

Technical Notes

Symbol used in tables:

A hyphen (-) in tables indicates that data are not available.

Abbreviations or acronyms used are given in descriptions below for relevant tables.

A. Selected Background Indicators

Table 1. Human development index and environmental sustainability index

The human development index (HDI) is a summary measure of human development, created by United Nations Development Programme. It measures the average achievement in three basic dimensions of human development: A long and healthy life, as measured by life expectancy at birth; knowledge, as measured by a combination of adult literacy (two-thirds weight) and the combined primary-, secondary- and tertiary- gross enrolment ratios (one-third weight) and; a decent standard of living, as measured by GDP per capita (PPP \$US). The HDI is calculated as a simple average of the dimension indices that refer to the relative level of actual attainment between the maximum and minimum values.

Source: UNDP; Human Development Report 2001, New York - Oxford, Oxford University Press, 2001

The environmental sustainability index (ESI) is a measure of overall progress towards environmental sustainability developed for 122 countries. The ESI scores are based upon a set of 22 core "indicators", and each of them combines two to six variables for a total of 67 underlying variables. The indicators and variables were chosen through careful review of the environmental literature and available data combined with extensive consultation and analysis, identification of "best practices"; and investigation into interactions between environmental and economic performance. Although in broad terms high-income countries scored higher, among countries of similar levels of per capita income no strong correlation exists between income and overall environmental sustainability. The ESI has been developed through a transparent and interactive process, drawing on statistical, environmental, and analytic expertise from around the world. The ESI balances a range of dimensions, including both national and global perspectives, different types of environ-

mental threats, and both environmental and socioeconomic aspects of sustainability.

Source: Global Leaders for Tomorrow World Economic Forum, Center for International Earth Science Information Network and Yale Center for Environmental Law and Policy: 2001 Environmental Sustainability Index; An Initiative of the Global Leaders of Tomorrow Environment Task Force, YCELP, January 2001. This report is available online at <http://www.ciesin.columbia.edu/indicators/ESI>

Table 2. Selected food security indicators

The prevalence of undernourishment gives the proportion of the undernourished in the total population of each country. Undernourishment is the result of food intake that is insufficient to meet dietary energy requirements continuously. The World Health Organisation recommended that the average person needs to take a minimum of 2300 Kcal per day to maintain body functions, health and normal activity. This global minimum requirement of calories is broken down into country-specific differentials that are a function of the age-specific structure and body mass of the population.

Even if the per capita daily energy supply of each country exceeds the required level of energy, a certain proportion of the population remains undernourished (or food insecure), as they simply cannot afford food because of their poverty.

Also known as the prevalence of food inadequacy, undernutrition or insecurity, this measure involves comparison of household food consumption with a minimum dietary energy requirement and classification of the individuals in households with per capita calorie consumption levels below the minimum requirement as being in the undernourished category. Food and Agriculture Organization, mainly in connection with its periodic World Food Surveys, prepares estimates of the proportion and number of undernourished persons in developing countries.

Source: FAO; The State of Food Insecurity in the World 2000, Rome, FAO, 2000

The nutritional status of children under five relates to the percentage of children under age five who are underweight, stunted or wasted. The underweight is the low weight for age in children, reflecting a current condition resulting from inadequate food intake, past episodes of undernutrition or poor health conditions. The stunting is the low height for age, reflecting a sustained past episode of undernutrition. The wasting

is the low weight for height, generally resulting from weight loss associated with a recent period of starvation or disease.

Source: FAO; The State of Food Insecurity in the World 2000, Rome, FAO, 2000

LIFDCs are low-income food-deficit countries as defined by FAO. As of April 2001, there are 82 LIFDCs worldwide, of which 42 are African. In 1994, FAO launched a special programme for food security (SPFS) focused on LIFDCs. The main objective of the SPFS is to help LIFDCs to improve their national food security - through rapid increases in productivity and food production, and by reducing year-to-year variability in production - on an economically and environmentally sustainable basis. LIFDCs are currently defined as nations that are:

- (a) Poor -- with a net income per person that falls below the level used by the World Bank to determine eligibility for IDA assistance. At present, that means that their net income amounts to less than \$US 1, 445 per person.
- (b) Net importers of food -- with imports of basic food-stuffs outweighing exports over the past three years. In many cases, particularly in Africa, these countries cannot produce enough food to meet all their needs and lack sufficient foreign exchange to fill the gap by purchasing food on the international market.

Source: FAO Website: <http://www.fao.org>

B. Population Indicators

Table 3: Total population and other demographic indicators, 2000

This table gives some basic demographic indicators. Some of them are more extensively covered in the tables that follow.

Estimates of the total population are prepared by the Population Division of the United Nations Secretariat and revised every two years in order to incorporate new data. In general, these population figures are estimates of persons resident in the country or area as of July 1st of each year. They are usually based on population census data adjusted to the specified year, taking into account birth, death and international migration rates as determined from population surveys and registers and other national sources as available. Short-term residents and visitors in the country or area for less than one year are usually excluded.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

The sex ratio at birth is calculated as the number of males per 100 females among the total number of live births at a specified year. According to United Nations estimates, this number is slightly higher than 100 in most countries of the world, as an effect of sex preference or for biological reasons.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

The crude birth rate (CBR) is the annual number of live births per 1000 total population. CBR projections are carried out at 5-year intervals from 2000 to 2050 according to the three fertility variants (high, medium, and low) and the constant-fertility scenario. When preparing assumptions for United Nations projections, it is a common practice to assume that orderly progress will be made and that, during the projection period, such catastrophes as new wars, famines or epidemics will not occur. Data from 2000 onwards come from the United Nations medium fertility variant projection, which assumes that fertility everywhere will reach replacement level at some point in time during the period 2000-2050.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

The crude death rate (CDR) is the annual number of deaths per 1000 living persons. From 2000 onwards these are projections, with the following methodology: the mortality assumptions for each country in the UN projections are operationalised, first, by assuming future changes in life expectancy at birth by sex; and secondly, by calculating age- and sex-specific survival ratios that are consistent with both the assumed life expectancy and the current national age-sex patterns of mortality. For each country, a future course of life expectancy is generally projected to rise continuously unless information indicates that life expectancy will be stagnating or declining during the early 2000s. In these cases, a constant or declining life expectancy may be assumed. The factoring in of the potential mortality impact of the AIDS epidemic is one example of such a circumstance. Three working models of mortality improvement have been developed: a fast life expectancy rise, a middle life expectancy rise and a slow life expectancy rise. One of these working models is used for most countries, although when special circumstances exist, the projected course of mortality for some countries is assumed to depart from these models.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

The rate of natural increase in percentage measures the degree to which a population is growing due to the difference between birth and death rates. Population change results from the interaction of three variables: births, deaths and migration. The natural increase (or decrease) of a population takes into consideration only the first two variables as they play a central role in population dynamics. In the world as a whole, population growth occurs as a result of natural increase. Since birth and death rates are measured as the number of births or deaths occurring per 1000 population, the difference is divided by 10 to convert this rate into a percentage.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

Life expectancy at birth is the average number of years a newborn infant can expect to live under current mortality levels. It is generally calculated separately for each sex and on the basis of life tables, which give age and sex-specific mortality rates. See also 'Crude death rate' in the same table for more description on how life expectancies are projected from 2000 onwards.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

Table 4: Trends in population size and growth rate

The population size represents the size of the total population as of July 1st of each year. Data include official national sources (such as population censuses, demographic surveys, civil registration records and other administrative records), as well as surveys and reports on population by NGOs, research institutes etc. The estimations and projections for these data are undertaken by the United Nations Population Division. Data from 2000 onwards come from the UN medium fertility variant projection, which assumes that fertility everywhere will reach replacement level at some point in time during the period 2000-2050.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

The average annual rate of population growth in percentage is the degree to which population is growing per annum during the specified period. It expresses the number of persons added to (or subtracted from) a population in a year due to natural increase and net migration. Data from 2000 onwards come from the UN medium fertility variant projection, which assumes that fertility everywhere will reach replacement level at some

point in time during the period 2000-2050. See also 'Rate of natural increase' in Table 3.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

Table 5: Trends in population composition by age

The % of population by age group (0-14, 15-64, 65+) represents the share of each age group in the total population of a country. It provides a good indication of the present population age structure and allows prediction of the future course of population change. As fertility level has remained high in Africa, it is common practice that the age group 0-14 is nearing half of total population in most countries. According to UN prospects, population ageing will occur in almost all African countries by the first half of the new century.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

Table 6: Fertility trends

Crude birth rate (CBR): See the description in Table 3.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

The total fertility rate (TFR) is the average number of children a woman would have in her lifetime assuming that current age-specific birth rates remain constant throughout her childbearing years (usually considered to be ages 15 to 49). From 2000, these are projections assuming the medium variant fertility. The three fertility variants prepared are referred to as high, medium and low, depending upon the assumed levels of future fertility. The UN medium fertility variant assumes that fertility everywhere will reach replacement level at some point in time during the period 2000-2050.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

Table 7: Mortality trends

Crude death rate (CDR): See the description in Table 3.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

The infant mortality rate (IMR) is the annual number of deaths of infants under age 1 per 1000 live births. This mortality level in the first year of life is the most sensitive to development levels.

Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001

The under-5 mortality rate relates to the incidence of mortality to infants and young children. It reflects therefore the impact of diseases and other causes of death on infants, toddlers and young children. The measure is, therefore, more sensitive than infant mortality to the burden of childhood diseases including those preventable by improved nutrition and by immunization programmes. Under-5 mortality is here expressed as deaths to children under age 5 per 1,000 live births in a given year. An optimistic assumption of its future course of change was made from 2000 onwards. *Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001*

Life expectancy at birth: See the description in Table 3. *Source: UN; World Population Prospects: the 2000 revision, New York, UN, 2001*

Table 8: Views and policies of African governments on population issues

This table draws on the results of the Eighth United Nations Inquiry among Governments on Population and Development. This eighth inquiry is part of the effort of the UN Population Division to ensure a proper monitoring of the implementation of the Programme of Action of the International Conference on Population and Development (ICPD). It enables the assessment of policies and positions of governments on a variety of population issues, e.g. population growth, composition and ageing, fertility and mortality, contraceptive access, reproductive health, HIV/AIDS, migration etc. Some of the information considered most important was compiled in this table.

Abbreviations used: Satis.: Satisfactory; NI: No intervention; NR: No response; NA: Not applicable; NOP: No official position; Naccep.: Not acceptable; Accep.: Acceptable; MnC: Minor concern; MjC: Major concern; DS: Direct support; InDS: Indirect support.

Source: UN; Results of the Eighth United Nations Inquiry among Governments on Population and Development, New York, UN, 2001

Table 9: Reproductive health indicators, 1990s

The data for women receiving prenatal care refer to the percentage of pregnant women (age 15-49) who visit health care personnel and receive antenatal care at least once before parturition. Early prenatal care is essential

for reducing infant mortality, low birth weights, illness and maternal deaths related to child-delivery complications

Source: Population Action International; The PAI Report Card 2001, A World of Difference, Sexual and Reproductive Health and Risks, Washington D.C., PAI, 2001

The % of births attended by skilled personnel refers to the proportion of live births that received assistance at delivery from a trained health professional including doctors, nurses and midwives.

Source: Population Reference Bureau, "1998 Women of Our World", Washington D.C., PRB, 1998.

The prevalence of anemia among pregnant women relates to the percentage of women who had iron deficiency anemia during their pregnancy. Here, the level of prevalence was not given in figures but as follows: Low: less than 20%; Medium: 20-39%; High: 40-59%; Very high: 60% and above.

Source: Population Action International; The PAI Report Card 2001, A World of Difference, Sexual and Reproductive Health and Risks, Washington D.C., PAI, 2001

The data for contraceptive prevalence are derived from sample survey reports and estimate the proportion of married women (including women in consensual unions) currently using, respectively, any method or modern methods of contraception. Modern methods include male and female sterilization, IUD, the pill, injectables, hormonal implants, condoms and female barrier methods. These numbers are roughly but not completely comparable across countries due to variation in populations surveyed by age, in the timing of the surveys, and in the details of the questions. All the data were collected after 1975. Nearly 80% of the data refer to the period 1987-1994.

Source: UNFPA; The State of the World Population: 1998, the New Generations, New York, UNFPA, 1998. Original source: UNPD; World Population Monitoring 1998, New York, UN, 1998 and updated tabulations provided by UNPD.

The most used method of family planning
Abbreviations used: Cond: condom; Abs: abstinence; Rhy: rhythm method; Wi: withdrawal; Pill: oral contraceptive pill; IUD: intrauterine device; Other: other methods.

Source: Population Reference Bureau, "1998 Women of Our World", Washington D.C., PRB, 1998.

The maternal mortality rate is the number of deaths of women from causes related to pregnancy and childbirth

per 100,000 live births in a given year. Precision is difficult, though relative magnitudes are informative. Estimates below 50 are not rounded, those within 50-100 are rounded to the nearest 5; 100-1,000 to the nearest 10; and, above 1,000 to the nearest 100. Several of the maternal mortality estimates for around 1990 differ from official government figures reported by countries. The estimates are based on reported figures wherever possible, using approaches to improve the comparability of information from different sources. They are reviewed by WHO and UNICEF, UNFPA, academic institutions and other agencies and will be revised where necessary, as part of the ongoing process of improving maternal mortality data.

Source: UNFPA; The State of the World Population: 1998, the New Generations, New York, UNFPA, 1998. Original source: WHO and UNICEF, Revised 1990 Estimates of Maternal Mortality, a New Approach by WHO and UNICEF, New York, WHO and UNICEF, 1996.

Table 10: HIV/AIDS prevalence and deaths, 1999

The adults living with HIV/AIDS indicator provides the number of people (age 15-49) for both sexes with HIV infection, whether or not they have developed symptoms of AIDS, and are alive at the end of the year under consideration. This group represents the more economically and physically active cohort. Being more exposed to the contamination risks of HIV/AIDS than any other age group, the adults with HIV/AIDS impact to a great extent on the socio-economic development of the country.

Source: UNAIDS website at <http://www.unaids.org>

The adult prevalence rate refers to the percentage of adults (age 15-49) who live with HIV/AIDS. See the description of 'Adults living with HIV/AIDS' in the same Table.

Source: UNAIDS website at <http://www.unaids.org>

The sex ratio refers to the number of males per 100 females among the adults (age 15-49) living with HIV/AIDS. As shown in the table, the sex ratio is less than 100 in all countries, meaning that more women are infected with HIV, due mainly to their low socio-economic status and because they are physiologically more at risk.

Source: UNAIDS website at <http://www.unaids.org>

The children living with HIV/AIDS indicator provides the number of children (age 0-14) for both sexes living with HIV/AIDS. In general, they are infected by other reasons than sexual life, i.e. vertical transmission from their parents, or poor health care system.

Source: UNAIDS website at <http://www.unaids.org>

AIDS-related deaths refer to the estimated number of adults and children who died of AIDS during the year.

Source: UNAIDS website at <http://www.unaids.org>

The cumulative AIDS orphans figures refer to the number of children who have lost their mother or both parents to AIDS, while they were under age 15, since the beginning of the epidemic.

Source: UNAIDS website at <http://www.unaids.org>

C. Agricultural Indicators

General notes:

In tables where data for Eritrea exist, data apply from 1993, as it was formerly part of Ethiopia PDR together with Ethiopia.

Table 11. Agricultural and food production indices (1989-'91=100)

The agricultural production index gives the relative level of the aggregate volume of total agricultural production for each year compared to the base period 1989-1991 (=100). It is based on the sum of price-weighted quantities of different agricultural commodities produced after deductions of quantities used as seed and feed weighted in a similar manner. The resulting aggregate represents disposable production for any use except as seed and feed. All the indices at the country, regional and world levels are calculated by the Laspeyres formula. Production quantities of each commodity are weighted by the 1989-1991 average international commodity prices and summed for each year. To obtain the index, the aggregate for a given year is divided by the average aggregate for the base period 1989-1991.

Source: FAO Website: <http://www.fao.org>

The food production index gives the relative level of the aggregate volume of total food production, after deduction of seed and feed, for each year in comparison with the base period 1989-1991. Food comprises cereals, nuts, pulses, fruits, vegetables, sugar cane, sugar beets, starchy roots, edible oils, livestock and livestock products. See the description of 'Agricultural production index' in the same table for technical details on the computation of the index.

Source: FAO Website: <http://www.fao.org>

Table 12. Performance of the agricultural sector

The agricultural GDP measures the output of the agricultural sector minus the value of the intermediate inputs. Agriculture comprises value added from forestry, hunting and fishing as well as cultivation of crops and livestock production. Data are expressed in constant 1995 \$US. See also the technical notes for GDP in the same table.

Source: World Bank, African Development Indicators 2000, Washington D.C., IBRD, 2000

GDP (Gross Domestic Product) is the total output of goods and services for final use produced within the domestic territory of a given country, by both residents and non-residents, regardless of the allocation to domestic and foreign claims. It includes deductions of the value of the intermediate inputs but excludes deductions for depreciation of physical capital or depletion and degradation of natural resources. GDP at purchaser values (market prices) is the sum of GDP at factor cost and indirect taxes less subsidies. Data are expressed in constant 1995 \$US and calculated by converting domestic currencies using the 1995 official exchange rate.

Source: World Bank, African Development Indicators 2000, Washington D.C., IBRD, 2000

The agricultural share in the GDP is the ratio of agricultural GDP to total GDP, which includes industry, agriculture and service sectors. See also the technical notes for the agricultural GDP and GDP in the same table.

Source: World Bank, African Development Indicators 2000, Washington D.C., IBRD, 2000

Table 13. Trends in agricultural productivity

This table summarizes trends in agricultural productivity (expressed in \$US) per capita of total population, per person of the agricultural labour force and per hectare of the agricultural land. Computations were done by the ECA Secretariat based on population, agricultural GDP, labour force and land data provided by UN, World Bank and FAO. *Agricultural GDP:* See the description in Table 12.

Source: World Bank, African Development Indicators 2000, Washington D.C., IBRD, 2000

The agricultural labour force is the number of economically active people working in agriculture, hunting, forestry and fishing.

Source: FAO Website: <http://www.fao.org>

The agricultural land comprises arable land, irrigated land, permanent crops and pastures.

Source: FAO Website: <http://www.fao.org>

Table 14. Labour force in agriculture

Agricultural labour force: See the description in Table 13.

Source: FAO Website: <http://www.fao.org>

The share of the agricultural labour force in total labour force in percentage is the proportion of the agricultural labour force in total labour force. The labour force in general refers to the number of all employed and unemployed persons (including those seeking work for the first time). It covers employers; self-employed workers; salaried employees; wage earners; unpaid workers assisting in a family, farm or business operation; members of producers' cooperatives; and members of the armed forces.

Source: ECA Secretariat

FAO Website: <http://www.fao.org>

International Labour Organization, *Yearbook of Labour Statistics 1998*, ILO, 1998

The ratio of total population to agricultural labour force refers to the number of persons (including the agricultural worker) that must be supported and fed by each of the agricultural labour force

Source: ECA Secretariat

FAO Website: <http://www.fao.org>

United Nations: *World Population Prospects: the 2000 revision*, New York, UN, 2001

Table 15. Fertiliser consumption

Total fertiliser refers to the nutrients in terms of nitrogen (N), phosphate (P₂O₅), and potash (K₂O). In this table figures are given for total fertiliser consumption in a given country, expressed in metric tons, and fertiliser consumption (expressed in kilogrammes) per hectare of cropland. Computations of fertiliser consumption per cropland were done by the ECA Secretariat. See the description of 'Cropland' in Table 16.

Source: ECA Secretariat

FAO Website: <http://www.fao.org>

Table 16. Land use in agriculture

Total cropland refers to the sum of arable land, land under permanent crops and irrigated land. Arable land is land under temporary crops (double-cropped areas

are counted only once), temporary meadows for mowing or pasture, land under market and kitchen gardens and land under temporarily fallow (less than five years). The abandoned land resulting from shifting cultivation is not included in this category. Data for arable land are not meant to indicate the amount of land that is potentially cultivable. Land under permanent crops is land cultivated with crops that occupy the land 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 or timber. Crops include cereals, roots and tubers, pulses, oil-seeds, oil nuts and oil kernels, vegetables and melons, grapes and wine, fruits and berries, and other produce of cultivated plants, which are mainly intended for human consumption. To calculate the per capita cropland, UN population estimates have been used. See also the description of 'Agricultural labour force' in Table 13.

Source: ECA Secretariat

FAO Website: <http://www.fao.org>

United Nations: World Population Prospects: the 2000 revision, New York, UN, 2001

Irrigated land, as % of cropland is the proportion of irrigated land in cropland. Irrigated land relates to areas equipped to provide water to the crops. These include areas equipped for full and partial control irrigation, spate irrigation areas, and equipped wetland or inland valley bottoms.

Source: ECA Secretariat

FAO Website: <http://www.fao.org>

Table 17. Food trade

The imports and exports of agricultural products express foreign trade of agricultural products in value terms. Data are stored in million \$US. National currencies used as legal tender in international transactions by country are converted by using the average annual exchange rate (RH series) provided by the International Monetary Fund. Only in a few cases are exchange rates drawn from national sources.

Source: World Bank, African Development Indicators 2000, Washington D.C., IBRD, 2000

The terms of trade refer to the net imports of foreign trade of agricultural products. Positive values express surpluses and negative values express deficit in trade.

Source: ECA Secretariat

Table 18. Food assistance

This tables shows food assistance (cereals, non-cereals, and total food) from donors all over the world.

Food aid (total) are cereals and non-cereals provided by donor countries and international organizations, including the World Food Programme and the International Wheat Council, as reported for that particular crop year. Cereals include wheat, flour, bulgur, rice, coarse grain and the cereal components of blended foods. Non-cereals include other food, such as meat, fish, fruits, dairy products, oil, butter etc.

Source: ECA Secretariat

FAO Website: <http://www.fao.org>

Table 19. Crop yields and change

Crop yields (average yield of cereals and roots and tubers per unit area) are calculated from production and area data and expressed in terms of metric tons per hectare. Area refers to the area harvested. Cereals include wheat, rice corn, barley, sorghum, millet, rye, oats, and other grains such as mixed grains and buckwheat. Roots and tubers include all root crops grown principally for human consumption, such as cassava, yucca, taro and yams. Root crops grown for feed, such as turnips, mangels, and swedes, are excluded.

Source: ECA Secretariat

FAO Website: <http://www.fao.org>

Table 20. Food supply

Daily per capita supply of calories is calories equivalent to the net food supplies per day in a country, divided by the population. Figures are from FAO food balance sheets and arrived at from all food sources: domestic production, international trade, stock drawdowns and foreign aid. The quantity of food available for human consumption, as estimated by FAO, is the amount that reaches the consumer. In almost all cases, population figures used are mid-year estimates published by the UN Population Division. Calories actually consumed may be lower than figures shown, depending on how much food is lost during home storage, preparation, and cooking, and on how much is fed to pets and domestic animals or discarded. Daily per capita supply of protein is also calculated by dividing the quantities of protein by population, per day.

Source: ECA Secretariat

FAO Website: <http://www.fao.org>

D. Environmental Indicators

Table 21. Total land area and population density

The total land area (in square kilometers) designates the total area excluding area under inland water bodies. The definition of inland water bodies generally includes major rivers and lakes. Land area data are provided to the FAO by national governments in response to annual questionnaires. FAO also compiles data from national agricultural censuses.

Source: ECA Secretariat

FAO Website: <http://www.fao.org>

The population density refers to the number of population per square kilometer of land area. Figures are the quotients of population divided by total land area and can be considered as indicating the supporting power of a territory's land and resources. Figures are more function of the number of population which is continuously increasing, while the land area is considered constant overtime.

Source: ECA Secretariat

FAO Website: <http://www.fao.org>

United Nations: *World Population Prospects: the 2000 revision*, New York, UN, 2001

Table 22. The Urban Environment, 1993

Crowding is the floor area per person, the median usable living space per person in a metre squared.

Source: "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998

Other sources: "Global Urban Indicators Database", Habitat, 1997; and "Programme Activities: Analysis of Data and Global Urban Indicators Database (Urban Indicators Programme: Phase One: 1994-96)", Habitat, 1997

The percentage of urban households connected to services is the percentage of the households with connection to water, sewerage, and electricity network.

Source: "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998

Other sources: "Global Urban Indicators Database", Habitat, 1997; and "Programme Activities: Analysis of Data and Global Urban Indicators Database (Urban Indicators Programme: Phase One: 1994-96)", Habitat, 1997

The per capita water use is the average consumption of water in litres per person per day, for all uses. Consump-

tion of water per person depends on the availability and price of water, the climate, and the uses to which water is customarily put by individuals (e.g., drinking, bathing, washing, and gardening).

Source: "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998

Other sources: "Global Urban Indicators Database", Habitat, 1997; and "Programme Activities: Analysis of Data and Global Urban Indicators Database (Urban Indicators Programme: Phase One: 1994-96)", Habitat, 1997

Wastewater treated refers the percentage of all waste water undergoing any form of treatment, including primary (physical and mechanical processes that remove 20 to 30 percent of the biological oxygen demand [BOD]), secondary (additional use of biological treatment that remove 80 to 90 per cent of BOD), and tertiary (advanced added chemical treatments that remove 95 percent or more of BOD). The form of treatment varies dramatically among cities and countries.

Source: "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998

Other sources: "Global Urban Indicators Database", Habitat, 1997; and "Programme Activities: Analysis of Data and Global Urban Indicators Database (Urban Indicators Programme: Phase One: 1994-96)", Habitat, 1997

The per capita solid waste generation refers to the solid waste generated per person, in kilograms per day. This indicator should be regarded as a rough estimate because it is difficult to account for waste that is informally disposed of, incinerated, or composed.

Source: "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998

Other sources: "Global Urban Indicators Database", Habitat, 1997; and "Programme Activities: Analysis of Data and Global Urban Indicators Database (Urban Indicators Programme: Phase One: 1994-96)", Habitat, 1997

The data of households with garbage collection refer to the percentage of households enjoying regular waste collection. Regular waste collection can include household collection, regular "dumpmaster" group collection, but not local dumps to which the household must carry garbage.

Source: "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998

Other sources: "Global Urban Indicators Database", Habitat, 1997; and "Programme Activities: Analysis of Data and Global Urban Indicators Database (Urban Indicators Programme: Phase One: 1994-96)", Habitat, 1997

Table 23. Freshwater resources and withdrawals

The average annual internal renewable water resources refer to the average annual flow of rivers and recharge of groundwater generated from endogenous precipitation. Caution should be used when comparing different countries because these estimates are based on differing sources and dates. These annual averages also disguise large seasonal, inter-annual, and long-term variations. When data for annual river flows from and to other countries are not shown, the internal renewable water resources figure may include these flows. When such data are shown, they are not included in a country's total internal renewable water resources. The per capita annual internal renewable water resources were calculated using 1998 mid-year population estimates. Actual annual renewable water resources available for use is usually less than the sum of internal renewable resources and river flows. This is due to the fact that not all resources can be mobilized for use and that part of the flow coming from upstream countries or leaving for downstream countries might be reserved to those countries by treaty or any agreement. For example, Sudan's actual water resources include the flow of the Nile, less the amount that it is committed by treaty to deliver to Egypt at Aswan.

Source: UNDP, UNEP, IBRD and WRI: World Resources 2000-2001; People and Ecosystems: The Fraying Web of Life, 2001

Three measures are given for the annual withdrawals of water: the total water withdrawals (not counting evaporative losses from storage basins), the withdrawals as a percentage of the water resources and the per capita annual withdrawals. Water withdrawals include water from non-renewable groundwater sources, river flows from other countries, and desalination plants in countries where that source is a significant part of all water withdrawals.

Source: UNDP, UNEP, IBRD and WRI: World Resources 2000-2001; People and Ecosystems: The Fraying Web of Life, 2001

Sectoral withdrawals are classified as domestic (drinking water, homes, commercial establishments, public services, e.g., hospitals, and municipal use); industrial (some countries include water withdrawn to cool thermoelectric plants, while other do not; these can be significant amounts of total water withdrawals); and agricultural (irrigation and livestock). Those may not add because of rounding.

Source: UNDP, UNEP, IBRD and WRI: World Resources 2000-2001; People and Ecosystems: The Fraying Web of Life, 2001

Table 24. Forest cover and change

Total forest area in hectares consists of all forest area for temperate developed countries, and the sum of natural forest and plantation area categories for tropical and temperate developing countries.

Source: World Bank, African Development Indicators 1997, World Bank, 1997

Other sources: FAO Website at <http://www.fao.org> "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998

Annual rate of deforestation refers to the clearing of forest lands for all forms of agricultural uses (shifting cultivation, permanent agriculture and ranching) and for other land uses such as settlements, other infrastructure, and mining.

Positive values mean loss of forests, and negative values mean gain in forests.

Source: World Bank, African Development Indicators 1997, World Bank, 1997

Other sources: FAO Website at <http://www.fao.org> "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998

Natural forest. FAO defines a natural forest in tropical and temperate developing countries as a forest composed primarily of indigenous (native) tree species. Natural forests include closed forest, where trees cover a high proportion of the ground and where grass does not form a continuous layer on the forest floor (e.g., broad-leaved forests, coniferous forests and bamboo forests), and open. For the average annual rate of change of natural forests, positive values mean loss of forests.

Source: World Bank, African Development Indicators 1997, World Bank, 1997

Other sources: FAO Website at <http://www.fao.org> "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998

Annual rate of reforestation does not include regeneration of old tree crops (through either natural regeneration or forest management), although some countries may report regeneration as reforestation.

Source: World Bank, African Development Indicators 1997, World Bank, 1997

Other sources: FAO Website at <http://www.fao.org> "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998

Table 25. Emissions of carbon dioxide in 1996

Carbon dioxide emissions (CO₂) are often calculated and reported in terms of their content of elemental carbon. Their values were converted to the actual mass of CO₂ by multiplying the carbon mass by 3.664 (the ratio of the mass of carbon to that of CO₂). The table includes data on industrial additions to the CO₂ flux from solid fuels, liquid fuels, gaseous fuels, and others (including gas flaring, and cement manufacturing). The Carbon Dioxide Information Analysis Center (CDIAC) annually calculates emissions of CO₂ from the burning of fossil fuels and the manufacture of cement for most of the countries of the world. Estimates of total and per capita national emissions do not include bunker fuels used in international transport because of the difficulty of apportioning these fuels among the countries benefiting from that transport. Emissions from bunker fuels are shown separately for the country where the fuel was delivered. Total emissions consist of the sum of the CO₂ produced during the consumption of solid, liquid, and gaseous fuels, and from gas flaring and the manufacture of cement.

Solid, liquid and gas fuels are primarily, but not exclusively, coals, petroleum products, and natural gas.

Gas flaring is the practice of burning off gas released in the process of petroleum extraction, a practice that is declining.

Cement manufacture. During cement manufacturing, cement is calcined to produce calcium oxide. In the process, 0.498 metric ton of CO₂ is released for each metric ton of cement produced.

Bunker fuels are stored fuels to be used for ship or air transport. For more information, please refer to carbon dioxide emissions.

Source: "African development Indicators 1997", World Bank, 1997. Other sources: "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998;

"Urban Air Pollution in Megacities of the World", UNEP, WHO, 1992; "Health Cities Air Management, Information System, AMIS 1.0", (on diskettes), WHO, Geneva, 1997; and "Environmental Data Compendium", OECA, Paris, 1992, 1993, 1995, and 1997.

The per capita carbon dioxide emissions in kilogramme are calculated by dividing the total emissions by the population of each country of specified year.

Source: "African development Indicators 1997", World Bank, 1997. Other sources: "World Resources 1998-99; A Guide to the Global Environment", WRI, UNEP, UNDP, World Bank, 1998;

"Urban Air Pollution in Megacities of the World",

UNEP, WHO, 1992; "Health Cities Air Management, Information System, AMIS 1.0", (on diskettes), WHO, Geneva, 1997; and "Environmental Data Compendium", OECA, Paris, 1992, 1993, 1995, and 1997.

Table 26. Energy balance and resource use

In this table, all energy data are presented in a common unit of 1,000 metric tons of oil equivalent (TOE) to facilitate comparisons of energy productions, net imports, availability and consumption. A TOE is defined as 41.868 gigajoules.

The energy production is the amount of energy from all sources produced by each country in the year specified. In addition to solid, liquid and gaseous fuels and nuclear electricity, it also includes hydropower, geothermal, solar, wind, tidal, wave, combustible renewables and waste, and indigenous heat production from heat pumps.

Source: UNDP, UNEP, IBRD and WRI: World Resources 2000-2001; People and Ecosystems: The Fraying Web of Life, 2001

The energy net imports reflect the difference between the energy imports and exports. Trade in energy imports and exports comprise the total amount of energy having crossed national territorial boundaries of the country, whether or not customs clearance has taken place.

Source: UNDP, UNEP, IBRD and WRI: World Resources 2000-2001; People and Ecosystems: The Fraying Web of Life, 2001

The energy availability is the amount of energy available for consumption in each country, after having added the net imports to the energy produced.

Source: UNDP, UNEP, IBRD and WRI: World Resources 2000-2001; People and Ecosystems: The Fraying Web of Life, 2001

The energy consumption is the amount of energy from all sources used by each country in the year specified. It is important to note that this indicator includes losses through transportation, friction, heat loss, and other inefficiencies as energy consumption.

Source: UNDP, UNEP, IBRD and WRI: World Resources 2000-2001; People and Ecosystems: The Fraying Web of Life, 2001

The share of sources in energy production reflects both renewable and non-renewable sources as per cent of total

energy production of each country. The renewable sources include: Fuels and waste, hydroelectric, geothermal, solar and wind. The non-renewable sources include: Solid fuels, liquid fuels, gaseous fuels, nuclear fuels and others. The fuels and waste comprise solid biomass and animal products, gas/liquids from biomass, industrial waste, and municipal waste. Biomass is any plant matter used directly as fuel or converted into a fuel. This includes wood, wood or crop waste, ethanol, animal wastes, and sulfur lyes (lignin in black liquor from paper production). The hydroelectric refers to the energy content of the electricity produced in

hydroelectric power plants excluding output from pumped storage plants (in which electricity is produced from pumping water uphill during times of low demand for use in times of high demand). The energy from geothermal and solar sources is counted for both heat and electricity. The wind refers to the use of wind energy for electrical production.

The solid, liquid and gas fuels are primarily, but not exclusively, coals, petroleum products, and natural gas.

Source: UNDP, UNEP, IBRD and WRI: World Resources 2000-2001; People and Ecosystems: The Fraying Web of Life, 2001