for forest management certification at the Forest Management Unit (FMU) level;

*Forest Certification Programmes:* Forest certification is expected to become an integral component of forest resource management and development;

*Land Use Planning:* A Land Use Master Plan is expected to be to take into account the need for environmental protection and the maintenance of ecological balance. In this context, a common forest classification system in the context of sustainable forest management and conservation with agreed definitions would be developed.

*Forest Harvesting Regulations and Control:* Efforts are now being undertaken to incorporate volume control into the area control approach to further enhance the sustainability of the forest resource.

*Reforestation and Rehabilitation:* All forest areas of the Permanent Reserve Forest (PRF) are silviculturally treated after discontinuation of logging operations. Other than rehabilitation of logged-over forests, planted forests in the form of forest plantations had long been seen to be of importance as a means to increase timber production and to reduce pressure on the harvesting of natural forests;

*Establishment of Forest Plantations:* The Government has long recognized that the planting of forest plantations will help to convert land carrying poor forest stands into productive forest plantations; and

*Community Forestry:* The importance of community, amenity and urban forestry is also emphasized by the Government in combating deforestation.

Sustainable forest management will be carried out in the coming years, particularly with the increasing emphasis now being placed on tropical forest with regard to the ecological and conservational functions of forest. Malaysia's National Timber Certification Council (NTCC), established in 1998, operates a certification scheme to facilitate the timber trade, implement standards and ensures that sustainable forest management is a commonality to all productive forests.

**Status:** In the past, the focus of forest management has largely been on the management of forests for timber production, with less emphasis being given to the non-timber functions of forest management. The forests are now managed in a holistic and integrated manner to ensure a balance between development and environmental conservation. Malaysia has been establishing a network of protected areas for the conservation of biological diversity.

**Capacity-Building, Education, Training and Awareness-Raising:** Human resource development and training is an on-going activity of the various forestry agencies, carried out with both domestic funding and foreign aid. A manual for the preparation of Forest Management Plan at the forest management unit (State) level had been prepared to assist the various State Forestry Departments in Peninsular Malaysia in the preparation of a comprehensive forest management plan. The Manual, among others, included new sections taking into account the need for the conservation of biological diversity, forest protection, and in particular fire management, as well as the protection of the environment.

**Information:** The National Committee on Sustainable Forest Management in Malaysia was formed in early 1994 to formulate criteria, indicators and activities required to ensure sustainable management, conservation and development of Malaysia's forest resources, taking into account the ITTO Criteria and Indicators for Sustainable Forest Management.

**Research and Technologies:** Malaysia has established two Genetic Resource Areas to demonstrate the feasibility of systematic observation of forest genetic resources, namely in Peninsular Malaysia and Sarawak. Progress has also been made in improving forest resources assessment and systematic observation. The Third Forest Inventory for Peninsular Malaysia was completed in 1993. Peninsular Malaysia is currently undertaking a comprehensive forest inventory at the forest management unit (State) level which will provide the much needed information required for more intensive forest management.

**Financing:** In line with Malaysia's commitment to the ITTO Year 2000 Objective, the Government has allocated additional fund through the Timber Export Levy to help the various State Forestry Departments in Peninsular Malaysia in undertaking forestry activities that would contribute to sustainable forest management. A National Timber Certification Council was also established as an independent organization to plan and operate the national timber certification scheme. Most programmes and activities carried out in the area of sustainable forest management are funded domestically. International financing is sought for activities requiring technology transfer and technical cooperation.

**Cooperation:** The Forest Departments of Peninsular Malaysia, Sabah and Sarawak have been and are still actively involved in joint and bilateral projects with international organizations/agencies aimed at enhancing and achieving sustainable forest management. Several bilateral projects with various international agencies were successfully completed. The projects included the preparation of an Integrated Management Plan for Sustainable Use of Johor Mangrove Swamp Forests; Sustainable Management of Peat Swamp Forests in Selangor and Pahang; Extraction and Processing of Forest Residues and Small Dimension Logs in Terengganu; and a Multi-Storied Forest Management project in Perak.

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## CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

**Decision-Making:** As a measure to coordinate the efforts of the various agencies involved in controlling local sources of air pollution and to initiate remedial plans for recurring haze episodes, most commonly associated with drought periods, a Management and Disaster Relief Committee was established in 1998. See also under **Programmes and Projects**.

**Programmes and Projects:** During periods of severe drought, special emergency programmes are activated to address immediate concerns regarding uncontrolled wildland fires, curtailed public water supplies and lack of food supplies. These programmes are organized and implemented through various existing government agencies. The Forestry Department, in conjunction with local Fire Departments, is responsible for putting out forest fires in forest reserves and other federal lands; whereas, the local state authorities (e.g. District Office) and federal agencies cooperate with military and police forces to overcome life-threatening situations to communities related to fire and lack of water. Special programmes include setting up relief efforts to provide food and water to remote villages and the evacuation of people from affected areas. The Meteorological Department monitors severe weather conditions to detect the onset of drought conditions and provides an early warning mechanism to alert authorities and communities to activate preparedness activities.

**Status:** Malaysia lies entirely in the equatorial zone and is characterized by a climate that is governed by two monsoon regimes blowing alternately during the course of the year that bring substantial amounts of rainfall. Although the duration of the southwest monsoon is drier, in comparison to the northeast monsoon period, the country does not suffer from prolonged drought periods. Drought conditions may occur on the rare chance of an El Nino type effect coinciding with limited rainfall.

Although Malaysia is not affected by the problem of desertification, there are mechanisms and programmes in place within government agencies at both the state and federal levels to deal with emergencies related to severe drought conditions and associated problems including forest fires, diminished water supplies and food shortages.

**Capacity-building, Education, Training and Awareness-Raising:** Departments involved in drought relief and fire fighting activities continue to train personnel in various aspects of emergency operations. NGOs have been active in aiding both relief and fire fighting efforts by setting up emergency funding campaigns to solicit public contributions for food and equipment to be donated to affected areas. Those NGOs involved in natural resource management in Malaysia's protected areas also offer assistance and resources to control forest fires and ensure the safety of both human and animal life during emergencies.

**Information:** Severe drought conditions are a rare occurrence in Malaysia and most information requirements relate to emergencies. In addition, many government agencies host websites with special bulletins about affected areas and programming activities to alert the public about current conditions, safety precautions and relief operations.

**Research and Technologies:** Due to the rare occurrence of drought events in Malaysia, it is not prudent to spend annual revenues in the area of R&D. However, it is necessary to evaluate emergency preparedness, personnel and equipment to ensure that appropriate techniques and modern equipments are available to better address the problem.

**Financing:** Financing for emergency situations related to drought and fire conditions is either covered within regular domestic budgets or special funds created for such mishaps. In some cases, there may be a need to seek technical assistance from foreign donors to help combat destructive forest fires and wildland fires that are a threat to the public.

**Cooperation:** Regional cooperation among ASEAN member nations exists to address emergency matters related to drought conditions and the advent of fires in surrounding countries. Assistance in the form of personnel, equipment and expertise is readily available and agreements between these governments assure rapid and effective dispersal of emergency aid.

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## CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

**Decision-Making:** In the context of overall environment and sustainable development, the Government has identified the highlands as one of Malaysia's critical ecosystems. It is widely acknowledged that the highlands are under increasing pressure due to development plans that encroach upon fragile habitats. With the increase in demand and pressure upon natural resources, the Government continues to monitor, study and manage the utilization of mountain natural resources to ensure sustainable development as exemplified by the projects below.

**Programmes and Projects:** Several ongoing studies aiming to promote the sustainable development of the Main Range highlands in Peninsular Malaysia were recently launched as part of the country's contribution to year 2002 - International Year of Mountains. These management plans will provide recommendations for land use planning and environmental protection of hill and montane forests, some of Malaysia's most critical ecosystems.

**Status:** Highland and montane forests, encompassed by the Main Range area, represent the largest blocks of primary forests in Peninsular Malaysia. Increasing demand for land for agriculture, tourism and new townships continues to exert pressure on management of its intrinsic values, namely water supply, erosion control, and biodiversity conservation. The forest areas in the Main Range highlands are protected to safeguard water supplies. To facilitate this in general, there is no commercial logging allowed above 1000 metres and on slopes of forty degrees or greater. In line with this, the National Biodiversity Policy, which provides a framework for integrating and consolidating biodiversity programmes and projects in the country, was launched in April 1998.

**Capacity-Building, Education, Training and Awareness-Raising:** Meetings are held for the public on the importance of mountain ecosystems and watersheds as safeguards to the country's water supply. One area in need of strengthening is mitigation guidelines for environmental protection and watershed management.

**Information:** As a result of national efforts to protect biodiversity and adhere to commitments of the Convention on Biological Diversity, several key management publications were completed to aid natural resource agencies. Among these include the following: Master Plan on Capacity Building and Strengthening of the Protected Areas System in Peninsular Malaysia (1996); Malaysia: Country Study on Biological Diversity — Assessment of Biological Diversity in Malaysia (1997); and National Highlands Management and Conservation Strategy (in-progress).

**Research and Technologies:** To safeguard biodiversity and the natural heritage of Malaysia, several ongoing research programmes in various government departments continue to provide field data and assess management plans. Among these activities are those that relate to the survey and protection of threatened plants and animals. These programmes are carried out at both the federal and state level forestry and wildlife agencies, in cooperation with other government departments, NGOs and foreign participants.

**Financing:** The federal budgets cover most of the activities related to the study and protection of mountain habitats. However, international assistance from foreign donors and universities has been received to complement national action plans.

**Cooperation:** A study on the preparation of a management and conservation plan for the Main Range highlands in Peninsular Malaysia was launched in 2000 with assistance from the UNDP.

## CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

**Decision-Making:** Since UNCED, Malaysia has reviewed the National Agricultural Policy twice. The Second National Agricultural Policy was formulated in 1992. The Third National Agricultural Policy was formulated in 1998. In both the reviewed policies, sustainable management in the utilization of resources is the guiding principle in pursuing agricultural and forestry development. Rules, regulations and incentives are being strengthened to encourage environment-friendly agricultural practices and to minimize the negative impacts of these activities on the environment. Under the Third National Agricultural Policy, one strategic direction that is being pursued is to increase productivity of existing farms rather than opening up forest areas for new farms. In 1993, “Guidelines for Development of Agriculture on Hill Slopes” had been drawn up to reduce soil erosion from hill slopes due to agricultural activities.

**Programmes and Projects:** Soil Erosion Risk Map for the country had also been prepared to indicate erosion risk areas when they are cleared for development activities.

Since 1980, Integrated Pest Management (IPM) had been promoted in rice-growing areas in Malaysia. IPM is now also promoted in the cultivation of other food crops especially fruits and vegetables. In fertilizer application, Malaysia encourage the use of Diagnostic and Recommendation Integrated System (DRIS) where chemical analysis of soil and plant parts will indicate exact amount of fertilizer needed and prevent excessive application. Recently, permanent food production zones have been identified based on their biophysical characteristics. The Government is now actively embarking on programmes to encourage, facilitate and regulate organic farming in the country. In precision farming, the Malaysian Center for Remote Sensing (MACRES) has recently launched a pilot project using remote sensing technique for precision in rice cultivation activities such as water management and fertilizer application.

As for rural development, main programmes and projects carried out by the Ministry of Rural Development (MRD) and its agencies are land development, rural industry, community development, poverty eradication, rural urbanization and infrastructure development. The Citizen Prosperity Development Scheme or SPKR (which consolidate existing poverty programmes such as PPRT) addresses the issues of hardcore and general poverty and that of specific vulnerable groups in rural urban areas. The Second Transformation of Rural Development, initiated during the Seventh Malaysia Plan (7MP) period, aims to create a rural community that is sustainable, knowledgeable and possessing noble and ethical values in consonance with the objective of Vision 2020. The objective of the Second Transformation is to create rural areas that are developed, attractive and profitable to live in. Accordingly, the Visionary Village Movement was launched in 1996, designed with a plan of action centering on the integrated development of rural villages inspiring the active involvement of the villages themselves. To reduce the digital divide between rural and urban areas programmes such as InfoDesa, Internet Desa and provision of computer for rural villages and preschool were also initiated. InfoDesa is part of the information technology agenda planned to enhance IT utilization among rural villages and provide training on IT and IT related skills.

**Status:** In agricultural development, 12 pest surveillance centers have been set up throughout the country to conduct surveillance on 10% of the major rice granary areas, involving 240,150 ha of rice area. The introduction of barn owls to control rice fields’ rodents has been highly successful in the reduction of rat damage from 20% to below 3%. Integrated weed management programmes and other IPM approaches have significantly reduced the use of pesticides among farmers. In vegetable farming, IPM involves the use of UV light traps, sticky traps, pheromone traps and release of biological agents. In fruit cultivation, IPM practices include pest surveillance for mango and durian crops, mass trapping of fruit flies for crops such as carambola, guava, citrus, mango and papaya, using methyl eugenol and Cue-Lure. In addition, production of specialty natural products such as medicinal plants as well as non-wood forest products will be promoted as new sources of growth.

**Capacity-Building, Education, Training and Awareness-Raising:** For agriculture development, human resource development and training is an on-going activity in all government agencies involved. This is carried out both

domestic funding as well as foreign aid. As for rural development, to enhance capacity and participation of the target groups in the development process, rural management courses are being undertaken by the Institute for Rural Advancement (INFRA). Training is being stressed to improve skills and technical capability of the target groups in the preparation of the village master plans, project planning and management. The Community Development Division (KEMAS) undertakes non-formal education programmes, in the areas of pre-schools and family well-being.

**Information:** Information on agriculture is available through the Ministry of Agriculture's homepage at <http://agrolink.moa.my>. For rural development, Ministry of Rural Development has published its Annual Report since 1995 relating its activities and programmes on rural development and poverty eradication, which is available at: <http://www.kplb.gov.my>.

**Research and Technologies:** Agricultural research is mainly carried out by the Malaysian Agricultural Research Institute (MARDI) and the various Universities. In term of rural development, apart from having a training institute, INFRA is also a research institution for rural development. INFRA undertakes research on issues concerning rural development and poverty eradication.

**Financing:** To promote sustainable agriculture, funds for related programmes and projects are mainly from the Malaysia Government's annual budget. FAO provides some financial support for IPM programmes in rice-growing areas. In term of rural development, the Government has continuously allocated substantial amount of its development budget for rural development projects and programmes particularly for basic infrastructure, education and social amenities in each of its five-year plan.

The private sector and Non-Governmental Organizations (NGOs) complement the government efforts by providing small loans, expertise and assistance "in kinds" to the poor through establishing the smart partnership concepts.

**Cooperation:** Malaysia participates actively in a number of regional and international organizations and agreements. In agricultural development, Malaysia has close cooperation with FAO. As in the case of rural development and poverty eradication, much progress has been made with the Association of South East Asian Nations (ASEAN) Cooperation. Malaysia is a party to the Senior Official Meetings on Rural Development and Poverty Eradication (SOMRDPE) and the ASEAN Minister Meeting on Rural Development and Poverty Eradication (AMRDPE).

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## CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

**Decision-Making:** A National Committee on Biological Diversity, chaired by the Ministry of Science, Technology and Environment was established in 1993.

A National Policy on Biological Diversity was launched in April 1998. The Policy aims to conserve Malaysia's biological diversity and to ensure that its components are utilized in a sustainable manner for the continued progress and socio-economic development of the nation. Although the National Policy on Biological Diversity was only launched in 1998, there already exist various institutions, laws and regulations, which protect the flora and fauna of the country.

The Department of Wildlife and National Parks manages the various wildlife reserves and national parks through the Protection of Wildlife Act (1972) and the National Parks Act (1984). Government efforts to conserve biological diversity are enhanced through further cooperation with various NGOs.

**Programmes and Projects:** During the period 2001-2005, the Government will implement the Biodiversity Action Plan in the various states. Among the key projects are the following: the development of the Protected Areas Master Plan; the establishment of the Nature Education and Research Centre in Endau - Rompin National Park to facilitate environmental awareness and education programmes; the Sabah Biodiversity Conservation Project; the Management Plan for Malaysia's first site established under the RAMSAR Convention at Tasek Bera in Pahang; and the declaration of Kinabalu Park in Sabah and Gunung Mulu National Park in Sarawak as World Heritage Sites in 2000. See also under **Status**.

**Status:** Malaysia is one of the 12 megadiversity countries of the world and recognizes the important natural, economic, technological and social values of its biological diversity. The country's flora is exceptionally rich and its faunal diversity is equally great, with a high degree of endemism in both. To protect these vital natural resources, over three million hectares of natural forests have been designated as protection forests. In addition, another two million hectares are designated as national parks and wildlife sanctuaries. To protect the marine environment, the waters surrounding 38 offshore islands are gazetted as marine parks. Despite these major land areas, conservation efforts are also aimed at identifying and preserving critical habitats and selected species of plants, fish, mammals and others.

**Capacity-Building, Education, Training and Awareness-Raising:** Key activities being undertaken at the national level include the strengthening of government ministries and departments and research institutes through increased staffing and training. Collaboration with international bodies focuses on training and funding for projects. In line with the National Biodiversity Policy, the capacity of several conservation agencies was strengthened and management plans were drawn-up for a number of protected areas.

**Information:** As a result of national efforts to protect biodiversity and adhere to commitments of the Convention on Biological Diversity, several key management publications were completed to aid natural resource agencies. Among these include the following: Master Plan on Capacity Building and Strengthening of the Protected Areas System in Peninsular Malaysia (1996); Malaysia: Country Study on Biological Diversity. Assessment of Biological Diversity in Malaysia (1997); National Report to the Conference of Parties (COP4) of the Convention on Biological Diversity (1998); and National Highlands Management and Conservation Strategy (in-progress) (see [www.mastic.gov.my/kstas](http://www.mastic.gov.my/kstas)).

**Research and Technologies:** To safeguard biodiversity and the natural heritage of Malaysia, several ongoing research programmes in various government departments continue to provide field data and assess management plans. Among these activities are those that relate to the survey and protection of threatened plants and animals. These programmes are carried out at both the federal and state level forestry and wildlife agencies, in cooperation with other government departments, NGOs and foreign participants.

**Financing:** The national budget covers most of the activities related to the study and protection of biological diversity. However, international assistance from foreign donors (e.g. Denmark) and the United Nations Development Programme (e.g. GEF funding) have been received to complement national action plans.

**Cooperation:** The Convention on Biological Diversity was signed in 1992 and ratified in 1994. Malaysia also signed the Cartagena Protocol on Biosafety in 2000. The Convention on International Trade in Endangered Species of Wild Fauna and Flora was signed in 1977 and ratified in 1978. Malaysia has also acceded to the Ramsar Convention on Wetlands in 1995. At the bilateral level, Malaysia has established a trans-boundary wildlife park with Thailand and Indonesia. At the ASEAN level, Malaysia is party to the ASEAN Agreement on the Conservation of Nature and Natural Resources, 1985.

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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:* A Cabinet Committee on Science and Technology is chaired by the Prime Minister and includes coverage of scientific research and development. Malaysia has established several national bodies, which address policy dimensions relating to technology transfer, capacity-building, communications and information (e.g., the Malaysian Science and Technology Information Centre, the Malaysian Institute for Marine Affairs and the Malaysian Institute for Economic Research). Policies and programmes are focused on the development and use of environmentally sound and sustainable technologies. Research from the public sector is made available to the private sector at no cost and collaboration between the two is encouraged.

*Biotechnologies:* A National Working Group on Biotechnology exists under the Ministry of Science, Technology and the Environment as an advisory body for the management and development of biotechnology and related matters.

### **Programmes and Projects:**

*Technologies:* To assist in the build-up of domestic R&D capabilities, a technology transfer programme was formulated, which includes placement of Malaysian technical personnel in acquired technology-based companies, direct involvement in product conceptualization and development as well as relocation of foreign-based manufacturing and R&D facilities in Malaysia. Other forms of technology acquisition include joint ventures, outright purchase and strategic alliances. Recognizing the importance of biotechnology, a national biotechnology programme was formulated to develop and strengthen domestic R&D capacity and capability.

*Biotechnologies:* To accelerate the development of domestic R&D capability and capacity in biotechnology, partnership programmes were initiated to facilitate the transfer of technology through collaborative projects with international organizations. The Malaysia-MIT Biotechnology Partnership Programme (MMBPP) was launched in 1999 to build the foundation for the development of a sustainable biotechnology industry.

### **Status:**

*Technologies:* To implement research work, biotechnology cooperative centres (BCCs) were established for each biotechnology area.

*Biotechnologies:* Traditional methods and knowledge of indigenous peoples and their communities are especially important in the development and application of biotechnologies in the area of traditional medicine and food.

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

*Technologies:* Notwithstanding the increasing trend in the output of science and technical graduates, the pool of researchers needs to be expanded further. As part of the efforts to expand the S&T human resource base, the Government implemented the S&T human resource development programme. In this regard, a fund of RM300 million was set up to provide scholarships for postgraduate and post-doctoral studies as well as fellowships for graduate research.

*Biotechnologies:* See above, under *Technologies*.

### **Information:**

*Technologies:* Information is available through the web site of the Ministry of Science, Technology and the Environment: [www.mastic.gov.my/kstas](http://www.mastic.gov.my/kstas).

*Biotechnologies:* See above, under *Technologies*.

### **Research and Technologies:**

*Technologies:* Apart from the prioritized national projects, the on-going competitive bidding process by R&D institutions for funds will continue. This is to ensure that resources for research are utilized more efficiently and generate maximum socio-economic benefits.

*Biotechnologies:* See above, under *Technologies*.

**Financing:**

*Technologies:* No information available.

*Biotechnologies:* To intensify biotechnology R&D, the national biotechnology programme will continue to emphasize on prioritized and experimental research. A sum of RM100 million has been allocated for research in the fields of agro-biotechnology, health care, and environmental and energy management. In addition, consideration will be given to establishing a Bio-Valley to provide for more integrated development of the biotechnology industry.

**Cooperation:**

*Technologies:* At the regional level, ASEAN addresses science, technology and environment within its Division of Functional Cooperation and, in particular, holds regular meetings on technology transfer and regional collaboration. Malaysia also participates actively in the Commonwealth Group on Technology Management, which is a decentralized and cooperative network of technology managers, economists, planners, environmentalists, lawyers, bankers, engineers and senior corporate executives. Various bilateral programmes have been set up which include technology transfer (e.g., with German technical aid in forestry and veterinary sciences, Canadian aid in geographical information systems and Japanese aid in water resources assessment and air pollution).

*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:** In the area of sustainable use and conservation of marine living resources, the Department of Fisheries under the Ministry of Agriculture is the responsible agency. The Department of Environment (DOE) is responsible for monitoring marine water quality and ensuring that marine ecosystems are protected to maintain food resources and recreational aspects and that pollution from oil spills and other sources are controlled. The National Advisory Council for Marine Parks and Marine Reserves provides a forum for consultative decision-making on policies related to Marine Parks. The council comprises representatives from federal and state governments, NGOs, universities and the private sector.

At the national level, the Fisheries Act 1985 and its related regulations made under this Act is the main legal instrument used for the management of fisheries. The Fisheries Act 1985 is the most recent Act implemented to manage, develop, conserve and control marine fishing and marine fisheries resources in Malaysian fisheries waters. This Act is an expansion of and improvement on the previous act incorporating the exclusive economic zone so as to be consistent with relevant provisions in the 1982 Convention on the Law of the Sea. The Fisheries Act 1985 has provisions in the Exclusive Economic Zone (EEZ). The objective of this Act is to provide for better conservation, management and development of fisheries in Malaysia in light of Malaysia's commitment towards the implementation of the provisions of the 1982 Convention on the Law of the Sea. In the 1990s, the waters off thirty-eight offshore islands in Peninsular Malaysia were designated as Marine Parks under the Establishment of Marine Parks Order 1994. Malaysia has ratified the United Nations Conventions on the Law of the Sea on 14 October 1996.

**Programmes and Projects:** Among the programmes to be carried out includes marine fisheries resources aiming at exploiting the resources at their maximum sustainable yield, conservation of coral reef resources, turtle conservation and management programmes, and marine biodiversity study programmes. Other programmes include the following: Integrated Shoreline Management Plan (ISMP); Integrated River Mouth Improvement Works through International Cooperation with Thailand; Beach Restoration Programme; and Integrated Coastal Zone Management (ICZM).

**Status:** The marine coastal fisheries resources of Malaysia are densely distributed within a narrow but productive inshore zone. The inshore resources available are currently being exploited at their optimum sustainable level and no further increase in fishing effort is envisaged for the exploitation of these resources. The pilot project on the ISMP is now being carried and will be completed at the end of year 2001. Based on the results of the evaluation of this pilot project, this programme on ISMP will then be extended to cover the whole coastline of the country. Under the Beach Restoration Programme, a pilot project is now underway to test and evaluate the 'Beach Management System' at a tourist beach at Pantai Cahaya Bulan, Kelantan. For the 'Pressure Equalisation System' another pilot project is earmarked to be carried out at Pantai Batu Buruk, Terengganu.

**Capacity-Building, Education, Training and Awareness-Raising:** Human resource development and training is an on-going activity in all government agencies involved. This is carried out with both domestic funding as well as foreign aid. Marine Park Centres, administered under the Department of Fisheries, are focal points for enforcement activities and educational efforts. Environmental education programmes and materials are available at these centres that strategically cover certain island groups surrounding the country.

**Information:** Each year the Department of Fisheries publishes the *Annual Fisheries Statistics* (<http://agrolink.moa.my/dof/>). In addition, the Maritime Institute of Malaysia conducts studies and publishes information pertaining to marine resources, management issues, pollution problems and other matters.

**Research and Technologies:** Fisheries research is being carried out at the Fisheries Research Institute, Penang and the Marine Fisheries research, Development & Management Department, Southeast Asian Fisheries Development Centre in Terengganu.

**Financing:** Most of the activities and programmes carried out in the area of sustainable use and conservation of the marine living resources in areas under national jurisdiction are funded domestically. International financing is sought for activities requiring technology transfer and technical cooperation.

**Cooperation:** Malaysia is party to several conventions related to ocean and seas, such as: 1958 Convention On The Continental Shelf; 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage; 1973 Convention For The Prevention Of Pollution From Ships (MARPOL); and 1987 Basel Convention On The Control On Trans-boundary Movement Of Hazardous Wastes And Their Disposal. In addition, Malaysia also maintains direct contact on technical issues with regional and international organizations dealing with fisheries. Some of the organizations are: Food & Agriculture Organization; Southeast Asian Fisheries Development Centre; Network of Aquaculture Centres in Asia & Pacific; Indian Ocean Tuna Commission; Marketing Information and Advisory Services For Fish Products in the Asia/Pacific Region; and International Center For Living Aquatic Resources Management.

Malaysia is also a member of the Indian Ocean Tuna Commission (IOTC). See also under **Decision-Making**.

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

**Decision-Making:** The various states in Malaysia are responsible for land and water resources. Water resource management is becoming increasingly complicated due to inter-State commitments on the production, transfer and sale of water. The federal government plays an advisory role, which may be enhanced with the formation of a National Water Resources Council (NWRC). The Department of Irrigation and Drainage (DID) is the main agency involved in surface water assessment, river basin management planning for flood mitigation projects, river rehabilitation and formulating policies on urban storm water management. The Geological Survey Department assesses groundwater resources, and the Department of Environment is responsible for the quality of water resources.

**Programmes and Projects:** There are a number of projects on river basin studies, urban drainage master plans, flood mitigation, river rehabilitations, hydroelectric power, water supply and irrigation. Many urban water supply projects are under construction. A special rural water project is focused on improving the networking of distribution to rural households, as well as the rehabilitation and upgrading of water supply systems. Water resources assessment and monitoring programmes are generally in place.

**Status:** Development of river basins in an integrated manner to understand the optimum carrying capacity and water resources within each river basin is being carried out. High population pressures may require greater coverage by hydrometric networks. Surface and groundwater resources have been fully identified and quantified and various programmes are in place for their protection. Rapid development has created gaps in the prevention of pollution and enforcement of water supply standards. There is a need for greater efficiency in water use, including in the area of water re-use for irrigation and improved water management practices and infrastructure. Conservation measures include reducing non-revenue water losses and the use of mass media to increase awareness on proper use. The proposed National Water Policy and the new National Water Resources Master Plan, which covers the planning horizon up to year 2050, will provide the strategies and guiding principles for the future development and conservation of national water resources.

**Capacity-Building, Education, Training and Awareness-Raising:** A “Love Our River” campaign was launched in 1993 with the aim of improving awareness among the general public and school children on the need to preserve rivers. The campaign included river adoption, river watch, river expeditions, educational talks, river beautification and an international symposium. Besides having its own Water Management Training Center, the DID cooperates with the International Water Management Institute (IWMI) in Sri Lanka in irrigation management training. The DID also has programmes, both local and international, with DANCED, JICA, WMO and GWP in capacity building of Integrated River Basin Management. The Public Works Department has regional training centres and also sends staff for overseas training. Information technology is emphasized with respect to technology transfer and capacity-building.

**Information:** A national registry of river basin that will incorporate information required for decision making within a river basin is being developed. Real time information on floods, is being tested and is accessible from the DID web page <http://agrolink.moa.my/did>.

**Research and Technologies:** A National Hydraulic Research Institute Malaysia (NAHRIM) was set up since 1995 to carry out related research in applied hydraulics. Groundwater exploration is being conducted in the main river basins, to identify potential aquifers and outline protection zones to conserve groundwater resources. Guidelines and relevant regulations are being formulated to control activities that can pollute groundwater resources.

**Financing:** Financial resources are generally adequate for the development of the water supply network, although large dams for power generation and flood control require foreign assistance. Most water development projects are financed by the federal government. Human resources and training are the main requirements and areas for international cooperation and financial assistance.

**Cooperation:** There has been ongoing cooperation between Malaysia and DANCED, JICA and GWP for capacity building in the field of water resources and integrated river basin management in Malaysia.

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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:** Malaysia approaches the management of toxic chemicals and hazardous wastes in an integrated manner, involving various actors and agencies. These include the national task force on the ozone layer, various ministries, universities and research institutions, industry and NGOs.

Three regulatory instruments have controlled the generation, distribution, treatment and disposal of hazardous wastes since 1989. Malaysia actively participates in the UNEP/FAO prior informed consent (PIC) procedure, among other similar notification mechanisms. Another government initiative was the establishment of the environment law committee, which has identified areas for improvement in existing environmental provisions dealing with toxic chemicals and hazardous wastes.

The Department of Environment (DOE) has established an inter-agency technical committee to provide support and policy guidance to implement the Rotterdam Convention on the prior informed consent (PIC) procedure for certain hazardous chemicals and pesticides in international trade.

**Programmes and Projects:** The Department of Environment (DOE) initiated a study in 1998 to compile data on the profile, sources, usage as well as alternatives of persistent organic pollutants available in Malaysia. The study serves as baseline reporting for the development of a national action plan on POPs to meet convention requirements. In addition, the DOE stepped up its information compilation efforts to establish an inventory on the types, quantities and other relevant data on industrial chemicals, especially those not controlled under legal instruments, in use in the country. The Ministry of Health has formalized a system for the disposal of pathologically hazardous wastes from hospitals, medical centres and medical research institutions.

Various programmes are being carried out, including training on the environmentally sound management of toxic chemicals and hazardous wastes; education and awareness building for the general public; consultations with industry sectors (in particular for the formulation of guidelines and procedures); regional and international cooperation; and research development. Efforts are also in place to enable the Marine Department to assume a more effective role in ensuring the safety of navigation and that Malaysian waters are free from pollution. These include the purchase of additional enforcement vessels and navigational aids, the promotion of the usage of Marine Electronic Highway as well as the introduction of Automatic Identification and Differential Global Positioning systems to identify and provide safe advice to vessels plying in the Straits of Malacca. In addition, training programmes are being conducted to meet the requirements of the International Convention on Standards of Training, Certification and Watch Keeping for Seafarers. Joint airborne surveillance operations are also carried out by the DOE, the Police Air Wing and the Air Force Unit of the Ministry of Defence, to detect illegal dumping of oil and waste in the Straits of Malacca and the South China Sea.

**Status:** A priority for Malaysia is the environmentally sound management of toxic chemicals and the enhancement of chemical safety with particular reference to banned and severely restricted chemicals. Emphasis is being placed on: reviewing existing environmental measures with respect to rapid industrialization; giving priority to improved measures for toxic chemical and hazardous waste management, including the use of environmentally sound technologies; ensuring adherence to acceptable effluent and emission standards by industry and other environmental policies and practices; ensuring approval of new and appropriate industrial investments; ensuring significant efforts in R&D by the public sector in identifying suitable and effective waste disposal systems; and providing clear codes and guidelines for industries and monitoring their compliance.

The Pesticides Board and related agencies will be strengthened and legislation will be reviewed to control the field application of pesticides as well as the proper disposal of pesticide containers. In tackling water pollution originating from the agriculture sector, focus will be given to promoting sound cultivation practices and the use of advanced agricultural methods including precision farming.

**Capacity-Building, Education, Training and Awareness-Raising:** In conjunction with the establishment of the country's hazardous waste treatment and disposal facility, several ongoing training programmes are part of the operations. Various awareness programmes have also been instituted in communities surrounding the hazardous waste facility to educate them on safety procedures and operations.

**Information:** Related information is available at the Department of Environment <[www.jas.gov.my](http://www.jas.gov.my)>.

**Research and Technologies:** With the establishment of the central hazardous waste treatment and disposal facility, new technologies and special treatment of toxic materials for local conditions are continuing to be developed. In addition, private companies are also playing a role to develop technological answers for reusing and storing toxic waste materials.

**Financing:** Activities related to the monitoring and management of chemicals continues to be covered under national budget requirements. In the case of the nation's first toxic waste treatment and storage centre, a foreign partnership was formed to garner technical expertise and share costs.

**Cooperation:** Malaysia ratified the Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal in 1993. Malaysia was active in drafting and developing the legally binding instrument known as the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. In addition, the Department of Environment is an active member of the Intergovernmental Negotiating Committee for an International Legally Binding Instrument for Implementing Action on Persistent Organic Pollutants. Malaysia also participates in various bilateral and multilateral agreements on hazardous waste management with neighbouring countries. An example is the Malaysia-Singapore Joint Committee on the Environment, aimed at controlling the trans-boundary movement of hazardous wastes (through recovery and reuse). The extension of this initiative to other neighbouring states is being explored. See also under **Decision-Making**.

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

### DECISION-MAKING:

*Hazardous Wastes:* Malaysia approaches the management of hazardous wastes in an integrated manner, addressing waste handling, storage, treatment and disposal as well as waste assessment and remediation. In this regard, the Department of Energy and the Ministry of Science, Technology and the Environment plays a vital role in coordinating all efforts to ensure the hazardous wastes generated is gradually reduced and disposed of in an environmentally sound manner. Regulatory instruments were enacted under the Environmental Quality Act, 1974 to control the generation, distribution, treatment and disposal of toxic and hazardous wastes such as: Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987; Environmental Quality (Scheduled Wastes) Regulations 1989; and Environmental Quality (Scheduled Wastes Treatment and Disposal Facilities) Regulations 1989.

*Solid Wastes:* Solid waste, or in particular municipal waste, is within the responsibility of the Ministry of Housing and Local Government. Legislation concerning solid waste management are as follows: Local Government Act, 1976 - Local authorities are given the responsibility of managing solid waste in urban and sub-urban areas; Street, Drainage and Building Act, 1974 - Prohibits deposition of domestic waste, trade or garden refuse, liquid wastewater etc. in public areas; and Town and Country Planning Act, 1972 - Empower the local planning authorities to approve/disapprove development plan applications.

*Radioactive Wastes:* There are two agencies responsible for enforcing regulatory measures regarding the use of radioactive materials. The Atomic Energy Licensing Board (AELB) is the main government body to ensure atomic energy activities is handled safely and with proper prevention and protection measures. The use of atomic energy for medical purposes is controlled by the Ministry of Health. The Atomic Energy Licensing Act of 1984 (Act 304) is the guiding legislative document for all matters pertaining to radioactive wastes.

### Programmes and Projects:

*Hazardous Wastes:* As for clinical waste, the Government in 1993 appointed three private consortia under the privatization programme to provide storage, collection, transportation, treatment and disposal services for clinical waste from hospitals. See also below, under *Solid Wastes*.

*Solid Waste:* An integrated Scheduled Waste Treatment and Disposal Facility was constructed in 1994 and officially opened in November 1998. The facility accepts all types of scheduled wastes generated by the Malaysian industries except explosives, radioactive and clinical waste. In the waste minimization area, a new programme named MAWAR (Malaysian Agenda for Waste Reduction) was launched in 1996. Selected industries were encouraged to start programmes for waste reduction and prevention. This is, in addition to the voluntary actions by certain industries that have implemented waste reduction and cleaner production approaches to waste management on their own. To ensure a more efficient waste management, the privatization of solid waste management was started on an interim basis. Two of the four consortia involved started collection of solid waste in 26 of the 145 local authorities by the end of 2000. Overall, 23 municipal disposal sites were upgraded to ensure proper disposal.

*Radioactive Wastes:* Several programmes were implemented by the Atomic Energy Licensing Board to address the objectives of safe use of radioactive material and the continued training of human resources. The Quality Assurance Programme set out to achieve accreditation for the licensing process. The Enforcement Efficiency Upgrading Programme increased the number of inspections, investigations and prosecutions of companies in non-compliance. The Human Resource Expertise Programme assisted in further training for the Emergency Response Team to handle nuclear and radiological accidents.

### Status:

*Hazardous Wastes:* 1996, about 632,000 cubic meters of hazardous wastes were generated by industries, a significant increase from 380,000 cubic meters in 1987. The major waste generators were industries involved in metal finishing, electrical and electronics, textiles, food processing, chemicals, rubber products, iron and steel.

Measures will be taken to improve the response from industries, particularly the SMIs, to use the existing toxic waste treatment facility at Bukit Nanas, Negeri Sembilan. In addition, more transfer stations will be built at strategic locations to support and facilitate the collection and storage of toxic and hazardous waste.

*Solid Wastes:* With regard to solid waste, much of Malaysia's priority refers to the implementation and centralization of sewerage and sanitation systems and schemes. Privatization is an important aspect of this activity.

*Radioactive Wastes:* No information available.

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

*Hazardous Wastes:* Various programmes have been carried out such as the training of Department of Environment and Customs officers on hazardous waste identification and implementing requirements of the Basel Convention to secure entry and exit points, to strengthen national and regional capacities and capabilities to monitor and control the trans-boundary movement of hazardous waste, including illegal trafficking.

*Solid Wastes:* The Government conducts awareness campaigns to encourage the reduction, reuse and recycling of waste materials.

*Radioactive Wastes:* As part of its programming, the AELB continues to provide training opportunities for staff both locally and abroad to improve technical capabilities in radiation protection, efficiency in handling emergency cases and the effectiveness of enforcement.

### **Information:**

*Hazardous Wastes:* Up-to-date information on the management of hazardous waste is published annually in the Environmental Quality Report <<http://www.jas.sains.my>>.

*Solid Wastes:* No information available.

*Radioactive Wastes:* No information available.

### **Research and Technologies:**

*Hazardous Wastes:* The government will continue to embark on research and technologies in the management of hazardous waste, in particular on environmentally sound management, handling, storage, treatment and disposal of hazardous waste.

*Solid Wastes:* No information available.

*Radioactive Wastes:* No information available.

### **Financing:**

*Hazardous Wastes:* No information available.

*Solid Wastes:* No information available.

*Radioactive Wastes:* No information available.

### **Cooperation:**

*Hazardous Wastes:* Malaysia participates in various bilateral and multilateral agreements on hazardous waste management with neighbouring countries. An example is the Malaysia-Singapore Joint Committee on the Environment, aimed at controlling the trans-boundary movement of hazardous wastes (through recovery and reuse). Marking the Nation's commitment towards environmentally safe management of hazardous wastes, the Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal was ratified in 1993 and the instrument of ratification was deposited for the Amendment to the Basel Convention on 26 October 2001.

*Solid Wastes:* No information available.

*Radioactive Wastes:* No information available.

## CHAPTERS 24 TO 32: STRENGTHENING THE ROLE OF MAJOR GROUPS

**Women: Decision-Making:** Mechanisms are being developed to assess implementation and impact of development and environment policies and programmes on women. Women constitute an important resource pool that can be mobilized to achieve the national development agenda through the continuous efforts of the Government in providing an enabling environment, women continued to participate in and contribute towards the social and economic development of the country. Efforts will continue to be undertaken to further enhance the role, position and responsibilities of women so as to increase their participation and involvement in the social and economic life of the country. In implementing the Plan of Action for Advancement of Women, the Government will continue to ensure that strategies and programmes implemented are consistent with Malaysian values, religious beliefs and cultural norms. Taking cognizance of the changes in the global environment and the need to adjust to these changes, efforts will be undertaken to provide women with the skills and knowledge to cope with the responsibilities of family and career. Towards this end, the strategic thrusts for the future advancement of women will be: increasing female participation in the labour market; providing more education and training opportunities for women to meet the demands of the knowledge-based economy and improve their upward mobility in the labour market; enhancing women's involvement in business; reviewing laws and regulations that inhibit the advancement of women; improving further the health status of women; reducing the incidence of poverty among female-headed households; strengthening research activities to increase participation of women in development enhance their well-being; and strengthening the national machinery and the institutional capacity for the advancement of women.

**Programmes and Projects:** Various measures were undertaken to improve female participation in the labour market. The Employment Act 1995 was amended in 1998, which among others, provided for flexible working hours and empowered the Minister of Human Resources to make rules on statutory benefits to be paid to part-time workers proportionate to that of full-time employees. This amendment permitted women, especially housewives, to be gainfully employed in part-time employment. In an effort to allow women in the public sector to care for their newborn and to encourage breast-feeding, as of May 1998, maternity leave up to 60 days was allowed. In addition, the provision for tax deductions was provided to employers for the establishment of child-care centres near or at the workplace. Measures were undertaken to facilitate the involvement of women in business through the provision of easy access to capital. **Status:** Based on the 2000 Population Census, about 48.9 per cent or 11.4 million of the total population were women. The Census also revealed that due to improved female life expectancy, the proportion of the female population in the 65 to 74 years age group increased from 3.0 per cent in 1991 to 4.3 per cent in 2000. Female labour force participation registered an increase, from 43.5 per cent in 1995 to 44.5 per cent in 2000. Overall, the manufacturing sector absorbed the largest share of employed women accounting for 27.3 per cent in 2000, consistent with the expanding opportunities in the sector. Improvements were recorded in the occupational structure, with more women moving into higher-paying occupations. The proportion of women in the professional and technical administrative and category increased from 12.7 per cent in 1995 to 13.5 per cent in 2000, while the proportion of women in the managerial category recorded an increase of 0.4 per cent during the same period. Efforts will also be undertaken to further integrate and provide access for women to reach their full potential as equal partners in development.

**Capacity-Building, Education, Training and Awareness-Raising:** An important factor that contributed towards the social and economic advancement of women was the huge investments in educational facilities accompanied by the provision of equal access to educational opportunities. Female primary and secondary school enrolment in local public institutions reflected the gender ratio in the country. At the primary and secondary levels, enrolment of female students was about half of the total enrolment; while at the upper secondary level, female students accounted for about 66 per cent of total enrolment in 2000. Intake of female students into public universities expanded significantly from 50 per cent in 1995 to 55 per cent in 2000. Specific skills and entrepreneur training programmes were implemented to enable women to improve themselves and take advantage of the opportunities in the job market. Skills training programmes provided by the Centre for Instructor and Advanced Skills Training were expanded, resulting in an increase of 19.4 per cent in the female enrolment between 1995 and 2000.

Cooperation: The Convention on the Elimination of All Forms of Discrimination Against Women was ratified on 5 July 1995.

**Children and Youth:** Decision-Making: Youth development programmes were implemented with the objective of molding and developing a resilient youth community that is able to contribute positively towards nation building. Youth development will continue to focus on developing the right attitudes and nurturing positive values as well as equipping youth with knowledge to ensure continuity of development process. Programmes and Projects: In an effort to further streamline and mobilize youth potential, the National Youth Policy, formulated in 1985 to guide the implementation of the youth programmes, was reviewed in 1997 and replaced with the Youth Development Policy. Youth development was based on six strategies namely, increasing efforts to broaden knowledge; undertaking continuous efforts to instill good values and positive attitudes; equipping youth with vocational and entrepreneur skills; strengthening appropriate facilities to promote healthy social interaction; promoting healthy lifestyle as well as developing the spirit of cooperation and partnership among the Government agencies, private sector and NGOs. Status: The youth population, comprising those in the 15-24 age-group increased by 1.6 per cent per annum, from 4.03 million in 1995 to 4.37 million in 2000. Of the total youth population in 2000, 52.6 per cent or 2.3 million youths were employed. When compared with the total labour force, youths comprise 67.5 per cent of the unemployed or 7.8 per cent of the youth labour force in 2000.

**Indigenous People:** Decision-Making: The Government has implemented specific development programmes for the Indigenous People (*Orang Asli*), which included economic and social programmes that improved their standard of living. During the period 2001-2005, a Comprehensive Development Plan for the indigenous people will be developed to overcome the high incidence of poverty and improve their quality of life. Programmes and Projects: The existing projects under the Integrated Development of Remote Villages Programmes will be continued to help address the extreme poverty among the indigenous people. The income-generating activities implemented to benefit indigenous people included land development, vegetable farming and livestock rearing as well as retail business and handicraft industries. The implementation of new land development and resettlement projects involving a total land area of about 19,800 hectares benefited 8,100 indigenous people families. The socio-economic transformation of the *Orang Asli* communities will be expedited through an integrated programme that covers both physical and human development. The provision of basic infrastructure, housing, social services and amenities will be continued and new measures will be undertaken to modernize and increase the income of *Orang Asli* households through organized land development programmes with the cooperation of state governments. Status: Policies and legal instruments are in place to empower indigenous people and their communities. Indigenous people participate fully in appropriate national processes and mechanisms for involvement in resource management strategies at the national and local level strategies are being discussed.

**Non-governmental Organizations:** Decision-Making: Mechanisms already exist to promote and encourage NGOs to participate in the conception, establishment and evaluation of official mechanisms to review Agenda 21 implementation. NGOs are adequately consulted at the national level. The government provides financial and technical assistance to support the role of major groups in its Inter-Agency Planning Group, through allocations from the relevant ministries. Status: NGOs actively participated in various environmental and social programmes. In particular, NGOs played an important role in complementing the efforts of the Government in advancing the status of women. In addition to organizing courses in family health, legal literacy, entrepreneurial development and parenting skills, NGOs also implemented various activities to increase the knowledge and skills of women in the vocational and technical fields. Specific programmes were also introduced to assist single mothers in obtaining employment and caring for their families. NGOs also played the catalytic role in highlighting issues to further improve the status and rights of women.

**Local Authorities:** Decision-Making: The Government launched the Local Agenda 21 programme in 1999 to strengthen sustainable development activities at the local level by involving local authorities, local communities and other community-based organizations. In addition, a Sustainable Urban Development Project was launched in

1999 in Kuching and Kota Kinabalu, to improve the management of wastes, land use and natural resources. Status: With increasing urbanization, there were higher expectations in terms of service delivery. To improve the management and enforcement capabilities of local authorities, a total of 11 District and Municipal Councils were upgraded and 699 additional posts were approved during the Plan period. Efforts will be carried out to encourage greater community participation in managing, improving and resolving urban environmental issues together with the local authorities. In this regard, local authorities will provide better human settlement facilities and improve the quality of life, in line with the Habitat Agenda and Local Agenda 21. The use of Information and Communications Technology (ICT), training of personnel, sharing of best practices and international networking will further enhance the effectiveness and efficiency of local authorities.

**Workers and Trade Unions:** Programmes and Projects: The output of skilled manpower in the engineering trades from public training institutions increased. Increased competitiveness and the use of modern and high technology production methods and processes increased the demand for highly skilled, trained and multi-skilled workers. To meet this demand, the Government built seven additional advanced skills training centres, which offered courses in specialized trades such as mechatronics, industrial engineering technology, computer engineering technology, telecommunications engineering technology, avionics engineering and multimedia development. Status: The absorptive capacity of skills training institutions expanded to meet the increasing and changing demand of industries for skilled manpower during the Plan period. Capacity-Building, Education, Training and Awareness-Raising: Rapid technological changes and the need to enhance competitiveness required employers in all economic sectors to retrain and upgrade the skills of their workers. In this regard, the Human Resources Development Council (HRDC) intensified its efforts to further encourage employers, especially the small- and medium-scale enterprises (SMEs) to retrain their workers. In addition, the coverage of the Human Resources Development Fund (HRDF) was expanded to include firms in the energy, education and training industries.

**Business and Industry:** Decision-Making: The Ministry of International Trade and Industry (MITI) are responsible for the formulation and implementation of industrial policy in Malaysia. Malaysia Industrial Development Authority (MIDA), an agency under MITI, is responsible for promotion and coordination of industrial development in Malaysia. MIDA processes applications for manufacturing licenses in the manufacturing sector and investment incentives, as well as assists in formulation of industrial policies. Other organizations responsible for industrial promotion are the Small and Medium Scale Industries Development Corporation (SMIDEC), Multimedia Development Corporation (for information communication technology (ICT) industries), and Malaysian Technology Development Corporation (MTDC) (for start-up and venture capital industries). Relevant legislations include the Companies Act, 1965, Income Tax Act, 1976, Industrial Co-ordination Act, 1975, and the Promotion of Investments Act, 1986. Malaysia's industrialization strategy is guided by the 1st Industrial Master Plan and the 2nd. Industrial Master Plan (1996-2005). Programmes and Projects: Various programmes are being implemented to develop the industrial sector. These include the vendor development programmes to develop supporting industries for the automotive and electrical industries, the industrial linkage programme to develop small and medium scale industries, as well as local content programme to promote the use of local parts and components in the automotive industry. Tax incentives are granted in the form of duty exemption on import of machinery, raw materials and components for the storage, treatment and disposal of toxic and hazardous wastes, accelerated depreciation allowance for environmental protection equipment, and pioneer status for 5 years for companies directly involved in the storage, treatment and disposal of toxic and hazardous wastes in an integrated manner.

Status: The industrial sector, specifically the manufacturing sector is the engine of growth of the economy, contributing 30% of GDP. The current focus since the 90s is in the capital intensive, high-tech industries with greater emphasis on knowledge-based industries, and the promotion of manufacturing related services. Efforts were also undertaken to increase environment-friendly processes and systems in industries. To facilitate adjustments in this direction, the Government provided tax the procurement of pollution control equipment and for the setting-up of facilities for incentives to encourage the storage, treatment and disposal of industrial wastes. Industries were also encouraged to implement good environmental management practices including cleaner production technologies and more efficient utilization of resources through recovery and recycling. Capacity-Building, Education, Training and

**Awareness-Raising:** Training programmes are being organized by the Malaysian Technical Cooperation Programme and the National Institute of Public Administration to train officials from other developing countries on economic and environmental management. Various training institutions have been established by the government, private sector and foreign governments in Malaysia to provide training to meet the needs of industry. The government hopes to make Malaysia the centre for educational excellence. In this regards many private foreign universities and colleges have been established in the country. **Research and Technologies:** The Government has invested in R&D activities in an effort to strengthen the technological capability of the manufacturing sector. These include measures to encourage higher investments on R&D activities, overcome shortage of skills and knowledge workers, and strengthen collaboration among public research institutes, universities and industries. **Information:** Information on industries is available from the MIDA web site and the MITI web sites - <http://www.miti.gov.my>; <http://www.mida.gov.my>; and <http://www.matrade.gov.my>. **Cooperation:** Industrial co-operation in the ASEAN region is being pursued through the ASEAN Industrial Co-operation Scheme, which encourages co-operation in manufacturing of products through mutual sourcing of materials, parts and components by participating companies from the ASEAN countries. Malaysia is also a signatory of the framework agreement on the ASEAN investment area, which aims to make ASEAN a competitive and attractive region for Intra-ASEAN as well as foreign investments.

**Scientific and Technological Community:** **Status:** Malaysia requires a pool of S&T manpower to leverage on the new knowledge and technological advancements to achieve sustainable growth. S&T and industrial policies will need to be integrated with education and training policies. Local R&D capabilities, especially in institutions of higher learning will be further developed through joint R&D activities between universities and industry as well as Malaysians and foreigners. **Capacity-Building, Education, Training and Awareness-Raising:** The capacity of S&T related education and training programmes will be further expanded to expedite the achievement of the 60:40 ratio of science to arts students. This will ensure the creation of a critical mass of S&T personnel to meet the demand of a knowledge-based economy.

**Farmers:** **Decision-Making:** Agricultural programmes were carried out to modernize the sector and maximize the income of the farmers. In this regard, the modernization of the smallholders sub sector was emphasized through promotion of group farming activities as well as provision of support services. **Programmes and Projects:** The modernization of the agriculture sector was further accelerated through improvements in the delivery of agricultural support services. These services were provided to encourage farmers to venture into commercial farming, adopt new technologies and increase productivity. These services included R&D, training, extension and support services as well as the provision of credit facilities and basic infrastructure. **Status:** In-situ development, through the rehabilitation and consolidation of existing agricultural land, continued to be the main strategy for agricultural development. In addition, the Government provided support services and appropriate incentives, including land, to facilitate private sector participation in large-scale commercial farming, especially for food production as well as floriculture and aquaculture activities.

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## CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

**Decision-Making:** Fiscal and monetary management policies, as well as rules and regulations, are geared towards encouraging the private sector to contribute to the expansion of the economy. Development expenditures in recent years were mainly allocated for infrastructure, human resources development and poverty eradication. Environmental aspects are incorporated into the programmes of relevant government agencies and reflected in the Federal development allocations.

**Programmes and Projects:** Several funds have been allocated to eradicate poverty. ‘Amanah Saham Bumiputera’ Loan Scheme was launched to fund the Hardcore Poor (ASB-PPRT) Scheme. A Revolving Fund for Low Cost Housing (TPPKR) was launched to increase the number of affordable houses for low-income earners, to solve the critical problem of low cost housing in the major towns, to promote house ownership for the low-income earners and to upgrade the living standards of low-income earners. Housing Foundation for the Hard Core Poor (YPUT) was established under the Trustees Act (Incorporation) 1952 in August 1994. The objective of the fund is to build low cost houses for the hard-core poor.

**Status:** External financial and technical assistance is still sought for the following areas: improving institutional capacity for policy analysis and programme evaluation; to help meet additional expenses to carry out Agenda 21 projects; and provide resources and technical assistance for specialist training to strengthen technical expertise in priority areas.

**Information:** Information related to loans by sector is available on [www.bnm.gov.my](http://www.bnm.gov.my) and [www.mof.gov.my](http://www.mof.gov.my).

**Research and Technologies:** Fiscal measures and programmes to address economic, environmental and social welfare are constantly under review and assessment to provide the best possible means of implementing activities which achieve national objectives and sustainable development goals.

**Financing:** Foreign equity guidelines are being relaxed considerably for the approval of investment projects in manufacturing- and tourism-related sectors, as well as for export promotion. Greater emphasis is needed in the planning and allocation of available finances to remove constraints in providing attractive economic incentives and improving the capacity of existing institutional structures.

**Cooperation:** Malaysia receives official development assistance (ODA) from development partners, which is provided in the form of capital assistance (loans) and technical assistance (bilateral, multilateral, regional and international). This assistance is provided through project-type cooperation, development studies, supply of equipment, dispatch of experts and volunteers, counterpart training and grants for cultural activities. The focus is on capacity-building in key areas including biodiversity, climate change, competitiveness, small- and medium-scale industries, rural tourism and health policy. Malaysia extends technical assistance to other developing countries through the Malaysian Technical Cooperation Programme (MTCP) through training, study visits, attachment, services of experts and the provision of supplies and equipment.

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## CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

**Decision-Making:** The National Council for Scientific Research and Development oversees the implementation of the National Science Policy and promotes R&D activities in both government and non-government sectors with the aim of facilitating industrial development. The Malaysian Science and Technology Information Centre (MASTIC) under the Ministry of Science, Technology and Environment develops, collects and disseminates information, statistics and indicators on science and technology. MASTIC and the technology transfer section of the Ministry of International Trade and Industry are addressing the problem of information flow about technology to small- and medium-size industries. Malaysia has a comprehensive network of legal, institutional and administrative structures, covering nearly all aspects of environment and development.

**Programmes and Projects:** The strategies and programmes evolved are aimed at widening and improving the science and technology (S&T) base and ensuring the development of competitive goods and services as well as building up the R&D and innovation capability of the nation.

**Status:** High priority is accorded to the promotion of S&T, R&D as well as technological innovation, all of which are deemed essential to Government's overall strategy of sustainable development. The core strategies of R&D are focused on promoting value-added research activities that contributed to increasing competitiveness, strengthening linkages and enhancing productivity.

**Capacity-Building, Education, Training and Awareness-Raising:** Activities aimed at promoting greater interest, awareness and understanding of S&T were organized at various levels. These activities, which involved scientist, journalists, students and members of the public, included scientific conferences and exhibitions, S&T excellence awards, educational visit and workshops. The National Science Centre, in addition to its theme-based interactive exhibits and events, organized the Students Adoption Programme in order to popularize and promote S&T, especially among the school children. To further enhance the research culture within institutions of higher learning, collaboration with the private sector is being strengthened. Capacity-building for the assessment of alternative technologies is needed among government, the business community, small- and medium-size industries and NGOs. In spite of efforts to improve indigenous capacity and capabilities, there has been a net loss of scientists in Malaysia for better opportunities in other fields and countries.

**Information:** Information is available at [www.mastic.gov.my](http://www.mastic.gov.my).

**Research and Technologies:** There have been various advances in building up indigenous capacity in technology development. The institutional framework for R&D includes over 30 bodies for research and higher education, as well as efforts by the private sector. Institutional coverage is greatest in the fields of medicine, agriculture and the primary resource-based industries. A number of measures were undertaken to improve the effectiveness of public sector and corporate R&D. These measures included providing incentives and funding, expanding human resource development and increasing protection for intellectual property rights.

**Financing:** Malaysia has invested in R&D related to education, awareness and training. The funding programme for the Intensification of Research in Priority Areas (IRPA) aims to direct finances towards key areas to support development.

**Cooperation:** For the purpose of acquiring new and imported technologies, existing venture capital funds are being strengthened and new ones established. Other forms of technology acquisition include joint ventures, outright purchase and forging strategic alliances.

## CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

**Decision-Making:** The Ministry of Education (MOE) is the main governmental entity in educational matters. Collaboration among NGOs, private sectors and government agencies for the betterment of the environment is illustrated by the Hibiscus Award and the Tree Planting Group, which were initiated by a group of NGOs.

The thrust of the government's sustainable development awareness plan includes: infusing formal environmental education in the school curriculum, active participation of public and private sectors including NGOs in promoting environmentally responsible practices; and broad base campaigns through mass media in encouraging life-long process of environmental education.

The Malaysian education system provides a common curriculum for all students at both primary and secondary level. Through this common curriculum, environmental awareness and appreciation is pervasive through all core subjects with environmental studies being made a compulsory subject at primary level. Specifically, the goals of the environmental education in the Malaysian school curriculum are to: educate children in order to create an environmentally aware and caring society whose members can act individually and collectively to overcome environmental problems; enable children to love and care for the environment so that they will think and act wisely to preserve it; and make children aware of the importance of sustainable development.

At the tertiary level, environmental science and environment-related courses are offered at degree level by a majority of the public universities. Over years of research, these universities have built up their expertise in the environment and nature-related research and had established institutes primarily functioning as research centres par excellence in the field of environmental studies and conservation within their organizations.

The MOE also carries out non-formal environmental education programmes, aimed at creating environmental awareness among the public through collaboration with other ministries and agencies, NGO's as well as the public and private sectors.

**Programmes and Projects:** Developing a knowledge-based economy is a strategic move by the government to raise the value that can be added to all economic sectors. Besides optimizing the knowledge capital of the nation, it will also provide a means to maintain sustainable economic and development growth over the long term. The transformation of the nation's economy into a one of knowledge-based will further see the development of all public universities as centres for R&D activities especially in strategic areas such as bio-technology, bio-diversity and sustainable development. Under the Intensification of Research in Priority Areas Programme, the Government provides funding for researchers in public universities in strategic areas that will sustain long-term technology development. In addition, the MOE carries out non-formal environmental education programme through several co-curriculum projects in schools. There is also a national environmental quiz competition for secondary school students, as well as a non-formal environmental education project on Renewable Energy and Energy Efficiency.

An environmental education programme is implemented with focus on educating the society to be more sensitive and concerned about environmental issues, knowledgeable, skilled and committed in order to act as individuals or collectively in addressing environmental issues. Where appropriate, an educational television programme produced by the MOE has continued to give focus to the need for awareness on environmental issues. Environmental education is incorporated in the pre-service teacher education programme. See also under **Status**.

**Status:** The MOE has played an active role in its effort to develop a curriculum on environmental education, to implement varied and diverse teaching and learning strategies in order to maximize awareness, and to internalize values relevant to the preservation and conservation of the environment. Conscious efforts to teach these integrated elements in the classroom and outside the classroom have resulted in much greater awareness amongst students about the quality and state of the environment. The MOE also sponsors co-curricular environmental education activities for children such as camps, exhibition, quizzes, and contests in essay writing, poetry writing, painting, poster making and photography. At the tertiary level, activities include debates on environmental issues. The private sectors support successfully a number of environmental awareness activities for example in the organization of Environmental Journalism Award, Beautification of Schools etc.

**Information:** No information available.

**Research and Technologies:** The main actors of research and development activities in the fields of environment, conservation and sustainable development are the public universities. These universities have established research institutes within their organization that primarily focus on specific areas of expertise that they have built upon over years of R&D activities.

**Financing:** In addition to the Government's budget allocations, financial assistance is also received from the United Nations Development Programme (UNDP), JICA and DANCED, to enable local universities to undertake research in areas of environmental protection and conservation.

**Cooperation:** See under **Financing**.

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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**

This issue has been covered under the heading **Cooperation** in the various chapters of this Profile. Malaysia is an active participant in international fora and seeks to bring a developing country perspective to discussions on North-South issues and activities. As a signatory to international conventions and cooperative agreements via ASEAN, Malaysia monitors financial, technological and other assistance programmes to ensure the benefits accrue to all parties involved without unnecessary or unfair conditions imposed.

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## CHAPTER 40: INFORMATION FOR DECISION-MAKING

**Decision-Making:** The formulation of policy on the flow and management of information pertaining to sustainable development and environment is coordinated by the Economic Planning Unit (EPU) through the Inter Agency Planning Group (IAPG) on Sustainable Development. The authority for information management is delegated to the local governments and other agencies. The Department of Statistics (DOS) has been identified as the Central Depository for Environment Statistics in Malaysia. Besides environment statistics, DOS also produces a wide range of economic and social statistics. There exists an Inter Agency Committee on Environment Statistics (IACES), which identifies priorities, facilitate cooperation and supply of data, and serves as a forum to exchange/share knowledge, experience and expertise on issues of sustainable development indicators and environment and natural resource statistics.

The DOS has completed a Framework on the Development of Environment Statistics and published a Compendium of Environment Statistics (CES). The CES provides statistics on the different environmental media as well as on human settlements, together with the state of the environment and the causes of environmental degradation.

**Programmes and Projects:** At the national level, the IACES meetings/discussions are used for ensuring consistency of terminologies, definitions and classifications used. Apart from publishing the CES, efforts are being undertaken by DOS to develop a database, which will facilitate access of information, by the users.

See also under **Status**.

**Status:** Computer networks, which have access to international information services, are generally available throughout the public and private sectors. Malaysia has established a comprehensive national computer network called JARING, which allows for Internet access.

In order to provide a platform for improved planning of resources and environment policies, the collection of physical and environmental data and the development of conceptual analytical frameworks will be strengthened.

There is a need for funding and technical assistance for the following activities: development of a database for information on the environment; initiate fresh data collection in addition to compilation of secondary data; and develop appropriate indicators to address the needs of development planners and decision-makers, as well as for managers and the public when such plans and policies are implemented.

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

**Information:** Information is available at the Department of Statistics <[www.statistics.gov.my](http://www.statistics.gov.my)>.

**Research and Technologies:** The Malaysian Centre for Remote Sensing (MACRES) will provide real time monitoring of the environment and natural resources through the use of satellite and other remote sensing sources. Efforts will be initiated to prepare indicators of sustainable development that will provide a yardstick for monitoring and evaluating progress. The integration of various databases would further enhance and compliment the GIS capabilities of the Government agencies.

**Financing:** The financial resources necessary for information monitoring activities and technical inputs are usually covered in annual federal budgets. However, international assistance from foreign donors and others is another alternative in order to complement national action plans.

**Cooperation:** No information available.

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## **CHAPTER: INDUSTRY**

**Decision-Making:** No information available.

**Programmes and Projects:** No information available.

**Status:** No information available.

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

**Information:** No information available.

**Research and Technologies:** No information available.

**Financing:** No information available.

**Cooperation:** No information available.

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## **CHAPTER: SUSTAINABLE TOURISM**

**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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