

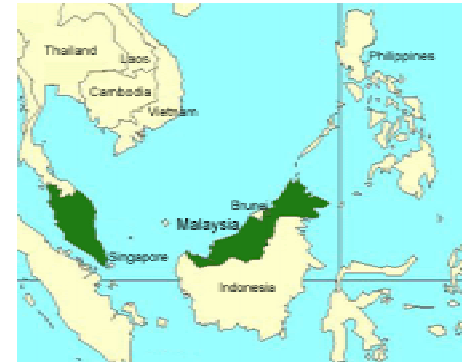


Malaysia

Environmental Health Country Profile

World Health Organization

As of January 10, 2005



1 Development, Environment and Health Status

1.1 *Development Pattern of the Country*

1.1.1 Maps / geography / demography / urban-rural trends

Malaysia is composed of the Peninsular Malaysia and the states of Sabah and Sarawak in the island of Borneo. It has a total land area of 330,252 kms² characterized by mostly mountainous terrain. Malaysia is composed of 13 states and three federal territories. Kuala Lumpur, the capital city is within the federal territory of Wilayah Persekutuan. Almost 80 percent of the country is covered by tropical rainforests which is home to thousands of flora and fauna.

Based from a 2003 estimate, the population in Malaysia for the year was 25,048,000. Of this, 33.18 percent are below the age of 15 while 4.12 percent are 65 years old and above. The annual population growth rate is 2.6 percent, which is twice the global rate of 1.30. About 62 percent of the population lives in urban areas. Average adult literacy is high at 94 percent. Child mortality indicators are good with low infant and under-five mortality rates of 8 and 11.7 per 1,000 live births, respectively.

1.1.2 General economy of the country

Malaysia, a middle-income country, transformed itself from 1971 through the late 1990s from a producer of raw materials into an emerging multi-sector economy. Growth was almost exclusively driven by exports – particularly of electronics – and, as a result Malaysia was affected by the global economic downturn and the slump in the Information Technology (IT) sector in 2001. Gross Domestic Product (GDP) in 2001 grew only 0.5 per cent due to an estimated 11 percent contraction in exports, but a substantial fiscal stimulus package mitigated the worst of the recession and the economy rebounded in 2002. Healthy foreign exchange reserves and relatively small external debt make it unlikely that Malaysia will experience a crisis similar to the one in 1997, but the economy remains vulnerable to a more protracted slowdown in Japan and the US, top export destinations and key sources of foreign investment.

Following the Gross Domestic Product (GDP) growth of 5.2 percent in the third quarter of 2003, the economy expanded at a more rapid pace of 6.4 percent, the highest since fourth quarter 2000. Hence, growth for the whole of 2003 was 5.2 percent. The manufacturing sector grew significantly by 8.2 percent in 2003, stimulated by higher production in exported- oriented industries such as electrical and electronics and rubber products. This was further supported by stronger growth in domestic-oriented industries, in particular chemicals, food and beverages and construction-related industries.

The services sector continued to expand by 4.1 percent in 2003. Stronger growth in transportation and communications as well as utilities boosted the sector performance. The agriculture sector grew strongly at a rate of 5.5 percent in the previous year.

1.1.3 Development priorities

The Eighth Malaysia Plan 2001-2005 is a comprehensive development plan that stipulates the vision for the whole country. The Plan is also the first phase in the implementation of the Third Outline Perspective Plan for 2001-2010. There will be focus on globalization and liberalization as well as the rapid development of information and communications technology. Malaysia will enhance the competitiveness of the economy, strengthen economic resilience and improve total factor productivity. To do that, there will be a shift in the growth strategy from being input-driven towards knowledge-driven. Emphasis will be given to improving management and organizational techniques, upgrading R&D and science and technology, as well as strengthening innovative capacity. This will enhance potential output growth and accelerate structural transformation within the agriculture, manufacturing and services sectors. The plan has 23 sectoral chapters with Chapter 17 for Health and Chapter 19 for environment and sustainable resource management.

1.1.4 Human Development Index

This is a composite index developed by the United Nations Development Programme (UNDP) based on three indicators: longevity, as measured by life expectancy at birth; educational attainment, as measured by adult literacy and total primary, secondary and tertiary enrolment ratio; and standard of living, as measured by GDP per capita. The Human Development Index (HDI) is an indicator of a country's quality of life. According to the 2004 UNDP Human Development Report, Malaysia is in the medium HDI level with an HDI of 0.79 and is ranked 59 out of 175 countries.

1.2 Existing Service Levels

1.2.1 Proportion of population (national) with existing utilities (water supply, sanitation, solid waste collection, drainage, sewerage, electricity)

Based on 2001 data from the Ministry of Health, almost 97 percent of the entire population has access to safe water. About 98.50 percent in the urban areas and 93.94 percent in the rural areas has access. Presence of adequate excreta facilities among households is also high at 93.60 percent.

1.2.2 Proportion of urban population served by piped water, sewers, electricity, municipal solid waste collection

Almost everyone in the urban areas is connected to piped water, electricity, and waste collection.

1.2.3 Presence of other basic services such as fire fighting and emergency management (flood, earthquake, chemical emergency, etc.)

There is emergency response system in Malaysia to deal with emergencies such as natural disasters, fire, chemical emergency and oil spills.

1.2.4 Housing: presence of building regulations, proportion of people living in informal settlements

There are building regulations in place and inspections are being conducted to ensure public safety. There are no informal settlements in Malaysia.

1.2.5 Transport related: number of vehicles registered, number of motorcycles registered, rate (number per 100,000 population)

In 2002, there were 12, 012, 939 registered vehicles throughout Malaysia, which means there is one vehicle for every two persons. About 5, 842, 618 motorcycles were additionally registered in 2002.

1.2.6 Capacity for monitoring environmental quality (drinking water, water resources, ambient air, noise, radiation, etc)

The government has capacity for monitoring the environmental quality parameters for drinking water, noise and radiation. The private sector on the other hand monitors that for water resources and ambient air.

1.2.7 Capacity for data collection and processing

The government primarily handles most of the data collection and processing and it is being used for planning and decision-making.

1.3 Environmental Quality

1.3.1 Air pollution (percentage of population using solid fuels, proportion of vehicles using diesel and unleaded gasoline, frequency of exceeding national air quality standards)

According to 2000 data, about 29 percent of the population used solid or biomass fuels for their cooking and heating needs. Only 11 percent of the vehicles still use diesel while 89 percent have been using unleaded gasoline.

Emissions from mobile and stationary sources are the most significant sources of pollution. Emissions from mobile sources contribute 80.4 percent of the total load, followed by emissions from stationary sources such as industrial fuel consumption (9 percent), industrial processes (1.2 percent), power stations (8.8 percent), domestic fuel (0.2 percent) and open burning at solid waste dumping sites (0.4 percent).

1.3.2 Water pollution (frequency of exceeding national water quality standards, drinking water quality standards)

The estimated number of water pollution sources for 2002 was 13,540 comprising mainly of sewage treatment plants, agro-based industries, manufacturing industries and animal farms. About 53 percent of the total number of sources was domestic sewage facilities (7,126 sources), followed by manufacturing industries (5, 137 or 38 percent), pig farms (807 sources or 6 percent) and agro-based industries (470 sources or 3 percent). Of the total number of effluent sources identified, Johor had the highest number (1 675, 29.9 percent), followed by Selangor (1 485, 26.5 percent), Perak (573, 10.2 percent) and Perlis had the least number (14, 0.25 percent).

1.3.3 Solid waste (generation of municipal solid waste, proportion of recyclables)

In 2001, about 6.378 million tons of solid waste were generated. There are 170 recycling centers throughout the country.

1.3.4 Hazardous waste (generation of toxic chemicals, hazardous materials, health-care waste, nuclear waste)

In 2003, waste from hospitals and health care institutions amounted to 5 864 tons. The amount of hazardous waste is not available but there is a large facility in Malaysia for treatment and disposal. Almost half of the hazardous waste come from the electronics industry.

1.4 *Public Health Statistics*

1.4.1 Ten leading causes of mortality and morbidity

The top ten leading caused of mortality are septicaemia, heart diseases and diseases of pulmonary circulation, malignant neoplasms, cerebrovascular diseases, accident, pneumonia, diseases of the digestive system, certain conditions originating in the perinatal period, nephritis, nephrotic syndrome and nephrosis, and ill-defined conditions

The top ten leading causes of morbidity are normal delivery (single spontaneous delivery), complication of pregnancy, childbirth and the puerperium, accident (accidental injury), diseases of the circulatory system, diseases of the respiratory system, certain conditions originating in the perinatal period, diseases of the digestive system, ill-defined conditions (symptoms and signs), diseases of the urinary system and malignant neoplasms.

1.4.2 Diseases associated with agricultural and irrigation development (proportion of undernourished people, schistosomiasis, pesticide poisoning)

About 212 cases of pesticide poisoning were reported in 2003. In 1999, the prevalence of underweight pre-school children (under the age of 5) is 18 percent.

1.4.3 Respiratory diseases related to outdoor air pollution from energy, transport and industry sectors

1.4.4 Traffic crashes (mortality due to traffic accidents, rate: deaths /100,000 population, injuries due to traffic accidents, rate: injuries/100,000 population)

There were about 279,256 reported cases of road traffic accidents in 2002. This is about 1,093 accidents per 100 000 population and 230 accidents per 10 000 vehicle registration. Injuries reported were 35.9 per 10 000 vehicle registration and resulting deaths were 23.0 per 100 000 population.

1.4.5 Diseases relating to poor housing (including pulmonary diseases, tuberculosis)

Rheumatic fever and rheumatic heart diseases (3,211 cases in 2002), especially among children, have been associated also with environmental factors such as poor living conditions and overcrowding.

1.4.6 Water supply and sanitation-related diseases (such as diarrheal diseases, hepatitis, cholera, typhoid)

In 2002, water-borne diseases had been reported: 3, 601 cases of hepatitis, 365 cases of cholera and 853 cases of typhoid fever. These are associated with poor drinking water quality and inadequate sanitation.

1.4.7 Vector-borne diseases (such as malaria, plague, dengue fever and dengue hemorrhagic fever)

Vector borne diseases, mainly malaria and dengue fever, have declined through the years but there are still significant cases. In 2001, there were 12,780 cases of malaria and 16, 368 cases of dengue.

2 Legal, Policy, and Institutional Structure

2.1 Legislative and Policy Framework

2.1.1 National policies, plans or strategies for environmental health

The guiding principles for environmental policy objectives, which form the basis for development planning in Malaysia, are to:

- a) Maintain a clean and healthy environment;
- b) Minimize the quality of the environment relative to the needs of the growing population;
- c) Minimize the impact of the growing population and human activities relating to mineral exploration, deforestation, agriculture, urbanization, tourism, and development of other resources, on the environment;

- d) Balance the goals of socioeconomic development and the need to bring the benefits of development to a wide spectrum of population against the maintenance of sound environmental constitution.
- e) Place more emphasis on prevention through conservation rather than through curative measures;
- f) Incorporate an environmental dimension in project planning and implementation through the conduct of Environmental Impact assessment Studies; and
- g) Promote greater cooperation and increased coordination between relevant Federal and state authorities as well as among the ASEAN governments.

Malaysia provides leadership in the region for the healthy cities and healthy settings programs, especially in Kuching. There were policies for tobacco control as early as 1993 under the Food Act with provision for smoke free places.

2.1.2 Relevant legislation addressing environmental health issues

Malaysia has comprehensive legislation to deal with environmental pollution:

Environmental Quality Act 1974
 Environmental Quality Act (Amendment) 1985.1986
 National Forestry Act 1984
 National Park Act 1980
 Pesticides Act 1974
 Land Conservation Act 1960

Environmental impact assessment procedures were introduced in 1988. Some EIA reports are open for public scrutiny.

2.1.3 Decentralization and / or privatization policies dealing with environmental health

Malaysia has privatized most of its monitoring and surveillance of environmental quality. This has improved the service and streamlined the functions of government.

2.2 *Institutional Structure for Environmental Health*

2.2.1 Administrative / organizational set-up of the country

There is an Environmental Health Unit within the Disease Control Division, Department of Public Health, Ministry of Health.

2.2.2 Role of other agencies and partners other than government

There are NGOs and civil society organizations present in Malaysia. Below is a list of the active organizations:

- a) Sahabat Alam Malaysia (SAM)
- b) International Organization of Consumer Unions

- c) Malayan Nature Society
- d) Golden Hope Plantations Berhad

2.2.3 Agencies involved and their respective functions

The Department of Environment and the Economic Planning Unit have been supportive of environmental health programs. There is an interagency working group on environmental health consist of government and academe.

2.3 *Relevant International Conventions and Agreements Ratified or Signed*

Malaysia is a party and signatory to a number of international agreements such as

- a) 1973 Convention on international Trade in Endangered Species of Wild Fauna and Flora (Accession 20 October 1977)
- b) 1985 Vienna Convention on Substances that deplete the ozone Layer (Accession 29 August 1989);
- c) 1987 Montreal Protocol on Substances that deplete the ozone layer (Accession 29 August 1989);
- d) 1990 London Amendment to the Montreal Protocol.
- e) 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;
- f) 1992 Convention on Biological Diversity (signature 12 June 1992)
- g) 2004 Framework Convention on Tobacco Control

Malaysia has ratified these conventions:

- a) 1992 United Nations Framework Convention on Climate Change;
- b) 1979 Convention on the Conservation of Migratory Species of Wild Animals. -Ratified in 1994
- c) 1971 Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (being administered by UNESCO). -Ratified in 1994

Malaysia has been actively participating in the implementation of the amended London Guidelines for the Exchange of Information on Chemicals in International Trade.

3 Human Resources Development Programs

3.1 Environmental health workforce, professionals and their skills

3.2 Formal and informal training programs for environmental health

Malaysia has a number of universities offering course related to health and environment. There are also regular short-term training programs on various areas of environmental health.

3.3 *Government certification*

Registration and examinations are required by the government prior to practising a profession.

3.4 *Professional associations*

There are professional associations in Malaysia related to environmental health such as the Environmental Health Officers' Association, which is linked with the International Federation of Environmental Health.

4 Priority Environmental Health Issues

The following issues had been identified and discussed to be important in Malaysia:

- a) Siltation caused by agro-based activities, logging and mining, and infrastructure development
- b) Deteriorating water quality
- c) Marine pollution
- d) Air pollution problems
- e) Noise Pollution
- f) Toxic and Hazardous Waste
- g) Solid Waste
- h) Deforestation and destruction of biodiversity caused by logging and conversion to other Land Use
- i) Rapid growth in water demand
- j) More efficient use of energy required
- k) Coastal pollution
- l) Transboundary air pollution

Another set of concerns are the following:

- a) Emerging and re-emerging infectious diseases
 - b) Regulation of private water companies
 - c) Coordination of occupational health agencies
 - d) Implementation of environmental health impact assessment (EHIA) and relevant databases
- 4.1 *Agriculture Sector* such as pesticide poisoning, irrigation runoff laden with fertilizer and pesticides, contamination of water resources, pesticide residues on vegetables
 - 4.2 *Energy Sector* such as air pollution, noise, thermal pollution, fly ash and sludge disposal, nuclear wastes
 - 4.3 *Industry Sector* such as air and water pollution, chemical emergencies, hazardous waste management

- 4.4 *Transport Sector* such as road safety, traffic crashes, ambient air pollution, noise
- 4.5 *Urban /Rural Development Sector* such as water supply systems, sanitary facilities, sewerage system, safe and adequate drinking water, solid waste management, drainage and flood control, good housing design and location, safe recreational waters
- 4.6 *Cross-cutting issues* such as health care waste, infectious / communicable diseases, vector-borne diseases, effects of climate change

5 Areas Requiring Improvement

- 5.1 *Specific policies and legislation for environmental health* (where absent in the country)
- 5.2 *Institutional development and intersectoral collaboration* (strategies forging partnerships)
- 5.3 *Human resources development* (especially preparedness and response)
- 5.3 *Monitoring and surveillance* (including management of information)
- 5.4 *Integration of health and environment in international/regional agreements*
- 5.6 *Others*

References

Appendix

MALAYSIA
Environmental Health Data Sheet
As of January 10, 2005

	INDICATORS	DATA	Year	Source
1	Development, Environment and Health			
1.1.1	Area (1000 km ²)	330.25	2002	2
1.1.1	Estimated population ('000)			
	- Total	25 048.30	2003	1
	- Male	12 751.90	2003	1
	- Female	12 296.40	2003	1
1.1.1	Annual population growth rate (%)	2.20	2003	1
	Percentage of population			
	- 0-14 years	33.18	2003	1
	- 65+ years	4.12	2003	1
1.1.1	Urban population (%)	62	2000	4
1.1.1	Adult literacy rate (%)			
	- Both sexes	91.00	2000	1
	- Male	92.7	2000	1
	- Female	87.6	2000	1
1.1.1	Infant mortality rate (per 1000 live births)	6.2	2003	1
1.1.1	Under-five mortality rate (per 1000 live births)	0.5	2003	1
1.1.1	Newborn infants weighing at least 2500g at birth (%)	86.90	2001	2
1.1.2	General economy: narrative report (separate sheet)			
1.1.2	Per capita GNP at current market prices (US\$)	4010	2003	1
1.1.2	Total health expenditure on health as % of GNP	1.70	2000	2
1.1.3	Development priorities: narrative report (separate sheet)			
1.1.3	Land area for agriculture (as percentage of total land area)	24	2001	4
1.1.4	Human development index (Highest = 1)	0.79	2002	4
	Human development index Rank (out of 177 countries)	59	2002	4
1.2.1	Population with access to safe water (%)			
	- Total	96.90	2001	2
	- Urban	98.50	2001	2
	- Rural	93.94	2001	2
1.2.1	Population with adequate excreta disposal facilities (%)			

	INDICATORS	DATA	Year	Source
	- Total	93.60	2001	2
	- Urban	91.20	2001	2
	- Rural	98.10	2001	2
1.2.1	Solid waste collection (% of total waste generated)			
1.2.1	Proportion of urban population served by municipal solid waste collection (%)			
1.2.2	Proportion of urban population served by sewerage system (%) National or major city			
1.2.1	Proportion of population with electricity (%)			
1.2.2	Total Urban Rural 75,327.7 KWH			
1.2.3	Poison center service (Y/N list, year)	Y		
1.2.3	Chemical emergency preparedness (Y/N list, year)	Y		
1.2.4	Proportion of population living in informal settlements (%)	...		
1.2.4	Presence of building regulations and inspection (Y/N list, year)	Y		
1.2.5	Number of registered vehicles	12,012,939	2001	10/1
	Rate (number per 100,000 population)	47,000	2002	10/1
	Number of registered motorcycles	5,842,618	2002	10/1
	Rate (number per 100,000 population)	22,000	2002	10/1
1.2.6	Presence of government/private laboratories and equipment for monitoring			
	Drinking water (Y/N; G/P)	Y: G		
	Water resources (Y/N ; G/P)	Y : G		
	Ambient air (Y/N ; G/P)	Y : G		
	Noise (Y/N ; G/P)	Y : G		
	Radiation (Y/N ; G/P)	Y : G		
1.2.7	Presence of government/private system for data collection and processing (Y/N; G/P)	Y: G		
1.3.1	Proportion of population using solid/biomass fuels for cooking or heating (%)	29	2000	9
1.3.1	Proportion of vehicles using diesel (%)	11	2000	10
1.3.1	Proportion of vehicles using unleaded gasoline (%)	89	2000	10
1.3.1	Average number of times national air quality standards are exceeded in a year: a. short-term (1-hour average) frequency of exceedance b. long-term (8-hour average) frequency of exceedance			

	INDICATORS	DATA		Year	Source
1.3.2	Average number of times national water quality standards are exceeded in a year a. In three major rivers b. In major drinking water supplies				
1.3.2	Industries generating wastewater (number)				
1.3.3	Solid waste generated (kg/per capita/day)				
1.3.3	Solid waste generated (tons per year)	6.378 million		2001	1
1.3.3	Proportion of recyclable solid waste (%)				
1.3.4	Toxic and hazardous wastes generated (tons/year)	420,198		2001	1
1.3.4	Industries generating toxic and hazardous wastes (number)				
1.3.4	Health-care waste generation (tons per year)	5,864		2003	12
1.3.4	Nuclear waste generation (tons per year)				
1.4.2	Cases of pesticide poisoning (number)	212		2003	11
1.4.2	Proportion of undernourished population (%)	
1.4.2	Prevalence of underweight children under five years of age (%)	18		1999	7
1.4.4	Motor and other vehicle injuries (number)	78,406		2002	2
1.4.4	Road traffic crashes:				
	Number of accidents (within a year)	279,256		2002	1
	Rate (Accident per 100,000 population)	1093		2002	10
	Rate (Accident per 10,000 vehicle registration)	230		2002	10
	Rate (Injuries per 10,000 vehicle registration)	35.9		2002	10
	Rate (deaths per 100,000 population)	23.0		2002	10
1.4.1-1.4.7	Ten leading causes of morbidity	Number	Rate per 100 000 population		
	1. Normal delivery (single spontaneous delivery)	300 771	1226.14	2002	2
	2. Complication of pregnancy, childbirth and the puerperium	195 318	796.24	2002	2
	3. Accident (accidental injury)	149 332	608.77	2002	2
	4. Diseases of the circulatory system	118 262	482.11	2002	2
	5. Diseases of the respiratory system	107 869	439.74	2002	2
	6. Certain conditions originating in the perinatal period	94 776	386.37	2002	2
	7. Diseases of the digestive system	82 836	337.69	2002	2
	8. Ill-defined conditions (symptoms and signs)	63 001	256.83	2002	2
	9. Diseases of the urinary system	60 340	245.98	2002	2
	10. Malignant neoplasms	44 833	182.77	2002	2
1.4.1-1.4.7	Ten leading causes of mortality	Number	Rate per 100 000 population		
	1. Septicaemia	5543	22.60	2002	2
	2. Heart diseases and diseases of pulmonary circulation	5209	21.24	2002	2
	3. Malignant neoplasms	3313	13.51	2002	2

	INDICATORS	DATA		Year	Source
	4. Cerebrovascular diseases	2936	11.97	2002	2
	5. Accident	2270	9.25	2002	2
	6. Pneumonia	1834	7.48	2002	2
	7. Diseases of the digestive system	1674	6.82	2002	2
	8. Certain conditions originating in the perinatal period	1640	6.69	2002	2
	9. Nephritis, nephrotic syndrome and nephrosis	1267	5.17	2002	2
	10. Ill-defined conditions	1134	4.62	2002	2
		Number of cases	Number of deaths		
1.4.5	Tuberculosis (All types)		
1.4.5	Rheumatic fever and rheumatic heart diseases	3211	92	2002	2
1.4.6	Acute respiratory infections		
1.4.6	Hepatitis viral	3601	0	2002	2
1.4.6	Cholera	365	7	2002	2
1.4.6	Typhoid fever (and paratyphoid fever)	853	2	2002	2
1.4.6	Encephalitis	37	2	2002	2
1.4.6	Diarrhoeal diseases		
1.4.7	Plague	0	0	2002	2
1.4.7	Malaria	12,780	...	2001	14
1.4.7	Dengue/DHF	16,368	...	2001	14
2	Legal, Policy, and Institutional Structure				
2.1.1	National environmental health policy (Y/N list, year)				
2.1.1	National environmental policy (Y/N list, year) The guiding principles for environmental policy objectives which form the basis for development planning are to: <ul style="list-style-type: none"> • Maintain a clean and healthy environment; • Minimize the quality of the environment relative to the needs of the growing population; • Minimize the impact of the growing population and human activities relating to mineral exploration, deforestation, agriculture, urbanization, tourism, and development of other resources, on the environment; • Balance the goals of socioeconomic development and the need to bring the benefits of development to a wide spectrum of population against the maintenance of sound environmental constitution. 	Y			6

	INDICATORS	DATA	Year	Source
	<ul style="list-style-type: none"> Place more emphasis on prevention through conservation rather than through curative measures; Incorporate an environmental dimension in project planning and implementation through the conduct of Environmental Impact assessment Studies; and Promote greater cooperation and increased coordination among relevant Federal and state authorities as well as among the ASEAN governments. 			
2.1.1	Policies/legislation to reduce exposure to environmental tobacco smoke (Y/N list, year) Food Act 1993 with provision for smoke free places	Y	1993	
2.1.1	National policies for healthy settings (such as healthy cities) (Y/N list, year) Start with Urban Health Policy	Y	1997	
2.1.2	Environmental/Health Acts promulgated: (Y/N list, year) <ul style="list-style-type: none"> a. Water b. Air c. Solid Waste d. Toxic chemicals/Hazardous Waste e. Others Environmental Quality Act 1974 Environmental Quality Act (Amendment) 1985.1986 National Forestry Act 1984 National Park Act 1980 Pesticides Act 1974 Land Conservation Act 1960	Y		6
2.1.2	Environmental impact assessment as an official requirement (Y/N list, year) EIA procedures were introduced in 1988. Some EIA reports are open for public scrutiny.	Y	1988	6
2.1.2	Health impact assessment as part of EIA (Y/N list, year)	Y		
2.1.3	Policies for decentralization such as for environmental health and monitoring (Y/N list, year)	N		

	INDICATORS	DATA	Year	Source
2.1.3	Policies for privatization such as for environmental health and monitoring (Y/N list, year)	Y		
2.2.1	Organizational structure for environmental health (separate sheet)	Y		
2.2.2	List of agencies and partners for environmental health other than government (separate sheet) <ul style="list-style-type: none"> e) Sahabat Alam Malaysia (SAM) f) International Organization of Consumer Unions g) Malayan Nature Society h) Golden Hope Plantations Berhad 	Y		6
2.2.3	List of relevant government agencies and their functions (separate sheet as a table matrix) <ul style="list-style-type: none"> • Economic Planning Unit of the Prime Minister's Department • Department of Environment 	Y		6
2.3	Relevant international conventions/agreements (List, year signed/ratified) <p><u>Malaysia is a Party to:</u></p> <ul style="list-style-type: none"> - the 1973 Convention on international Trade in Endangered Species of Wild Fauna and Flora (Accession 20 October 1977) - the 1985 Vienna Convention on Substances that deplete the ozone Layer (Accession 29 August 1989); - the 1987 Montreal Protocol on Substances that deplete the ozone layer (Accession 29 August 1989); <p>It has ratified the 1990 London Amendment to the Montreal Protocol.</p> <p><u>Malaysia has acceded to:</u></p> <ul style="list-style-type: none"> - the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; <p><u>Malaysia is signatory to:</u></p> <ul style="list-style-type: none"> - the 1992 Convention on Biological Diversity (signature 12 June 1992). <p><u>Malaysia should be encouraged to sign and ratify/or accede to:</u></p> <ul style="list-style-type: none"> - the 1992 United Nations Framework Convention on Climate Change; - the 1979 Convention on the Conservation of Migratory Species of Wild Animals. - the 1971 Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (being administered by 	Y		6

	INDICATORS	DATA	Year	Source
	UNESCO). Malaysia has been actively participating in the implementation of the amended London Guidelines for the Exchange of Information on Chemicals in International Trade.			
3	Human Resources Development Programs			
3.1	Environmental Health workforce			
	- environmental health officers	...		
	- health/sanitary inspectors			
	- assistant sanitarians			
	- environmental engineers			
	- sanitary engineers			
	- pollution control officers			
	- others			
3.2	Tertiary degrees related to environmental health (Y/N list)	Y		
3.2	Short courses and duration related to environmental health (Y/N list)	Y		
3.3	Government certification for environmental workforce (Y/N list)	Y		
3.4	Professional associations related to environmental health (Y/N list, memberships)	Y		
3.4	International associations' local affiliates (Y/N list, memberships)	Y		
4	Priority Environmental Health Issues			
4.1	Soil erosion (mm/year)			
4.1	Fertilizer consumption (metric tons/year)	1, 230, 000	2002	8
4.1	Pesticide consumption (metric tons/year)			
4.1	Banned pesticides used (number)			
4.1	Water resources withdrawal for irrigation (annual withdrawal as percentage of total water resources)			
4.1	Irrigated agricultural area (1000 ha)	365	2001	8
4.2 - 4.6	Inputs from Chapter 1			
4.6	Carbon dioxide emissions (per capita metric tons)	5.4	1999	7
4.6	Consumption of ozone-depleting CFCs (ODP metric tons)	1947	2001	7

Notes:

- ... Data not available.
- Est. Estimate
- p Preliminary
- NR Not relevant

Sources:

- 1 Department of Statistics, Malaysia - <http://www.statistics.gov.my/>
- 2 Information and Documentation System Unit, Ministry of Health, Malaysia
- 3 SEAMI Health Statistics 2002
- 4 UNDP Human Development Report 2004- <http://www.undp.org>
- 5 Tuberculosis Control in the WHO Western Pacific Region 2003 Report
Malaria and Dengue cases and deaths, data provided by Malaria, Vectorborne and Parasitic Diseases Unit, WHO Regional Office for the Western Pacific, 10 March 2004
Cholera cases and deaths, information taken from the website of Regional Electronic Surveillance System for Notifiable Diseases in Western Pacific Region
(<http://internet/cds/cds-query.cfm>)
- 6 United Nations Environment Program, Regional Resource Center for the Asia and the Pacific - <http://www.rrcap.unep.org/>
- 7 Asian Development Bank Statistics - <http://www.adb.org/statistics/>
- 8 Food and Agriculture Organization Statistics - <http://apps.fao.org/default.jsp>
- 9 2004 World Health Report - <http://www.who.int/whr/en/>
- 10 Department of Transport, Malaysia
- 11 Worker and Environmental Health Unit, Ministry of Health Malaysia
- 12 Department of Environment, Malaysia - <http://www.jas.sains.my/jas/default.html>
- 13 Ministry of Housing and Local Authorities, Malaysia.
- 14 Compendium of Environment Statistics for Malaysia, Department of Statistics 2003
- 15 Malaysia Environmental Quality Report 2002, Department of Environment