

GEO Health: Methodology for Integrated
Environment and Health Assessment.
A focus on Latin America and the Caribbean



1

INDICATORS OF DRIVING FORCE

I-I DEMOGRAPHIC DATA

LIFE EXPECTANCY AT BIRTH, BY SEX

Definition: Represents the average life of individuals in a hypothetical group of births subjected at all ages to risk of death in the period being studied. That is, the average number of years a newborn would be expected to live who, during the course of his/her life, was exposed at the moment of birth to specified age and sex death rates, for a specified year, in a given country, territory or geographic area.

Unit of measurement: Number of years

Technical note: Life expectancy at birth is taken from life tables and is based on specified death rates by age and sex. It is calculated by dividing the total number of years a group of newborn children would live if they were exposed throughout life to such rates of mortality (numerator) and the size of the group (denominator). The United Nations values of life expectancy at birth represent midyear estimates, consistent with the corresponding five-year population projections made by using the mean fertility variant.

Source / reference: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. www.un.org/esa/population/ordering.htm

POPULATION STRUCTURE, BY AGE GROUP

Definition: Expresses the relative weight (ratio) of each age group in relation to the total population. It is the number of inhabitants by five-year age groups actually living within the borders of a given country, territory or area.

Unit of measurement: Thousands of people, at midyear.

Technical note: Population estimates by age and calendar year follow the component method designed by the United Nations Population Division and, for Latin America countries, by the Population Division of the Economic Commission for Latin America and the Caribbean (ECLAC), and the Latin American and Caribbean Demographic Centre (CELADE).

The procedure is to review national estimates that incorporate the results of the latest population censuses in the respective countries, as well as other national information sources, such as vital statistics and population surveys, combined with the study of demographic fertility, mortality and international migration variables. These makes possible to determine the population by sex and age for the period 1950-2050.

Source / reference: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. www.un.org/esa/population/ordering.htm

POPULATION BY URBAN AND RURAL AREA, BY SEX

Definition: As the definition of the urban-rural area population differs from one country to another, there is no single definition valid to all countries. In international statistics this classification is governed by local definitions given by national censuses and usually based on criteria that can include some of the following: size of the locality's population, population density, and distance between common areas, predominant economic activity, administrative or legal limits, availability and access to basic services. In general terms, the population that is not urban is understood to be rural.

Unit of measurement: Thousands of people, at midyear

Technical note: Data about the urban and rural population are obtained on the basis of urban and rural population censuses. Estimates of percentages of total urban population by sex are calculated by means of a four-parameter logistic: two "observed" values (in most cases for the last two censuses), with a lower and an upper asymptote. Then, in order to obtain the corresponding population, these percentages are applied to the total populations by sex obtained from countries' existing national projections. A difference calculation is normally used to obtain the rural population.

Source / reference: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. www.un.org/esa/population/ordering.htm

POPULATION ANNUAL GROWTH RATE

Definition: It is the annual average change in the size of the population, for a given country, territory or geographic area during a specified period. It expresses the ratio between the annual increase in population size and the total population for that year, usually multiplied by 100. The annual population increase is defined as the sum of differences: the difference between births minus deaths and the difference between immigrants minus emigrants, in a given country, territory or geographic area for a given year.

Unit of measurement: Percentage (%)

Technical note: The annual rate of population growth is generally based either on a population growth rate between censuses, calculated from two censuses adjusted for omissions, or from the components of population growth, namely births, deaths, immigrations and emigrations, adjusted as necessary, for under-reporting during a specified period.

Source / reference: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. www.un.org/esa/population/ordering.htm

FERTILITY RATE

Definition: The fertility rate is the expected average number of children a woman would have during her lifetime if, in her reproductive age, she had the specified aged-related fertility rates prevailing in a given year or period, for a given country, territory or geographic area.

Unit of measurement: Number of children per woman

Technical note: The total fertility rate is directly calculated as the sum of the specified age-related fertility rates (usually referring to women between 15 and 49 years of age), or by multiplying by five the sum if the specified fertility rates correspond to age groups at five year intervals. A specified fertility rate by age or age group is calculated as the ratio between the annual number of births to women of a certain age or age group, and the female population of the same age or age group, in the same year for a given country, territory or geographic area.

Source / reference: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. www.un.org/esa/population/ordering.htm

I-2 ECONOMY, POVERTY AND INEQUALITY

POVERTY AND EXTREME POVERTY GAP COEFFICIENT

Definition: The indicator measures the relative income deficit of the poor (or extremely poor) with respect to the value of the poverty (or extreme poverty) line.

Unit of measurement: Percentage (%)

Technical note: Calculated from household surveys (ECLAC), 1989-2005. ECLAC estimates the extent of poverty and extreme poverty by using the cost of basic needs method. This method uses poverty and extreme poverty lines that take account of the minimum income needed to permit members of a household to satisfy their essential needs. Extremely poor (and poor) population percentages are calculated by comparing the monthly value per inhabitant of the extremely poor (and poor) line with the total income of each household, also expressed in per inhabitant terms. The ECLAC method of calculating inequality comes from using a standard algorithm that ensures comparability between the set of observations.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

DISTRIBUTION OF PERSONAL INCOME BY QUINTILES (OR DECILES)

Definition: Estimate of total national income received by each 20% (quintile) or 10% (decile) of persons, ranked from the poorest to the wealthiest, based on the per capita income of their households.

Unit of measurement: Percentage (%)

Technical note: Calculated from household surveys (ECLAC), 1989-2006. ECLAC estimates the extent of poverty and extreme poverty by using the cost of basic needs method. This method uses poverty and extreme poverty lines that take account of the minimum income needed to allow members of a household to satisfy their essential needs. The extremely poor (and poor) population percentages are calculated by comparing the monthly value per inhabitant of the extremely poor (and poor) line with the total income of each household, also expressed in per inhabitant terms. The ECLAC method of calculating inequality comes from using a standard algorithm that ensures comparability between the set of observations.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

HOUSEHOLDS AND POPULATION LIVING IN POVERTY OR EXTREME POVERTY

Definition: Percentage of households whose average income per inhabitant is below the poverty and extreme poverty line.

Unit of measurement: Percentage (%)

Technical note: Calculated from household surveys (ECLAC), 1979-2003. ECLAC estimates the extent of poverty and extreme poverty by using the cost of basic needs method. This method uses poverty and extreme poverty lines that take account of the minimum income needed to permit members of a household to satisfy their essential needs. The extremely poor (and poor) population percentages are calculated by comparing the monthly value per inhabitant of the extremely poor (and poor) line with the total income of each household, also expressed in per inhabitant terms. The ECLAC method of calculating inequality comes from using a standard algorithm that ensures comparability between the set of observations.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

HUMAN DEVELOPMENT INDEX (HDI)

Definition: The Human Development Index (HDI) is an overall measure of the well-being of people that combines measures of life expectation, literacy, school enrolment and GDP per capita.

Unit of measurement: The HDI is an adimensional index with values from 0 to 1. UNDP classifies countries in three groups: (i) Country with high human development ($HDI \geq 0,8$); (ii) Country with medium human development ($0,5 \leq HDI < 0,8$); (iii); Country with low human development ($HDI < 0,5$).

Technical note: The HDI is a country measurement, prepared by the United Nations Development Programme (UNDP) based on a statistical social indicator with three parameters: (i) Long and healthy life (measured according to life expectancy at birth); (ii) Education (measured by the adult literacy rate and the combined gross primary school, secondary school and higher education enrolment rate, as well as the years of compulsory education); and (iii) Suitable standard of living (measured by the GDP per capita Purchasing Power Parity (PPP) in dollars. To calculate the HDI an index must be prepared beforehand for each of the variables considered (life expectancy, education and GDP), and minimum and maximum values (limited values) are chosen for each of these indicators. The HDI is calculated by averaging the three main components. Each of the components is expressed with a value between 0 and 1, for which the following total general formula is used.

$$\text{Index} = \frac{\text{real value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

Source / reference: United Nations Development Programme – UNDP.
<http://www.undp.org/spanish/hdr2009.shtml>

POPULATION LIVING ON LESS THAN \$1 DOLLAR (OR \$2 DOLLARS) PER DAY, PURCHASING POWER PARITY (PPP) VALUES

Definition: Percentage of the total population living on less than \$1.08 dollars or less than \$2.15 dollars a day (in 1993 Purchasing Power Parity, PPP).

Unit of measurement: Percentage (%)

Technical note: Calculation made from household surveys, 1979-2004. The World Bank measures the extent of international poverty by using poverty lines of \$1 dollar and \$2 dollars a day. The “\$1 dollar a day” poverty line is in fact \$1.08 dollars (\$32.74 dollars per month, using the World Bank 1993 PPP), and the “\$2 dollars a day” is \$2.15 dollars (\$65.48 dollars per month). The “\$1 dollar a day” poverty line represents the average of the lowest ten poverty lines in developing countries for which the World Bank has data. These lines are converted into local currency using consumer PPP rates of exchange.

Source / reference: Development Data Group, The World Bank. 2007. 2007 World Development Indicators Online. Washington, DC: The World Bank.
<http://go.worldbank.org/3JU2HA60D0>.

PERCENT OF PEOPLE IN EXTREME POVERTY

Definition: Percent of the population whose average income per inhabitant is below the extreme poverty line.

Unit of measurement: Percentage (%)

Technical note: Calculation made from household surveys (ECLAC), 1979-2006). ECLAC makes estimates of the extent of poverty and extreme poverty by using the cost of basic needs method. This method uses poverty and extreme poverty lines that take account of the minimum income necessary to enable members of a household to satisfy their essential needs.

The extreme poverty line of each country and geographic zone is estimated by the cost in local currency of a basic food basket that covers the needs of the population in terms of caloric and protein requirements, taking into consideration their eating habits, how much food is available and the relative prices. Extremely poor refers to people who live in households with such low incomes that, although entirely spent on food, these do not meet the nutritional needs of all family members. In the calculation of extreme poverty lines, the difference in food prices between metropolitan and other urban and rural areas is taken into account. The indicator may be disaggregated by: sex, age group, education level, how education is considered in the household, type of family, family life cycle, ethnic group, formality and wage earned by those with jobs.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

RATIO OF MEAN INCOME PER HOUSEHOLD INHABITANT DECILE 10 / DECILES 1 TO 4 (OR QUINTILE 5 / QUINTILE 1)

Definition: Ratio between the proportion of the total national income received by the wealthiest 10% (decile 10) and the poorest 40% of households, based on the average income of households' inhabitants.

Alternatively, it is the ratio between the proportion of the total accumulated income of the 20% wealthiest households (quintile 5) and the amount of the accumulated income of the 20% poorest households (quintile 1), based on the distribution of household incomes per inhabitant.

Unit of measurement: Ratio.

Technical note: Calculation based on household surveys (ECLAC), 1989-2004. The ECLAC method ECLAC of calculating inequality, used to make estimates of income distribution in urban households and presented in the Social Statistics and Indicators Base (BADEINSO), comes from using a standard algorithm that ensures comparability between the set of observations. Another factor allowing users of BADEINSO to make comparisons between income distribution from data of different countries) is the use of income per household inhabitant – instead of total income. This avoids problems related to the different composition of households in Latin America. In fact, the number of members and the composition of households are very different in this region; (for example, there are considerable differences in the average size of households between South and Central American countries.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

EXTERNAL DEBT SERVICE AS A PERCENTAGE OF EXPORTS

Definition: Total debt service as a percent of export earnings is the addition of principal repayments and interest actually paid in foreign currency, goods, or services on long-term debt, interest paid on short-term debt, and repayments (repurchases and charges) to the International Monetary Fund (IMF), expressed as a percentage of exports of goods, services, and income.

Unit of measurement: Percentage (%)

Technical note: Debt data are reported to the World Bank in the units of currency in which they are payable. The World Bank converts these data to US dollars, using end-of-period exchange rates or annual average exchange rates, where appropriate. Exports of goods, services, and income refer to international transactions involving a change in ownership of general merchandise, goods sent for processing and repairs, nonmonetary gold, services, receipts of employee compensation for nonresident workers, investment income, and workers' remittances.

Source / reference: Development Data Group, The World Bank. 2008. 2008 World Development Indicators Online. Washington, DC: The World Bank. <http://go.worldbank.org/U0FSM7AQ40>.

AVERAGE SIZE OF URBAN HOUSEHOLDS, BY INCOME QUINTILE

Definition: Average number of people living in urban households, per quintile of income.

Unit of measurement: Number of people.

Technical note: Calculation made from household surveys (ECLAC), 1979-2005. ECLAC estimates the extent of poverty and extreme poverty by using the cost of basic needs method. This method uses poverty and extreme poverty lines that take account of the minimum income necessary to permit members of a household to satisfy their essential needs. Percentages of extremely poor (and poor) population are calculated by comparing the monthly value per inhabitant of the line of extreme poverty (and poverty) with the total income of each household, also expressed in terms of per inhabitant. The ECLAC method of calculating inequality comes from using a standard algorithm that ensures comparability between the set of observations.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

ANNUAL RATES OF VARIATION IN GDP AT CONSTANT MARKET PRICES

Definition: The annual rate of total GDP variation is the annual variation in the gross domestic product (GDP).

Unit of measurement: Percentage, based on figures in dollars at constant 2000 year prices.

Technical note: It is the ratio between the gross domestic product of year n and the total gross domestic product of year n-1, expressed as a percentage. $\text{Rate year } n = ((\text{GDP}_n/\text{GDP}_{n-1})-1)*100$. The annual rates are calculated on the basis of figures in dollars at constant 2000 prices. Series 1991-2005.

Source / reference : ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

VALUE OF EXTERNAL DEBT AS A PERCENTAGE OF GNI

Definition: Present value of debt as a percent of GNI is the sum of short-term external debt plus the discounted sum of total debt service payments due on public, publicly guaranteed, and private non-guaranteed long-term external debt over the life of existing loans, expressed as a percentage of gross national income (GNI). This indicator is used to assess the sustainability of a country's debt service obligations, but there are no absolute rules that determine which values are too high.

Unit of measurement: Percentage (%)

Technical note: Debt value is shown here as a percentage of gross national income (GNI). GNI (formerly gross national product, or GNP) is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad.

Source / reference: Development Data Group, The World Bank. 2008. World Development Indicators Online. Washington, DC: The World Bank. <http://go.worldbank.org/U0FSM7AQ40> .

I-3 EDUCATION AND INFORMATION

RADIOS PER 1 000 INHABITANTS

Definition: Radios per 1 000 people is the number of radio receivers, per thousand people, used for broadcasting to the general public. Private sets installed in public places are also included as well as communal receivers.

Unit of measurement: Number of receivers per 1 000 people.

Technical note: Telecommunication data are supplied by annual questionnaires sent to telecommunication authorities and operating companies. These data are supplemented by annual reports and statistical yearbooks of telecommunication ministries, regulators, operators and industry associations. In some cases, estimates are derived from ITU background documents or other references. ITU relies heavily on UNESCO's Institute for Statistics for estimates on number of radios.

Source / reference: International Telecommunication Union (ITU)
<http://www.itu.int/ITU-D/ict/publications/world/world.html>

PERCENTAGE OF STUDENTS BEGINNING FIRST GRADE AND COMPLETING THE LAST GRADE OF PRIMARY EDUCATION

Definition: This is a group of students enrolled in first grade of primary school, in a given school year, and expected to reach the last grade of primary education, regardless of whether they repeat or not. It is also known as the survival rate to the last the grade of primary education.

Unit of measurement: Percentage (%)

Technical note: The rate is a percentage of a group of students (for example, children already in school) and not a percentage of children of school age. This indicator is traditionally estimated from data on enrolment and repetition by grade for two consecutive years, in a procedure called the reconstructed cohort method. It measures the success of an education system in keeping students from one grade to the next as well as its internal efficiency. It illustrates the situation according to how students remain in schools from grade to grade and, conversely, the extent of dropouts by grade.

Source / reference: UNESCO-UIS – Institute for Statistics of the United Nations Organizations for Education, Science and Culture. <http://stats.uis.unesco.org/unesco/tableviewer/document.aspx?ReportId=143>.

AVERAGE YEARS OF ADULT POPULATION STUDY

Definition: It is the sum of years of school attendance among people aged 15 and over divided by the total number of people of the same age. The indicator is a measure of the level of the population's formal education.

Technical note: The average number of years of formal school attendance – or- formal education- summarizes the progress made by the educational system). Although formal education does not take into account all the population's ancestral skills and knowledge, it is appropriate to consider them since, for example, the level of education determines entry into the labour market, especially in cities, and ethnic disparities entail inequality in employment opportunities. The indicator may be disaggregated by ages: 15-24; 25-49; 50 years and over; sex; area of residence; indigenous population.

Source / reference: System of Sociodemographic Indicators for Indigenous Peoples and Populations (SISPP). <http://www.sisppi.org/redatam/PRYESP/SISPP/>

NET SCHOOL REGISTRATION BY LEVEL OF EDUCATION

Definition: Number of students, of official school age, enrolled at each level of schooling, as a percentage of the total population of children of official school age.

Unit of measurement: Percentage (%)

Technical note: Data are usually collected by the countries' ministries of education or compiled from surveys and censuses. For international comparisons, regional and global aggregated estimates, the Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization (UNESCO) regularly produces series of data on school enrolment, based on records reported by ministries of education and/or national statistics agencies.

Source / reference: UNESCO-UIS – Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization. <http://stats.uis.unesco.org/unesco/tableviewer/document.aspx?ReportId=143>

LITERACY RATE

Definition: Percent of the adult population of 15 years of age and over that is literate, expressed as a percentage of the corresponding population, either total or for a particular sex, in a given country, territory or geographic area at a specified period, usually midyear. For statistical purposes, literate people are those who know how to read and write a short simple statement about their everyday lives.

Unit of measurement: Percentage (%)

Technical note: The definition of literacy rate is in line with the revised International Standardization of Educational Statistics recommendations adopted by the United Nations Educational, Scientific and Cultural Organization (UNESCO). Data on literacy rates correspond to estimated midyear values. The indicator can be disaggregated by ages: under 15 years, 15-24; 25-49; 50 and older; sex, area of residence; indigenous population.

Source / reference : UNESCO-UIS – Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization. <http://stats.uis.unesco.org/unesco/tableviewer/document.aspx?ReportId=143>

INTERNET AND MOBILE TELEPHONE USERS PER 1 000 INHABITANTS

Definition: Internet users per 1 000 people; refers to the proportion of a country's population using the internet at any time during a specified year.

Cellular mobile telephone subscribers per 1 000 people; refers to the proportion of the population subscribing to an automatic public mobile telephone service for portable telephones. Subscribers to public mobile data services, private trunked mobile radio, telepoint, or radio paging services are not included.

Unit of measurement: Number of users per 1 000 people.

Technical note: The ITU calculates internet users per 100 people by combining its standard telecommunications data sets with population data from the UN Department of International Economic and Social Affairs. WRI converts these estimates to internet users per 1 000 people. ITU compiles the number of internet users based on reported estimates or derivations of Internet Access Provider subscriber counts. When these data are not available, ITU reports the product of the number of internet hosts and an estimated multiplier. Internet hosts refer to the number of computers in a country that are directly linked to the worldwide internet network.

Telecommunication data are supplied by annual questionnaires sent to telecommunication authorities and operating companies. These data are supplemented by annual reports and statistical yearbooks of telecommunication ministries, regulators, operators and industry associations. In some cases, estimates are derived from ITU background documents or other references.

Source / reference: International Telecommunication Union (ITU)
<http://www.itu.int/ITU-D/ict/publications/world/world.html>

I-4 EMPLOYMENT AND PRODUCTION

FOOD EXPORTS AS A PERCENTAGE OF ALL EXPORTS

Definition: Food exports as a percent of merchandise exports is the percentage of the total value of all merchandise leaving a given country's borders attributable to food commodities. Food corresponds to food and live animals, beverages and tobacco, animal and vegetable oils and fats, and oil seeds, oil nuts, and oil kernels. This indicator is an approximate measure of the degree to which an economy's exports are dependent on food commodities.

Unit of measurement: Percentage (%)

Technical note: The data on total exports of goods (merchandise) are collected and tracked by the World Trade Organization (WTO). Countries may report trade according to the general or special system of trade. Under the general system exports comprise outward-moving goods that are (a) goods wholly or partly produced in the country; (b) foreign goods, neither transformed nor declared for domestic consumption in the country, that move outward from customs storage; and (c) goods previously included as imports for domestic consumption but subsequently exported without transformation. Under the special system exports comprise categories (a) and (c). In some compilations categories (b) and (c) are classified as re-exports. Because of differences in reporting practices, data on exports may not be fully comparable across economies.

Source / reference: Development Data Group, The World Bank. 2007. 2007 World Development Indicators Online. Washington, DC: The World Bank. Available at: <http://go.worldbank.org/3JU2HA60D0>

PERCENTAGE CONTRIBUTION OF EACH SECTOR TO GDP: AGRICULTURE, INDUSTRY AND SERVICES

Definition: Percent gross domestic product (GDP) from agriculture represents the proportion of an economy's total domestic output of goods and services which are a result of value added by the agricultural sector.

Percent gross domestic product (GDP) from industry and from services represents the proportion of an economy's total domestic output of goods and services which are a result of value added by each sector. These goods and services are for final use occurring within the domestic territory of a given country, regardless of the allocation to domestic and foreign claims.

Unit of measurement: Percentage (%)

Technical note: Percent gross domestic product (GDP) from agriculture is calculated, respectively, as the proportion of total output of goods and services which are a result of the value added by the agricultural sector.

Percent gross domestic product (GDP) from industry is calculated as the proportion of total output of goods and services which are a result of value added by the industrial sector. The industrial sector corresponds to International Standard Industrial Classification (ISIC) divisions 10-45 and includes mining, manufacturing (also reported separately), construction, electricity, water, and gas.

Percent gross domestic product (GDP) from services is calculated as the proportion of total output of goods and services which are a result of value added by the services sector. The services sector corresponds to International Standard Industrial Classification (ISIC) divisions 50-99 and includes value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services such as education, health care, and real estate services.

Value added is the value of the gross output of producers less the value of intermediate goods and services consumed in production. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. To produce national accounts aggregates that are measured in the same standard monetary units, the value of output must be converted to a single common currency.

Source / reference: Development Data Group, the World Bank. 2008. 2008 World Development Indicators Online. Washington, DC: The World Bank. <http://go.worldbank.org/U0FSM7AQ40> .

DISTRIBUTION OF THE ECONOMICALLY ACTIVE POPULATION BY SECTOR OF ACTIVITY

Definition: Proportion of the population of 15 years and over working to produce goods and services during a specified reference period, grouped by major economic activity sectors: agriculture, industry and services. These people may be employed or unemployed, and include those seeking work for the first time.

Unit of measurement: Percentage (%)

Technical note: The definition of “economically active population” comprises all persons of either sex who work to produce economic goods and services, defined in accordance with national accounts systems and United Nations balance sheets. According to these systems of national accounts and United Nations balance sheets, the production of economic goods and services includes all production and processing of primary products - intended for the market - and in the case of households producing goods and services for the market, the share of this production for their own consumption. This covers, on the one hand, people with “paid employment” or “independently employed” (such as employers, those working for their own account, and members of production cooperatives; unpaid family workers, those producing economic goods and services for their own and household consumption, paid trainees), as well as members of the armed forces (including contingency personnel) and, on the other hand, the unemployed (including people seeking their first job).

Source / reference: International Labour Organization (ILO). Economically Active Population 1950-2010, Vol. III Latin America and the Antilles. Fourth edition, 1996.

STRUCTURE OF THE TOTAL EMPLOYED POPULATION BY SECTOR OF ACTIVITY

Definition: Distribution of the total employed population aged 15 and over, grouped in large sectors of economic activity (agriculture, industry and services) according to the International Standard Industrial Classification of All Economic Activities (ISIC), Rev.2.

Unit of measurement: Percentage (%)

Technical note: Calculation made from household surveys (ECLAC), 1989-2005. The indicator is the ratio between the employed population aged 15 and over in an economic sector and specified geographic area (numerator) and the total employed population aged 15 years and over in each geographic area (denominator). The result is multiplied by 100. The sectors are classified as follows: 1. Agriculture; 2. Industry: mining, manufactures, electricity, gas, water and construction; 3. Services: trade, transport, financial services, and unspecified services.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

GRAINS AND CEREALS FOR ANIMAL FEED AS PERCENTAGE OF TOTAL CONSUMPTION

Definition: Grain fed to livestock as a percent of total grain consumption refers to the total domestic consumption of feed grain (grain consumed by animals) as a percentage of the total domestic grain consumption. Grains include wheat (including durum wheat), rice (milled), corn, barley, sorghum, millet, rye, oats, and mixed grains. Total domestic grain consumption is the quantity of dried grain used for feed, food, seed, and industrial purposes during the local 12-month marketing year of an individual country.

Unit of measurement: Percentage (%)

Technical note: Grain fed to livestock as a percent of total grain consumption is calculated by WRI by dividing the total feed grain consumption by the total grain consumption for each country. Grain consumption totals are summations of available grain data.

Source / reference: United States Department of Agriculture (USDA) Foreign Agricultural Service (FAS). 2007. Production, Supply & Distribution Online Database. USDA: Washington, D.C.
<http://www.fas.usda.gov/psdonline/>

NUMBER OF MICRO, SMALL AND MEDIUM-SIZED ENTERPRISES (MSMEs) PER 1 000 INHABITANTS

Definition: It refers to the total number of micro, small, and medium enterprises (MSMEs) per 1 000 people in a country. MSMEs are defined in this dataset as enterprises employing no more than 250 employees. Over the last several years, increasing attention has been paid to the importance of MSMEs with regard to growth, employment, innovation, competition, and poverty reduction, though strong evidence of causal relationships remain elusive.

Unit of measurement: Number per 1 000 inhabitants

Technical note: Data were collected through desk research of online resources, research papers, conference documents, and other publications. In addition, efforts were coordinated with ongoing initiatives of other international organizations such as the Inter-American Development Bank (IADB) and the Organisation for Economic Co-operation and Development (OECD).

Source / reference: Small and Medium Enterprise Department, International Finance Corporation (IFC). 2006. Micro, Small, and Medium Enterprises: A Collection of Published Data. Washington, DC: IFC.
<http://www.ifc.org/ifcext/sme.nsf/Content/Resources> .

PERSONS EMPLOYED IN LOW PRODUCTIVITY SECTORS (INFORMAL SECTOR)

Definition: Urban population with insecure jobs from the point of view of wages, length of time, social security, etc. Defined as being employed in low productivity sectors (informal) is a person who is an employer or paid employee (professional, technical or otherwise) working in companies with up to 5 employees (micro), in domestic employment or as an unskilled freelance worker (self-employed or unpaid family worker without any professional or technical skills).

Unit of measurement: Percentage (%)

Technical note: Calculation made from household surveys (ECLAC), 1989-2002. The indicator is the ratio between the urban population employed in low productivity jobs (informal sector in micro enterprises, domestic service and unskilled self-employed) (numerator) and the urban employed population for both men and women. The result is multiplied by 100.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean. <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

PRODUCTION AND IMPORTS OF FERTILIZERS AND PESTICIDES

Definition: Fertilizer production/importation refers to the production/importation, in thousand metric tons, of the nutrients nitrogen (N), potash (K₂O), and phosphate (P₂O₅) for domestic use in agriculture on an annual basis.

The value of pesticides produced and/or imported in a given period may be expressed as kilograms per inhabitant and per hectare used for agriculture.

Unit of measurement: Fertilizer: Thousand metric tons.

Pesticides: Kilograms/inhabitant or Kilograms/hectare.

Technical note: Data are collected through the FAO fertilizer questionnaire. Production based on imported ammonia, phosphoric acid or rock phosphate is considered national production, while production based on based on imported finished fertilizers (ammonium phosphate, potassium chloride, etc.) is excluded from national production to avoid double counting at the World level.

Data on production and imports of active ingredients, and the use of pesticides by different chemical groups and their classification according to the organism requesting the control, can be found in the records of the Ministries of Agriculture.

Source / reference: Fertilizer: Food and Agriculture Organization of the United Nations (FAO). 2006. FAOSTAT Online Statistical Service. Rome: FAO. <http://apps.fao.org>
Pesticides: PAHO – Epidemiological Situation of Acute Pesticide Poisoning in the Central American Isthmus. 1992-2000.
http://www.paho.org/Spanish/sha/be_v23n3-plaguicidas.htm

AGRICULTURAL RAW MATERIALS EXPORTS

Definition: Agricultural raw materials exports as a percent of merchandise exports is the percentage of the total value of all merchandise leaving a given country's borders attributable to agricultural raw materials. Agricultural raw materials correspond to all crude materials except fuels, such as untreated hides, cork, wood, pulp and waste paper, and crude animal and vegetable products, excluding crude fertilizers, minerals, and metalliferous ores and scrap. This indicator is an approximate measure of the degree to which an economy's export is dependent on agricultural raw materials.

Unit of measurement: Percentage (%)

Technical note: The data on total exports of goods (merchandise) are collected and tracked by the World Trade Organization (WTO). Countries may report trade according to the general or special system of trade. Under the general system, exports comprise outward-moving goods that are (a) goods wholly or partly produced in the country; (b) foreign goods, neither transformed nor declared for domestic consumption in the country, that move outward from customs storage; and (c) goods previously included as imports for domestic consumption but subsequently exported without transformation. Under the special system exports comprise categories (a) and (c). In some compilations categories (b) and (c) are classified as re-exports. Because of differences in reporting practices, data on exports may not be fully comparable across economies.

Source / reference: Development Data Group, The World Bank. 2007. 2007 World Development Indicators Online. Washington, DC: The World Bank. <http://go.worldbank.org/3JU2HA60D0>

“MOST POLLUTING” INDUSTRIAL SECTORS WITH RESPECT TO THE VALUE OF INDUSTRIAL PRODUCTION

Definition: This indicator assesses the relative importance of production value (US\$ 1987), of the “most polluting” industrial sectors. The “most polluting” sectors, according to the ESALC-ECLAC classification, correspond to 13 industrial sectors in the ISIC Rev. 2 classification, with an opening of three digits and a total of 28 groups or industrial branches.

Unit of measurement: Percentage, based on dollars at 1987 constant prices

Technical note: To obtain this indicator a classification must be obtained of industries according to the intensity of emissions from their industrial process: water, air and soil. The classification used was prepared within the framework of the ESALC project, and is based on emission coefficients of the Industrial Pollution Protection System (IPPS) of the World Bank (1998); this allows information to be obtained about the tonnes of polluting substances emitted by industrial sectors codified in the International Standard Industrial Classification (ISIC Rev.2). By measuring emissions of tonnes of pollutants by industrial sector, and supported by a multi-variable analysis, the sectors are classified as two types: “most polluting” industrial sectors, and the “other sectors”.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean. <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

UNEMPLOYMENT RATE (BY SEX, BY YEARS OF SCHOOLING)

Definition: It is the ratio between the urban population aged 15 years and over that is unemployed but has looked for work during a given period of time, and the economically active urban population aged 15 and over.

Unit of measurement: Average annual rate

Technical note: Calculation made from household surveys (ECLAC), 1979-2005. The indicator is the ratio between the unemployed urban population aged 15 years and over, for each group of years of schooling and a specified sex (numerator), and the economically active population (EAP), for each group of years of schooling and sex respectively (denominator). The result is multiplied by 100.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean. <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

PHYSICAL VOLUME OF PRODUCTION BY THE MANUFACTURING AND MINING SECTORS

Definition: The index of physical volume of production represents the economic value of production for a given branch of activity.

Unit of measurement: Adimensional index

Technical note: The index of physical volume of production is made based on the year 1993 that relates production in the study period to the base period, using the latter to weigh the prices. Information on production of each economic activity consists of typical production, including specific product types, and also considers articles and by-products obtained during the production processes and which, because of their heterogeneous nature, are not reported in physical units but only in value, and are classified as other products. Production levels and patterns have been proposed by the OECD within a set of Environmental Indicators for Sustainable Development as indicators of indirect pressure on the subject of wastes. The indicator shows the behaviour of the economic agent that produces a significant part of hazardous wastes, but it cannot be inferred that there is a directly proportional ratio between the growth in the production and generation of wastes that depend on types of processes and technologies.

Source / reference: National System of Environmental and Natural Resources Information (SNIARN) <http://www.semarnat.gob.mx>

I-5 ENERGY AND CONSUMPTION

ACCESS TO ELECTRICITY

Definition: Access to electricity is defined as the percentage of the total population that has electrical power in their home. It includes commercially sold electricity, both on and off the grid. For those countries where access to electricity has been assessed through government surveys, it also includes self-generated electricity.

Unit of measurement: Percentage (%)

Technical note: Basic energy statistics are collected by the International Energy Agency (IEA) from a variety of sources. In OECD member countries, national administrations fill out five annual questionnaires. In non-OECD countries, statistics are collected from questionnaires, international organizations such as United Nations, cooperation with national statistical bodies, and direct communication with energy consultants and companies.

Source / reference: International Energy Agency (IEA). 2002. World Energy Outlook: Energy and Poverty. <http://www.worldenergyoutlook.org/weo/pubs/weo2002/EnergyPoverty.pdf>. Paris: IEA.

ELECTRICITY CONSUMPTION PER INHABITANT

Definition: Electricity consumption per capita measures the average kilowatt-hours (kWh) of electrical power generated per person in a particular country or region. Public electricity plants, private electricity plants, and combined heat and power (CHP) plants as well as production by nuclear and hydro (excluding pumped storage production), geothermal, etc.

Unit of measurement: Kilowatt-hours (kWh) per person

Technical note: Basic energy statistics are collected by the IEA from a variety of sources. In OECD member countries, national administrations fill out five annual questionnaires. In non-OECD countries, statistics are collected from questionnaires, international organizations such as the United Nations, cooperation with national statistical bodies, and direct communication with energy consultants and companies.

Source / reference: International Energy Agency (IEA) Statistics Division. 2007. Energy Balances of OECD Countries (2008 edition) and Economic Indicators and Energy Balances of Non-OECD Countries (2007 edition)-Economic Indicators. Paris: IEA. <http://data.iea.org/ieastore/default.asp>

CONSUMPTION OF PETROLEUM DERIVED ENERGY

Definition: Energy Consumption by Source: Oil and petroleum products measure the amount of primary energy consumed from crude oil, natural gas liquids, feedstocks, and petroleum products.

Unit of measurement: Thousand tonnes of oil equivalent (ktoe)

Technical note: Energy consumption by oil and petroleum products was calculated by WRI as the sum of all crude oil and petroleum products reported by the IEA. Basic energy statistics are collected by the IEA from a variety of sources. In OECD member countries, national administrations fill out five annual questionnaires. In non-OECD countries, statistics are collected from questionnaires, international organizations such as the United Nations, cooperation with national statistical bodies, and direct communication with energy consultants and companies.

Source / reference: International Energy Agency (IEA) Statistics Division. 2007. Energy Balances of OECD Countries (2008 edition) and Economic Indicators and Energy Balances of Non-OECD Countries (2007 edition)-Economic Indicators. Paris: IEA. <http://data.iea.org/ieastore/default.asp>

CONSUMPTION OF SOLID BIOMASS DERIVED ENERGY

Definition: Energy Consumption by Source: Solid biomass measures the amount of primary energy consumed from plant matter used directly as fuel or converted into other forms before combustion.

Unit of measurement: Thousand tonnes of oil equivalent (ktoe)

Technical note: Basic energy statistics are collected by the IEA from a variety of sources. In OECD member countries, national administrations fill out five annual questionnaires. In non-OECD countries, statistics are collected from questionnaires, international organizations such as the United Nations, cooperation with national statistical bodies, and direct communication with energy consultants and companies.

Source / reference: International Energy Agency (IEA) Statistics Division. 2007. Energy Balances of OECD Countries (2008 edition) and Economic Indicators and Energy Balances of Non-OECD Countries (2007 edition)-Economic Indicators. Paris: IEA. <http://data.iea.org/ieastore/default.asp>

HOUSEHOLD ENERGY CONSUMPTION PER INHABITANT

Definition: Residential energy consumption per capita measures the amount of primary energy from all sources consumed by the residential sector in each country on a per person basis in the year specified. Energy consumption from the residential sector includes all energy used for activities by households except for transportation.

Unit of measurement: Kilograms of oil equivalent (kgoe) per person

Technical note: Basic energy statistics are collected by the IEA from a variety of sources. In OECD member countries, national administrations fill out five annual questionnaires. In non-OECD countries, statistics are collected from questionnaires, international organizations such as the United Nations, cooperation with national statistical bodies, and direct communication with energy consultants and companies.

Source / reference: International Energy Agency (IEA) Statistics Division. 2007. Energy Balances of OECD Countries (2008 edition) and Economic Indicators and Energy Balances of Non-OECD Countries (2007 edition)-Economic Indicators. Paris: IEA. <http://data.iea.org/ieastore/default.asp>

GASOLINE CONSUMPTION PER INHABITANT

Definition: Motor gasoline consumption per capita measures the average volume of motor gasoline consumed by a specified country per person for use in the transportation sector.

Unit of measurement: Litres per person per year.

Technical note: Basic energy statistics are collected by the IEA from a variety of sources. In OECD member countries, national administrations fill out five annual questionnaires. In non-OECD countries, statistics are collected from questionnaires, international organizations such as the United Nations, cooperation with national statistical bodies, and direct communication with energy consultants and companies.

Source / reference: International Energy Agency (IEA) Statistics Division. 2007. Energy Balances of OECD Countries (2008 edition) and Economic Indicators and Energy Balances of Non-OECD Countries (2007 edition)-Economic Indicators. Paris: IEA. <http://data.iea.org/ieastore/default.asp>.

CONSUMPTION OF OZONE LAYER DEPLETION SUBSTANCES

Definition: Consumption of Chlorofluorocarbons (CFCs), of hydro chlorofluorocarbons (HCFCs) and of methyl bromide.

Unit of measurement: Tonnes of ozone depletion potential (ODP).

Technical note: To calculate the consumption of ozone depletion substances (ODS) the concept of apparent consumption is generally used, that is the real consumption is estimated from production, imports and exports of each ODS.

Source / reference: Ozone Secretariat of the United Nations Environment Programme – UNEP.
<http://ozone.unep.org/spanish/>

PAPER AND PAPERBOARD CONSUMPTION PER INHABITANT

Definition: Consumption of paper and paperboard per capita is the average amount of paper and paperboard used per person annually. Paper and paperboard include newsprint, printing and writing paper, packaging paper, household and sanitary paper, and other paper and paperboard.

Unit of measurement: kilograms/person/year

Technical note: Paper consumption per capita is calculated with the formula: Consumption per capita = (Production + Imports – Exports) / Population. Production is the amount of primary paper and paperboard produced, even though a portion of it may immediately be consumed in the production of another product. Imports and exports are the amount of paper and paperboard shipped into and out of the country, respectively, for domestic consumption or processing. “In-transit” products are excluded. Some imports and exports for re-export may be included. Paper and cardboard consumption permits an indirect estimate to be made of the consumption of material goods in general and the consumption of disposable products in particular.

Source / reference: Trade in Paper: Food and Agriculture Organization of the United Nations (FAO), 2007. FAOSTAT on-line statistical service. <http://faostat.fao.org/>

CARBON DIOXIDE EMISSIONS PER DOLLAR OF GDP. PURCHASING POWER PARITY (PPP) VALUE

Definition: Carbon dioxide emissions per GDP, PPP are defined as the average amount of carbon dioxide (CO₂) emitted per unit of income generated by a country's economy. All CO₂ released from the burning of all fossil fuels in a particular country or region is included. Fossil fuels include coal and coal products, oil, and natural gas. CO₂ emissions from land use change, biomass fuels, and cement manufacture are not included here.

Unit of measurement: Metric tons of CO₂ per million international \$

Technical note: The World Resources Institute calculates CO₂ emissions per unit GDP with CO₂ data from the IEA and national accounts data from the World Bank. The International Panel on Climate Change (IPCC) allows countries to use either the reference approach or the sectorial approach when reporting their CO₂ emissions. The emissions shown here use the reference approach, which uses data on a country's total energy supply and captures refining, flaring, and other “fugitive emissions” that do not result directly from end-use fossil fuel combustion. In contrast, the sectorial approach estimates emissions based on the combustion rather than the supply of fossil fuels.

Source / reference: International Energy Agency (IEA) Statistics Division. 2006. CO₂ Emissions from Fuel Combustion (2006 edition). Paris: IEA. <http://data.iea.org/ieastore/default.asp>. Development Data Group, the World Bank. 2006. 2006 World Development Indicators Online. Washington, DC: The World Bank. http://publications.worldbank.org/e-commerce/catalog/product?item_id=631625

ECOLOGICAL FOOTPRINT INDEX

Definition: The ecological footprint index estimates the area of ecologically productive territory (crops, pastures, forests or aquatic ecosystems) needed to produce the resources used and to absorb indefinitely the residues produced by a defined population with a specified living standard, wherever that area may be located.

Unit of measurement: Hectares/ inhabitant/year.

Technical note: The methodology for calculating the ecological footprint is based on estimating the area required to meet consumption associated with food, forest products, energy expenditure and the direct occupation of the land. To calculate these areas, the methodology is based on two basic aspects: (a) counting consumption of different categories in physical units (b) transforming this consumption into a productive biological surface by using productivity indexes. The comparison between the values of the ecological footprint and local carrying capacity shows the self-sufficiency level in the place of study. If the value of the ecological footprint is above the local carrying capacity, the region has an ecological deficit. If, on the contrary, the carrying capacity is equal to, or greater than, the ecological footprint, the region is self-sufficient, always taking into consideration the limitations of the indicator.

Source / reference: Global Footprint Network.
<http://www.footprintnetwork.org/en/index.php/GFN/page/methodology/>

I-6 GENDER AND INEQUALITY

HUMAN OPPORTUNITY INDEX

Definition: The Human Opportunity Index (HOI) measures what percentage of opportunities is necessary to ensure universal access by children to basic services, and which are available and have been allocated under the principle of equality. The range is from 0 (absolute deprivation) to 100 (universality).

Unit of measurement: Percentage (%)

Technical note: The HOI for education has two indicators: completing sixth grade on time as expected and school attendance between the ages of 10-14. The HOI for housing has three indicators: access to water; to sanitation, and to electricity. Within each dimension (e.g., education and housing) the indicators have a similar weighting. In generating the accumulated HOI, each dimension is equal in importance.

Source / reference: World Bank – Latin America and the Caribbean Human Opportunity Index.
<http://go.worldbank.org/MV7OH8XOH0>

POPULATION BETWEEN 15 AND 24 YEARS OF AGE WITH AMPLE AND CORRECT KNOWLEDGE ABOUT HIV/AIDS, BY SEX

Definition: This is the percentage of women and men between 15 and 24 years of age who correctly identify the two most important ways of preventing the sexual transmission of HIV (using condoms and limiting sexual relations to one faithful, uninfected partner), and who also reject the two most common local misconceptions regarding HIV transmission, and know that someone who looks healthy can transmit HIV.

Unit of measurement: Percentage (%)

Technical note: The indicator reflects the success of national information, education and communication programmes and other efforts to promote knowledge of how methods are validated for HIV prevention and on how to reduce the spread of misconceptions regarding the infection. Common local errors are to be determined within the country context.

Information regarding HIV/AIDS knowledge and misconceptions are collected by household surveys (such as Demographic and Health Surveys, Rural Households Surveys, Surveys on Monitoring Behavioural Risk Factors, and Integral Surveys of Multiple Indicators) usually made every three to five years.

Source / reference: UNSD – United Nations Statistics Division. Database of the Millennium Development Goals indicators – <http://mdgs.un.org/unsd/mdg/Data.aspx>

PERCENTAGE OF HOUSEHOLDS HEADED BY WOMEN

Definition: Households headed by women divided by the total number of households, multiplied by 100.

Unit of measurement: Percentage (%)

Technical note: Measures the relative importance of households headed by women. Households headed by women have been considered, from a western point of view, as being socially more vulnerable. In broad terms, added to the other gender inequalities, living conditions are also often affected by the fact that the women are indigenous. However, the situation of indigenous women heads of households should be seen in the light of the rules of kinship and descent patterns of the different groups because of the importance and distinct social role they assign to women importance. Thus, an indigenous women head of household in a community with a matrilineal or bilateral descent system enjoys more status and decision-making power than a woman head of household in communities with a patrilineal descent system.

Source / reference: System of Sociodemographic Indicators for Indigenous Peoples and Populations (SISPP). <http://www.sisppi.org/redatam/PRYESP/SISPP/>

PROPORTION OF WOMEN AMONG PAID EMPLOYEES IN THE AGRICULTURAL SECTOR

Definition: The proportion of women workers who receive compensation in the agricultural sector as a percentage of total paid workers in the same sector.

Unit of measurement: Percentage (%)

Technical note: National figures provided by countries, compiled and produced by the International Labour Organization (ILO). Submitted by the United Nations for the period 1990-2005.

The indicator is constructed by placing in the numerator the total number of women being paid in the agricultural sector and in the denominator the total number of paid workers in the same sector for a given period and place. The result is multiplied by 100.

Source / reference: UNSD – United Nations Statistics Division. Database of the Millennium Development Goals indicators – <http://mdgs.un.org/unsd/mdg/Data.aspx>.

RATIO OF URBAN SALARIES BETWEEN THE SEXES, BY COMPLETED YEARS OF EDUCATION

Definition: Proportion of the average salary of female urban employees from 20 to 49 years of age who work 35 hours or more per week, compared to salaries paid to men with the same characteristics.

Unit of measurement: Percentage (%)

Technical note: ECLAC calculates this indicator from household surveys carried out in the countries of the Region, 1979-2005. The indicator is obtained by dividing the average salary of employed urban women workers (in the numerator) and the average salary of employed urban men (in the denominator). The result is multiplied by 100.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean. <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

RATIO BETWEEN THE NUMBER OF GIRLS AND BOYS BY LEVEL OF EDUCATION

Definition: It is the ratio between the number of girl students enrolled in primary, secondary and higher education public and private schools, and the number of boy students enrolled in each of the same education levels.

Unit of measurement: Ratio

Technical note: Estimates made by the United Nations Educational, Scientific and Cultural Organization (UNESCO) based on national figures provided by countries. Some years available are: 1991, 1999-2007. The indicator is the ratio between the number of girls enrolled in each education level, and the number of boys enrolled in the same educational level, regardless of their ages. When the ratio of girls to boys in primary, secondary and higher education is equal to 1 it means that girls and boys participate equally in the education system. When the relation is less than 1 it means that girls have less participation in the educational system.

Source / reference: UNESCO-UIS – Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization. <http://stats.uis.unesco.org/unesco/tableviewer/document.aspx?ReportId=143>.

RATIO BETWEEN LITERATE MEN AND WOMEN

Definition: WRI calculates female literacy rate as a percentage of male literacy rate in order to measure, in a single variable, gender literacy parity. A value of 100% indicates that female and male literacy rates are the same. Values less than 100% indicate that the female literacy rate is less than the male literacy rate (e.g., 50% indicates that the female literacy rate is half that of male literacy rate). Values greater than 100% indicate that the female literacy rate is greater than the male literacy rate for that country.

Unit of measurement: Percentage (%)

Technical note: This indicator is calculated by dividing a country's female literacy rate by its male literacy rate. Adult literacy rates are calculated as the number of literate adults (aged 15 years and over) divided by the total adult population. Most literacy and population data are collected during national population censuses.

Source / reference: United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics. 2006. World Education Indicators, Literacy Statistics. Paris: UNESCO. http://www.uis.unesco.org/ev.php?URL_ID=6401&URL_DO=DO_TOPIC&URL_SECTION=201.

RATIO BETWEEN SCHOOL ATTENDANCE BY ORPHANED AND NON-ORPHANED CHILDREN BETWEEN 10 AND 14 YEARS OF AGE

Definition: Estimated number of orphaned children who have lost their mother or father or both parents before reaching 15 years of age as a result of HIV/AIDS. The effect of the AIDS epidemic on orphans is measured by considering the ratio between orphans and non-orphans who attend school.

Unit of measurement: Percentage (%)

Technical note: Data are collected from household surveys, such as demographic and health surveys and polls based on multiple indicators, which usually take place every three, four or five years.

Because the age when children enter school differs from country to country, the indicator is limited to those between 10 and 14 years of age. As perhaps household surveys do not register children in unstable households, it is probable that orphaned children would belong to such households.

Source / reference: UNSD – United Nations Statistics Division. Database of the Millennium Development Goals indicators – <http://mdgs.un.org/unsd/mdg/Data.aspx>.

PREVAILING RATE OF CONTRACEPTIVE USE BY MARRIED WOMEN BETWEEN 15 TO 49 YEARS OF AGE

Definition: It is the percentage of women practising, or whose partners are practising, some form of birth control.

Unit of measurement: Percentage (%)

Technical note: Data reported by countries and shown by UNICEF, 1977-2005. The number of women between 15 and 49 years of age who are married or in de facto marital unions who report that they practise (or whose partners practise) birth control is divided by the total number of women between 15 and 49 years of age (and also married or in a civil union, if applicable) in the survey. .

Source / reference: UNSD – United Nations Statistics Division. Database of the Millennium Development Goals indicators – <http://mdgs.un.org/unsd/mdg/Data.aspx>.



INDICATORS OF PRESSURE

2-1 URBAN AND BUILD-UP ENVIRONMENTS

CHANGES IN MOTOR VEHICLE FLEET DENSITY

Definition: Percentage of variation in the number of motor vehicles. Included are automobiles, buses, and freight vehicles except two-wheelers.

Unit of measurement: Percentage (%)

Technical note: Three types of results are possible, all from one period to another; a negative value indicates there was a decrease in the density of the fleet; a positive value indicates there was an increase in the density of vehicles; and a zero result indicates the vehicle fleet remains the same.

Source / Reference: World Bank, World Development Indicators. <http://go.worldbank.org/1SF48T40L0>

URBAN COMPACTNESS AND DENSITY

Definition: Urban compactness is an indicator that relates to the height of buildings taking into account the number of floors, together with the total area of urban plots. In an urban context, compactness expresses the idea of proximity of the components that make up the city, i.e., combining uses and functions in a space that is more or less limited.

Urban density or the number of inhabitants in an urbanized hectare gives a first view of how the city is configured and how its land use is organized over time.

Unit of measurement: Urban compactness is a ratio of urban density expressed as inhabitants per square kilometre (inhab/km²)

Technical note: To calculate the compactness of a building, the layer graphic of the cadastral sub-plots must be taken into account, to obtain information about the area occupied by each sub-plot, as well as about the number of their heights. This information, on the one hand, gives the total area occupied by the sub-plots and, on the other, the height of the building which is understood to be the constructed area when the number of heights is taken into account. From the result obtained, discounted are plots not within the urbanized zone or that form part of areas meant for industrial or commercial use. From these data, the value of compactness is obtained from the ratio between the total volume of all the plots within the area to be analysed and the sum of their areas. This calculation may be made at both total urban area and municipal areas levels.

Information about the location and the total number of inhabitants of each zone to be analysed is obtained through a process of data georeferencing the municipal population register, for which it is only necessary to use information concerning the address, taken from the municipal street map.

Information about the urbanized area of the city must be obtained in square kilometres, i.e., the city that is actually consolidated and whose area is usually much less than the area of the municipality. The value of the urban area can be obtained, both generally and individually for each of the areas to be analysed, from the existing layer graphics in the overall urbanized area plan. Finally, the density calculation is made by the quotient between the number of inhabitants and the number of hectares of the urbanized area.

Source / Reference: Urban Indicators System Agenda 21, 2008.
http://www.oma-malaga.com/docs/metodologia_y_significado.pdf

HIGHWAY NETWORK GROWTH

Definition: The indicator is the sum of total lengths of improved pathways, unpaved roads, surfaced and paved roads in the country in a given year. Road construction involves altering the land's habitat and changing its natural state. It is a particular type of land use change that generally affects biodiversity and water drainage.

Unit of measurement: Kilometres

Technical note: This indicator is part of the OECD environmental indicators system, and is included as an indirect pressure indicator. The direct impacts of the growth of the highway network include habitat loss and alteration, fragmentation, animal mortality (especially of mammals, although it also affects other groups), more noise (which in some cases may affect wildlife within many meters on both sides of the highway) and the dumping or discharge of pollutants. Situation/Trend: In general, data on the construction sector are kept in government agencies responsible for licensing, execution and regulation.

Source / Reference: National Environmental and Natural Resources Information System (SNIARN) – Mexico. <http://www.semarnat.gob.mx>

NUMBER OF MOTOR VEHICLES AND MOTOR VEHICLE PASSENGERS PER 1 000 INHABITANTS

Definition: Motor vehicles include cars, buses, and freight vehicles, but not two-wheelers. Population figures refer to midyear population for the year which data is available.

Passenger cars per 1 000 people refers to road motor vehicles intended for the carriage of passengers and designed to seat no more than nine people (including the driver) per 1 000 members of a country's population. These numbers exclude buses, freight vehicles, and two-wheelers such as mopeds and motorcycles.

Unit of measurement: Number per 1 000 inhabitants

Technical note: The International Road Federation (IRF) publishes the World Road Statistics database annually. Each edition contains data from the previous five years. The IRF primarily collects information from surveys sent to national organizations and primary sources such as national road associations.

Source / Reference: International Road Federation (IRF). World Road Statistics <http://www.irfnet.org/wrs.asp>.

SEWAGE DISCHARGED INTO STORM WATER DRAINS

Definition: Storm water drains may receive accidental (leaks) or clandestine (illegal connections) discharges of wastewater or sewage. When the drainage system is not prepared, the mixture of rain water and sewage causes environmental and health problems. Indicators can be constructed that identify the number of households dumping their sewage into the storm water network, or analyse the physicochemical and microbiological quality of water in the networks.

Unit of measurement: Number of points of clandestine sewer connections to the storm water network.

Alternatively, values of the physicochemical and microbiological variables analysed in water storm water network can be used.

Technical note: Collecting data on clandestine household connections may also include households which, although connected to the sewage network, have leaks to the storm water network.

Measuring the quality of the water at points in the network may include turbidity, faecal coliforms and biochemical oxygen demand.

Source / References: Ministry of Health, Brazil – PAHO/WHO. Avaliação de impacto na saúde das ações de saneamento: marco conceitual e estratégia metodológica (Assessing the impact on health of actions on sanitation: conceptual framework and methodological strategy).
http://bvsmms.saude.gov.br/bvs/publicacoes/avaliacao_impacto_saude.pdf

TOURISM RECEPTION

Definition: International tourism receipts are expenditures by international inbound visitors, including payments to national carriers for international transport. These receipts include any other prepayment made for goods or services received in the destination country. They also may include receipts from same-day visitors, except in cases where these are important enough to justify a separate classification. Data are given in millions of current U.S. dollars.

Tourism is defined as the activities of people travelling to and staying in places outside their usual environment for no more than one year for leisure, business, and other purposes not related to an activity remunerated from within the place visited. The social and economic phenomenon of tourism has grown substantially over the past quarter century. Now, there is a growing awareness of the direct, indirect, and induced effects of tourism on employment, value added, personal income, government income, and the like.

Unit of measurement: Millions of current US\$

Technical note: Tourism data is collected by the World Tourism Organization, a specialized agency of the United Nations, and is based mainly on data on arrivals and overnight stays along with balance of payments information from the International Monetary Fund (IMF), and supplemented by data received from individual countries. The data on international inbound and outbound tourists refer to the number of arrivals and departures of visitors within the reference period, not to the number of people travelling. Thus a person who makes several trips to a country during a given period is counted each time as a new arrival. International visitors include tourists (overnight visitors), same-day visitors, cruise passengers, and crew members.

Source / Reference: Development Data Group, the World Bank. 2008. 2008 World Development Indicators Online. Washington, DC: The World Bank. Available at: <http://go.worldbank.org/U0F5M7AQ40> .

POPULATION IN THE MAIN METROPOLITAN AREA

Definition: Percentage of population living in the centre of the city as well as in outlying high density zones, according to national census information.

Unit of measurement: Percentage of the total population

Technical note: These data are collected and calculated for Latin American countries by the Population Division of ECLAC and the Latin American and Caribbean Demographic Centre (CELADE) in the DEPUALC project database. This database contains information on the countries, at the scale of major administrative division (MAD), about the number of inhabitants in populated localities according to the results of the censuses carried out in the Region between 1950 and 2000.

Source / Reference: CELADE - Latin American and Caribbean Demographic Centre, ECLAC Population Division. Database of Demographic Bulletin No. 75: Latin America: Urbanization and Evolution of the Urban Population 1950-2000.

MIGRATION RATE

Definition: The ratio between the net annual migration balance for a given period and the average population in the same period.

Unit of measurement: Rate per 1 000 inhabitants.

Technical note: The Population Division of ECLAC and the Latin American and Caribbean Demographic Centre (CELADE), provide detailed information about demographic indicators estimated and projects for 20 countries in Latin America for the period 1950-2050. It is calculated as the ratio between the net migratory balance (average annual difference between a population's immigrants and emigrants) for a given period in the numerator and the average population in the same period in the denominator. The result is multiplied by 1 000 inhabitants.

Source / Reference: CELADE. Latin American and Caribbean Demographic Centre, Population Division of ECLAC. http://www.eclac.cl/celade/proyecciones/basedatos_BD.htm

2-2 POLLUTANTS GENERATION AND EMISSIONS

SEWAGE DISCHARGE (MUNICIPAL AND NON-MUNICIPAL)

Definition: Volume of municipal sewage and industrial wastewater discharged.

Unit of measurement: Cubic metres per second.

Technical note: Wastewaters: water discharges of varying composition from uses such as municipal, industrial, commercial, services, agricultural, livestock, domestic, including developments, and in general any other uses, or a mixture of uses.

The data are an estimate of the flow generated, based on the following parameters: population, production, input ratio (ratio between the supply of drinking water and the amount of wastewaters entering the sewerage network) and sewer system coverage.

Source / Reference: Environment and Natural Resources, National Water Commission, Situation of the drinking water sub-sector, drainage and sanitation in December 2006. The CNA (National Water Commission), Mexico, 2007 edition. National Environmental and Natural Resources Information System (SNIARN) – Mexico. <http://www.semarnat.gob.mx>

EMISSIONS OF GREENHOUSE GASES (GHG): CARBON DIOXIDE, FLUORINATED GASES, METHANE AND NITROUS OXIDE

Definition: This variable shows total (gross) and net emissions of GHGs discharged into the atmosphere by different emitting sources, as well as absorption by sinks in the case of carbon dioxide.

Unit of measurement: Thousands of tonnes

Technical note: In general the methodology used is that of the Intergovernmental Panel on Climate Change (IPCC) revised for 2006. This methodology is an indirect estimate of emissions from the different sectors, according to emission factors per unit of consumption or production.

Source / Reference: Intergovernmental Panel on Climate Change (IPCC):
<http://www.ipcc-nggip.iges.or.jp> / United Nations Framework Convention on Climate Change (UNFCCC):
<http://unfccc.int/2860.php>

EMISSIONS OF CARBON MONOXIDE, SULPHUR DIOXIDE, NITROGEN OXIDES, TROPOSPHERIC OZONE AND NON-METHANE VOLATILE ORGANIC COMPOUNDS

Definition: Carbon monoxide (CO) is a precursor gas of ground-level ozone, which can trigger serious respiratory problems. In addition, when CO enters the bloodstream it reduces the delivery of oxygen to the body's organs and tissues. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability, and performance of complex tasks. CO is formed when carbon in fuel is incompletely burned and it is a component of motor vehicle exhaust. Other sources of CO emissions include industrial processes (such as metals processing and chemical manufacturing), residential wood burning, stoves, and natural sources such as forest fires.

Nitrogen oxides, or NO_x, is the generic term for a group of highly reactive, acidifying gases, all of which contain nitrogen and oxygen in varying amounts. Nitrogen oxides are a precursor to ground-level ozone, which can trigger serious respiratory problems. NO_x also contribute to acid rain and global warming. They form when fuel is burned at high temperatures, as in a combustion process. The primary sources of NO_x are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels.

Sulphur Dioxide (SO₂) is a primary contributor to acid deposition, or acid rain, a proven detriment to the health of ecosystems. High concentrations of sulphur dioxide also affect breathing and may aggravate existing respiratory and cardiovascular disease. Sulphur dioxide forms when fuel containing sulphur, such as coal and oil, is burned, when gasoline is extracted from oil, or metals are extracted from ore. Petroleum refineries, cement manufacturing and metal processing facilities, as well as locomotives, large ships, and some non-road diesel equipment burn high sulphur fuel and release SO₂ emissions into the air in large quantities.

Non-methane Volatile Organic Compounds (NMVOC) are chemicals that vaporize at room temperature, like benzene, toluene, methylene chloride, and methyl chloroform. Common sources that emit VOCs include housekeeping and maintenance products, cars, and building and furnishing materials, such as solvents, paints, and glues. In sufficient quantities, VOCs can have adverse health effects on humans; some are suspected of causing, or are known to cause, cancer. VOCs are also precursors to ground-level ozone, which can trigger serious respiratory problems.

Unit of measurement: Thousand metric tons.

Technical note: To produce 1990 and 1995 emissions estimates, the Netherlands National Institute of Public Health and the Environment (RIVM) and the Netherlands Organization for Applied Scientific Research (TNO) gather data on greenhouse gases and atmospheric pollutants from numerous disparate sources such as national and international organizations, independent research institutes, and the scientific literature. The data are then compiled into complete sets of regional and country-level emissions estimates for the EDGAR database. Although here we present only the total emissions values for each country, original data in the EDGAR database also include country-level totals for individual emission source types. To ensure a consistent approach across countries, RIVM obtains activity data from a variety of international statistical data sources (IEA, UN, FAO, OLADE, etc.) and selects emission factors from international publications (Intergovernmental Panel on Climate Change (IPCC) Guidelines, US-EPA reports, etc.).

Source / Reference: The Netherlands National Institute for Public Health and the Environment/the Netherlands Environmental Assessment Agency (RIVM/MNP) and the Netherlands Organization for Applied Scientific Research (TNO). <http://www.mnp.nl/edgar/>

EMISSIONS OF STRATOSPHERIC OZONE DEPLETING SUBSTANCES (CFC-11, CFC-12 y CFC-113)

Definition: This variable measures the average annual concentration of CFC-11, CFC-12 y CFC-113 in a molar fraction of dry air.

Unit of measurement: Parts per trillion

Technical note: CFC-11 (CCl₃F), CFC-12 (CCl₂F₂), and CFC-113 (C₂Cl₃F₃) are potent depletors of stratospheric ozone. In addition, their cumulative effect on global warming may equal one-fourth that of CO₂. CFC data are from the monitoring station at Cape Grim, Tasmania (45 degrees 41 minutes South latitude, 144 degrees 41 minutes East longitude) under the ALE/GAGE/AGAGE programme.

Source / Reference: Carbon Dioxide Information Analysis Centre (CDIAC), Environmental Sciences Division, Oak Ridge National Laboratory. 2007. ALE / GAGE / AGAGE Network Data on Concentrations of Greenhouse and Ozone-depleting Gases. http://cdiac.ornl.gov/ftp/ale_gage_Agage/

SOLID WASTE GENERATION

Definition: This variable shows the total generation of solid wastes including industrial, household, hospital wastes, among others, and in particular shows household waste generation..

Unit of measurement: Thousands of tonnes

Technical note: Solid wastes are any material with a low liquid content that are not primary products (that is, produced for the market) for which those who produce them no longer have any use for their own purposes of generation, processing or consumption and, therefore, want to eliminate. Solid wastes may be produced when raw materials are extracted, during their processing into intermediate or final products, during consumption of final products and during other human activities. Data for this variable are generally obtained from administrative records in the municipalities responsible for collecting household waste; in some cases they are obtained from specific studies and surveys.

Source / Reference: Pan American Health Organization (PAHO). <http://www.cepis.ops-oms.org/sde/ops-sde/bv-residuos.shtml>

HAZARDOUS WASTE GENERATION

Definition: This variable shows the total generation of hazardous wastes, that is, those wastes which, because of their intrinsic nature (toxic, corrosive, reactive corrosive, inflammable, explosive, infectious, ecotoxic) may have adverse effects on health or the environment.

Unit of measurement: Thousands of tonnes

Technical note: The legal definition of hazardous waste must be given in order to ensure that the waste enters a management system according to its characteristics and is subjected to the corresponding controls. How the criteria to be used are selected will depend on the country's needs, the development of a waste management policy, on budget resources and limitations concerning the analytical infrastructure to categorize the wastes. Countries that have signed the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal use the classification given in its first article.

Source / Reference: Environmental Toxicology Laboratory, Faculty of Medicine, Autonomous University of San Luis Potosí. <http://ambiental.uaslp.mx/docs/FDB-ResPeligrosos.pdf>

Ministry of the Environment and Natural Resources, Mexico.

<http://www.semarnat.gob.mx/GESTIONAMBIENTAL/MATERIALESYACTIVIDADESRIESGOSAS/Pages/residuospeligrosos.aspx>

Wastes definition and classification. IDRC - International Development Research Centre. Canada

http://www.idrc.ca/uploads/user-S/1143748404/gr-01_02-definicion_pag15-24.pdf

2-3 NATURAL RESOURCES EXTRACTION AND USE OF EXTERNAL FACTORS

ANNUAL WATER EXTRACTION PER INHABITANT

Definition: Annual per capita water extraction is the gross amount of water withdrawn, on a per person basis, from any source, either permanently or temporarily, for a given use. It can be either diverted towards distribution networks or directly used. It includes consumptive use, conveyance losses, and return flow.

Unit of measurement: Cubic meters (m³) per person

Technical note: AQUASTAT collects its information from a number of sources -- national water resources and irrigation master plans; national yearbooks, statistics and reports; reports from FAO; international surveys; and, results from surveys made by national or international research centres. In most cases, the information was analyzed to ensure consistency between the different data collected for a given country. The current AQUASTAT database provides data per 5-year period if available.

Source / Reference: Food and Agriculture Organization of the United Nations (FAO) Land and Water Development Division. 2005. AQUASTAT Information System on Water and Agriculture: Online database. Rome: FAO. <http://www.fao.org/waicent/faoinfo/agricult/agl/aglw/aquastat/dbase/index.stm>

WATER EXTRACTION AS A PERCENTAGE OF TOTAL INTERNAL WATER RESOURCES

Definition: Extraction of water as a percentage of total internal water resources is the gross amount of water withdrawn as a proportion of the total internal renewable water resources in a given period.

Unit of measurement: Percentage (%)

Technical note: Total annual extraction of water is the gross amount of water withdrawn from any source, permanently or temporarily, for a specific use. It may be diverted towards distribution networks or used directly. It includes consumption, transmission losses and return flows. The Internal Renewable Water Resources (IRWR) includes the average annual flows of rivers and the groundwater recharge (aquifers) generated by endogenous (internal) precipitation. The natural entrance of flows from outside the country's borders is not included in the total. Although the IRWR measures a combination of surface and groundwater this is, typically, less than the sum of the two, because of over-recovery – water resources counted as both surface and groundwater

Source / Reference: WRI – World Resources Institute. EarthTrends, Environmental Information Portal. <http://earthtrends.wri.org/>

LIVESTOCK, FISHERIES AND FOREST PRODUCTION

Definition: Livestock production includes animal husbandry and using the goods that result from caring for the animals during a reference period.

Fisheries production refers to the extraction, capture, collection or aquaculture of biological species or biogenic elements living totally, partially or temporarily in water, as well as related prior or posterior activities.

Forest production refers to exploitation, maintenance, reforestation and deforestation activities.

Unit of measurement: Livestock production: Thousands of tonnes and millions of litres for milk production.
Fisheries production: Thousands of tonnes.
Forestry production: Thousands of cubic metres.

Technical note: Official figures from countries and international institutions.

The livestock production indicator is disaggregated into meat (cattle, pigs, goats, sheep and poultry); milk, eggs and honey.

The fisheries production indicator includes total catch of all types of fish, crustaceans and molluscs. All the countries records on shrimp and lobster include both aquaculture and extraction.

The forestry production indicator is prepared on the basis of official figures from the ECLAC Statistical Yearbook for the Caribbean, and from FAO Database FAOSTAT. They are disaggregated into: sawn wood, round wood, fuel wood and plywood.

Source / Reference: FAO - United Nations Food and Agriculture Organization. Database FAOSTAT. <http://faostat.fao.org/>

Agricultural Statistics and Indicators (SIAGRO) -ECLAC – Economic Commission for Latin America and the Caribbean. <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

INTENSIVE WATER USE IN AGRICULTURE

Definition: Water use intensity is the amount of water used in the agricultural sector per hectare of temporary and permanent cropland in the year specified. This indicator shows a country's dependence on irrigation for agricultural production.

Temporary and permanent cropland is the total area of both temporary and permanent cropland utilized in a given country each year.

Unit of measurement: Cubic meters per hectare per year ($m^3/ha/yr$)

Technical note: AQUASTAT collects its information from a number of sources: national water resources and irrigation master plans; national yearbooks, statistics and reports; reports from FAO; international surveys; and results from surveys made by national or international research centres. In most cases, the information was analyzed to ensure consistency between the different data collected for a given country.

Source / Reference: Water Use Data: Food and Agriculture Organization of the United Nations (FAO) Land and Water Development Division. 2007. AQUASTAT Information System on Water and Agriculture: Online database. Rome: FAO. <http://www.fao.org/nr/water/aquastat/dbase/index.stm>.

Arable and Permanent Cropland Data: Food and Agriculture Organization of the United Nations (FAO). 2008. FAOSTAT Online Statistical Service. Rome: FAO. <http://faostat.fao.org>.

INTENSIVE USE AND CONSUMPTION OF FERTILIZERS AND PESTICIDES

Definition: Total fertilizer consumption is measured in metric tons of plant nutrients consumed in agriculture. It is the addition of nitrogen fertilizers, phosphate fertilizers and potassium fertilizers. The intensity of pesticide use refers to the amount of pesticide used per hectare of arable and permanent cropland. It is measured in metric tons of active ingredients.

Unit of measurement: Kilograms per hectare.

Technical note: The intensity of fertilizer use is calculated by dividing the total consumption of fertilizer by the total area of arable land and permanent cropland.

To calculate the pesticide use indicator, total consumption of pesticides in agriculture is divided by the total area of arable land and permanent cropland. Pesticide consumption is measured in metric tons of active ingredients. Pesticides are organized into eight categories and the sum of these is used to determine total pesticide consumption. The eight categories are: insecticides, mineral oils, herbicides, fungicides and bactericides; seed treatment, crop treatment, insecticides; plant growth regulators; and rodenticides.

Arable land and permanent cropland include both types of land each year in a given country. Arable land is land under temporary crops (areas with double crops are counted only once), temporary meadows for cutting or grazing, land with market and kitchen gardens, and temporarily unproductive land (less than five years). Land abandoned because of shifting cultivation is not included in this category. Data for "arable land" were not produced to indicate the amount of potentially cultivable land. Permanent crop lands are cultivated with crops that occupy them for long periods and need not be replanted after each harvest, such as cocoa, coffee and rubber. This category includes land under flowering shrubs, fruit trees, nut trees and vines, but excludes land under trees grown for wood in general.

Source / Reference: World Resources Institute (WRI) - <http://earthtrends.wri.org/>
Food and Agriculture Organization of the United Nations (FAO), 2004. FAOSTAT Online Statistical Service. Rome: FAO. <http://apps.fao.org>.

AGRICULTURAL MACHINERY USE

Definition: Agricultural machinery use is normally measured as tractors and harvesters in use. Tractor use intensity is the number of hectares of arable and permanent cropland per tractor. Data on tractor use intensity is useful for understanding the nature of production systems. Tractors tend to be used in areas with flatter lands and scarce labour. The number of tractors in use refers to a country's total number of wheeled and crawler tractors used in agriculture. Garden tractors are excluded from this total. Harvesters in use refer to a country's total number of self-propelled machines that reap and thresh in one operation. Arable and permanent cropland is comprised of both arable and permanent land in a given country for each year.

Unit of measurement: Hectares (Ha) per tractor / Number of Harvesters.

Technical note: Data on agricultural machinery is reported by country governments through FAO surveys. Individual countries have different methods of data collection. Data collection methods differ across countries, resulting in varying degrees of reliability. Some caution should be used in interpreting tractors in use figures, because no distinction is made between types of tractors in terms of size and horsepower.

Source / Reference: Food and Agriculture Organization of the United Nations (FAO), 2008. FAOSTAT Online Statistical Service. Rome: FAO. <http://faostat.fao.org/>.

CHANGES IN LAND USE

Definition: Land use refers to the occupation of a given surface in terms of its agricultural capacity and hence the potential it has for development; according to its location, it is classified as urban or rural, according to agricultural use on arable land, the area used for permanent or seasonal crops, or according to the forest area, with grasslands, desert vegetation, etc. The land use classification is a fundamental element for a country's development and that of its inhabitants as this will form its productive, ecological and urban structure and, therefore, define how it functions. Changes in land use refer to the land area of each category of use that changes use per unit of time

Unit of measurement: Percentage (%)

Technical note: Figures obtained from the United Nations Food and Agriculture Organization (FAO), database FAOSTAT. Information is collected on the different land uses that each country provides based on its particular classification. The area devoted to permanent crops is obtained by the difference between arable land and farm crops. Data on changes in land use can be obtained from mapping activities and regular monitoring, partly on the basis of information on forest cover from remote sensing, supported by verification activities on land; and data on land use from agricultural censuses.

Source / Reference: FAO - United Nations Food and Agriculture Organization. Database FAOSTAT. <http://faostat.fao.org/>



INDICATORS OF THE STATE OF THE ENVIRONMENT

3-1 URBAN AND BUILT-UP ENVIRONMENTS

FINAL DISPOSAL OF SOLID URBAN WASTES

Definition: Percentage of total municipal solid waste generated disposed in landfills, on controlled land and in the open (no control).

Unit of measurement: Percentage (%)

Technical note: Landfill: infrastructure involving construction and civil engineering methods to finally dispose municipal solid waste with special handling, through compaction and additional infrastructure, in order to control the impact on the environment. Controlled site: This is a final disposal site which is deficient because, while it meets landfill specifications concerning infrastructure and operation, it does not meet waterproofing specifications. Uncontrolled Site: Defective final disposal site.

The indicator reports the percentage of waste disposed of in the different sites with respect to the total generated.

Source / reference: Sedesol. Directorate General of Equipment and Infrastructure in Marginalized Urban Zones. Mexico. 2007.

National Environmental and Natural Resources Information System (SNIARN) – Mexico.
<http://www.semarnat.gob.mx>

EVOLUTION OF THE FRAGMENTATION OF UNITS OF LANDSCAPE, ECOSYSTEMS OR HABITATS

Definition: The fragmentation index is a cartographic measure of the degree of spatial aggregation of habitat patches under study. The reduction and increasing spatial separation of habitats on a patch of land is related to the decrease in the abundance, distribution and viability of populations of organisms closely linked to fragmented environments. Thus, habitat fragmentation processes have a particularly direct impact on species of high conservation interest with strict habitat requirements.

Unit of measurement: Adimensional index

Technical note: The equation used to calculate the fragmentation index is:

$F = \text{total area of habitat} / (\text{number of areas} \times \text{dispersion of the land patches})$

Where the land patches are dispersed $(Rc) = 2 \text{ dc} (l/p)$,

$\text{dc} = \text{mean distance from one land patch (its centre or centroid) to the next land patch.}$

$l = \text{mean density of land patches} = (\text{number of patches}/\text{total study area in Ha.}) \times 100 = \text{number of land patches for each 100 Ha.}$

The fragmentation index is not comparable between different environments, given their dissimilar characteristics concerning the spatial distribution pattern, factors that explain their origin or presence, etc. Therefore, an assessment of the evolution of this index will be made with data referring to the same environment. For each type of environment, the index will be assessed in relation to its increase or decrease.

The index uses a scale inversely proportional to the degree of fragmentation of the landscape. Thus, an increase in the value of the index is associated with a decrease in the degree of fragmentation, and vice versa. This is because, based on the index formula, increasing fragmentation is related to a decrease of the total area of land patches, a larger number of fragments (patches), and their greater dispersion.

Source / reference: Department of the Environment and Land Use. Eusko Jaurlaritza. <http://www.ingurumena.ejgv.euskadi.net/r49-579/es/>

Indicator BIO-01: Index of fragmentation of habitats.

http://www.ingurumena.ejgv.euskadi.net/r49-3352/es/contenidos/informacion/biodiversidad/es_7635/fragmentacion_ficha.html

European Landscape Convention http://www.mma.es/portal/secciones/desarrollo_territorial/paisaje_dt/convenio_paisaje/

MAGNETIC FIELD SOURCES WITH PUBLIC HEALTH RISKS

Definition: This is a measure of the existence of sources of electromagnetic fields (EMF) in the environment identified by neighbouring communities (television antennas, radio or mobile phone base stations). It does not include exposures produced by household appliances or medical and hospital exposures. According to WHO, in all frequencies, the EMFs represent some of the most common and fastest growing environmental influences about which there is increasing anxiety and speculation.

Unit of measurement: Distance to the source, intensity of the EMF

Technical note: In recent years, public authorities in various countries have taken numerous measurements to study the levels of electromagnetic fields in the everyday environment. None of these studies concluded that the levels measured may cause adverse health effects. The German Federal Office for Radiation Safety (Bundesamt für Strahlenschutz, BfS) recently measured the daily exposure to magnetic fields in public places of about 2 000 people with different occupations and levels of exposure, with each one carrying a personal dosimeters for 24 hours. There was great variation in the exposure levels measured, but the daily average exposure was 0.10 μT . This value is a thousand times less than the limit of 100 μT established for the population and 200 times less than the exposure limit of 500 μT for workers. Furthermore, exposure levels recorded for the inhabitants of town centres indicated that, in this respect, there are no major differences between rural and city life. Even exposure of people living near high voltage power lines differs very little from the average population exposure.

Source / reference: World Health Organization (WHO) – Electromagnetic Fields. <http://www.who.int/peh-emf/es/>

POPULATION WITH ACCESS TO IMPROVED SANITATION SERVICES IN URBAN AREAS

Definition: Percent of the population with adequate access to improved sanitation systems.

Unit of measurement: Percentage (%)

Technical note: The Joint Monitoring Programme (WHO-UNICEF) defines access to sanitation in terms of types of technologies and levels of service supplied. It also defines access to adequate sanitation services as the percentage of the population using “improved” sanitation. “Improved” sanitation services are: connection to public sewers, connection to a septic tank, flush latrine, simple pit latrine, pit latrine improved with ventilation. Excreta disposal systems are considered to be adequate if they are private and if they hygienically separate human excreta from human contact.

Source / reference: WHO/UNICEF - World Health Organization and United Nations Children’s Fund. Joint Monitoring Programme on Water Supply and Sanitation. <http://www.wssinfo.org/en/welcome.html>

PERCENTAGE OF HOUSEHOLDS WITH ADEQUATE KITCHEN VENTILATION, LIGHTING AND COOKING FACILITIES

Definition: Measures the percentage of households with adequate cooking facilities (that do not pollute indoor air), enough room, good ventilation, natural light and electric light.

Unit of measurement: Percentage

Technical note: For PAHO, indoor air pollution in households is a public health problem. Indoor air refers to air quality inside buildings, while outdoor air refers to the quality of air in urban open spaces. Information collected seems to indicate that indoor air may be of poorer quality than outdoor air. It is important that the survey assesses the efficiency of the method of extracting gases produced by cooking or heating the home and by smoking.

Source / reference: National Institute of Hygiene, Epidemiology and Microbiology (INHEM). Havana, Cuba <http://www.bvsde.paho.org/bvsacd/conven/raisa.pdf>

PERCENTAGE DE HOUSES WITH SOLID WASTE COLLECTION SERVICES

Definition: Percent of houses with solid waste collection services.

Unit of measurement: Percentage (%)

Technical note: Household Solid Waste: Refers to waste generated by domestic activities in households and small businesses. This is generally a significant part of municipal wastes.

Data for this variable are usually obtained from administrative records in the municipalities responsible for collecting domestic waste; in some cases they are obtained from specific studies and surveys.

Source / reference: Pan American Health Organization (PAHO). <http://www.cepis.ops-oms.org/sde/ops-sde/bv-residuos.shtml>

VOLUME OF PUBLIC TRANSPORT

Definition: Volume of Public (Road) Transport measures the usage of a city’s road-based public transport modes (i.e. buses, microbuses, and taxis) throughout a single year.

Unit of measurement: Number of passengers per kilometre

Technical note: Basic energy statistics are collected by the IEA from a variety of sources. In OECD member countries, national administrations fill out five annual questionnaires. In non-OECD countries, statistics are collected from questionnaires, international organizations such as the United Nations, by cooperating with national statistical bodies, and direct communication with energy consultants and companies.

Source / reference: International Energy Agency (IEA) Statistics Division. 2007. Energy Balances of OECD Countries (2008 edition) and Economic Indicators and Energy Balances of Non-OECD Countries (2007 edition)-Economic Indicators. Paris: IEA. <http://data.iaea.org/ieastore/default.asp>

3-2 WATER, ATMOSPHERE AND SOIL

SAFE SWIMMING BEACHES

Definition: An assessment of whether beaches are safe for swimming is made by using objective criteria based on microbiological (faecal coliforms) and physicochemical (pH) measurements. The values obtained are compared with pre-established standards to identify whether or not sea water quality is suitable for swimming.

Unit of measurement: Expressed in terms of whether or not the beach is suitable for swimming and recreation.

Technical note: Measuring faecal coliforms confirms the presence and density of bacteria of faecal origin in sea water samples. Faecal contamination of sea bathing water can be a vehicle to transmit skin diseases, gastrointestinal diseases, hepatitis, and mucus infections (ear inflammation, conjunctivitis) with greater risk on children. The bacteria count should be less than 1 000 per 100ml in at least 80% of the samples for the beach to be fit for swimming. A higher value than 2 500 of faecal coliforms per 100 ml for any of the samples indicates that the water is inadequate for bathing. The pH measurement assesses the acidity of the water sample. Outside the parameters (5 to 8.5), the bathing water can irritate the skin and the eyes.

Source / reference: Companhia de Tecnologia de Saneamento Ambiental – State of the Environment Secretariat, State of São Paulo. <http://www.cetesb.sp.gov.br/Agua/praias/balneabilidade.asp>

National Institute of Metrology, Normalization and Industrial Quality (Inmetro) - Brazil - Beaches (Analysing Swimming Safety). <http://www.inmetro.gov.br/consumidor/produtos/praias.asp#normas>

CONCENTRATION OF PHOSPHORATED AND NITROGENATED COMPOUNDS IN SURFACE AND GROUNDWATER

Definition: Percentage of monitoring sites in water bodies whose annual average concentration is placed in each category of nitrate and phosphorus concentration.

Unit of measurement: Percentage (%)

Technical note: The OECD includes concentrations of nitrate and phosphorus in bodies of water in its Core Set of Environmental Indicators, as does the European Environmental Agency. The Environmental Protection Agency (EPA) uses concentrations of nitrate and phosphorus in rivers on agricultural, forest and urban land in its Environmental Indicators Initiative on Water.

Total phosphorus: Phosphorus is generally found in natural waters, wastewater and treated wastewater in the form of phosphates. They are classified as orthophosphates, condensed phosphates and organophosphate compounds.

It appears that phosphorus in water is not harmful to health, but it promotes the explosive growth of algae, some of them toxic, and causes the lowering of oxygen due to decomposition when they die. Phosphorus plays a greater role in this phenomenon in freshwater ecosystems than in marine ecosystems.

Nitrates: they result from a higher stage of mineralization of nitrogen compounds from various sources. The high concentration of nitrate in drinking water causes a type of anaemia in newborn infants. It may also affect growth in cattle and can cause abortions and a condition similar to that found in human infants. Excess nitrate also promotes eutrophication of surface waters.

Source / reference: World Health Organization (WHO). Guidelines for Drinking-water Quality. Vol. I, 3rd.ed. WHO. Geneva. 2004.

National Environmental and Natural Resources Information System (SNIARN) – Mexico.
<http://www.semarnat.gob.mx>

CONCENTRATION OF CHEMICAL POLLUTANTS IN BODIES OF WATER OR SOIL: ARSENIC, BERYLLIUM, CADMIUM, CHROMIUM, MERCURY AND LEAD

Definition: Expresses the concentration of contaminating inorganic trace elements (arsenic, beryllium, cadmium, chromium, mercury and lead) in samples taken from water bodies or soil removed for specific determination in exposure points.

Unit of measurement: Water: µg/dl / Soil: µg/kg

Technical note: Most trace elements, especially heavy metals, are accumulated in the soil surface, due both to local pollution and pollutants carried in the air over large distances. In several countries research has been carried out on how metallic trace elements enter and leave soils, and it has been shown that their concentrations are likely to increase worldwide with the growth of industrial and agricultural activities. These elements cause a series of health problems, especially in children. Exposure points are places where humans get in contact with the pollutant. The concentration of the pollutant at the point of exposure is what matters because it represents the actual concentration to which the population is exposed.

Source / reference: Alina Kabata-Pendias. Chemical aggression of the biosphere. <http://www.fao.org/docrep/q2570s/q2570s01.htm>

WHO – World Health Organization - Inter-Organization Programme for the Sound Management of Chemicals (IOMC). <http://www.who.int/iomc/en/index.html>

European Environment and Health Information System. http://www.enhis.org/object_binary/o2800_Guidelines_indicator_methodology_V3_uneditedVersion.pdf

Environmental Toxicology Laboratory, Faculty of Medicine. Autonomous University of San Luis Potosí.
<http://ambiental.uaslp.mx/docs/FDB-ResPeligrosos.pdf>

CONCENTRATION OF CARBON MONOXIDE, SULPHUR DIOXIDE, NITROGEN OXIDES, TROPOSPHERIC OZONE AND AIRBORNE PARTICULATE MATTER (PM₁₀ AND PM_{2,5})

Definition: These variables indicate the amount of polluting agents in the air per unit of volume. The most frequent atmospheric pollutants measured are carbon monoxide, sulphur dioxide, nitrogen oxides, tropospheric ozone and airborne suspended particles (PM₁₀ and PM_{2,5}).

Unit of measurement: Micrograms per cubic metre (ug/m₃)

Technical note: It is usually measured by representative random sampling and chemical analysis of air samples. These values are compared with local air quality statistical parameters, rules and guidelines. Different methodologies exist to estimate each type of pollutant (active, passive and automatic). There are a large number of models to estimate the concentration of pollutants, many of them based on Gaussian's air dispersion model.

Source / reference: Virtual library of sustainable development and environmental health, Pan American Health Organization (PAHO): <http://www.cepis.ops-oms.org/metaiah/search.php>
ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

CHEMICAL AND BIOCHEMICAL OXYGEN DEMAND

Definition: The chemical oxygen demand (COD) represents the mass concentration of oxygen consumed by the chemical decomposition of organic and inorganic matter. It is a parameter that provides information about the degree of water pollution. The higher the value delivered by the COD, the greater the degree of water pollution due to the proliferation of organisms such as bacteria and algae and the presence of oxidizable inorganic compounds.

The biochemical oxygen demand (BOD) is a measure of the amount of dissolved oxygen required by organisms for aerobic decomposition of organic matter present in water. It is a parameter that provides information about the degree to which water is polluted with organic material. The higher the value delivered by the BOD, the greater the degree of pollution due to the proliferation of most organisms in water. It is also known as biological oxygen demand.

Unit of measurement: Milligrams of oxygen per litre (mg O₂/l)

Technical note: Measurements are taken in the country's two main rivers that are chosen based on their national importance (economic, demographic, geographic, and hydrologic) and the quantity and quality of the measurements taken.

The COD data are measured by the potassium permanganate (KMnO₄) consumed, calculated in terms of oxygen equivalent. The figures in this variable are obtained from samples and/or monitoring stations

The BOD data are obtained from samples and/or monitoring stations, generally using what is known as the BOD₅ test. The BOD₅ is an empirical test involving incubation of the sample diluted for five days at a constant temperature of 20 ° C. Dissolved oxygen is measured before and after incubation.

Source/reference: Virtual library of sustainable development and environmental health, Pan American Health Organization (PAHO): <http://www.cepis.ops-oms.org/metaiah/search.php>
ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

INCIDENCE OF ANALYSING THERMOSTABLE COLIFORMS OUTSIDE OF STANDARD

Definition: Expressed as the percentage of monitoring sites, in bodies of water, placed in each category of thermostable faecal coliforms concentration (also called heat-resisting or heat tolerant), microorganisms from the digestive tracts of warm-blooded animals, so that their presence is related to very recent discharges of untreated wastewater, generally domestic and livestock wastewater. Polluted water may contain viruses and bacteria that affect its quality. Coliforms bacteria do not usually cause diseases but, being easy to detect, are good indicators of this type of pollution.

Unit of measurement: Percentage

Technical note: Although the incidence of *Escherichia coli* is the most accurate indicator of faecal contamination, counting thermostable coliforms bacteria is an acceptable alternative that is more sensitive than total coliforms bacteria count; this is particularly true in tropical areas where many bacteria with no health significance are present in almost all untreated water supplies.

Source / reference: Ministry of Health, Brazil - PAHO/WHO. Assessing the health impact of sanitation actions: conceptual framework and methodological strategy. Brasília, 2004. http://www.opas.org.br/sistema/arquivos/Mn_Lmpac.pdf

World Health Organization (WHO). Guidelines for Drinking Water Quality (third edition). <http://www.cepis.org.pe/bvsacg/e/guiasoms3corr.pdf>

National Environmental and Natural Resources Information System (SNIARN) – Mexico. <http://www.semarnat.gob.mx>

UV RADIATION INDEX

Definition: The UV rays emitted by the sun cover a wavelength range within which three classes are considered: UV-A, UV-B and UV-C. UV-C rays are completely blocked by the ozone layer in the stratosphere; however, it cannot completely block UV-A and UV-B.

Unit of measurement: Scale of 0 to 15. It is classified as follows: 0 to 4 (low); 5 to 7 (medium); 8 to 9 (high) and 10-15 (extreme).

Technical note: Measured by meteorological services of specialized centres.

Source / reference: Mexico City atmospheric monitoring system – REDMET. <http://www.sma.df.gob.mx/simat/pnredmet2.htm>

National ultraviolet measuring network – Physics Department, University of Santiago, Chile. <http://www.indiceuv.cl/home.htm>

3-3 BIODIVERSITY, ECOSYSTEMS AND NATURAL RESOURCES

FOREST COVER AS A PERCENTAGE OF TOTAL SURFACE AREA (FORESTS, WOODED AREAS, FORESTATION AND REFORESTATION)

Definition: This variable shows the proportion of the area with forest cover with respect to the total area of the country. It includes forests, forestation and reforestation.

Forests are defined as land extending for more than 0.5 hectares, with trees taller than 5m and a crown cover greater than 10%, or trees able to reach a minimum height of 5 meters in situ.

Forestations (or tree plantations) include plantations for forestry or protective purposes, such as rubber plantations for timber and cork oak formations. They exclude formations of trees in agricultural production systems, for example fruit plantations and agroforestry systems. The term also excludes trees in urban parks and gardens.

Reforestation is defined as establishing forest plantations on temporarily non-forested lands considered to be forests. Forest plantations are wooded land of introduced species, and in some cases native species, established through planting or seeding, either for timber production or non-timber goods, or to provide environmental services.

Unit of measurement: Percentage (%)

Technical note: Data for this variable are usually obtained from national forest inventories or registers, as well as by samples from ground surveys, cadastral surveys, administrative records and remote sensing or a combination of these systems. For the country's total area, the figures are taken from geographic records. Other methods generally used to calculate the area of forest are:

- Measuring by using the Global Positioning System (GPS).
- Satellite image pre-processing and processing to calculate the area, and procedures to provide basic and thematic cartography.
- Remote sensing and field verification.

Source / reference: Global Forest Resources Assessment, FAO. <http://www.fao.org/forestry/site/fra2005/es/>

WATER BODIES

Definition: Water bodies are oceans, seas, lakes, reservoirs, and rivers. They can be either fresh or salt water bodies. The classifications reported here are published using the International Geosphere-Biosphere Programme (IGBP) definitions. Internal renewable water resources (IRWR) are comprised of the average annual flow of rivers and recharge of groundwater (aquifers) generated from endogenous (internal) precipitation. Even though IRWR measures a combination of surface and groundwater resources, it is typically less than the sum of the two because of overlap--water resources that are common to both surface and groundwater. External renewable water resources (ERWR) are the portion of the country's renewable water resources not generated within the country. The ERWR include inflows from upstream countries (groundwater and surface water), and part of the water of border lakes or rivers.

Unit of measurement: Square kilometres (km²)

Technical note: The area of snow and ice covered areas, in hectares, is determined by the Global Land Cover Characteristics (GLCC) project. The project uses a framework of temporal and spatial patterns of satellite data, in conjunction with ancillary data, to assign a vegetation classification to each pixel. The satellite data in this study were from the Advanced Very High Resolution Radiometer (AVHRR), and have a resolution of 1 X 1 km. The other data sets employed were a digital elevation model to help model ecological factors that govern natural vegetation distribution, ecoregions data to help determine where vegetation would be stratified by seasonal impacts, and maps of soils, vegetation, and land cover to help with the post-classification refinement.

Source / reference: Loveland, T.R., Reed, B.C., J.F., Brown, J.F., Ohlen, D.O., Zhu, Z., Yang, L. Merchant. J. 2000. Global Land Cover Characteristics Database (GLCCD) Version 2.0. http://edcdaac.usgs.gov/glcc/globdoc2_0.html.

ANIMAL SPECIES (AMPHIBIANS, BIRDS, MAMMALS, FISH AND REPTILES)

Definition: Amphibians, number refers to the total number of known, described, and recorded amphibian species identified and documented in a particular country or region. Amphibians are cold-blooded vertebrates that typically live on land but breed in water; aquatic larvae undergo metamorphosis into adult form. Amphibians include frogs, toads, newts, and salamanders.

Bird species number refers to the total number of bird species that breed in a particular country, as well as those that migrate or winter there. A bird is defined as a “warm-blooded egg-laying vertebrates characterized by feathers and forelimbs modified as wings.”

Mammal species, number refers to the total number of known, described, and recorded mammal species identified and documented in a particular country or region. A mammal is defined as “any warm-blooded vertebrate having the skin more or less covered with hair; young are born alive (except for the small subclass of monotremes) and nourished with milk.”

Fish species, number, refer to the total number of freshwater and marine fish identified, documented, and recorded in a particular country or region.

Reptile species, number refers to the total number of reptiles identified, documented, and recorded in a particular country or region. Reptiles are cold-blooded vertebrates in the taxonomic class Reptilia and include tortoises, turtles, snakes, lizards, alligators, and crocodiles.

Both endemic and non-endemic species are included. Endemic species are those species whose distributions are naturally restricted to a defined region. Introduced (non-native) species may be included.

Unit of measurement: Number

Technical note: Species data maintained in the UNEP-WCMC Species Database is collected by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC). Data is updated on a continual basis as it becomes available. The number of reported species is collected by UNEP-WCMC from a variety of sources, including, but not limited to: national reports from the convention on biodiversity, other national documents, independent studies, and other texts. Data is updated on a continual basis as they become available; however, updates vary widely by country.

Source / reference: Country Data: World Conservation Monitoring Centre of the United Nations Environment Programme (UNEP-WCMC), 2004. Species Data (unpublished, September 2004). <http://www.unep-wcmc.org> Cambridge, England: UNEP-WCMC.

World Data: 2004. AmphibiaWeb: Information on amphibian biology and conservation. Berkeley, California: AmphibiaWeb. <http://amphibiaweb.org/>

World Conservation Monitoring Centre (WCMC). 2003. Species Database, unpublished data WCMC: Cambridge, U.K. August 2003. Web site: <http://www.unep-wcmc.org>

Global Estimate: Wilson, D. E., and D. M. Reeder (eds). 1993. Mammal Species of the World. Washington, DC: Smithsonian Institution Press.

Inter-American Biodiversity Information Network (IABIN) <http://www.iabin.net/es/>

VEGETAL SPECIES (TREES, CYCADACEAE, CONIFERS, FLORAL, FERNS AND VASCULAR)

Definition: This variable refers to the number of vegetal species documented as part of the local system. Included are species of trees, cycadaceae, conifers, flowers, ferns and vascular plants.

Unit of measurement: Number

Technical note: The total number of known species may include introductions in some instances. The number of endemic species refers to those species known to be found only within the country listed. Figures are not necessarily comparable among countries because taxonomic concepts and the extent of knowledge vary (for the latter reason, country totals of species and endemics may be underestimates). Please refer to the original source for further information on the variables and collection methodologies.

Source / reference: World Conservation Monitoring Centre (WCMC) Species Database, unpublished data (WCMC, Cambridge, U.K., December, 1999).

Inter-American Biodiversity Information Network (IABIN). <http://www.iabin.net/es/>

INDEX OF FOOD PRODUCTION PER INHABITANT

Definition: The food production per capita index presents net food production (after deduction for feed and seed) of a country's agricultural sector per person relative to the base period 1999-2001. The food production per capita index covers all edible agricultural products that contain nutrients; coffee and tea are excluded.

Unit of measurement: Percent (%) of 1999-2001 average food production.

Technical note: The food production per capita index represents a price-weighted aggregate of the total volume of food production calculated using the Laspeyres formula divided by population. Net production quantities of each commodity are weighted by 1999-2001 average prices and summed for each year. The aggregate for a given year is divided by the average aggregate for 1999-2001 to produce the final index.

Source / reference: Food and Agriculture Organization of the United Nations (FAO). 2006. FAOSTAT Online Statistical Database. Rome: FAO. <http://apps.fao.org>

RENEWABLE WATER RESOURCES AVAILABLE PER INHABITANT

Definition: Per Capita Actual Renewable Water Resources gives the maximum theoretical amount of water actually available, on a per person basis, for each country. In reality, a portion of this water may be inaccessible to humans. Actual renewable water resources are defined as the sum of internal renewable resources (IRWR) and external renewable resources (ERWR), taking into consideration the quantity of flow reserved to upstream and downstream countries through formal or informal agreements or treaties and possible reduction of external flow due to upstream water abstraction.

Unit of measurement: Cubic meters (m³) per person per year.

Technical note: AQUASTAT collects its information from a number of sources--national water resources and irrigation master plans; national yearbooks, statistics and reports; reports from FAO; international surveys; and, results from surveys made by national or international research centres. In most cases, the information was analyzed to ensure consistency between the different data collected for a given country.

Source / reference: Food and Agriculture Organization of the United Nations (FAO) Land and Water Development Division. 2007. AQUASTAT Information System on Water and Agriculture: Online database. Rome: FAO. <http://www.fao.org/nr/water/aquastat/data/query/index.html>.

SURFACE WITH PERMANENT PASTURES AND GRASSLAND

Definition: This variable shows the land used permanently (five years or more) for herbaceous forage crops, either cultivated or wild (wild pastures or rangeland).

Unit of measurement: Hectares

Technical note: Data for this variable are usually obtained from a census conducted by the mapping technique or the probability sampling technique. Mapping uses geographic materials such as aerial photography, satellite imagery and photo interpretation procedures, image processing and thematic analysis.

Source / reference: FAO –United Nations Food and Agriculture Organization. FAOSTAT Database. <http://faostat.fao.org/>

SURFACE HARVESTED BY TYPE OF CROP

Definition: The harvested area that has already been worked and from which crops have been produced. Includes partially damaged land that has produced some crops. From an operational viewpoint, it can be defined as that part of the area planted with one or more crops of interest within the period under review from which crops have been harvested, either totally or in part.

Unit of measurement: Thousands of hectares

Technical note: In this indicator the harvested area is classified according to three types of crops: crops for domestic consumption, traditional export crops and non-traditional crops. Official figures come from the countries.

Source / reference: FAO – United Nations Food and Agriculture Organization. FAOSTAT Database. <http://faostat.fao.org/>

Agricultural statistics and indicators (SIAGRO) - ECLAC - Economic Commission for Latin America and the Caribbean. <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

SURFACE COVERED WITH SNOW OR ICE

Definition: Snow and ice covered areas are lands under snow and/or ice cover throughout the year. The classifications reported here are published using the International Geosphere-Biosphere Programme (IGBP) definitions.

Unit of measurement: Hectares.

Technical note: The area of snow and ice covered areas, in hectares, is determined by the Global Land Cover Characteristics (GLCC) project. The project uses a framework of temporal and spatial patterns of satellite data, in conjunction with ancillary data, to assign a vegetation classification to each pixel. The satellite data in this study were from the Advanced Very High Resolution Radiometer (AVHRR), and have a resolution of 1 X 1 km. The other data sets employed were a digital elevation model to help model ecological factors that govern natural vegetation distribution, ecoregions data to help determine where vegetation would be stratified by seasonal impacts, and maps of soils, vegetation, and land cover to help with the post-classification refinement.

Source / reference: Loveland, T.R., Reed, B.C., J.F., Brown, J.F., Ohlen, D.O., Zhu, Z., Yang, L. Merchant, J. 2000. Global Land Cover Characteristics Database (GLCCD) Version 2.0. http://edcdaac.usgs.gov/glcc/globdoc2_0.html.

SURFACE USED FOR MINING PRODUCTION (METALURGICAL AND NON-METALURGICAL)

Definition: The area used for mining production is calculated according to the hectares requested by individuals and/or companies to be used for mining activities and those that are actually being mined.

Unit of measurement: Hectares. They may also be expressed as a percentage of the area of a territory.

Technical note: Each country has a national mining registry with up-to-date information about new areas and production. The indicator can be disaggregated into mined metals (copper, gold, uranium, among others) and non-metals (phosphate, sand, sand, concrete gravel, etc.).

Source / reference: Environmental indicators prepared by the Andean Community of Nations. Decision 699. www.comunidadandina.org/normativa/dec/d699.htm

AREAS COVERED BY SAVANNAHS, WETLANDS AND PERMANENTLY FLOODED

Definition: Savannahs Area is the area, in hectares, of savannahs, as determined by the Global Land Cover Characteristics (GLCC) project. Savannahs are lands with herbaceous and other understory systems and with forest canopy cover between 10-30%. The forest cover height exceeds 2 metres.

Wetlands are areas of marsh, fen, peat land or water-covered surfaces, whether natural or artificial, permanent or temporary, static or flowing, fresh, brackish or salt, including extensions of sea water with a low tide depth that does not exceed six meters.

Permanent wetlands area is the area, in hectares, of permanent wetlands, as determined by the Global Land Cover Characteristics (GLCC) project. Permanent wetlands are lands with a permanent mixture of water and herbaceous or woody vegetation that cover extensive areas. The vegetation can be present in either salt, brackish, or fresh water. The classifications reported here are published using the International Geosphere-Biosphere Programme (IGBP) definitions.

Unit of measurement: Hectares

Technical note: The GLCC project uses a framework of temporal and spatial patterns of satellite data, in conjunction with ancillary data, to assign a vegetation classification to each pixel. The satellite data in this study were from the Advanced Very High Resolution Radiometer (AVHRR), and have a resolution of 1 X 1 km. The other data sets employed were a digital elevation model to help model ecological factors that govern natural vegetation distribution, ecoregions data to help determine where vegetation would be stratified by seasonal impacts, and maps of soils, vegetation, and land cover to help with the post-classification refinement.

At local level the methodology generally used to obtain these data includes the following steps: analysing national documents and registers, cartography analysis using the Geographic Information System (GIS), using remote sensing images and maps; this information is complemented with land studies such as: (a) Interviews to obtain information about socio-economic and ecological aspects of wetlands, and (b) Collecting primary information about ecological and social aspects of the territory.

Source / reference: Loveland, T.R., Reed, B.C., J.F., Brown, J.F., Ohlen, D.O., Zhu, Z., Yang, L. Merchant, J. 2000. Global Land Cover Characteristics Database (GLCCD) Version 2.0. http://edcdaac.usgs.gov/glcc/globdoc2_0.html.

Ramsar Convention on Wetlands. http://www.ramsar.org/lib/lib_handbooks2006_s11.pdf

URBAN AND BUILT-UP AREA

Definition: Urban and Built-up Area is the amount of territory, in thousands of hectares, that is covered by buildings and other man-made structures.

Unit of measurement: Hectares

Technical note: The area of urban and built-up areas is determined by the Global Land Cover (GLC2000) project. The project uses a framework of temporal and spatial patterns of satellite data, in conjunction with ancillary data, to assign a vegetation classification to each pixel. Please see the methodology section below for more on how the vegetative classifications are assigned.

Source / reference: Global Land Cover 2000 database. European Commission, Joint Research Centre, 2003. <http://www-gvm.jrc.it/glc2000/>

IRRIGATED LAND AREA

Definition: Irrigated land as a percent of total agricultural area is the percentage of a country's total agricultural area which is equipped to provide water to crops. Types of irrigated land include full and partial control irrigation, spate irrigation areas, and equipped wetland or inland valley bottoms. The agricultural area is defined as the sum of arable and permanent cropland and permanent pasture.

Unit of measurement: Percentage (%)

Technical note: WRI calculates this indicator by taking the total amount of irrigated land per country and dividing it by the total agricultural area, that is the sum of arable and permanent cropland and permanent pastures. Both land area datasets are from FAOSTAT.

Data on land use are reported by country governments, in surveys distributed by the FAO.

Source / reference: Food and Agriculture Organization of the United Nations (FAO), 2006. FAOSTAT Online Statistical Service. Rome: FAO. <http://faostat.fao.org>.

DRYLANDS SURFACE

Definition: Dryland area as a percent of total area is the percent of the Earth's terrestrial area that falls within three of the world's six aridity zones—the arid, semi-arid, and dry sub-humid zones—as a percent of the Earth's total terrestrial area...This definition of drylands has been adopted by the United Nations Convention to Combat Desertification (CCD) to describe lands where problems with land degradation should be focused and where methods for attaining sustainable development should be promoted.

Unit of measurement: Percentage (%)

Technical note: The United Nations Convention to Combat Desertification (CCD) uses aridity zones to define drylands of concern to the Convention. The CCD includes three aridity zones – arid, semi-arid, and dry sub-humid – in its definition of drylands. The amount of land within each aridity zone for individual countries was calculated by WRI using GIS.

Source / reference: UNEP/GRID. United Nations Environment Programme/Global Resource Information Database. 1991. Global digital data sets for land degradation studies: a GIS approach. Prepared by U. Deichmann and L. Eklundh. GRID Case Study Series No. 4. UNEP/GEMS and GRID. Nairobi, Kenya.

3-4 CLIMATE

STRATOSPHERIC OZONE CONCENTRATION

Definition: stratospheric ozone concentration both globally and over the Antarctic.

Unit of measurement: Dobson units (A hundred Dobson units represent an amount equal to an ozone layer 1 mm thick at sea level and at 0°C).

Technical note: Data are from the Total Ozone Mapping Spectrometer (TOMS). Over the years NASA has employed different satellites (Nimbus-7: 1979-1992, Meteor-3: 1993-1994 and Earth Probe: from 1996 to the present). The global concentration of ozone is the annual average of measurements made by TOMS between latitudes 65°N and 65°S. Because October is considered to be the month when the “ozone hole” opens, that month's averages were calculated for the Antarctic using the TOMS daily measurements. The data refer to the region known as the Antarctic Halley Bay at latitude 75°S.

Source / reference: Environment Canada. Environmental Signals: Canada's National Environmental Indicator Series 2003. Canada. 2002.

NASA. Total Ozone Mapping Spectrometer: October, 2003. <http://toms.gsfc.nasa.gov>

RELATIVE AIR HUMIDITY

Definition: Relative air humidity is the percentage of water vapour in the air with respect to the maximum it can contain at a given temperature and atmospheric pressure.

Unit of measurement: Percentage (%)

Technical note: National information available in each country's meteorological service statistics.

Source / reference: Environmental indicators prepared by the Andean Community of Nations. Decision 699. www.comunidadandina.org/normativa/dec/d699.htm

AVERAGE PRECIPITATION (MONTHLY, SEASONAL, ANNUAL)

Definition: Total water falling on a given surface as rain, snow, hail or other hydrometeors in a day, a month, or a year.

Unit of measurement: Usually expressed in millimetres or, the equivalent, in litres per square metre per period.

Technical note: National information available in each country's meteorological service statistics.

Source / reference: Worldwide Bioclimatic Classification System. www.ucm.es/info/cif

AVERAGE GLOBAL TEMPERATURE

Definition: Global mean surface temperature measures the average global surface temperature in degrees Centigrade for a given year. The global temperature anomaly is a measure of how much warmer or colder than normal it is at a particular place and point in time. In this case, the "normal temperature" is defined as the mean over a 30-year time period (1951-1980) and anomaly values are reported as annual (January-December) global means.

Unit of measurement: Degrees Centigrade (°C)

Technical note: The NASA GISS Surface Temperature Analysis (GISTEMP) provides a measure of the changing global surface temperature with monthly resolution for the period since 1880, when a reasonably global distribution of meteorological stations was established.

Source / reference: Goddard Institute for Space Studies (GISS). 2006. NASA GISS Surface Temperature Analysis (GISTEMP). New York: GISS. <http://data.giss.nasa.gov/gistemp/>.

MAXIMUM, MEDIUM, AND MINIMUM TEMPERATURE

Definition: Maximum and minimum temperature refers respectively to the highest and lowest temperature recorded during the day at a particular recording point. For a period (weekly, monthly, yearly) monthly mean temperatures are recorded. The mean temperature is the average of the sum of the maximum and minimum temperatures recorded in a given period.

Unit of measurement: Degrees Celsius (°C)

Unit of measurement: Degrees Centigrade (°C)

Technical note: National information available in each country's meteorological service statistics.

Source / reference: Environmental indicators prepared by the Andean Community of Nations. Decision 699. www.comunidadandina.org/normativa/dec/d699.htm

3-5 URBAN GREEN ZONES

URBAN SHADE

Definition: This indicator measures the total shaded area provided by foliage mass in the municipality.

Unit of measurement: Square kilometres of shade (km²)

Technical note: Starting from the georeferenced tree cover, an estimate is made of the leaf mass depending on species and tree age. Once an estimate is made, using the GIS tool, the total area of shade produced by the trees is calculated. This indicator can be obtained more specifically by area or from municipal districts.

Source / reference: Agenda 21 System of Urban Indicators, 2008. http://www.oma-malaga.com/docs/metodologia_y_significado.pdf

USEFUL URBAN GREEN ZONE PER INHABITANT

Definition: Useful green zones are those considered in general plans that have actually been implemented and, therefore, are of practical use to citizens. This indicator allows a calculation to be made of the level of consolidation of the city's green belt and the difference to be seen between the useful consolidated green areas and those with potential but not yet of practical use to citizens. Sustainable management of urban green areas helps urban societies' environmental, social and economic well-being and should be an indispensable part of any sustainable development environmental strategy in the cities of Latin America and the Caribbean. (HABITAT II, 2004)

Unit of measurement: Square metres (m²) or hectares (ha) per inhabitant.

Technical note: To obtain this indicator a measurement is required of the useful area of squares, parks and gardens in the city's urban environment in relation to the number of inhabitants. To do so a graphic layer is used to describe what is urban and from which are removed the general and local systems that are considered to be green zones but that have not been set aside as such. Not considered as useful green zones are median strips, roundabouts and other such as traffic organizers.

Once the area of the useful green zone has been obtained for each of the zones to be analysed, the ratio between the number of square metres in the useful green zone and the number of inhabitants is used to obtain the indicator.

Source / reference: Agenda 21 System of Urban Indicators 2008. http://www.oma-malaga.com/docs/metodologia_y_significado.pdf

UNEP/UN-HÁBITAT (2004), "Environmental-Urban Strategy for Latin America and the Caribbean, Regional Context".

ILAC Indicators - <http://www.geodatos.org/geodatos/html/noticia-a-es.html>

NUMBER OF TREES PER INHABITANT

Definition: Measures the number of trees planted in the consolidated urban area in relation to the total number of inhabitants. Each person emits carbon dioxide that requires a certain number of trees to be planted to offset its effects. Trees also act as pollution filters and urban climate regulators.

Unit of measurement: Number of inhabitants

Technical note: Indicator prepared from information provided by the municipal environmental management body.

Source / reference: Agenda 21 System of Urban Indicators 2008. http://www.oma-malaga.com/docs/metodologia_y_significado.pdf

PERCENTAGE OF NATIVE SPECIES IN URBAN VEGETATION

Definition: This indicator measures the percentage of native vegetation species compared to the total number of species in the municipal territory. The existence of a large number of species of vegetation characteristic of the area results in the municipality's greater biodiversity and natural habitat maintenance.

Unit of measurement: Percentage (%)

Technical note: Information provided by the municipal environmental management body.

Source / reference: Agenda 21 System of Urban Indicators 2008. http://www.oma-malaga.com/docs/metodologia_y_significado.pdf



4

INDICATORS OF ENVIRONMENTAL IMPACTS

OVER-EXPLOITED AQUIFERS WITH SALINE INTRUSION AND/OR SOIL SALINIZATION OR BRACKISH GROUNDWATER

Definition: Number of overexploited aquifers with saline intrusion and/or salinization of soils, or brackish groundwater, by administrative hydrological region.

Unit of measurement: Number

Technical note: An aquifer is considered to be overexploited when withdrawal exceeds recharge by at least 10%. Saline intrusion: a mixture of salt water with fresh water from a water body. This may occur in bodies of both surface and groundwater; if the salt water comes from oceans it may be called oceanic water intrusion.

Source / reference: Water Statistics in Mexico. National Water Commission (CNA). Mexico. 2006. <http://www.semarnat.gob.mx>

THREATEND AND EXTINCT ANIMAL SPECIES (AMFIBIANS, BIRDS, MAMMALS, FISH AND REPTILES)

Definition: Amphibian, Bird, Mammal, Fish, Reptile species' numbers threatened, include all species of amphibians the World Conservation Union (IUCN) lists as threatened and known to occur in a given country. Threatened species data include those that are categorized as either "Critically Endangered", "Endangered", or "Vulnerable." IUCN categorizes a species as "Extinct" if there is "no reasonable doubt that the last individual [of that species] has died." IUCN also categorizes a taxon as "Extinct in the wild", when "it is known only to survive in cultivation, in captivity, or as a naturalized population (or populations) well outside the past range."

Unit of measurement: Number

Technical note: Data include unconfirmed species occurrences and regionally extinct species, but exclude subspecies and introduced species. The Global Amphibian Assessment has evaluated the status of the entire world's amphibian species, and they provided the assessments used on the IUCN Red List.

Source / reference: IUCN, Conservation International, and NatureServe. 2006. Global Amphibian Assessment. <http://www.globalamphibians.org>.

Extinct and extinct in the wild species data are from WCMC and World Conservation Union (IUCN), 1996 IUCN Red List of Threatened Animals (IUCN, Gland, Switzerland, 1996). http://www.wcmc.org.uk/species/animals/animal_redlist.html

International Union for Conservation of Nature and Natural Resources (IUCN). 2007. 2007 IUCN Red List of Threatened Species. Gland, Switzerland: IUCN. <http://www.redlist.org/info/tables/table5>

http://www.iucnredlist.org/info/2007RL_Stats_Table%201.pdf.

Inter-American Biodiversity Information Network Inter-American Biodiversity Information Network (IABIN) <http://www.iabin.net/es/>

THREATENED OR EXTINCT TREE AND PLANT SPECIES

Definition: Species of trees, number threatened, includes all species of trees categorized by the World Conservation Union (IUCN) as either “Critically Endangered”, “Endangered”, or “Vulnerable.” Plant species, number threatened, includes all species of plants (including mosses, ferns and allies, gymnosperms, monocotyledons, and dicotyledons) that are listed as threatened by the World Conservation Union (IUCN) and that are known to occur in a given country. Threatened species data include species that are categorized as either “Critically Endangered”, “Endangered”, or “Vulnerable.” IUCN categorizes a species as “Extinct” if there is “no reasonable doubt that the last individual of that species has died.” Categorizes a taxon as “Extinct in the wild”, when “it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range.

Unit of measurement: Number

Technical note: The number of threatened species listed for all countries includes full species that are categorized by IUCN as being critically endangered, endangered, or vulnerable. It excludes introduced species, species whose status is insufficiently known (categorized by IUCN as “data deficient”(DD)), those known to be extinct, and those which status has not been assessed (categorized by IUCN as “not evaluated”(NE)).

Source / reference: Number for threatened and extinct species of trees is from the Tree Conservation Database, World Conservation Monitoring Centre (WCMC). This database is used to generate The World List of Threatened Trees, compiled by the World Conservation Monitoring Centre, Sara Oldfield, Charlotte Lusty and Amy MacKiven (eds.), World Conservation Press, 1998.
http://www.wcmc.org.uk/trees/Background/country_stats.htm

The World List of Threatened Trees is done in collaboration with individuals and scientists worldwide, experts opinions from three regional workshops, and many organisations, notably the WCMC, and the Species Survival Commission of IUCN - The World Conservation Union and the Inter-American Biodiversity Information Network (IABIN)
<http://www.iabin.net/es/>

INVASIVE SPECIES

Definition: Invasive species are those that may be classified as new in a region and which may have a negative impact, whether environmental, social or economic. It is now recognized that the introduction of invasive species, whether accidentally or intentionally, is a major cause of loss of the planet’s biodiversity. Invasive species may compete directly with native species to use the habitat and resources, perhaps causing local extinction of native species.

Unit of measurement: Number

Technical note: The indicator is the total number of invasive species recorded in a specific ecosystem.

Source / reference: National Commission for Biodiversity Knowledge and Use. Information system on invasive species in Mexico. Mexico. 2008. Available at: <http://www.conabio.gob.mx/invasoras>
National Environmental and Natural Resources Information System (SNIARN) – Mexico.
<http://www.semarnat.gob.mx>
Inter-American Biodiversity Information Network (IABIN)
<http://www.iabin.net/es/>

FOREST AND GRASSLAND FIRES (ANNUAL NUMBER AND SURFACE AFFECTED)

Definition: Number of forest and grassland fires; area affected by type of forest vegetation.

Unit of measurement: Number of events and hectares affected.

Technical note: The indicator is the number of forest fires by type of vegetation in a given year; and the calculation of the area affected.

Source / reference: National Water Commission (CNA). Mexico. 2006. National Environmental and Natural Resources Information System (SNIARN) – Mexico. <http://www.semarnat.gob.mx>

WATER STRESS INDEX

Definition: The Water Poverty Index (WPI) measures, for a given country, the impact of water scarcity and water provision on human populations. WPI is a number between 0 and 100, where a low score indicates water poverty and a high score indicates good water provision.

Unit of measurement: Index Number 0-100; lower scores indicate water scarcity and poor water provision.

Technical note: WPI is the culmination of an interdisciplinary approach that combines both the physical quantities relating to water availability and the socio-economic factors relating to poverty to produce an indicator that addresses the diverse factors that affect water resource management. WPI includes five component indices: Resources, Access, Capacity, Use, and Environment. Each of these component indices is made up of sub-indices.

Source / reference: Natural Environment Research Council, Centre for Ecology and Hydrology. 2002. The Water Poverty Index: International Comparisons. Wallingford: Centre for Ecology and Hydrology. <http://www.nerc-wallingford.ac.uk/research/WPI/images/wdpaper.pdf>.

NUMBER OF EXTREME HYDROMETEOROLOGICAL EVENTS

Definition: Register of hydrometeorological phenomena capable of causing disasters recorded by year in a given territory. Included in this register are: hurricanes and tropical storms, storm surges and waves, tornadoes, rain and river floods, river levels, lakes, coastal waters and streams, droughts, thunderstorms, hail and snow, sand and dust storms

Unit of measurement: Number/year

Technical note: National information national available in the statistics of each country's meteorological service.

Source / reference: IPCC - Intergovernmental Panel on Climate Change. <http://www.ipcc.ch/>

NUMBER OF DAYS WHEN THE MAXIMUM PERMITTED CONCENTRATION IS EXCEEDED OF: CARBON MONOXIDE, SULPHUR DIOXIDE, NITROGEN OXIDES, TROPOSPHERIC OZONE AND PARTICULATE MATTER LESS THAN PM₁₀

Definition: Annual average of daily maximum concentrations of carbon monoxide, sulphur dioxide, nitrogen oxides, tropospheric ozone and particulate matter less than PM₁₀. Number of days by year in which the standard is exceeded.

Annual average of daily maximum concentrations: The average maximum values of daily concentrations. Annual average concentration: the arithmetic mean of all valid measurements recorded in the year.

Unit of measurement: Concentration: parts per million (ppm). Number of days.

Technical note: Carbon monoxide combines with haemoglobin in human beings, reducing their ability to carry oxygen and with harmful health effects. Other air pollutants cause irritation of mucous membranes and increase morbidity due to breathing problems in children under five years of age. The most serious diseases are respiratory infections, allergies and asthma. Exposure to high levels in pregnant women may harm the foetus.

The figures for these variables are obtained from records of monitoring stations, and in very special cases, by indirect estimates. Measurements are usually taken by random sampling and by chemically analysing air samples. These values are compared with local air quality statistical parameters, standards and guidelines.

Source / reference: Virtual sustainable development and environmental health library of the Pan-American Health Organization (PAHO): <http://www.cepis.ops-oms.org/metaiah/search.php>

ECLAC - Economic Commission for Latin America and the Caribbean

<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

National Environmental and Natural Resources Information System (SNIARN) – Mexico.

<http://www.semarnat.gob.mx>

NUMBER OF DAYS WHEN THE UV INDEX RECORDS HIGH AND EXTREME VALUES

Definition: Measuring the intensity of ultraviolet rays helps to anticipate and prevent radiation and to estimate the maximum exposure time in the sun, according to skin type. UV radiation is very dangerous to life in general and human health in particular, especially if there is prolonged exposure of the skin and eyes (skin cancer, melanoma, cataracts, and weakened immune system).

Annual average is the average of maximum daily values.

Annual mean concentration is the arithmetic mean of all valid measurements recorded in the year.

Unit of measurement: Scale of 0 to 15. Classified as follows: 0 to 4 (low); 5 to 7 (medium); 8 to 9 (high) and 10-15 (extreme).

Technical note: Measured by meteorological services or specialized centres.

Source / reference: Mexico City atmospheric monitoring system – REDMET. <http://www.sma.df.gob.mx/simat/pnredmet2.htm>

National ultraviolet measuring network – Physics Department, University of Santiago, Chile.

<http://www.indiceuv.cl/home.htm>

REGISTER OF ABNORMAL TEMPERATURES AND PRECIPITATION

Definition: Register of abnormal temperatures shows the number of days/year when abnormal maximum and minimum temperatures, with respect to the mean temperature for the time of year, are recorded.

An abnormal rainfall record expresses the amount of excess or lower precipitation with respect to the average rainfall for the time of year. Precipitation includes rain, snow, hail or any other hydrometeorological phenomenon.

Unit of measurement: Register of abnormal temperatures: Number of days/year.

Register of abnormal rainfall: Usually expressed in millimetres or in litres per square metres, which is the same, for the period.

Technical note: National information available in each country's meteorological statistics services.

Source / reference: World Meteorological Organization (WMO). World Climate Data and Monitoring Programme (WCDMP) http://www.wmo.int/pages/index_en.html

SURFACE AFFECTED BY SOIL DEGRADATION

Definition: Surface and percentage of the area affected by soil degradation processes resulting from human activities.

Unit of measurement: Hectares and percentage.

Technical note: Soil Degradation: processes induced by human activities that cause a decrease of biological productivity or biodiversity, as well as of present and/or future capacity to sustain human life (Oldeman, 1998). Chemical degradation: alteration of the soil's chemical properties due to changes in the original concentration of elements, substances or ions from processes of accumulation, leaching and runoff (Sims, 1986). Wind erosion: mass removal of loose soil caused by the action of the wind, and accelerated by the loss of the protective layer of vegetation (Fernández, 2003). Water erosion: process of disintegration, transport and sedimentation of soil particles by raindrops and runoff (Marelli, 2004). Physical degradation: deterioration of physical properties such as apparent density, texture, structure, aggregate stability and porosity (Fernández, 2003).

Source / reference: Oldeman, L.R. Guidelines for general assessment of the status of human-induced soil degradation. Working paper 88/4. International Soil Reference and Information Centre (ISRIC), Wageningen, 151 pp. 1998. Semarnat-Postgraduate College. Assessment of soil degradation caused by human activities in Mexico. Scale 1:250,000. Memoria Nacional. 2001-2002. Mexico, 2003. Fernández, L. Los Suelos Soils). University of Extremadura. Spain. 2003. Sims, R.C., Sims, J.L. Cleanup of contaminated soils. In: Utilization Treatment and Disposal of Waste on Land, Soil Science Society of America, Inc. Chapter 21, 257-277. 1985. Marelli, H. La erosión hídrica (Water erosion). Inst. Nac. de Tecn. Agrop. Arg. 2004.

National Environmental and Natural Resources Information System (SNIARN) – Mexico.

<http://www.semarnat.gob.mx>

SURFACE AFFECTED BY FOREST PESTS

Definition: Surface affected by forest pests. Forest Pests: insects or pathogens that cause mechanical or physiological damage to trees, such as deformations, stunted growth, weakening or even death of trees.

Unit of measurement: Hectares

Technical note: The indicator is the forest area affected by forest pests (bark beetles, defoliators, borers, mistletoe and others) in a given year. The others category refers to forest diseases which, because they are diverse and have a low impact, are included in a single category. Emphasized is the decline of oak, stem and root rust and rot, etc.

Pests and diseases that affect forests are considered in the list of indicators of the United Nations Montreal Process.

Source / reference: Semarnat. National Environmental and Natural Resources Information System 2002. Mexico. 2003. SNIARN) – Mexico. <http://www.semarnat.gob.mx>

SURFACE AFFECTED BY OVERGRAZING

Definition: Surface and percentage of national area affected by overgrazing, i.e. the practice of grazing too many cattle for a long time on land that cannot recover its vegetation, or is unsuitable for grazing.

Unit of measurement: Hectares and percentage

Technical note: The area identified as overgrazed includes forests, woodlands, and other land where cattle are grazed. Overgrazing is considered to be a biophysical desertification indicator by ECLAC and in FAO's Livestock Environment and Development (LEAD).

Source / reference: National Environmental and Natural Resources Information System (SNIARN) – Mexico. <http://www.semarnat.gob.mx>

DEFORESTED AREA

Definition: This variable shows the area of deforested land. Deforestation is the conversion of forests to other land use, or the reduction of crown cover to less than the 10% limit. Deforestation means the permanent loss of forest cover and implies changing to another land use. This loss can be caused and maintained by human-induced or natural disturbance. Deforestation includes areas of forest converted to agriculture, pasture, water reservoirs and urban areas.

Unit of measurement: Hectares

Technical note: A census made by means of a mapping technique. This technique uses satellite images and aerial photographs, thus creating geographic materials that allow all population being studied to be delimited, interpreted, processed and measured. It uses a double entry matrix: one entry contains the classes of use in the year of reference, and the other contains the classes of use in the base year. Land use mapping is used (both dates) extracting only the forest use classes (forest, mangroves and shrubs) and reclassifying them as "forest", and every other kind of use as "non forest"

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean. <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

VARIATION IN GLOBAL TEMPERATURE

Definition: The global temperature anomaly is a measure of how much warmer or colder than normal it is at a particular place and point in time. In this case, the “normal temperature” is defined as the mean over a 30-year time period (1951-1980) and anomaly values are reported as annual (January-December) global means.

Unit of measurement: Degrees Centigrade (°C)

Technical note: The NASA GISS Surface Temperature Analysis (GISTEMP) provides a measure of the changing global surface temperature with monthly resolution for the period since 1880, when a reasonably global distribution of meteorological stations was established.

Source / reference: Goddard Institute for Space Studies (GISS). 2006. NASA GISS Surface Temperature Analysis (GISTEMP). New York: GISS. <http://data.giss.nasa.gov/gistemp/>.



**INDICATORS OF ENVIRONMENTAL EXPOSURE
AND VULNERABILITY**

AVAILABILITY OF CALORIES (TOTAL AND ANIMAL ORIGIN) PER INHABITANT AND PERCENTAGE OF THE POPULATION BELOW THE MINIMUM NECESSARY CALORIC INTAKE

Definition: Calorie supply per capita refers to the amount of available food, expressed in calories per person, per day. Calorie supply from animal products per capita refers to the amount of food from animal products, expressed in calories per person, per day. Animal products include: all types of meat and fish; animal fats and fish oils; edible offal; milk, butter, cheese, and cream; and eggs and egg products.

Population below the minimum level of energy consumption from food expresses the percentage of the total population with chronic food insecurity. This means those who are underfed and whose consumption of energy is permanently below the minimum food energy needed to lead a healthy life and engage in light physical activity.

Unit of measurement: Calorie supply per capita: kilocalories/person/day (1 kilocalorie = 1 Calorie = 4.19 kilojoules).

Population below the minimum level energy consumption from food: Percentage (%)

Technical note: Per capita supplies are derived from the total supplies available for human consumption (i.e. Food) by dividing the quantities of food by the total population actually partaking of the food supplies during the reference period, i.e. the present in-area (de facto) population within the present geographic boundaries of the country.

Per capita supply figure shown in the commodity balances therefore represent only the average supply available for the population as a whole and do not necessarily indicate what is actually consumed by individuals.

In many cases commodities are not consumed in the primary form in which they are presented, e.g. cereals enter the household mainly in processed form like flour, meal, husked or milled rice. To take this fact into account, the caloric value against primary commodities have been derived by applying the appropriate food composition factors to the quantities of the processed commodities and not by multiplying the quantities shown in the commodity balances of the food composition factors.

Estimating the proportion of the population with insufficient food (sub-fed) involves specifying the distribution of energy consumption from food (in kilocalories), considering the total food available (from food balance sheets and household budget surveys) and inequality in access to food (household budget survey).

Source / reference: Food and Agriculture Organization of the United Nations (FAO), FAOSTAT on-line statistical service. FAO: Rome, 2004. <http://apps.fao.org>.

HYGIENE HABITS

Definition: This indicator measures the frequency with which a population being studied practises the: (i) cleaning teeth; (ii) washing hands before eating; (iii) washing hands after going to the bathroom; (iv) washing hands with soap.

Unit of measurement: Percentage (%)

Technical note: In general, the survey consists of three valid options for each item (always; sometimes or frequently; never). The results are often presented disaggregated or, alternatively, may be expressed synthetically as "Good", "Regular" and "Bad" hygiene habits.

Source / reference: Ministry of Health, Brazil- PAHO/WHO. Avaliação de impacto na saúde das ações de saneamento: marco conceitual e estratégia metodológica (Assessing the impact on health of sanitation actions: conceptual framework and methodological strategy). Brasília, 2004.

http://www.opas.org.br/sistema/arquivos/Mnl_Impac.pdf

Ministry of Education, Chile – National Student Aid and Scholarship Board (JUNAEB).

<http://apolo.junaeb.cl/gxpsites/agxppdwn?5,6,35,O,S,0,226%3B%3B1%3B71>

Ministry of Education, Peru. Matriz de indicadores de evaluación de instituciones educativas para el desarrollo sostenible. (Matrix of assessment indicators of educational institutions for sustainable development).

http://www2.minedu.gob.pe/educam/xtras/download.php?link=matriz_indicadores_logros_ambientales_ie.xls

INDEX OF HOUSEHOLD INFESTATION BY COCKROACHES, MOSQUITOES AND RODENTS

Definition: The Index of Household Infestations (IHI) for cockroaches, mosquitoes and rodents is usually expressed as the percentage of cases where the presence of these species is detected in all the houses inspected.

Unit of measurement: Percentage (%)

Technical note: The calculating formula is:

$$\text{IHI} = (\text{N}^\circ \text{ of positive houses} / \text{N}^\circ \text{ of houses inspected}) \times 100$$

In the specific case of infestation by the mosquito *Aedes aegypti*, vector of the dengue fever virus, the percentage of houses infected with the mosquito larvae is expressed. The larvae may be found in water deposits or containers with water. In those cases the infestation indexes may be expressed either as the number of deposits or containers testing positive for the presence of the larva out of each 100 inspected.

Source / reference: Pan-American Health Organization (PAHO). Dengue Fever and Dengue Hemorrhagic Fever in the Americas: Guidelines for Prevention and Control Washington, DC: PAHO, Scientific publication 1995.

National Hygiene, Epidemiology and Microbiology Institute (INHEM). Havana, Cuba

<http://www.bvsde.paho.org/bvsacd/conven/raisa.pdf>

POPULATION AT RISK OF MALARIA

Definition: Percentage of population living in areas at moderate and high risk of malaria transmission, expressed as a percentage of the population in a given country, territory or geographic area. Areas at moderate and high risk of zoonosis transmission are those in which the annual parasite index (API) (= number of confirmed cases / 1 000 inhabitants) is between 1-10/1.000 and above 10 per thousand respectively. Areas of low transmission have an API below 1 per 1 000 inhabitants.

Unit of measurement: Percentage (%)

Technical note: Data are provided by country offices and WHO/PAHO regional technical programmes based on information reported by national monitoring and disease control systems.

Source / reference: Pan-American Health Organization, Health Analysis and Statistics Unit (HA). Regional Core Health Data Initiative; Glossary of Indicators. Washington DC, 2004.

<http://www.paho.org/spanish/sha/glossary.htm>

<http://www.paho.org/Spanish/SHA/coredata/tabulator/newTabulator.htm>

POPULATION WITH SUSTAINABLE ACCESS TO IMPROVED DRINKING WATER SUPPLY SOURCES, BY URBAN AND RURAL AREA

Definition: Percent of the population with access to improved healthy drinking water supply.

Unit of measurement: Percentage (%)

Technical note: The Joint Monitoring Programme (WHO-UNICEF) defines access to water supply in terms of the types of technologies and levels of services offered. It also defines access to water supply services as availability of at least 20 litres per person per day from an “improved” source within a kilometre of the user’s housing unit. Improved sources, it indicates, are all those that regularly provide healthy water. Defined as “improved” water supply technologies are: household connection, public source, borehole, protected dug well, protected spring, rainwater collection.

Source / reference: WHO/UNICEF - World Health Organization and United Nations Children’s Fund. Joint Monitoring Programme for Water Supply and Sanitation.

<http://www.wssinfo.org/en/welcome.html>.

POPULATION LIVING WITH HIV/AIDS (ADULTS AND CHILDREN) AND ANTIRETROVIRAL THERAPY COVERAGE

Definition: Adults and children living with HIV is an estimate of the total number of adults (aged 15 years and older) and children (aged 0-14) infected with HIV, whether or not they have developed symptoms of AIDS, alive at the end of the year specified.

Antiretroviral therapy coverage is the percentage of people with advanced HIV infection receiving antiretroviral combination therapy (ARV or ART) according to nationally approved treatment protocol (or World Health Organization/Joint United Nations Programme on HIV/AIDS standards) among the estimated number of people with advanced HIV infection.

Unit of measurement: Population living with HIV/AIDS: Number

Antiviral therapy coverage: Percentage (%)

Technical note: UNAIDS/World Health Organization (WHO) estimates are based on all pertinent, available data—including surveys of pregnant women, population-based surveys (conducted at the household level), sentinel surveillance, case reporting, vital registration systems (the official recording of births and deaths), as well as other surveillance information. Sentinel surveillance involves the collection of HIV prevalence and detailed risk behaviour information from individuals considered high risk at sentinel sites including health facilities (e.g. antenatal clinics (ANC), sexually transmitted infection (STI) clinics) or in communities or sub-population groups such as sex workers or injecting drug users.

Source / reference: Joint United Nations Programme on HIV/AIDS (UNAIDS). 2006. Report on the global AIDS epidemic. Geneva: UNAIDS. Available online at http://www.unaids.org/en/HIV_data/2006GlobalReport/default.asp.

POPULATION LIVING IN SLUMS

Definition: Population living in slums as a percentage of the urban population. Households in marginalized districts are defined as a group of people living under the same roof and lacking one or more of the following: access to good water supply and sanitation, enough room, permanence of housing and security of tenure.

Unit of measurement: Percentage (%).

Technical note: Data provided by the United Nations in 1990 and 2001. Since information on security of tenure is not available for most countries, only the other four conditions are used to define households in marginalized districts, to then estimate the proportion of the urban population living in slums.

Source / reference: UNSD – United Nations Statistics Division. Database on Millennium Development Goals – <http://mdgs.un.org/unsd/mdg/Data.aspx>.

PERCENTAGE OF INDIGENOUS PEOPLE SPEAKING ONLY AN INDIGENOUS LANGUAGE

Definition: This indicator measures the proportion of the indigenous population speaking only an indigenous language. That there are people speaking only an indigenous language and the importance of this indicator may be interpreted in two ways: on the one hand, they are indigenous people who are more adaptable to outside influences while retaining their traditional culture, even in some cases implying a high degree of ethnic conscience; and, on the other, groups socially excluded because they do not know the dominant language of the country where they live.

Unit of measurement: Percentage (%).

Technical note: The spoken language is categorized in different ways depending on the census used. The indicator is calculated by dividing the total indigenous population speaking an indigenous language by the total indigenous population, multiplied by 100. It may be disaggregated by ages (0-14, 15-24; 25-49; 50 and over), by sex and area where they live.

Source / reference: System of Socio-demographic Indicators for Indigenous Populations and Peoples (SISPP). <http://www.sisppi.org/redatam/PRYESP/SISPP/>

PERCENTAGE OF CHILDREN UNDER 5 YEARS OF AGE OF BELOW NORMAL HEIGHT

Definition: The percentage of children of below normal height (either moderate or serious) refers to the number of children under 5 years of age (0-59 months) with a height below what is normal for their age. A child is considered of low height if the height-age relationship is below -2 of standard deviations from the average height of the international reference population.

Unit of measurement: Percentage (%).

Technical note: This indicator is constructed by dividing the number of boys and girls under five years of age with a moderate and serious height /age (H/A) relationship (numerator) by the total of boys and girls under 5 years of age (denominator). The result is multiplied by 100. Figures collected by UNICEF and provided by the countries, 1976-2005.

Source / reference: UNICEF - United Nations Children's Fund. Childinfo: Monitoring the situation of children and women <http://www.childinfo.org/>

PERCENTAGE OF CHILDREN UNDER 5 YEARS OF AGE WITH MODERATE OR SERIOUS NUTRITIONAL DEFICIT

Definition: Number of cases of children under five years of age with moderate or serious nutritional deficiency detected in a given year, expressed as a percentage of the corresponding population at midyear for a given country, territory or geographic area. Moderate and serious nutritional deficiency in children under five years of age is defined as being the ratio of weight for age (W/A) of minus two (-2DE) below the mean reference standard.

Unit of measurement: Percentage (%)

Technical note: Data are provided by the country offices and WHO/PAHO regional technical programmes based on information reported by national health information systems.

Source / reference: Pan-American Health Organization, Health Analysis and Statistics Unit (HA). Regional Health Core Base Initiative; Glossary of Indicators. Washington, DC, 2004.

<http://www.paho.org/spanish/sha/glossary.htm>

PERCENTAGE OF OVERWEIGHT ADULTS

Definition: Number of cases of overweight recorded at a specified point in time, in the adult population from 20 to 74 years of age, total or for a given sex, expressed as a percentage of that population, for a given year; in a given country, territory or geographic area. The body mass index (BMI) is an anthropometric measurement defined as the ratio between the weight measured in kilograms and the square of the height measured in metres. Overweight is defined as BMI equal to or greater than 25 Kg/m².

Unit of measurement: Percentage (%)

Technical note: Data are provided by the country offices and WHO/PAHO regional technical programmes. The data come from national or sub-national surveys and the age groups can vary. Data are disaggregated between men and women.

Source / reference: Pan-American Health Organization, Health Analysis and Statistics Unit (HA). Regional Health Core Base Initiative; Glossary of Indicators. Washington, DC, 2004.

<http://www.paho.org/spanish/sha/glossary.htm>

PERCENTAGE OF LOW BIRTH WEIGHTS

Definition: Number of live births with a weight below 2 500 grams, measured at time of birth or within the first hours of life, before significant post-natal weight loss has occurred, expressed by 100 live births in a given year; in a given country, territory or geographic area.

Unit of measurement: Percentage (%)

Technical note: Data are provided by the country offices and WHO/PAHO regional technical programmes based on information reported by national health information systems.

Source / reference: Pan-American Health Organization, Health Analysis and Statistics Unit (HA). Regional Health Core Base Initiative; Glossary of Indicators. Washington, DC, 2004.

<http://www.paho.org/spanish/sha/glossary.htm>

PERCENTAGE OF DEATHS CERTIFIED WITH ILL DEFINED OR UNKNOWN CAUSE OF DEATH

Definition: Number of death certificates issued in a given year with the basic cause ill-defined or unknown as to signs, symptoms and morbidity (codes 780-799 of ICD-9 codes R00-R99 of CD-10), expressed as a percentage of total deaths for the same year, in a given country, territory or geographic area.

Unit of measurement: Percentage (%)

Technical note: This is usually a much appreciated indicator to measure the quality of the Death Register; one of the most important pieces of epidemiological information when public health policies are formulated. The maximum allowed value is up to 5%.

Source / reference: Pan-American Health Organization, Health Analysis and Statistics Unit (HA). Regional Health Core Base Initiative; Glossary of Indicators. Washington, D.C, 2004.

<http://www.paho.org/spanish/sha/glossary.htm>

JCCLM – Government of Castilla La Mancha. Non-transmissible diseases epidemiology section. http://pagina.jccm.es/sanidad/ics/MemorialCS2005/archivos/7.2.Epidemiologia_No_Transmisible.pdf

PERCENTAGE OF THE IMMUNIZED POPULATION UNDER 1 YEAR

Definition: Number of children who, on completing their first year of life, have received three doses of oral polio vaccine (OPV); one dose of measles vaccine (usually in combination with mumps and rubella - MMR), three doses of tetanus DPT (diphtheria, pertussis and tetanus) and a dose of tuberculosis vaccine BCG (Bacillus Calmette-Guerin) expressed as a percentage of the population of children under one year of age at midyear for a specified year, in a given country, territory or geographic area.

Unit of measurement: Percentage (%)

Technical note: Coverage of 100% reported as 99%. Data are provided by the country offices and WHO/PAHO regional technical programmes based on information reported by national disease prevention and control systems

Source / reference: Pan-American Health Organization, Health Analysis and Statistics Unit (HA). Regional Health Core Base Initiative; Glossary of Indicators. Washington, DC. 2004.

<http://www.paho.org/spanish/sha/glossary.htm>

<http://www.paho.org/Spanish/SHA/coredata/tabulator/newTabulator.htm>

PERCENTAGE OF THE POPULATION UNDER 15 AND OVER 60 YEARS OF AGE

Definition: Percentage of the total population of a country, territory or geographic area under 15 or over 60 years of age, total for a given sex and at a specified time period, usually midyear.

Unit of measurement: Percentage (%)

Technical note: United Nations population data represent values estimated at midyear; obtained by linear interpolation of quinquennial population projections for the United Nations that use the medium fertility variant. The indicator may be disaggregated by men and women.

Source / reference: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, 2005. World Population Prospects: The 2004 Revision.

<http://www.un.org/esa/population/ordering.htm>

DEPENDENCE RATIO

Definition: Average number of economically dependent people for every 100 who are economically productive, for a given country, territory or geographic area at a specified period. In demographic terms, the economically dependent population is defined as the sum of the population under 15 years of age plus the population over 65 years of age, for a given country, territory or geographic area at a given point in time, usually midyear.

Unit of measurement: Percentage (%)

Technical note: The total dependency ratio is the ratio between the population groups (0-14 + population 65 years and over) in the numerator, divided by the population of 15-64 years of age in the denominator, multiplied by 100.

The indicator may be disaggregated by dependent groups (under 15 years and over 65 years) and by sex.

Source / reference: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. www.un.org/esa/population/ordering.htm

CHILDREN'S SOCIAL SECURITY COVERAGE RATE

Definition: Measures the percentage of the population from 5 to 13 years of age with some social protection coverage. The population between 14 and 17 is classified as adolescent.

Unit of measurement: Percentage (%)

Technical note: Social security implies having access to medical care and income security, particularly in cases of old age, unemployment, sickness, incapacity, work accidents or occupational diseases, maternity, or loss of the family's main income provider. According to ILO only 20% of the world population has adequate social security and half has no coverage.

Source / reference: ILO – International Labour Organization. International Programme on the Elimination of Child Labour. Latin America and the Caribbean.

<http://white.oit.org.pe/ipec/index.php>

ILO – International Labour Organization. Regional Office for Central America, Haiti, Panama and the Dominican Republic. Database for Decent Work Indicators. Child Labour.

http://www.oit.or.cr/estad/td/infantil_indic.php

SCHOOL ATTENDANCE RATE FOR WORKING CHILDREN

Definition: Measures the percentage of the population from 5 to 13 years of age engaged in some kind of work and is attending school. The population between 14 and 17 years is classified as adolescent.

Unit of measurement: Percentage (%)

Technical note: The term “child labour” is often defined as work that deprives boys, girls or adolescents of their childhood, their potential and their dignity, and harms their physical and mental development. It refers to work that is: physically, mentally, socially or morally damaging or harmful to children and interferes with their education by depriving them of the opportunity to attend school, forcing them to prematurely leave the classroom, or expecting them to combine school attendance with long hours of hard work

Source / reference: ILO – International Labour Organization. International Programme on the Elimination of Child Labour. Latin America and the Caribbean.

<http://white.oit.org.pe/ipec/index.php>

ILO – International Labour Organization. Regional Office for Central America, Haiti, Panama and the Dominican Republic. Database for Decent Work Indicators. Child Labour.

http://www.oit.or.cr/estad/td/infantil_indic.php

CHILD LABOUR (HOURS WORKED PER WEEK, BY SEX, AGE, ACTIVITY AND WORKPLACE DANGERS)

Definition: Measures the number of children (or the percentage of the population between 5 and 13 years) doing some work in the week of reference. The indicator may be disaggregated by the number of hours worked per week, sex, age, activity and workplace dangers. The population between 14 and 17 is classified as adolescent.

Workplace dangers refer to labour situations that expose children to physical, psychological or sexual abuse, work underground, underwater, at dangerous heights or in confined spaces; work with dangerous machinery, equipment and tools, or that involves manual handling or transporting heavy weights; work in an unhealthy environment that could, for example, expose boys and girls to hazardous substances, agents, or processes; work at temperatures, noise levels or vibrations that harm their health; work under particularly difficult conditions such as long hours, night work, or work where the child is confined.

Unit of measurement: Number or percentage.

Technical note: Not all work done by children should be classified as child labour. Children can take part in activities that help their development and their families’ well-being and that let them learn capacities and gain experience, and that helps to prepare them to become productive members of society when they are adults. This includes activities such as helping their parents at home or in a family business, or earning pocket money outside school hours and during school holidays. The term “child labour” is often defined as work that deprives children, boys and girls, or adolescents of their potential and their dignity and is harmful to their physical and mental health. In its most extreme forms, child labour implies boys, girls or adolescents being enslaved, separated from their families, exposed to serious risks and diseases and/or abandoned to look out for themselves on the streets of large cities, often at a very early age.

Source / reference: ILO – International Labour Organization. International Programme on the Elimination of Child Labour. Latin America and the Caribbean.

<http://white.oit.org.pe/ipec/index.php>

ILO - International Programme on the Elimination of Child Labour (IPEC) Database.

<http://www.ilo.org/ipec/ChildlabourstatisticsSIMPOC/lang--en/index.htm>

USE OF ALCOHOL, ILLICIT DRUGS AND TOBACCO (ADOLESCENTS AND ADULTS BY SEX)

Definition: Alcohol consumption per capita is the estimated amount of pure ethanol, in litres, of total alcohol consumed per adult (15 years and older) in a country during a calendar year. Data include consumption of beer, wine, and spirits. Beer includes barley, maize, millet and sorghum beer. Other beverage categories, such as palm wine, vermouths, cider, and fruit wines may also be included.

There are three main types of illicit drugs, classified according to the effect the drug has on the central nervous system: depressants, stimulants and hallucinogens. According to UN's report, the illicit drugs that constitute the biggest problem continue to be opiates, mainly heroin, and cocaine. Also common illicit drugs ever used are marijuana/cannabis, meth/amphetamines, hallucinogens, ecstasy, and pain-killers/analgesics for non-medical purposes.

The prevalence of current tobacco smoking (including cigarettes, cigars, pipes or any other smoked tobacco products). "Current smoking" includes both daily and non-daily or occasional smoking.

The prevalence of the use of illicit drugs and/or tobacco refers to the number of people (by age groups) who used any amount of those products during the 30 days prior to the survey, expressed as a percentage of that population, in a specified time period, either total or by sex, for a given year, in a given country, territory or geographic area.

Unit of measurement: Alcohol: litres per inhabitant over 15 years of age.

Prevalence of tobacco and illicit drug use: Percentage by age groups.

Technical note: Alcohol consumption per capita data are calculated from official statistics on production, sales, import, and export, taking into account stocks whenever possible. The total volume of ethanol consumed is estimated using the following conversion factors: 5% for beer, 12% for wine, and 40% for spirits of alcohol. Per capita alcohol consumption estimates cannot reflect population drinking patterns but have been found to be a good proxy for heavy drinking in a population, particularly within developing countries.

Determining the prevalence of tobacco or illicit drug use is an important measurement of the economic burden and the illnesses these substances cause, in addition to providing information to assess the effectiveness of preventive policies that may be applied.

Alcohol's global health impact is on par with unsafe sex and above tobacco use in terms of its contribution to the total number of years of life lost to death and disability.

Data are collected from FAOSTAT-The United Nations Food and Agriculture Organization's Statistical Database, World Drink Trends, and in certain instances, national governments.

Source / reference: World Health Organization (WHO). 2005. Global Alcohol Database. Geneva: WHO.

<http://www.who.int/globalatlas/default.asp>.

UNODC – United Nation Office on Drugs and Crime- World Drug Report - Global Illicit Drug Trends.
<http://www.unodc.org/unodc/en/data-and-analysis/WDR.html>

HOUSEHOLD SOLID FUELS USE

Definition: Solid fuel use measures the percentage of the total population that burn solid fuels in their households, primarily for cooking fuel. Solid fuels include coal or biomass fuels such as wood, charcoal, agricultural residues, and animal dung. Combustion of solid fuels in traditional stoves causes high levels of indoor air pollution (IAP), emitting dangerous pollutants such as carbon monoxide and particulates. IAP from solid fuel use is therefore a serious health concern. Prolonged exposure to IAP can lead to acute lower respiratory infections, chronic obstructive pulmonary disease, and lung cancer. Women and children are most susceptible due to household roles.

Unit of measurement: Percentage (%)

Technical note: Data come directly from national surveys or censuses.

Source / reference: World Health Organization (WHO). 2006. Global Health Atlas: World Health Statistics. Geneva: WHO. <http://www.who.int/GlobalAtlas/>.

OVERCROWDED HOUSEHOLDS

Definition: Percentage of private homes where more than three people occupy a shared bedroom.

Unit of measurement: Percentage (%).

Technical note: The criterion to define overcrowding may differ from that used in national sources; it helps to make comparisons between countries (by setting the limit of more than three people for all cases). The indicator is disaggregated into urban-rural.

Source / reference: System of Socio-demographic Indicators for Indigenous Populations and Peoples (SISPP). http://www.sisppi.org/redatam/PRYESP/SISPP/Webhelp/vivienda_y_saneamiento.htm



INDICATORS OF HEALTH EFFECTS

6-1 ENVIRONMENTAL DISEASE BURDEN

YEARS OF LIFE LOST DUE TO DISABILITIES CAUSED BY WATERBORNE DISEASES

Definition: Indicator that measures both death and disability attributable to a particular disease, in this case waterborne diseases, since it combines premature death and the years lived with disability, to give an index of the total burden of the particular disease. This specific case of transmissible diseases is of great importance as an environmental burden of disease in the population under five years of age.

Unit of measurement: Index

Technical note: The DALY has emerged as a measure of the disease burden and reflects the total healthy life lost due to all causes, whether premature death or some degree of disability over a period. These disabilities may be physical or mental. The use of the DALY is to assist in (i) setting health service priorities, (ii) identifying and targeting disadvantaged health groups and (iii) providing a comparable measure of output to assess and plan the sector's intervention.

Source / reference: Global burden of disease and risk factors. Lopez AD, Mathers CD, Ezzati M, Murray CJL, Jamison DT. Global burden of disease and risk factors. New York, Oxford University Press, 2006.

WHO Statistical Information System (WHOSIS). <http://www.who.int/whosis/indicators/compendium/2008/Ihat/en/>
WHO Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease. http://www.who.int/quantifying_ehimpacts/publications/preventingdisease/en/index.ht

YEARS OF LIFE LOST DUE TO DISABILITIES CAUSED BY RESPIRATORY DISEASES

Definition: Indicator that measures both death and disability attributable to a particular disease, in this case acute and chronic respiratory diseases, given that it combines premature mortality and years lived with disability, to propose an index of the total burden of the particular disease. Diseases of this type (including transmissible and non-transmissible) are of great importance in the environmental burden of disease in the population under five years of age and in people over 60 years of age.

Unit of measurement: Index

Technical note: The DALY has emerged as a measure of the burden of disease and reflects all healthy life lost from all causes, whether premature death or some degree of disability over a period. These disabilities may be physical or mental. The DALY is used to assist in (i) setting health service priorities, (ii) identifying and targeting disadvantaged health groups and (iii) providing a comparable measure of output to assess and plan the sector's intervention.

Source / reference: Global burden of disease and risk factors. Lopez AD, Mathers CD, Ezzati M, Murray CJL, Jamison DT. Global burden of disease and risk factors. New York, Oxford University Press, 2006.

WHO Statistical Information System (WHOSIS). <http://www.who.int/whosis/indicators/compendium/2008/Ihat/en/>
WHO Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease. http://www.who.int/quantifying_ehimpacts/publications/preventingdisease/en/index.html

YEARS OF LIFE LOST DUE TO DISABILITIES CAUSED BY TRANSMISSIBLE DISEASES

Definition: Indicator that measures both death and disability attributable to a particular disease, in this case transmissible diseases, since it combines premature death and years lived with disability, to propose an index of the total burden of the particular disease. The most serious diseases in each country are of compulsory notification. Some of them may be prevented with vaccination (such as diphtheria, influenza, meningitis by *Haemophilus influenzae* type B). Included are sexually transmitted diseases (STDs) like syphilis and HIV; viral hepatitis; waterborne and food transmissible diseases (such as leptospirosis, salmonellosis, cholera); transmissible through the air (such as influenza, tuberculosis) or as zoonosis and vector-borne diseases (such as brucellosis, dengue and other hemorrhagic fevers).

Unit of measurement: Index

Technical note: The DALY has emerged as a measure of the burden of disease and reflects all healthy life lost to all causes, whether from premature death or some degree of disability over a period. These disabilities may be physical or mental. The DALY is used to assist in (i) setting health service priorities, (ii) identifying and targeting disadvantaged health groups and (iii) providing a comparable measure of output to assess and plan the sector's intervention.

Source / reference: Global burden of disease and risk factors. Lopez AD, Mathers CD, Ezzati M, Murray CJL, Jamison DT. Global burden of disease and risk factors. New York, Oxford University Press, 2006.

WHO Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease. http://www.who.int/quantifying_ehimpacts/publications/preventingdisease/en/index.html

WHO Statistical Information System (WHOSIS). <http://www.who.int/whosis/indicators/compendium/2008/1hat/en/>

Ministry of Health, Chile. Regulation on the mandatory notification of transmissible diseases. http://200.68.11.211/web/158_de_2004.doc.

European Commission: Communicable diseases and special health issues to be progressively covered by the community network. http://ec.europa.eu/health/ph_threats/com/comm_diseases_annexe1.pdf

YEARS OF LIFE LOST DUE TO DISABILITIES CAUSED BY POISONING

Definition: Indicator that measures both death and disability attributable to a disease or particular health condition, in this case chronic and acute poisoning, since it combines premature death and years lived with a disability, to propose an index of the total burden of the particular disease. Poisonings are of great significance as an environmental disease burden. In Latin America and the Caribbean, environmental exposures to toxic substances most frequently relate to the use of pesticides, emissions that contain toxic substances and/or heavy metals, and settlements built on environmental liability areas.

Unit of measurement: Index

Technical note: The DALY has emerged as a measure of the burden of disease and reflects all healthy life lost to all causes, whether from premature death or some degree of disability over a period. These disabilities may be physical or mental. The DALY is used to assist in (i) setting health service priorities, (ii) identifying and targeting disadvantaged health groups and (iii) providing a comparable measure of output to assess and plan the sector's intervention.

Source / reference: Global burden of disease and risk factors. Lopez AD, Mathers CD, Ezzati M, Murray CJL, Jamison DT. Global burden of disease and risk factors. New York, Oxford University Press, 2006.

WHO – World Health Organization - Inter-Organization Programme for the Sound Management of Chemicals (IOMC). <http://www.who.int/iomc/en/index.html>

WHO Statistical Information System (WHOSIS). <http://www.who.int/whosis/indicators/compendium/2008/1/hat/en/>

WHO Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease. http://www.who.int/quantifying_ehimpacts/publications/preventingdisease/en/index.html

YEARS OF LIFE LOST DUE TO DISABILITIES CAUSED BY NEOPLASIAS

Definition: Indicator that measures both death and disability attributable to a disease, in this case neoplasia, since it combines premature death and years lived with a disability, to propose an index of the total burden of the particular disease. Although it is difficult to establish causal connections between environmental exposures and the incidence of neoplasias, this information may be very relevant in local studies of industrial pollution, the use of pesticides and environmental liabilities.

Unit of measurement: Index

Technical note: The DALY has emerged as a measure of the burden of disease and reflects all healthy life lost to all causes, whether from premature death or some degree of disability over a period. These disabilities may be physical or mental. The DALY is used to assist in (i) setting health service priorities, (ii) identifying and targeting disadvantaged health groups and (iii) providing a comparable measure of output to assess and plan the sector's intervention.

Source / reference: Global burden of disease and risk factors. Lopez AD, Mathers CD, Ezzati M, Murray CJL, Jamison DT. Global burden of disease and risk factors. New York, Oxford University Press, 2006.

WHO Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease. http://www.who.int/quantifying_ehimpacts/publications/preventingdisease/en/index.html

WHO Statistical Information System (WHOSIS). <http://www.who.int/whosis/indicators/compendium/2008/1/hat/en/>

WHO Global InfoBase Online: Data on chronic diseases and their risk factors for all WHO Member States <http://www.who.int/infobase/report.aspx>

Shelley Callahan, Lilian Corra, Louise Hanvey, Mariana Leoni, Verónica Monti. Chapter 2: Salud infantil and ambiente (Chile health and the environment). In: Perfil de la Salud Ambiental de la Niñez Argentina (Profile of the Environmental Health of Argentinean Children). SANA 2007, a joint publication of the Ministry of Health of Argentina, The Argentinean Paediatric Association, the Argentinean Association of Environmental Doctors (AAMMA) and the Canadian Institute of Child Health (CICH). 2007: Pp.102-107.

<http://www.aamma.org/wp-content/uploads/2009/05/perfil-sana.pdf>

6-2 MORBIDITY

CONCENTRATION IN SERUM, BLOOD AND/OR URINE OF POLLUTING SUBSTANCES OR THEIR METABOLITES (ARSENIC, BERYLLIUM, CADMIUM, CHROMIUM, LEAD, MERCURY, AND OTHERS)

Definition: Definition: Serum, blood or urine concentration respectively represent the amount of a particular substance found in a given volume of blood serum compared to the total blood (blood serum plus the content of haemocytes) or of the volume of urine urinated in 24 hours.

Unit of measurement: Serum and blood concentrations are generally expressed in micrograms per decilitre (mg/dl). Urinary concentrations can be expressed in micrograms per gram of creatine excreted (mg g creatine) or micrograms per litre (mg/l).

Technical note: Trace elements such as arsenic, beryllium, cadmium, chromium, lead, and mercury are usually dosed as such, while other substances (such as dichloride diphenyl trichloro ethane - DDT) may be dosed as such or by measuring one of their metabolites (substances produced by enzymatic modification in the body during the biochemical elimination process).

Source / reference: Government of the United States of America - Agency for Toxic Substances and Disease Registry ATSDR. www.atsdr.cdc.gov/es/

WHO – World Health Organization - Inter-Organization Programme for the Sound Management of Chemicals (IOMC). <http://www.who.int/iomc/en/index.html>

European Environment and Health Information System. http://www.enhis.org/object_binary/o2800_Guidelines_indicator_methodology_V3_uneditedVersion.pdf

Environmental Toxicology Laboratory. Faculty of Medicine. Autonomous University of San Luis Potosí. <http://ambiental.uaslp.mx/docs/FDB-ResPeligrosos.pdf>

INCIDENCE OF SMEAR-POSITIVE TUBERCULOSIS (BK+)

Definition: Number of new cases of smear-confirmed tuberculosis in a given year, expressed per 100 inhabitants, for a given country, territory or geographic area.

Unit of measurement: Number per 100 thousand inhabitants

Technical note: Secondary data provided by country offices and technical regional programmes of WHO/PAHO, based on information reported by the National Tuberculosis Programmes (NTP). The indicator may be disaggregated by age and sex.

Source / reference: Pan-American Health Organization Health Analysis and Statistics Unit (HA). Regional Initiative of Core Health Data; Glossary of Indicators. Washington DC, 2004. <http://www.paho.org/spanish/sha/glossary.htm>

DMFT INDEX (DECAYED, MISSING AND FILLED TEETH) AT 12 YEARS OF AGE

Definition: Average number of permanent decayed, missing and filled teeth (DMFT) at the age of 12, for a specified year, in a given country, territory or geographic area.

Unit of measurement: Number of teeth

Technical note: Secondary data provided by country offices and WHO/PAHO technical regional programmes based on information reported by national health information systems. The indicator may be disaggregated by age and sex.

Source / reference: Pan-American Health Organization. Health Analysis and Statistics Unit (HA). Regional Initiative of Core Health Data; Glossary of Indicators. Washington DC, 2004. <http://www.paho.org/spanish/sha/glossary.htm>

ANNUAL NUMBER OF NOTIFIED CASES OF DISEASES TRANSMITTED BY VECTORS (CHAGAS, DENGUE, HAEMORRHAGIC FEVERS, HANAVIROSIS, LEISHMANIASIS, LEPTOSPIROSIS, MALARIA, AND OTHERS)

Definition: Number of cases of vector-borne diseases recorded during a specified period, for a given country, territory or geographic area. In Latin America and the Caribbean, the emergence, re-emergence and prevalence of vector-borne diseases is largely associated with ecosystem degradation and precarious urban conditions. Among the most relevant for the Region, may be mentioned dengue fever, yellow fever, malaria, Chagas disease, leptospirosis, Leishmaniasis and regional haemorrhagic fevers.

Unit of measurement: Number of people

Technical note: Secondary data provided by national systems to control and monitor diseases. The indicator may be disaggregated by age, sex, etiologic agent, level of primary medical care and complications.

Source / reference: Pan-American Health Organization. Health Analysis and Statistics Unit (HA). Regional Initiative of Core Health Data; Glossary of Indicators. Washington DC, 2004. <http://www.paho.org/spanish/sha/glossary.htm>

WHO Statistical Information System (WHOSIS). <http://www.who.int/whosis/indicators/compendium/2008/1/hat/en/>

International Classification of Diseases (ICD) <http://www.who.int/classifications/icd/en/> International Classification of Functioning, Disability and Health <http://www.who.int/classifications/icfbrowser/>

International Classification of Health Interventions (ICHI). <http://www.who.int/classifications/ichi/en/>

Global Health Atlas: Standardized data and statistics for infectious diseases at country, regional, and global levels. <http://www.who.int/globalatlas/>

Regional statistics: Statistical information from WHO Regional Offices <http://www.who.int/healthinfo/statistics/regions/en/index.html>

ANNUAL NUMBER OF COMPULSORY NOTIFICATION DISEASES RELATED TO ENVIRONMENTAL EXPOSURE OR TO UNHEALTHY ENVIRONMENTS (HANSANIASIS, HEPATITIS A, MENINGOCOCCAL MENINGITIS, INTESTINAL PARASITES, SKIN DISEASES, AND OTHERS.)

Definition: Number of cases of diseases of compulsory notification recorded during a specified year, for a given country, territory or geographic area. Many of these diseases are related to environmental exposures.

Unit of measurement: Number of people

Technical note: Secondary data provided by national systems to control and monitor diseases. The indicator may be disaggregated by age, sex, etiologic agent, level of primary medical care and complications.

Source / reference: WHO Statistical Information System (WHOSIS). <http://www.who.int/whosis/indicators/compendium/2008/1/hat/en/>

Ministry of Health, Chile. Reglamento sobre notificación de enfermedades transmisibles de declaración obligatoria (Regulation on compulsory declaration when notifying transmissible diseases). http://200.68.11.21/ivlweb/158_de_2004.doc.

European Commission: Communicable diseases and special health issues to be progressively covered by the community network. http://ec.europa.eu/health/ph_threats/com/comm_diseases_annexe1.pdf

International Classification of Diseases (ICD) <http://www.who.int/classifications/icd/en/> International Classification of Functioning, Disability and Health <http://www.who.int/classifications/icfbrowser/>

International Classification of Health Interventions (ICHI). <http://www.who.int/classifications/ichi/en/>

Global Health Atlas: Standardized data and statistics for infectious diseases at country, regional, and global levels <http://www.who.int/globalatlas/>

Regional statistics: Statistical information from WHO Regional Offices <http://www.who.int/healthinfo/statistics/regions/en/index.html>

ANNUAL NUMBER OF PEOPLE AFFECTED BY NATURAL DISASTERS

Definition: Expresses the number of people affected by natural disasters in the year of reference, including those who suffered physical injury or illness, as well as those left homeless or in need of immediate assistance during the emergency period for a given country, territory or geographic area. A natural disaster is considered to be any unexpected natural event (or one that is not directly anthropic) capable of causing personal misfortunes and/or damage to property.

Unit of measurement: Number of people

Technical note: Secondary data provided by national disaster monitoring agencies. The indicator may be disaggregated by age, sex, type of disaster.

Source / reference: Centre for Research on the Epidemiology of Disasters (CRED), a WHO collaborating centre at the University of Louvain in Belgium. <http://www.cred.be/>

ANNUAL NUMBER OF PEOPLE RECEIVING MEDICAL CARE DUE TO ACCIDENTS AT WORK

Definition: Number of men and women workers who received attention due to occupational injuries in the year of reference for a given country, territory or geographic area. Occupational injury is any sudden and unforeseen event that causes a worker an injury or functional disturbance, during or as a consequence of the work he/she or others performed. In some countries of the Region, also considered as a work accident is any injury sustained by the worker when travelling directly from the home to the workplace and vice versa.

Unit of measurement: Number of people

Technical note: Secondary data provided by national work safety or social protection agencies. The indicator may be disaggregated by age, sex, type of accident, place where it happened, level of primary medical care received and complications.

Source / reference: The Inter-American Centre for Knowledge Development in Vocational Training – International Labour Organization ILO. <http://www.cinterfor.org.uy/public/spanish/region/ampro/cinterfor/index.htm>

I. ILO - CISDOC - Occupational Safety and Health Database
http://www.ilo.org/global/What_we_do/Statistics/lang--es/index.htm

ANNUAL NUMBER OF PEOPLE RECEIVING MEDICAL CARE DUE TO TRAFFIC ACCIDENTS

Definition: Expresses the number of people receiving emergency medical care due to a traffic accidents in the year of reference for a given country, territory or geographic area. Accident means the occurrence of a sudden involuntary event that causes injury to people and/or damage to objects. A traffic accident involves at least one vehicle and results in people being either injured or killed and/or in damage to objects.

Unit of measurement: Number of people

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by age, sex, type of accident, where it occurred, level of primary medical care received, and complications.

Source / reference: Vázquez, M.; Pérez, D. A. and Japur J. "Consideraciones sobre accidentes de tránsito" (Considerations on traffic accidents), *Prensa Med Arg.*, 86: 236-243, 1999.

Global Forum for Health Research. Combating disease and promoting health. Oxford; Global Forum for Health Research; v.3; 2006.

International Classification of Health Interventions (ICHI) <http://www.who.int/classifications/ichi/en/>

WHO Statistical Information System (WHOSIS): National statistics <http://www.who.int/whosis/en/index.html>

ANNUAL NUMBER OF PEOPLE RECEIVING MEDICAL CARE DUE TO ACCIDENTS WITH POISONOUS ANIMALS

Definition: Expresses the number of people receiving emergency medical care due to an accident with poisonous animals in the year of reference for a given country, territory or geographic area. An accident with poisonous animals is considered to be an incident (bite, scratch or sting) by which an animal causes a toxic substance to enter a human being. A toxic substance (or poison) is any substance that causes an adverse effect, either mild or severe, when it enters the body.

Unit of measurement: Number of people

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by age, sex, animal species involved, where it took place, level of primary medical care received and complications.

Source / reference: Accidentes por animales venenosos (Accidents with poisonous animals). Daniel Pineda and Carlos A. Hernández (editors). Bogotá: National Health Institute, 2002.

Pan-American Health Organization. Technical consultation on accidents with poisonous animals in Latin America. <http://www.paho.org/Spanish/AD/DPC/VP/poisonous-animals.htm>

ANNUAL NUMBER OF PEOPLE RECEIVING MEDICAL CARE DUE TO CHEMICAL POISONING

Definition: Expresses the number of people receiving emergency medical care (acute poisoning) or some type of treatment (chronic poisoning) due to a chemical poisoning in the year of reference for a given country, territory or geographic area. A toxic substance (or poison) is any substance that produces a toxic effect, either mild or severe, when it enters the organism. Almost all chemicals can be poisonous if the amount in the body is sufficient, in some cases harmful in very small quantities, while others are harmful only if a considerable amount is absorbed.

Unit of measurement: Number of people

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by chronic or acute poisoning, age, sex, origin of the poison, where the poisoning occurred, etiologic agent, route of entry, level of primary medical care received and complications.

Source / reference: Section Health Directorate of Antioquia, Colombia. Guías de Manejo de Pacientes Intoxicados (Guidelines on Managing Poisoned Patients). <http://www.dssa.gov.co/download/GuiasIntoxicados.pdf>

Fine JS, Galfrak LR. Update in medical toxicology. *Pediatr Clin North Am* 1998;39(2): 1031-51.

PERCENTAGE OF ADULTS OF 65 YEARS OF AGE OR MORE RECEIVING MEDICAL CARE DUE TO ACUTE OR CHRONIC RESPIRATORY DISEASE

Definition: Expresses the percentage of adults of 65 years of age or older who received medical attention for respiratory illness (acute or chronic) in a specified year, in a given country, territory or geographic area.

Unit of measurement: Percentage (%)

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by chronic or acute respiratory disease, age, sex, etiologic agent, level of primary medical care received and complications.

Source / reference: International Classification of Diseases (ICD) <http://www.who.int/classifications/icd/en/>

International Classification of Functioning, Disability and Health <http://www.who.int/classifications/icfbrowser/>

International Classification of Health Interventions (ICHI) <http://www.who.int/classifications/ichi/en/>

WHO Statistical Information System (WHOSIS): National statistics <http://www.who.int/whosis/en/index.html>

WHO Global InfoBase Online: Data on chronic diseases and their risk factors for all WHO Member States <http://www.who.int/infobase/report.aspx>

Global Health Atlas: Standardized data and statistics for infectious diseases at country, regional, and global levels <http://www.who.int/globalatlas/>

Regional statistics: Statistical information from WHO Regional Offices <http://www.who.int/healthinfo/statistics/regions/en/index.html>

PERCENTAGE OF CHILDREN UNDER 5 YEARS OF AGE RECEIVING MEDICAL CARE DUE TO ACUTE RESPIRATORY INFECTION, ASTHMA OR RESPIRATORY ALLERGIES

Definition: Proportion of children aged 0–59 months who had “presumed pneumonia” (ARI) in the last 2 weeks and were taken to an appropriate health-care provider. Acute respiratory infections (ARI) are responsible for almost 20% of all deaths of children aged less than five years worldwide. The proportion of under-fives with ARI that are taken to an appropriate health-care provider is a key indicator for coverage of intervention and care-seeking, and provides critical inputs to the monitoring of progress towards child survival-related Millennium Development Goals and Strategies. The definition of “appropriate” care provider varies between countries.

Unit of measurement: Percentage (%)

Technical note: Data sources: household surveys. Disaggregated by age, location (urban/rural, major regions/provinces), and socioeconomic characteristics (e.g. mother’s level of education, wealth quintile).

Source / reference: Childhood morbidity and treatment patterns. Boerma JT, Sommerfelt AE, Rutstein SO. Childhood morbidity and treatment patterns. Demographic and Health Surveys Comparative Studies No 4. Columbia, Institute for Reserve Development/Macro International, 1991.

WHO Statistical Information System (WHOSIS). <http://www.who.int/whosis/indicators/compendium/2008/1hat/en/>

PERCENTAGE OF CHILDREN UNDER 5 YEARS OF AGE RECEIVING ORAL REHYDRATION TREATMENT FOR DIARRHEA

Definition: Proportion of children aged 0–59 months who had diarrhoea in the last 2 weeks and were treated with oral rehydration salts or an appropriate household solution (ORT). Diarrheal diseases remain one of the major causes of mortality among the under-fives, accounting for 1.8 million child deaths worldwide, despite all the progress in its management and the undeniable success of the oral rehydration therapy (ORT). Therefore monitoring of the coverage of this very cost-effective intervention is crucial for the monitoring of progress towards the child survival-related Millennium Development Goals and Strategies.

Unit of measurement: Percentage (%)

Technical note: Data sources: household surveys. Disaggregated by age, location (urban/rural, major regions/provinces), and socioeconomic characteristics (e.g. mother's level of education, wealth quintile).

Source / reference: Childhood morbidity and treatment patterns. Boerma JT, Sommerfelt AE, Rutstein SO. Childhood morbidity and treatment patterns. Demographic and Health Surveys Comparative Studies No 4. Columbia, Institute for Reserve Development/Macro International, 1991.

WHO Statistical Information System (WHOSIS). <http://www.who.int/whosis/indicators/compendium/2008/1/hat/en/>

PERCENTAGE OF CHILDREN UNDER 5 AND ADULTS OF 65 YEARS OF AGE OR MORE DIAGNOSED WITH ANEMIA

Definition: Expresses, respectively, the percentage of boys and girls under five and adults over 65 years of age diagnosed with chronic anaemia during a given year, for a given country, territory or geographic area. Unlike acute anaemias, more related to blood loss or recent haemolytic phenomena, chronic anaemias may be associated with malnutrition (poverty, homelessness and/or loss of food sovereignty), the prevalence of parasitisms or may appear as a secondary consequence of environmental exposures (heavy metals, benzene and other toxic substances).

Unit of measurement: Percentage (%)

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by age, sex, etiology, level of primary health care received and complications.

Source / reference: International Classification of Diseases (ICD) <http://www.who.int/classifications/icd/en/>
International Classification of Functioning, Disability and Health <http://www.who.int/classifications/icfbrowser/>
International Classification of Health Interventions (ICHI) <http://www.who.int/classifications/ichi/en/>
WHO Statistical Information System (WHOSIS): National statistics <http://www.who.int/whosis/en/index.html>
WHO Global InfoBase Online: Data on chronic diseases and their risk factors for all WHO Member States <http://www.who.int/infobase/report.aspx>

Global Health Atlas: Standardized data and statistics for infectious diseases at country, regional, and global levels <http://www.who.int/globalatlas/>

Regional statistics: Statistical information from WHO Regional Offices <http://www.who.int/healthinfo/statistics/regions/en/index.html>

6-3 MORTALITY

PROPORTION OF ANNUALLY REGISTERED DEATHS FOR ADULTS 65 YEARS OF AGE AND OLDER DUE TO ACUTE OR CHRONIC RESPIRATORY DISEASES

Definition: Expresses the percentage of adults 65 years of age or older whose selected basic cause of death was an acute (codes J00-J22 of CIE-10) or chronic (codes J40-J47 of CIE-10) respiratory disease in a given year in a given country, territory or geographic area.

Unit of measurement: Percentage (%)

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by age and sex.

Source / reference: International Classification of Diseases (ICD) <http://www.who.int/classifications/icd/en/>
International Classification of Functioning, Disability and Health <http://www.who.int/classifications/icfbrowser/>
International Classification of Health Interventions (ICHI) <http://www.who.int/classifications/ichi/en/>
WHO Statistical Information System (WHOSIS): National statistics <http://www.who.int/whosis/en/index.html>
WHO Global InfoBase Online: Data on chronic diseases and their risk factors for all WHO Member States <http://www.who.int/infobase/report.aspx>
Global Health Atlas: Standardized data and statistics for infectious diseases at country, regional, and global levels <http://www.who.int/globalatlas/>
Regional statistics: Statistical information from WHO Regional Offices <http://www.who.int/healthinfo/statistics/regions/en/index.html>

PROPORTION OF ANNUALLY REGISTERED DEATHS FOR CHILDREN UNDER 5 YEARS OF AGE DUE TO INFECTIOUS INTESTINAL DISEASES

Definition: Expresses the percentage of deaths of children younger than five years of age whose selected basic cause of death was an infectious intestinal disease (codes A00-A09 of CIE-I0) for a given year, in a given country, territory or geographic area.

Unit of measurement: Percentage (%)

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by age and sex.

Source / reference: International Classification of Diseases (ICD) <http://www.who.int/classifications/icd/en/>
International Classification of Functioning, Disability and Health <http://www.who.int/classifications/icfbrowser/>
International Classification of Health Interventions (ICHI) <http://www.who.int/classifications/ichi/en/>
WHO Statistical Information System (WHOSIS): National statistics <http://www.who.int/whosis/en/index.html>
WHO Global InfoBase Online: Data on chronic diseases and their risk factors for all WHO Member States <http://www.who.int/infobase/report.aspx>
Global Health Atlas: Standardized data and statistics for infectious diseases at country, regional, and global levels <http://www.who.int/globalatlas/>
Regional statistics: Statistical information from WHO Regional Offices <http://www.who.int/healthinfo/statistics/regions/en/index.html>

PROPORTION OF ANNUALLY REGISTERED DEATHS FOR CHILDREN UNDER 5 YEARS OF AGE DUE TO ACUTE RESPIRATORY DISEASES

Definition: Percentage of deaths of children under five years of age whose selected basic cause of death was acute respiratory infection (codes J00-J22 of CIE-I0) for a given year, in a given country, territory or geographic area.

Unit of measurement: Percentage (%)

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by age and sex.

Source / reference: International Classification of Diseases (ICD) <http://www.who.int/classifications/icd/en/>
International Classification of Functioning, Disability and Health <http://www.who.int/classifications/icfbrowser/>
International Classification of Health Interventions (ICHI) <http://www.who.int/classifications/ichi/en/>
WHO Statistical Information System (WHOSIS): National statistics <http://www.who.int/whosis/en/index.html>
WHO Global InfoBase Online: Data on chronic diseases and their risk factors for all WHO Member States <http://www.who.int/infobase/report.aspx>
Global Health Atlas: Standardized data and statistics for infectious diseases at country, regional, and global levels <http://www.who.int/globalatlas/>
Regional statistics: Statistical information from WHO Regional Offices <http://www.who.int/healthinfo/statistics/regions/en/index.html>

PROPORTION OF ANNUALLY REGISTERED DEATHS FROM VECTOR-BORNE DISEASES FOR WHICH A COMPULSORY DISEASE DECLARATION IS REQUIRED (HAEMORRAGIC DENGUE FEVER, MALARIA, AND OTHERS)

Definition: Expresses the percentage of deaths whose selected basic cause of death was a vector-borne disease requiring a compulsory disease declaration in a specified year, in a given country, territory or geographic area. The basic causes of death grouped in this category are often those in Chapter I of CIE-10 (A00-B99).

Unit of measurement: Percentage (%)

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by age and sex.

Source / reference: International Classification of Diseases (ICD) <http://www.who.int/classifications/icd/en/>
International Classification of Functioning, Disability and Health <http://www.who.int/classifications/icfbrowser/>
International Classification of Health Interventions (ICHI) <http://www.who.int/classifications/ichi/en/>
WHO Statistical Information System (WHOSIS): National statistics <http://www.who.int/whosis/en/index.html>
WHO Global InfoBase Online: Data on chronic diseases and their risk factors for all WHO Member States <http://www.who.int/infobase/report.aspx>
Global Health Atlas: Standardized data and statistics for infectious diseases at country, regional, and global levels <http://www.who.int/globalatlas/>
Regional statistics: Statistical information from WHO Regional Offices <http://www.who.int/healthinfo/statistics/regions/en/index.html>

PROPORTION OF ANNUALLY REGISTERED DEATHS FROM DISEASES OF COMPULSORY DECLARATION RELATED TO ENVIRONMENTAL EXPOSURES OR DUE TO UNHEALTHY ENVIRONMENTS (MENINGITIS, MENINGOCOCCAL DISEASE, TUBERCULOSIS, AND OTHERS)

Definition: Expresses the percentage of deaths whose selected basic cause was a disease of compulsory declaration associated with environmental exposures or to unhealthy environments in a specified year, in a given country, territory or geographic area. The basic causes of death grouped in this category include meningitis (codes G00-G03 of CIE-10) and tuberculosis (codes A15-A19 of CIE-10).

Unit of measurement: Percentage (%)

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by age and sex.

Source / reference: International Classification of Diseases (ICD) <http://www.who.int/classifications/icd/en/>
International Classification of Functioning, Disability and Health <http://www.who.int/classifications/icfbrowser/>
International Classification of Health Interventions (ICHI) <http://www.who.int/classifications/ichi/en/>
WHO Statistical Information System (WHOSIS): National statistics <http://www.who.int/whosis/en/index.html>
WHO Global InfoBase Online: Data on chronic diseases and their risk factors for all WHO Member States <http://www.who.int/infobase/report.aspx>
Global Health Atlas: Standardized data and statistics for infectious diseases at country, regional, and global levels <http://www.who.int/globalatlas/>
Regional statistics: Statistical information from WHO Regional Offices <http://www.who.int/healthinfo/statistics/regions/en/index.html>

NUMBER OF LIVES LOST ANNUALLY DUE TO NATURAL DISASTERS (AVALANCHES, FLOODS, DROUGHTS, AND OTHERS)

Definition: Expresses the number of people who died due to natural disasters in the year of reference in a given country, territory or geographic area. A natural disaster is considered to be any natural unexpected event (or that is not directly anthropic) capable of causing personal casualties and/or material damages.

Unit of measurement: Number of people killed

Technical note: Secondary data provided by national disaster monitoring agencies. The indicator may be disaggregated by age, sex and type of disaster.

Source / reference: Centre for Research on the Epidemiology of Disasters (CRED), a WHO collaborating centre at the University of Louvain in Belgium. <http://www.cred.be/>

NUMBER OF LIVES LOST ANNUALLY DUE TO DISASTERS RELATED TO URBAN OR HOUSING PRECARIETY (FIRES, LANDSLIDES, AND OTHERS)

Definition: Expresses the number of people killed due to urban or housing precarity in the year of reference in a given country, territory or geographic area. A disaster is considered to be any unexpected happening that causes personal casualties or material damages.

Unit of measurement: Number of people killed

Technical note: Secondary data provided by national authorities. The indicator may be disaggregated by age, sex and type of disaster.

Source / reference: ONU-HABITAT: Regional Office for Latin America and the Caribbean.
www.onuhabitat.org/

Joan Mac Donald. Pobreza y precariedad del hábitat en ciudades de América Latina y el Caribe (Poverty and Precarious Housing in Latin American and Caribbean). Santiago, Chile: ECLAC, 2004. <http://www.eclac.cl/publicaciones/xml/0/20640/lc2214e.pdf>

ESTIMATED RATE OF INFANT AND MATERNAL AND CHILD MORTALITY

Definition: The infant mortality rate is defined as the number of children under the age of one year dying in a given year divided by the number of live births in the same year in a given country, territory or geographic area, expressed as 1 000 live births, as estimated by the United Nations Population Division.

Unit of measurement: Per 1 000 live births

Technical note: The neonatal (0 to 27 days) infant mortality rate and the post neonatal infant mortality rate (28 days to <1 year) may also be calculated. Maternal death is defined as the death of a pregnant woman or within 42 days following the end of her pregnancy, independently of the duration and place of the pregnancy and due to any cause related to or made worse by the pregnancy itself, or by the care she received (mainly codes 630-676 of CIE-9; codes O00-O99, A34 of CIE-10), but not due to accidental or incidental causes. When the indicator is prepared by using data reported by the national health authority, it is called "reported rate". In general, infant and maternal mortality reported by the national health authority is an estimate based on life statistical registers and/or surveys, whose methodology may vary from country to country and from period to period, and is not primarily meant for making international comparisons.

Source / reference: Pan-American Health Organization, Health Analysis and Statistics Unit (HA). Regional Initiative of Core Health Data; Glossary of Indicators. Washington DC, 2004. <http://www.paho.org/spanish/sha/glossary.htm#C>

ESTIMATED MORTALITY RATE FROM EXTERNAL CAUSES, ADJUSTED BY AGE

Definition: The number of estimated deaths from external causes in a total population or for a given sex, divided by the total population, eliminating the effect of differences in the age distribution, expressed per 100 000 inhabitants, for a given year, in a given country, territory or geographic area. The basic causes of death grouped in this category are those in Chapter XX of CIE-10 (codes V01-Y89).

Unit of measurement: Per 100 000 inhabitants.

Technical note: Adjusted mortality rates are obtained by direct standardization, applying the specific estimated mortality rates according to ages for a given sex and group of causes of death to a Standard World Population.

Source / reference: Pan-American Health Organization, Health Analysis and Statistics Unit (HA). Regional Initiative of Core Health Data; Glossary of Indicators. Washington DC, 2004. <http://www.paho.org/spanish/sha/glossary.htm#C>

ESTIMATED MORTALITY RATE FROM NEOPLASIAS, AGE ADJUSTED

Definition: The total number of estimated deaths from neoplasias in a total population or a given sex, divided by the total population, having eliminated the effect of age distribution differences, expressed for 100 000 inhabitants, for a given year, in a given country, territory or geographic area. Basic causes of death grouped in this category are those in Chapter II of CIE-10 (codes C00-D48).

Unit of measurement: Per 100 000 inhabitants

Technical note: Adjusted mortality rates are obtained by direct standardization, applying the specific estimated mortality rates according to ages for a given sex and group of causes of death to a Standard World Population.

Source / reference: Pan-American Health Organization, Health Analysis and Statistics Unit (HA). Regional Initiative of Core Health Data; Glossary of Indicators. Washington DC, 2004. <http://www.paho.org/spanish/sha/glossary.htm#C>

ESTIMATED MORTALITY RATE FROM SUICIDES AND SELF-INFLICTED INJURIES

Definition: The total number of estimated deaths from suicides and self-inflicted injuries in a total population of a given sex and/or age, divided by the total of that population per 100 000 inhabitants, for a given year, in a given country, territory or geographical area. The basic causes of death grouped in this category are those in codes X60-X84 of CIE-10. From an environmental point of view, suicides and self-inflicted injuries have been associated with exposure to pesticides.

Unit of measurement: Per 100 000 inhabitants

Technical note: Estimated mortality rates are obtained from the corresponding registered mortality rates, after correcting for under-reporting of deaths and redistributing deaths from ill-defined causes to category (ICD10: R00-R99). The method used to make the estimate is that published in Health Statistics from the Americas, 2006 edition. PAHO, at www.paho.org/spanish/am/pub/PC_591.htm. Annual estimates are obtained by linear interpolation of the corresponding quinquennial estimates.

Source / reference: Pan-American Health Organization, Health Analysis and Statistics Unit (HA). Regional Initiative of Core Health Data; Glossary of Indicators. Washington DC, 2004. <http://www.paho.org/spanish/sha/glossary.htm#C>

6-4 VIOLENCE, MALAISE, PSYCHOLOGICAL SUFFERING

HAPPINESS INDEX

Definition: The Happiness Index measures happiness as a general concept, understood as: the extent to which individuals judge the overall quality of their lives as being totally favourable. That is to say, how much they want life they are living.

Unit of measurement: Scale from 0 to 10

Technical note: This indicator is calculated from a series of surveys made in the countries and/or from different bibliographic sources. The following questions are asked: 1) Taking all things together, how would you say things are today? 2) Would you say your life is now? 3) Taking all things together, would you say you are.....? Establishing a scale to measure responses: 1. Not at all happy; 2. Not very happy; 3. Quite happy; and 4. Very happy. This indicator is used in general population samples and applied in 65 nations. The surveys are tabulated and the results extracted.

Source / reference: EUR - Erasmus University Rotterdam, Netherlands. <http://www2.eur.nl/fsw/research/happiness/index.htm>
http://www2.eur.nl/fsw/research/happiness/hap_quer/hqi_fp.htm

POPULATION DISPLACED OR FORCED TO MIGRATE

Definition: Number of people displaced or forced to migrate in a given territory, due to extreme climate events, environmental disasters or armed conflicts. Forced migration is the movement of populations away from their place of origin or habitual residence, either temporarily or permanently, and generally on a large scale and involuntarily, that is to say, motivated by the pressure - or threat - of external factors acting either in isolation or together.

Unit of measurement: Number of people

Technical note: Secondary data may be obtained from national disaster monitoring, civil defence, and human rights agencies. There are data bases managed by international organizations such as Refugee Studies Centre, at Oxford University and the IOM – International Organization for Migration, among others.

Source / reference: Refugee Studies Centre. Oxford Department of International Development - Oxford University. <http://www.rsc.ox.ac.uk/>

Dictionary on Humanitarian Action and Development Cooperation. <http://dicc.hegoa.efaber.net/listar/mostrar/143>

IOM – International Organization for Migration <http://www.oimconosur.org/inicio/>

Joint United Nations programme on HIV/AIDS ONUSIDA Colombia - <http://www.onusida.org.co/desplaz.htm>

NUMBER OF CHILDREN, ADOLESCENTS AND ADULTS RECEIVING MEDICAL CARE ANNUALLY DUE TO FAMILY VIOLENCE.

Definition: Expresses the number of people who receive emergency medical attention due to family violence in the year of reference for a given country, territory or geographic area. Family violence is defined as any action or omission that causes physical or psychological harm, mistreatment without injury, even serious or repeated threats or coercion, as well as sexual violence that occurs between spouses, former spouses, partners, former partners, ancestors, descendents, collateral relations to the fourth degree of consanguinity and the second degree of affinity; those living in the same household without contractual or labour relations; and those who have procreated children together, whether or not they live together when the violence or mistreatment occurs.

Violence is deliberate and conscious behaviour that can cause physical or mental harm to the victim. It is linked to an action that is forced and unexpected and against the will of the victim.

Defined as mistreatment is any action or omission that is not accidental, committed against a vulnerable person by someone who should have the victim's confidence and that jeopardizes the victim's physical integrity, mental health and/or the satisfaction of basic needs.

Unit of measurement: Number of people

Technical note: Secondary data provided by national health systems. The indicator may be disaggregated by age, sex, how the violence or mistreatment is characterized, level of primary medical care received and complications.

Source / reference: WHO – World Health Organization – Department of Gender, Women and Health. <http://www.who.int/gender/en/>

ANNUAL NUMBER OF LIVES LOST OR DISABILITY CAUSED BY CONFLICTS RELATED TO LAND TENURE

Definition: Number of people who were killed, maimed or left with physical/psychological after-effects in the year of reference, in a given territorial conflict between peoples or nations (related to conflicts involving indigenous people and other forms of traditional culture) or land tenure conflicts in areas where the forestry, agricultural and/or livestock frontier is expanding.

Unit of measurement: Number of victims (dead, mutilated or with other health impacts)

Technical note: The indicator may be disaggregated by age, sex, type of population affected (indigenous, family agriculture, artisanal fishermen, and others) and the how the conflict is characterized (aggressors/victims).

Source / reference: PAHO – Pan-American Health Organization - Preparedness Programme for Emergency Situations and Relief in Case of Disasters – Health and Displacements. <http://www.disaster-info.net/>

Odile Hoffmann. Conflictos territoriales y territorial negra (Territorial conflicts and black communities). Institut de Recherche pour le Développement, (IRD) Paris. <http://www.lablaa.org/blaavirtual/sociologia/odile/odile.pdf>

La vía campesino (International Peasant Movement) - http://viacampesina.org/main_sp/

Brazilian Environmental Justice Network. http://www.justicaambiental.org.br/_justicaambiental/

Latin American Observatory of Environmental Conflicts. www.olca.cl

ESTIMATED RATE OF MORTALITY DUE TO HOMICIDES IN RURAL AND URBAN AREAS

Definition: The total estimated number of deaths from homicides and intentional injuries, as well as injuries due to legal interventions or war operations, in a total population or a given sex and/or age, divided by the total of that population expressed per 100 000 inhabitants, for a given year; in a given country, territory or geographic area. The basic causes of death grouped in this category are included in codes X85-Y09, Y87.1 of CIE-10.

Unit of measurement: Per 100 000 inhabitants

Technical note: Estimated mortality rates are taken from the corresponding registered death rates, after correcting for under-reporting of deaths and redistributing deaths from ill-defined causes to the category of "signs, symptoms and ill-defined conditions" (ICD10:R00-R99). The method used to make the estimate has been published in Health Statistics for the Americas, 2006 edition, PAHO, at www.paho.org/spanish/am/pub/PC_591.htm.

Source / reference: PAHO – Pan-American Health Organization Health Analysis and Statistics Unit (HA). Regional Initiative of Core Health Data. <http://www.paho.org/Spanish/SHA/glossary.htm#D>



INDICATORS OF RESPONSE

7-1 COVERAGE OF HEALTH SERVICES AND STRATEGIC PUBLIC SPENDING*

EXISTENCE OF CONTINGENCY, MITIGATION AND HEALTH CARE PLANS IN CASES OF DISASTERS

Definition: This indicator is an assessment of whether or not a country has any disaster contingency, mitigation and health care services plans.

Disaster contingency health plans include giving the affected population immediate aid by providing shelter and protection; drinking water; food; vaccinations; medical and health care. Disaster mitigation in health establishments includes assessing and reducing vulnerabilities (collapses, fires, floods, electricity blackouts or other disaster situations). When facing disasters, people needing urgent medical and health care must be able to rely on being cared of by health services that unflinchingly maintain their operating capacity.

Unit of measurement: Yes/No

Technical note: The indicator assesses the existence of contingency plans and the strength/vulnerability of the local health network needed to take care of the population affected by disasters.

The PAHO has set up an area to prepare for contingency situations and disaster relief that assesses the vulnerability of health services when disasters strike.

Source / reference: PAHO – Pan-American Health Organization. Virtual Health and Disasters Library. <http://helid.desastres.net/>

PAHO – Pan-American Health Organization. Area to prepare for contingency situations and disaster relief. <http://new.paho.org/disasters/?lang=es>

EXISTENCE OF PROGRAMMES TO STRENGTHEN HEALTH INFORMATION AND COMMUNICATION

Definition: This indicator is an assessment of whether or not the country has programmes to strengthen information and communication related to health.

National programmes designed to strengthen health information and communication often include, basically: improving the communication capacities of health personal; training journalists on how to cover health-related news; and implementing continuous health communication training and education courses for health and social communication professionals.

Unit of measurement: Yes/No

Technical note: Interpreting this indicator depends on whether or not a specified country has programmes to strengthen health information and communication in a specified year.

Source / reference: PAHO – Pan-American Health Organization. Strengthening Health Systems. http://new.paho.org/hq/index.php?option=com_content&task=view&id=62&Itemid=259

* The indicator "Public spending" does not necessarily imply that public funds for education, research, science and technology, and social security should be understood as "spending" in the commercial sense of the term. In the best of cases, public spending in a determined sector may be conceived as the amount of money allocated to finance national development within the framework of a planned project.

EXISTENCE OF A CONSOLIDATED PRIMARY HEALTH CARE (PHC) NETWORK

Definition: This indicator is an assessment of whether or not the country has a consolidated primary health care (PHC) network.

Primary health care is essential health care based on practical, scientifically founded and socially acceptable methods and technologies; they should be available to all individuals and families in the community who, during each and every stage of development, should fully participate in a spirit of self-reliance and self-determination. The cost should be what the community and the country can afford. Primary care is an integral part of both the national health system, of which it is the central function, as well as of the community's global social and economic development. It is the first contact individuals, families and the community have with the national health system, bringing health care as close as possible to where people live and work, and is the first step in an ongoing health care process.

Unit of measurement: Yes/No

Technical note: Interpreting this indicator depends on whether or not a specified country has programmes to strengthen health information and communication in a specified year.

Source / reference: Alma Declaration Ata. <http://www.aps.cisas.org.ni/node/1>

PAHO – Pan-American Health Organization. Strategic and Programmatic Orientations in Primary Health Care . <http://www.paho.org/spanish/ad/ths/os/APS-orientation.htm>

NUMBER OF OUTPATIENT HEALTH CARE ESTABLISHMENTS

Definition: The number of outpatient health care establishments of every institutional affiliation in operation during a given year, in a country, territory or geographic area. Outpatient care is defined as all consultations about matters related to health care between a person who is not hospitalized and a health worker responsible for assessing, diagnosing, treating or referencing the person concerned. An outpatient establishment is defined as any type of physical area whose primary objective is to provide outpatient health care services. Institutional affiliation includes any outpatient health care establishment administered by the Ministry of Public Health or a governmental equivalent, Social Security Institutions, including armed forces and police health systems, as well as private institutions, voluntary or otherwise, profit and non-profit.

Unit of measurement: Number of establishments

Technical note: The data are provided by country offices and WHO/PAHO technical regional programmes based on information reported by the national health authority.

Can be disaggregated into three categories: Ministry of Health, Social Security, and Private Sector

Source / reference: PAHO – Pan-American Health Organization. Health Analysis and Statistics Unit (HA). Regional Core Health Data Initiative. <http://www.paho.org/Spanish/SHA/glossary.htm#D>

HEALTH PROFESSIONALS RATIO (DOCTORS, REGISTERED NURSES AND DENTISTS)

Definition: Number of health professionals (doctors, registered nurses and dentists for every 10 000 inhabitants in a population, for a given year, in a given country, territory or geographic area. It is calculated as a rate for each professional category, for both sexes.

Unit of measurement: Per 10 000 inhabitants

Technical note: The data are provided by country offices and WHO/PAHO technical regional programmes based on information reported by the national health authority.

Source / reference: PAHO – Pan-American Health Organization. Health Analysis and Statistics Unit (HA). Regional Core Health Data Initiative. <http://www.paho.org/Spanish/SHA/glossary.htm#D>

PUBLIC SPENDING ON EDUCATION AS A PERCENTAGE OF GDP

Definition: Current and capital spending on education for which the local, regional and national administration, as well as municipalities, are responsible (household contributions are excluded)

Unit of measurement: Percentage (%)

Technical note: Data reported by the countries and collected by UNESCO 1970-2005. The calculation is made by dividing government public spending in a given financial year (numerator) by the total gross domestic product of a given country and for the same year (denominator). The result is multiplied by 100.

Source / reference: UNESCO-UIS Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization. <http://stats.uis.unesco.org/>

PUBLIC SPENDING ON RESEARCH, SCIENCE AND TECHNOLOGY AS A PERCENTAGE OF GDP

Definition: A country's current and capital spending on financing academic, scientific and technological research for which the local, regional and national administration is responsible.

Unit of measurement: Percentage (%)

Technical note: Calculated by dividing the government's public expenditure under that heading in a given financial year (numerator) by the total gross domestic product in a given country and for the same year (denominator). The result is multiplied by 100.

Source / reference: UNESCO-UIS – Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization. <http://stats.uis.unesco.org/>

OECD – Organisation for Economic Co-operation and Development. Main Science and Technology Indicators http://www.esds.ac.uk/international/support/user_guides/oecd/sti_manual.pdf

PUBLIC SPENDING ON HEALTH AS A PERCENTAGE OF GDP AND PER INHABITANT

Definition: Public expenditure on health as a percentage of GDP represents spending on health by the central government consolidated in the gross domestic product at current market prices.

Public spending on health per inhabitant is the estimate, per person, of public resources allocated for health programmes and policies (prevention, promotion and health care).

Government spending on health corresponds to the international classification of expenditure according to government functions (Division 07), of the United Nations Systems of National Accounts,

Unit of measurement: Percentage

Technical note: Annual data, 1970-2006, provided by the countries. It is calculated as the ratio between consolidated central government spending on health (numerator), divided by the amount of the gross domestic product at current market prices (denominator) multiplied by 100.

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean.

<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

PAHO – Pan-American Health Organization. Health Analysis and Statistics Unit (HA). Regional Core Health Data Initiative. <http://www.paho.org/Spanish/SHA/glossary.htm#D>

PUBLIC SOCIAL SPENDING AS A PERCENTAGE OF GDP AND PER INHABITANT

Definition: Public social spending as a percentage of the gross domestic product is the estimate of public resources allocated to spending on social sectors, as a percentage of the total GDP.

Public social spending per inhabitant is the estimate, per person, of the allocation of public resources for social sectors.

Unit of measurement: Dollars at 2000 constant prices. Percentage (%)

Technical note: Public social spending includes public spending on education, health and nutrition, social security, employment, social welfare, housing, water and sewage systems. The figures correspond to official information published for each country. There are regional differences in methodologies and particularly in how the series of total public expenditure and public social spending is covered.

Data in national currency at current prices of public social spending, and how it is disaggregated according to its functional classification, are official figures provided by respective governmental institutions of each country. Depending on the country, they are directorates, departments, secretariats or sub-secretariats of planning, budgets or social policies in the Ministries of the Treasury, Finance and/or Economics. Complementary data were collected from budget allocations by National Accounting Offices, National Treasuries and, occasionally, by the countries' central banks, national statistics and social and economic information systems.

Public social spending data, used in combination with GDP data at current prices in each country, allow a calculation to be made of social spending as a percentage of GDP.

Source / reference: ECLAC – Economic Commission for Latin America and the Caribbean. ECLACSTAT <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

7-2 ENVIRONMENTAL MANAGEMENT AND LEGISLATION

ADHESION, SIGNATURE OR RATIFICATION OF MULTILATERAL ENVIRONMENTAL AGREEMENTS,

Definition: Multilateral Environmental Agreements relate to policy responses aimed at protecting each country's environmental goods and services that have global effects. They allow international cooperation mechanisms to be established and include the environmental dimension in development, responding to different global-scale environmental problems. In the context of international law and treaty practice, a multilateral agreement, because it has the same legal characteristics, is synonymous with a convention, treaty and protocol.

Adhesion: Adhesion is the act whereby a State that has not signed a convention expresses its consent to become part of it by depositing an instrument of adhesion.

Signing an agreement is the first political manifestation where a State indicates its intention to take appropriate measures to express its consent to the agreement and acquire its future legal obligations.

Ratification, acceptance and approval (according to the terms of each agreement) are the most common ways by which a State may become part of a multilateral agreement. The agreements of interest are:

The Ramsar Convention on Wetlands of International Importance is designed, especially as a habitat for aquatic birds, to stop the progressive occupation of and disappearance of wetlands, both now and in future, recognizing their fundamental ecological functions and their economic, scientific and recreational value. This convention was adopted in 1971 and entered into force on December 21st 1975.

Convention Concerning the Protection of the World Cultural and Natural Heritage is designed to promote identification, protection and preservation of the world's cultural and natural heritage considered to be of value to humanity. This convention was promoted by the United Nations Educational, Scientific and Cultural Organization (UNESCO). It was adopted in 1972 and entered into force on 15 December 1975.

Convention on International Trade in Endangered Species of Wild Fauna and Flora. (CITES). This convention is intended to protect certain endangered species from overexploitation by international trade (imports and exports). It was adopted in 1973 and entered into force on 1st July 1975.

Convention on the Conservation of Migratory Species of Wild Animals. This convention is intended to protect wild animals that migrate across national borders. It was adopted in 1979 and entered into force on 1st November 1983.

United Nations Convention on the Law of the Sea is designed to establish a new legal regime for seas and oceans to facilitate communication and promote the peaceful use of seas and oceans and the fair and efficient use of their resources. It was adopted in 1982 and entered into force on 16 November 1994.

Vienna Convention for the Protection of the Ozone Layer is intended to protect human health and the environment from the negative effects of changes to the ozone layer. It was adopted in 1985 and entered into force on September 22nd 1988.

The Montreal Protocol relating to substances that deplete the ozone layer: it is intended to protect the ozone layer by taking precautionary measures to control global emissions of substances that cause its depletion. The protocol was adopted in 1987 and entered into force on 1st January 1989.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal: its purpose is to reduce cross border movement of hazardous wastes and their disposal in accordance with efficient and environmentally appropriate waste management. It was adopted in 1989 and entered into force in 1992.

Convention on Biological Diversity: its purpose is to promote the sustainable use of the components of biodiversity and a fair distribution of the benefits derived from using genetic resources. It was adopted in 1992 and entered into force on December 29th 1993.

United Nations Framework Convention on Climate Change: its purpose is to stabilize concentrations of greenhouse gases in the atmosphere at a level that prevents dangerous anthropic interferences in the climate system. It was adopted in 1992 and entered into force in 1994.

United Nations Convention to Combat Desertification in countries affected by serious drought or desertification, in Africa in particular: its objective is to combat desertification and mitigate the effects of drought in the countries affected. It was adopted in 1994 and entered into force on December 26th 1996.

Kyoto Protocol to the United Nations Framework Convention on Climate Change: establishes commitments that fix quantified and programmed objectives in (during the period) the time allowed to reduce emissions of greenhouse gases. The protocol was adopted in 1998 and entered into force on February 16th 2005.

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade: its purpose is to promote shared responsibility and joint efforts in the field of international trade of certain dangerous chemical compounds and pesticides, in order to protect human life and the environment. It was adopted in 1998 and entered into force on February 24th, 2004.

The Cartagena Protocol on Biosafety of the Convention on Biological Diversity is designed to help ensure an appropriate level of protection concerning the transfer, handling and safe use of modified live organisms resulting from modern biotechnology (genetically modified organisms) that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account the risks to human health, and paying particular attention to cross border movements. The protocol was adopted in 2000 and entered into force on 11 September 2003.

Stockholm Convention on Persistent Organic Pollutants (COPs): keeping in mind the precautionary criterion established in principle 15 of the Declaration of Río on the Environment and Development, the objective of the Stockholm Convention is to protect human health and the environment against persistent organic pollutants. It was adopted in 2001 and entered into force on May 17th, 2004.

Unit of measurement: Yes / No

Technical note: Data for this variable were compiled from data published on each Convention's Web site.

Source / reference: ECLAC – Economic Commission for Latin America and the Caribbean. ECLACSTAT <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

LOCAL AGENDA 21: NUMBER OF MUNICIPAL COMMITTEES FORMALIZED

Definition: The number of municipalities involved in the Local Agenda 21 (LA21) process measures the number of government authorities that have made a formal commitment to LA21 or are actively undertaking the process. LA21s were created to promote sustainable development at the municipal level in response to the 1992 UN Conference on Environment and Development's call to local governments to create their own agenda to outline local priorities.

Unit of measurement: Number

Technical note: The International Council for Local Environmental Initiatives (ICLEI) has conducted two separate surveys of global LA21 participation, in 1996 and in 2001. Data are updated irregularly, whenever a survey is conducted.

Source / reference: International Council for Local Environmental Initiatives (ICLEI). 2001. Second Local Agenda 21 Survey: Background Paper Number 15. New York: United Nations Department of Economic and Social Affairs (UNDESA).

http://www.iclei.org/documents/Global/final_document.pdf

ICLEI - International Council for Local Environmental Initiatives.

<http://www.iclei.org/index.php?id=global-programs>

WASTEWATER TREATMENT

Definition: This variable shows the volume and the percentage of wastewater treated in all the plants operating in a country.

Wastewater: Water discharged which, because of its quality, quantity, or time of appearance, has no immediate value for the purpose for which it was used or for which it was produced.

Treatment: A combination of water treatment processes to achieve a sanitary objective.

Unit of measurement: Thousands of cubic metres (miles m³) / Percentage

Technical note: Data for this variable are taken from administrative records kept by treatment plants. This statistic is obtained by adding the amount of wastewater treated by the different existing mechanisms.

Percentage data are obtained from the relation between the volume of wastewater treated and the total volume of wastewater produced in the country.

Source / reference: ECLAC – Economic Commission for Latin America and the Caribbean. ECLACSTAT <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

TRAFFIC CONTROL AND VEHICULAR RESTRICTION IN CRITICAL URBAN AREAS

Definition: This indicator is an assessment of whether or not there are traffic control and vehicular restriction systems in place in critical urban areas.

Unit of measurement: Yes/No

Technical note: Interpreting this indicator depends on whether or not there are traffic control and vehicular restriction systems in place in specified critical urban areas and for a specified year.

Traffic control implies organizing vehicular and pedestrian movements and monitoring traffic to manage its flow.

Vehicular restriction management is a measure used to establish restrictions on different kinds of vehicles circulating at certain periods in urban areas the authorities deem to be critical. The restrictions are intended to regulate the use of the road network at times when traffic is heaviest, mainly to reduce levels of atmospheric pollution caused by vehicles.

Source / reference: Traffic Control Operational Unit (UOCT) – Ministry of Planning and Cooperation. Chile. <http://www.uoct.cl/uoct/inicio.ns.jsp>

Air Monitoring Directorate. Ministry of the Environment. Mexico DF. <http://www.sma.df.gob.mx/simat2/>

US Department of Transportation. Federal Highway Administration. Manual on Uniform Traffic Control Devices. <http://mutcd.fhwa.dot.gov/>

EXISTENCE OF NATIONAL EMERGENCY COMMISSIONS OR IMMEDIATE DISASTER RESPONSE GROUPS

Definition: A National Emergency Commission – NEC – or immediate disaster response group: the “national” agency responsible for administering or coordinating emergencies or disaster events such as floods, hurricanes, cyclones, tornados, earthquakes, seaquakes, landslides and avalanches, extreme temperatures, volcanic eruptions, droughts, fires or forest fires, epidemics, and other natural events; it is also officially designated by each country’s competent authorities as a National Emergency Commission or immediate response group. Immediate response groups answer to the NEC and they include: the Red Cross, paramedics, hospitals, fire fighters, and the police.

Unit of measurement: Yes/No

Technical note: To prepare this indicator the first step is to find out whether the country has a national emergency commission and, once identified, the number of immediate response groups in the country must be counted, not only to confirm the existence of the NEC but also how much territory it covers..

Source / reference: United Nations Development Programme (UNDP) <http://www.pnud.org.ec/ocha-rdra/enlaces.html>

EXISTENCE OF NATIONAL SUSTAINABLE DEVELOPMENT COUNCILS

Definition: This indicator is an assessment of whether or not the country has a National Sustainable Development Council.

Unit of measurement: Yes/No

Technical note: A National Sustainable Development Council is understood to be the institution or organization whose principles and work are directed at complying with and safeguarding each country’s sustainable development; and it should also be officially designated by each country’s competent authorities as a National Sustainable Development Council.

Source / reference: ILAC - Latin American and Caribbean Initiative for Sustainable Development.

EXISTENCE OF NATIONAL LAWS ON GENETIC RESOURCES ACCESS AND BENEFIT SHARING

Definition: Article 2 of the Convention on Biological Diversity defines genetic resources as significant present or potential genetic material. The same article defines genetic material as all material from animals, plant, microbes and other organisms that contains functional units to pass on to other generations.

Unit of measurement: Yes/No

Technical note: To calculate this indicator legislation has to be revised to reflect or indicate which laws apply to genetic resources access and benefit sharing. Once this information is obtained it indicates whether or not the country has laws that monitor genetic resources access and benefit sharing.

Source / reference: Convention on Biological Diversity (CBD) - www.biodiv.org/

ILAC - Latin American and Caribbean Initiative for Sustainable Development. http://www.geodatos.org/geodatos/ILAC_es.html

EXISTENCE OF ENVIRONMENTAL STATISTICS SYSTEMS AND REPORTS ON THE STATE OF THE ENVIRONMENT

Definition: This indicator is an assessment of whether or not the country has environmental statistics systems and reports on the state of the environment.

Unit of measurement: Yes/No

Technical note: Given that a statistical system is a compendium of statistics and databases such as World Bank data or CELADE data sources, with a structure of legislation, financing, infrastructure and teams working in close coordination, an environmental statistical system is defined as an entity responsible for collecting and disseminating environmental statistics, with what could be called ISO controls, to ensure the accuracy of data provided by reports or on the Internet pages.

A state of the environment report is understood to be a collection of environmental statistics about which a document is periodically published on the state of the environment or in an environmental statistics compendium (Blue Book).

Source / reference: ILAC - Latin American and Caribbean Initiative for Sustainable Development.

NUMBER OF COMPANIES WITH ISO 14001 CERTIFICATION

Definition: This variable shows the number of companies with ISO 14001 certification by country in December of each respective year.

The international Standard ISO 14001 is part of the ISO 14000 family. This standard specifies that any organization, irrespective of its activity, size or country of operation, may engage in environmentally responsible management by implementing an Environmental Management System based on complying with national legislation and the continuous improvement of its performance. With appropriate implementation it is possible to obtain this internationally recognized environmental certification.

Unit of measurement: Number

Technical note: Data for this variable are obtained from administrative records compiled by the International Organization for Standardization from an annual survey made for all countries.

Source / reference: ISO guidelines - www.iso.ch/iso/en/ISOOnline.frontpage

ECLAC - Economic Commission for Latin America and the Caribbean.

<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

ECLAC – Economic Commission for Latin America and the Caribbean. ECLACSTAT <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

NUMBER OF FISH SPECIES WITH FISHING RESTRICTIONS

Definition: This variable shows all species under a legal restriction prohibiting or limiting fishing hydrobiological resources.

Fishing restriction: This is a legal restriction imposed by a competent authority that prohibits or limits hydrobiological fishing of a resource in a given area and for a defined period of time. For example: quota, closed season, among others.

Unit of measurement: Number

Technical note: Figures for this variable are obtained from compiling the number of species identified with a fishing restriction imposed by national resolutions, decrees and laws, and international treaties and agreements.

Source / reference: FAO Fisheries and Aquaculture Department. <http://www.fao.org/fishery/es>
ECLAC – Economic Commission for Latin America and the Caribbean. ECLACSTAT <http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

PERCENTAGE OF BASIN AREAS UNDER MANAGEMENT

Definition: Percentage of the total number of managed basins.

Basin: topographic complex characterized as the land area drained by a river and its tributaries

Basin management: area or zone where projects or integrated conservation programmes are being implemented; that is to say, a participatory characterization, diagnosis, or plan of action is developed with priority being given to problems and critical areas. This plan has components that are both biophysical (soil management, reforestation, etc.) and socio-economic (environmental education) or both (e.g. water quality).

Unit of measurement: Percentage (%)

Technical note: A managed basin area may be interpreted with an X percentage that represents the total number of basins in a country and in a specified year.

Source / reference: Food and Agriculture Organization of the United Nations. <http://www.fao.org/ag/agl/aglw/aquastat/main/index.stm>

PERCENTAGE OF ENVIRONMENTAL PROTECTED AREAS WITH RESPECT TO THE TOTAL TERRITORY

Definition: Percentage of protected areas on the total territorial surface.

Protected Area: An area of land and/or sea especially set aside to protect and maintain biodiversity and natural resources and associated cultural resources, and managed by legal or other effective means. (World Commission on Protected Areas of the International Union for Conservation of Nature, IUCN).

Unit of measurement: Percentage (%)

Technical note: Data for the Total Surface of Protected Areas variable are obtained mainly from administrative records...

Source / reference: ECLAC - Economic Commission for Latin America and the Caribbean.
<http://websie.eclac.cl/sisgen/Consultaintegrada.asp>

PERCENTAGE OF COASTAL-MARINE AREAS PROTECTED WITH RESPECT TO THE TOTAL COASTAL-MARINE AREA

Definition: Understood as coastal-marine protected area in the defined geographical area is the territorial unit that extends from the limits of the Exclusive Economic Zone (EEZ) to the land boundary of climatic influence where the main exchanges of matter and energy occur between marine and land ecosystems that: maintain their natural character and influence; are not permanently or significantly inhabited; are not exploited by human beings in any way that harms the zone; and are protected and managed to conserve their natural condition. .

Unit of measurement: Percentage (%)

Technical note: For this indicator geographic information systems or satellite images should be used to calculate the country's coastal marine zone. Once calculated, this figure should be used to identify which areas are protected to obtain the final formula for the indicator.

Source / reference: ILAC - Latin American and Caribbean Initiative for Sustainable Development. http://www.geodatos.org/geodatos/ILAC_es.html

PERCENTAGE OF MUNICIPALITIES IMPLEMENTING LAND USE PLANS

Definition: Of the total number of municipalities, the percentage of those implementing land use plans.

Municipalities with land use plans are those that carry out a variety of activities and have different approaches to regulating and providing guidelines on land use planning.

Land use plans are a set of policies and strategies used to rationally organize and manage the physical territory, and to adapt the land so that the municipality or district can develop.

Unit of measurement: Percentage (%)

Technical note: Information sources could be each of the country's municipalities as well as a ministry with relevant information.

Source / reference: ILAC - Latin American and Caribbean Initiative for Sustainable Development. http://www.geodatos.org/geodatos/ILAC_es.html

7-3 INTERSECTORIAL ENVIRONMENT AND HEALTH MANAGEMENT

EXISTENCE OF NATIONAL OR LOCAL GUIDELINES ON AN INTER-SECTORIAL ENVIRONMENT AND PUBLIC HEALTH POLICY

Definition: This indicator is an assessment of whether or not a country and/or its administrative units have guidelines regarding an intersectorial environment and public health policy.

Unit of measurement: Yes/No

Technical note: Guidelines for an intersectorial public policy on environment and health are understood to be the standards established so that environmental and health agencies can formulate, plan and execute joint action or interventions. A good example of the need for intersectorial action is how the public authority intervenes in communities settled on environmental liabilities that require simultaneous environmental and health monitoring.

Source / reference: UNEP (United Nations Environment Programme); PAHO (Pan-American Health Organization) and FIOCRUZ (Oswaldo Cruz Foundation) – GEO Health São Paulo. Summary and Lessons Learned. 2007.

EXISTENCE OF LEGISLATION PROMOTING HEALTHY ENVIRONMENTS (ANTI-TOBACCO, NOISE REDUCTION, VISUAL POLLUTION LAWS, AMONG OTHERS)

Definition: This indicator is an assessment of whether or not a country and/or its administrative legal units have legislation that promotes healthy environments, such as laws prohibiting smoking in enclosed public spaces, programmes to reduce noise, and control visual pollution, among others.

Unit of measurement: Yes/No

Technical note: This indicator only considers health in public spaces such as schools, public transport systems, work environments, and cultural and recreational spaces, among others. It does not include housing.

Source / reference: UNEP (United Nations Environment Programme); PAHO (Pan-American Health Organization) and FIOCRUZ (Oswaldo Cruz Foundation) – GEO Health São Paulo. Summary and Lessons Learned. 2007.

World Health Organization. Healthy Environments. http://www.who.int/water_sanitation_health/hygiene/settings/es/

EXISTENCE OF AGENCIES EMPOWERED TO CARRY OUT ENVIRONMENTAL, EPIDEMIOLOGICAL AND SANITARY HEALTH MONITORING

Definition: This indicator is an assessment of whether or not a country and/or its administrative units have agencies empowered to carry out environmental, epidemiological and health monitoring.

Unit of measurement: Yes/No

Technical note: The organization and powers of these agencies vary according to the country, but health monitoring may usually be defined as follows:

Environmental monitoring is a system that collects information on various environmental determinants of health, is able to analyse information and provide a solid overview system to initiate, strengthen or correct action taken on health promotion, preventive measures, and remedies and on controlling environmental exposures harmful to human health.

Epidemiological monitoring is a system that collects information on the different events of epidemiological interest, is able to analyse information and provides a solid overview that allows actions to be initiated, strengthened or corrected on health promotion and on preventive measures as well as on controlling transmissible and non-transmissible diseases.

Health monitoring is a system that collects information on the different events of health interest, is able to analyse information and provide a solid overview that allows action to be initiated, strengthened or corrected on health promotion and preventive measures, and on the control of risks to human health. It usually includes preparing and controlling standards for: (i) producing or importing medicines; (ii) using chemical products; (iii) food production, distribution and sale (including bromatological control); and (iv) hygiene in public spaces and services, among other responsibilities.

Source / reference: UNEP (United Nations Environment Programme); PAHO (Pan-American Health Organization) and FIOCRUZ (Oswaldo Cruz Foundation) – GEO Health São Paulo. Summary and Lessons Learned. 2007.

UNEP (United Nations Environment Programme); PAHO (Pan-American Health Organization) and FIOCRUZ (Oswaldo Cruz Foundation) – GEO Health São Paulo. Summary and Lessons Learned. 2007.

PROGRAMMES ON ENVIRONMENTAL AND HEALTH EDUCATION IN THE EDUCATIONAL SYSTEM

Definition: This indicator is an assessment of whether or not a country and/or its administrative units have environmental and health promotion education programmes in the education system.

Unit of measurement: Yes/No

Technical note: Refers to implementing education programmes and information activities, aimed mainly at the school population, in order to encourage learning a set of values and knowledge that will enable them to take action and make personal decisions about health promotion and a more sustainable environment, as well as being able to pass on such knowledge to other members of the family.

Source / reference: UNEP (United Nations Environment Programme); PAHO (Pan-American Health Organization) and FIOCRUZ (Oswaldo Cruz Foundation) – GEO Health São Paulo. Summary and Lessons Learned. 2007.