



## Environmental Health Country Profile - China World Health Organization As of 9 June 2005



### 1 Development, Environment and Health Status

#### 1.1 *Development Pattern of the Country*

##### 1.1.1 Maps / geography / demography / urban-rural trends

China is the most populated country in the world with approximately 1.292 billion people. Although being one of the most densely populated countries the population is unevenly distributed with a dominance of the population on the eastern side of the country. There are also more people in the rural areas (about 60%) but there has been a migration trend to the urban areas. The population distribution shows that 22% are less than 14 years old and 7.5% over 65 years old. There has been a parental preference for boys and the sex ratio is more in favour of boys. The proportion of female in the education system declines towards college attendance but the literacy rate overall is 84%.

The topography of China is complex being high in the west and low lying in the east. The mountain, hill and plateau areas comprise about 65% of the land area. There are many mountains, rivers and lakes with more than 5000 rivers having catchments greater than 100km<sup>2</sup> and over 2800 lakes with an area greater than 1 km<sup>2</sup> and 13 of these have a surface area over 1000km<sup>2</sup>.

China has a prominent monsoon climate and experiences various other climatic patterns as it covers a large landmass, complex topography and changes in elevation. It has a range of temperature belts from 'tropical' in the south to 'frigid temperate' in the north (1) (2) (13).

##### 1.1.2 General economy of the country

The economy of China has been undergoing rapid change from a market based predominantly on primary industry to a more diversely based economy, which is increasing the secondary and tertiary industry sectors. The latter two now predominate over the primary industry sector. Estimates indicate that the gross domestic product (GDP) for 2000 will be around 8940 billion Yuan, which is up by 8% on the previous year showing a growth rate of 9% over the same period. Primary industry grew by 2.4%, secondary by 9.6% and the tertiary sector by 7.8%. In the context of the US\$ the GDP for China was greater than US\$1 trillion (13).

Market prices remained stable and the general level of consumer demand has increased in recent years. Employment growth strengthened partly as a result of new programs to reemploy several million workers laid off (from non-profitable state owned enterprises) in recent years. The urban unemployment rate is around 3% (13).

Foreign exchange reserves have continued to increase however the size of the favourable balance of trade decreased by US\$5.1 to US\$24.1b. The RMB exchange rate has remained steady. Profits made by industrial enterprises (state owned and state holdings) increased and the percentage of industries suffering losses decreased (13).

The main problems that exist are the need for a stronger foundation for economic growth and social demand. As farmer's income only grows slowly there is increased pressure for employment, which results in difficulties with living conditions for some people. There is a need for greater technological innovation and adaptability to market forces. The large number of accidents and the production of inferior products are aspects that need continued improvement.

### 1.1.3 Development priorities

A report prepared by the United Nations (12) (4) indicates that China's entry to the World Trade Organisation (WTO) will have major consequences which should lead to long term benefits but which are likely to pose difficulties in the short term. China has a goal of building a well-off society in an all around way (xiaokang society) The Millennium Development Goals (MDGs) provide an opportunity for action to improve health on a global basis. The goals "place health at the heart of development and establish a novel global compact, linking developed and developing countries through clear, reciprocal obligations". The MDGs, together with China's goal provide guiding principles for the UN and the government of China to achieve the development objectives that have been set out in the report.

The strategic themes in the report, which are directly relevant to this EHCP, are:

- Promotion of regional equity – strategies need to have a continued focus on the development of the rural infrastructure and economy.
- Increasing the effectiveness of basic services – provide high quality basic services through more participatory approaches in planning and management and greater contribution from non-governmental organisations (NGOs) and the private sector.
- Supporting further development of effective socio-economic diversification and protection of the natural resource base – to be done with government, NGOs, economic organisations and civil society groups in order to further economic development, reduce poverty and improve environmental management.

- Improve effectiveness of capacity building efforts – the challenges with emerging national development priorities are the need for human resources in the technical and managerial arenas.

National health priorities have been identified (21) and of the ten priority areas mentioned five are specifically relevant to environmental health. These are:

- increase support at all levels of government for health service development, especially strengthening preventive services and improving curative services;
- improve community health services based on primary health care in both rural and urban areas, emphasizing health education and health promotion;
- strengthen preventive services for high risk or vulnerable population groups such as women and children
- strengthen health legislation;
- improve water supply and sanitation especially in rural areas; and

#### 1.1.4 Human Development Index

This is a composite index 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 Report (8) indicates that China is now in the medium HDI level with an HDI of 0.706 as of 1998. In 1998 China ranked 99 out of 174 countries and the GDP per capita rank minus the HDI rank was plus 7 indicating that China has been moderately effective in converting income into human development. (Update needed from 2004 Report)

## 1.2 *Existing Service Levels*

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

The available data indicates that about 83% of the population has access to safe water with a larger percentage among the urbanized population and about 50% of the population has access to excreta disposal facilities. Electricity supply has become available to almost all households with a figure around 98% (2).

Other aspects need data

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

Safe water is available to about 94% of the urban population and about 70% have access to excreta disposal facilities. Overall the percentage of rural households with toilets is 51%. Electricity is available to nearly 100% of urban households (11)(12). Municipal solid waste disposal is available to

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

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

In China it is generally a requirement for the building houses to be regulated including inspection before habitation. The number living in informal settlements is not known but expected to be very small (From Dr Jin).

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

In the year 2004, there were 107834 thousand registered vehicles, 67541 thousand registered motorcycles in China. According to the population of 1.3 billion, there were 8294 vehicles per 100,000 people; there were 5195 motorcycles per 100,000 people. (Note: This number does not include Hong Kong, Macao special administrative district and Taiwan district.)

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

There is capacity within government to carry out monitoring for many environmental health parameters though the Centre for Disease Control and Prevention (CDC) and the State Environmental Protection agency (SEPA). The current level of capacity may not be adequate for the work level, which exists.

### 1.2.7 Capacity for data collection and processing

There is some capacity within the agencies (CDC and SEPA) but there is a need for more data collection and more detailed analysis and evaluation of the data.

## 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)

It has been estimated that about 80% of the Chinese households use solid/biomass fuels for cooking or heating. The proportion using diesel, leaded or unleaded fuel for motor vehicles is unknown.

Monitoring data from 388 cities shows that only 31% met the Chinese standard for air quality and some large Chinese cities have been ranked as the most seriously polluted in the world. Comparisons show that the concentrations of Total Suspended Particulates (TSP) were higher in the north than in the southern cities whereas the levels of sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) were about the same in the north and south. Several major cities had SO<sub>2</sub> well above the WHO standard of 60ug/m<sup>3</sup> which means that about 600 million Chinese citizens are exposed to levels above the standard. The WHO does not now currently have a standard for particulate matter, as exposure to airborne particulates is a complex matter as a result of size and physicochemical properties of particles it is therefore considered appropriate to set an exposure standard for a material that cannot be well defined (17). The status of air pollution in 47 key environmental protection cities indicates that on average SO<sub>2</sub> levels were 0.047 mg/m<sup>3</sup>, PM<sub>10</sub> levels were 0.11 mg/m<sup>3</sup> and NO<sub>2</sub> levels were 0.037mg/m<sup>3</sup>. The percentage of cities exceeding the SO<sub>2</sub> was 23%, those exceeding the particulate standard was 61% and those attaining the overall standard was 38%. In each case this represents an improvement over the last seven years (14)(15).

In China the emissions of sulphur dioxide and particulate in waste gases have been falling over recent years but for 2002 the total SO<sub>2</sub> and particulate emissions were 1926x10<sup>4</sup> and 1953x10<sup>4</sup> tons (which includes soot and industrial dusts) respectively(15).

In general terms about 74% of the Chinese population live in areas where the air quality does not meet the standard (15).

Acid rain has been reported to be mainly distributed in areas south of the Yangtze River. The areas seriously affected cover about 30% of China (15).

In addition to the ambient atmospheric environment many people especially women will be exposed to air contamination inside their households. The level of contamination is not known but an indication can be seen from the information that some 80% use solid/biomass fuels for cooking or heating (5). Likely contaminants are particulate matter, carbon monoxide, sulphur dioxide and nitrogen dioxide.

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

A high proportion (83%) have access to safe water however there is considerable contamination of water courses. Monitoring of water quality in seven large water systems showed that for petroleum, ammonia nitrogen, volatile phenol and mercury 71% failed to meet the standard. The amount of wastewater being discharged each year is increasing but the treatment rate is only 14.7% using 2002 data (15).

In 2002 the total discharge of industrial wastewater (21 billion tons) and domestic sewage (23 billion tons) was 44 billion tons which was an increase of 1.5% over the previous year. The total Chemical Oxygen Demand (COD) was 13.7 million tons which was a decrease of 2.7% over the previous year. The discharge of industrial wastewater compliance with standards was 88% which was an increase of 2.7% over the previous year (9)(15).

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

The reported data indicates that about  $11.4 \times 10^7$  tons of solid waste is generated annually and of this 29% is recyclable. There is some uncertainty in these figures as it depends on the classification of the waste eg domestic or industrial, hazardous or inert. According to SEPA the total generation of solid waste in 2002 was 950 million tons which was an increase of 6.5% on the previous year. The discharge amount was 26.3 million tons which was 8.9% less than the year before. Just over 50% of the solid waste was suitable for "comprehensive utilization". The domestic waste that was collected and transported amounted to 136 million tons which was 1.2% more than the previous year, Of this 74 million tons was disposed of in an environmentally acceptable manner which was 5.6% less than the year before. About 54% of domestic garbage was treated (15).

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

About 10 million tons of hazardous waste was generated. Legislation is in place which allows the import and export of toxic chemical. Under this legislation 396000 tons was imported and 57000 tons of toxic chemicals were exported (15).

1.3.5 Noise pollution.

Road traffic noise has been monitored in 325 cities which is an increase of 52 over the previous year. Those areas subjected to different levels of pollution were 4.9% serious pollution, 17% medium, 64% low pollution and 13% as a good acoustic environment. At the urban district level 319 cities and 3.4% had serious pollution, 44% intermediate, 48 slight and 4% a good acoustic environment (15).

1.4 *Public Health Statistics*

1.4.1 Ten leading causes of mortality and morbidity

The ten leading causes of mortality are malignant neoplasms, cerebrovascular disease, respiratory system diseases, heart disease, injury and poisoning, digestive system diseases, endocrine and metabolic diseases, genitourinary system diseases, nervous system diseases, perinatal disease and tuberculosis. Nervous system diseases are in the top ten in the urban areas and tuberculosis in the top ten in the rural areas.

The top ten chronic diseases in terms of morbidity are: hypertension, gastroenteritis, rheumatoid arthritis, chronic obstructive pulmonary disease, cerebrovascular disease, cholelith and cholecystitis, diabetes mellitus, intervertebral disc disorders, ischaemic heart disease and peptic ulcer (16).

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

In past years there has been some success in the control of endemic diseases. The phased target for the elimination of disease related to iodine deficiency was achieved. Good progress was made in the prevention and control of endemic diseases caused by fluorine and arsenic. Significant achievement was also made in the prevention and control of schistosomiasis. About 74% of towns and districts having schistosomiasis

reached the standards for interdiction and control of the spread of the disease (16).

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.

In the year 2004, traffic accident in China had reached the number of 517889, which caused 107077 deaths, 48064 injuries. The accident rate among per 100,000 people was 39.8; the mortality rate among per 100,000 people was 8.24; the accident rate among per 100,000 vehicles was 48; the mortality rate among per 100,000 vehicles was 9.9; the rate of injuries among per 100,000 vehicles was 44.6. (Note: This number does not include Hong Kong, Macao special administrative district and Taiwan district.)

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

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

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

## **2 Legal, Policy, and Institutional Structure**

### *2.1 Legislative and Policy Framework*

2.1.1 National policies, plans or strategies for environmental health

2.1.2 Relevant legislation addressing environmental health issues (such as Public Health Act, Clean Air Act, environmental / health impact assessment)

2.1.3 Decentralization and / or privatization policies dealing with environmental health

## 2.2 *Institutional Structure for Environmental Health*

2.2.1 Administrative / organizational set-up of the country (at all levels or as appropriate)

2.2.3 Role of government, private sector, non-government organizations, international organizations and partnerships in environmental health

2.2.4 Agencies involved and their respective functions (or in a table matrix)

## 2.3 *Relevant International Conventions and Agreements Ratified or Signed*

See Appendix I

## **3 Human Resources Development Programs**

3.1 *Environmental health workforce, professionals and their skills*

3.2 *Formal and informal training programs for environmental health*

3.2 *Government certification*

3.4 *Professional associations*

## **4 Priority Environmental Health Issues (by sector)**

4.1 *Agriculture Sector* such as pesticide poisoning, irrigation runoff laden with fertilizer and pesticides, contamination of water resources, pesticide residues on vegetables

Info expected from MO AG

4.2 *Energy Sector* such as air pollution, noise, thermal pollution, fly ash and sludge disposal, nuclear wastes

Info from SEPA

4.3 *Industry Sector* such as air and water pollution, chemical emergencies, hazardous waste management

Info from SEPA MOAG (chem. emerg)

4.4 *Transport Sector* such as road safety, traffic crashes, ambient air pollution, noise

MOPS

*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

MOH DoDC SEPA

*4.6 Cross-cutting issues* such as health care waste, infectious / communicable diseases, vector-borne diseases, effects of climate change

SEPA DoDC MOH

*4.7 General priorities indicated by Ministry of Health*

The range of priorities is considered to be very wide but a few were presented at a meeting with Ministry of Health (MOH) (20).

- Efforts should be continued to combine and integrate the environment with human health. MOH will need to formulate how to improve environmental health and decision making capacity. This is regarded as an important issue. Risk assessment, risk analysis and risk management are considered to be important functions within decision making and hence capacity building needs to take place to ensure that the most effective and efficient decision making can be implemented.
- Indoor air pollution is an important issue and control strategies need to be developed and implemented. Chemical, physical and biological contaminants need to be considered.
- Exposures in the workplace are of serious concern in terms of the level of exposures and the complexity of exposures.
- As a large proportion of the population live in rural areas more attention needs to be given to hygiene eg the provision of safe water and adequate sanitation. Also the design and construction of houses should better incorporate modern concepts of hygiene and sanitation.
- Sustainable development needs to be placed more firmly on the agenda in regards to human health. More information is needed to determine the important issues and for the development of strategies which can enhance efforts towards sustainable development. Issues include the increase in migration from rural to urban areas and the pressures this places on environmental health issues. Also a clearer understanding of the impact of environmental conditions on human health would assist in the development of appropriate strategies.

## 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)
- 5.2 *Human resources development* (especially preparedness and response)
- 5.4 *Monitoring and surveillance* (including management of information)
- 5.5 *Integration of health and environment in international/regional agreements*
- 5.6 *Others*

### References (complete citations)

1. Statistical Communique of the PRC on the 2003 National Economic and Social Development, National Bureau of Statistics of China ([www.stats.gov.cn/english/newrelease/index.htm](http://www.stats.gov.cn/english/newrelease/index.htm)), 26 February 2004
2. Information supplied by the WHO representative for China 20 April 2004. 3=18?
4. Millennium Development Goals: A compact among nations to end human poverty. Human Development Report 2003. UNDP: New York
5. World Health Report 2004. WHO: Geneva
- 6.
- 7.
8. Human Development Report 2004. UNDP, OUP: New York
9. National Report of PRC on Environment and Development 1991. Beijing
10. World Report on Road Traffic Injury and Prevention 2004. WHO: Geneva
11. Country Health Information Profiles 2002 Revision. WHO Geneva
12. A current Perspective by UN Country Team in China. UN: Beijing
13. China: Facts and Figures 2001. New Star Publishers: Beijing
14. China – Country Report. WHO meeting on Strengthening National Capacity in Environmental Health. WHO: Manila
15. Report on the state of the Environment in China 2002. State Environmental Protection Agency 2003
16. China Daily 12 August 2004
17. Air Quality Guidelines 2000. WHO: Geneva
18. Ministry of Health China ([www.moh.gov.cn/public/open.aspx?n\\_id=80068&seq=0](http://www.moh.gov.cn/public/open.aspx?n_id=80068&seq=0)) 12 August 2004
19. China Statistical Yearbook 2003. China Statistics Press: Beijing
20. Meeting with staff from the Ministry of Health and other government agencies 13 August 2004.
21. WHO WPRO 2002 ([www.wpro.who.int/chips/chip02.chn.htm](http://www.wpro.who.int/chips/chip02.chn.htm)) 16 August 2004

*Relevant International Conventions and Agreements Ratified or Signed*

1. Vienna Convention for the Protection of the Ozone layer, 22 March 1985. Ratified 11 September 1989. Local Focal Point (LFP) SEPA, National Ozone Leading Group. UN Organisation (UNO) UNDP, UNEP.
2. Montreal Protocol on Substances that Deplete the Ozone Layer, 16 September 1987. Ratified 14 June 1991. LFP SEPA, National Ozone Leading Group. UNO UNEP, UNDP, UNIDO, IBRD.
3. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 22 March 1989. Ratified 17 December 1991. LFP – UNO UNIDO
4. Kyoto Protocol to the United Nations Framework Convention on Climate Change, 11 December 1997. Ratified 30 August 2002. LFP Office to National Climate Change Coordination Committee, SDRC. UNO UNEP, UNDP, UNESCO.
5. Convention on Biodiversity, 5 June 1992. Ratified 5 January 1993. LFP Division of Nature Reserve & Species Management. UNO UNEP, UNDP, UNESCO
6. UN Convention to Combat Desertification, 14 October 1994. Ratified 18 February 1997. LFP China National Committee to Implement the UN Convention to Combat Desertification. UNO UNDP/UNSO UNESCO
7. Convention concerning Safety in the Use of Chemicals at Work. Ratified 27 October 1994. LFP State Administration of Work Safety. UNO ILO
8. Convention for the Protection of the World Cultural and Natural Heritage. Ratified 12 December 1985. LFP Chinese National Commission for UNESCO. UNO UNESCO
9. Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 10 September 1998. Ratified – not known LFP not known. UNO FAO UNEP.
10. International Plant Protection Convention, 3 April 1952. Ratified – not known. LFP – not known UNO FAO.
11. International Code of Conduct on the Distribution and Use of Pesticides – no other information.
12. Code of Conduct on Biotechnology as it relates to Genetic Resources for Food and Agriculture – no other information.

## CHINA

### Environmental Health Data Sheet As of 9 June 2005

	INDICATORS	DATA	Year	Source
<b>1</b>	<b>Development, Environment and Health</b>			
1.1.1	Area (1000 km <sup>2</sup> )	9600.00		2
1.1.1	Estimated population ('000)			
	- Total	1 292 270.00	2003p	1
	- Male	665 560.00	2003p	1
	- Female	626 710.00	2003p	1
1.1.1	Annual population growth rate (%)	0.97	2000	3
	Percentage of population			
	- 0-14 years			
	> Total	22.10	2003p	1
	> Male			
	> Female			
	- 65+ years			
	> Total	7.50	2003p	1
	> Male			
	> Female			
1.1.1	Urban population (%)	40.53	2003p	1,19
1.1.1	Adult literacy rate (%)			
	- Both sexes	85.80	2001	4
	- Male	92.50	2001	4
	- Female	78.70	2001	4
1.1.1	Under-five mortality rate (per 1000 live births)	35.90	2001	3
1.1.1	Newborn infants weighing at least 2500g at birth (%)	97.61	2002	3
1.1.2	General economy: narrative report (separate sheet)			
1.1.2	Per capita GDP at current market prices (US\$)	1092.00	2003p	1
1.1.2	Total health expenditure on health as % of GDP	5.62	2003	3
1.1.3	Development priorities: narrative report (separate sheet)			
1.1.3	Land area for agriculture (as percentage of total land area)	15.87	2003	20
1.1.4	Human development index (Highest = 1)	0.72	2001	4
	Human development index Rank (out of 175 countries)	104	2001	4

	INDICATORS	DATA	Year	Source
1.2.1	Population with access to safe water (%)			
	- Total	83.55	2002	2
	- Urban	94.00	2002	2
	- Rural	73.00	2002	2
1.2.1	Population with adequate excreta disposal facilities (%)			
	- Total	50.92 (38)	2003(2)	2 (11)
	- Urban	(68)		(11)
	- Rural	(24)		(11)
1.2.1	Solid waste collection (% of total waste generated) collected	136mt	2002	15
1.2.1 1.2.2	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 1.2.2	Proportion of population with electricity (%) Total Urban Rural	96 63	1988 1988	9 9
1.2.3	Poison center service (Y/N list, year)			
1.2.3	Chemical emergency preparedness (Y/N list, year)			
1.2.4	Proportion of population living in informal settlements (%)			
1.2.4	Presence of building regulations and inspection (Y/N list, year)			
1.2.5	Number of registered vehicles			
	Rate (number per 100,000 population)	8000	1999	10
	Number of registered motorcycles			
	Rate (number per 100,000 population)			
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 (%)	80	2000	5
1.3.1	Proportion of vehicles using diesel (%)			
1.3.1	Proportion of vehicles using unleaded gasoline (%)			

	INDICATORS		DATA	Year	Source
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		34% reached AQ standard	2002	15
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 (billion tons)		21.23	2003	
1.3.3	Solid waste generated (million tons)		1004.28	2003	
1.3.3	Solid waste generated (million tons) Garbage		148.57	2003	
1.3.3	Proportion of recyclable solid waste (%)		54.8	2003	
1.3.4	Toxic and hazardous wastes generated (millions tons)		11.7	2003	
1.3.4	Industries generating toxic and hazardous wastes (number)				
1.3.4	Health-care waste generation (tons per year)				
1.3.4	Nuclear waste generation (tons per year)				
1.4.2	Cases of pesticide poisoning (number)				
1.4.2	Proportion of undernourished population (%)				
1.4.2	Prevalence of underweight children under five years of age (%)		10-17	1998	13
1.4.4	Motor and other vehicle injuries (number)				
1.4.4	Road traffic crashes:				
	Number of accidents (within a year)		517889	2004	
	Rate (Accident per 100,000 population)		39.8	2004	
	Rate (Accident per 10,000 vehicle registration)		48	2004	
	Rate (Injuries per 10,000 vehicle registration)		44.6	2004	
	Rate (deaths per 100,000 population)		9.9	2004	
1.4.1- 1.4.7	Five leading causes of morbidity	In City Hospitals (% of total cases)	Rate per 100 000 population		
	1. Diseases of the respiratory system	11.20	...	2002	3
	2. Diseases of the digestive system	11.00	...	2002	3
	3. Pregnancy, childbirth and puerperium causes	10.68	...	2002	3
	4. Injury and poisoning	9.13	...	2002	3
	5. Malignant neoplasms	6.36	...	2002	3
1.4.1- 1.4.7	Five leading causes of mortality	% of Total Deaths	Rate per 100 000 population		
	1. Malignant tumours	23.75	119.71	2002	3
	2. Cerebrovascular diseases	17.53	88.37	2002	3
	3. Diseases of the respiratory system	15.49	78.06	2002	3
	4. Heart diseases	14.71	74.12	2002	3
	5. Injury and poisoning	8.62	43.45	2002	3

INDICATORS		DATA	Year	Source	
		Number of cases	Number of deaths		
1.4.5	Tuberculosis (All types)	462 609	...	2002	7
1.4.5	Rheumatic fever and rheumatic heart diseases	...	...		
1.4.6	Acute respiratory infections	...	...		
1.4.6	Hepatitis viral (Type C)	668 326	780	2002	3
1.4.6	Cholera	2720	15	2001	7
1.4.6	Typhoid fever (and paratyphoid fever)	59 796	41	2002	3
1.4.6	Encephalitis	8769	229	2002	3
1.4.6	Diarrhoeal diseases	...	...		
1.4.7	Plague	...	...		
1.4.7	Malaria	25 520	42	2002	7
1.4.7	Dengue/DHF	1557	...	2002	7
INDICATORS		DATA	Year	Source	
<b>2</b>	<b>Legal, Policy, and Institutional Structure</b>				
2.1.1	National environmental health policy (Y/N list, year)				
2.1.1	National environmental policy (Y/N list, year)				
2.1.1	Policies/legislation to reduce exposure to environmental tobacco smoke (Y/N list, year)				
2.1.1	National policies for healthy settings (such as healthy cities) (Y/N list, year)				
2.1.2	Environmental/Health Acts promulgated: (Y/N list, year) a. Water b. Air c. Solid Waste d. Toxic chemicals/Hazardous Waste e. Others				
2.1.2	Environmental impact assessment as an official requirement (Y/N list, year)	Y	2002	14	
2.1.2	Health impact assessment as part of EIA (Y/N list, year)	Y	2001	14	
2.1.3	Policies for decentralization such as for environmental health and monitoring (Y/N list, year)				
2.1.3	Policies for privatization such as for environmental health and monitoring (Y/N list, year)				
2.2.1	Organizational structure for environmental health (separate sheet)				
2.2.2	List of agencies and partners for environmental health other than government (separate sheet)				
2.2.3	List of government agencies and their functions				

	<b>INDICATORS</b>	<b>DATA</b>	<b>Year</b>	<b>Source</b>
	(separate sheet as a table matrix)			
2.3	Relevant international conventions/agreements (List, year signed/ratified)			
	<b>INDICATORS</b>	<b>DATA</b>	<b>Year</b>	<b>Source</b>
<b>3</b>	<b>Human Resources Development Programs</b>			
3.1	Environmental Health workforce			
	- environmental health officers			
	- health/sanitary inspectors			
	- assistant sanitarians			
	- environmental engineers	15x10 <sup>4</sup>	2002	1
	- sanitary engineers	246x10 <sup>4</sup>	2002	1
	- pollution control officers Env Prot	13x10 <sup>4</sup>	2000	13
	- others	4x10 <sup>4</sup>	2000	13
3.2	Tertiary degrees related to environmental health (Y/N list)			
3.2	Short courses and duration related to environmental health (Y/N list)			
3.3	Government certification for environmental workforce (Y/N list)			
3.4	Professional associations related to environmental health (Y/N list, memberships)			
3.4	International associations' local affiliates (Y/N list, memberships)			
	<b>INDICATORS</b>	<b>DATA</b>	<b>Year</b>	<b>Source</b>
<b>4</b>	<b>Priority Environmental Health Issues</b>			
4.1.1	Soil erosion (mm/year) % of area	17	1995	12
4.1.2	Fertilizer consumption (million tons/year)	44.118	2003	20
4.1.3	Pesticide consumption (metric tons/year)	1325226	2003	20
4.1.4	Banned pesticides used (number)	18	2003	21
4.1.5	Water resources withdrawal for irrigation (annual withdrawal as percentage of total water resources)			
4.1.6	Irrigated agricultural area (1000 ha) % irrigated cultivated land	51.26	2001	12
4.2 -4.6	Inputs from Chapter 1			
4.6	Carbon dioxide emissions (per capita metric tons)	2.2	2000	8
4.6	Consumption of ozone-depleting CFCs (ODP metric tons)			
<b>Notes:</b>				
	... Data not available.			
	p Preliminary / provisional.			
	est Estimate			

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