





Population and Education
Human Health

Gender and Development

Income and Poverty

Economics and Financial Flows

Institutions and Governance

Energy

Climate and Atmosphere

Water Resources and Fisheries

Biodiversity

Land Use and Human Settlements

Food and Agriculture



WORLD RESOURCES 2005 Data Tables

Each edition of World Resources includes a statistical appendix, a compilation of country-level data culled from a variety of sources. This section presents some of the data required to build a basic picture of the state of the Earth in its human, economic, and environmental dimensions. In an increasingly interdependent, globalized world, a picture of the whole is needed to understand the interactions of human development, population growth, economic growth, and the environment. In addition, World Resources 2005 provides a selection of data on global poverty and, in particular, on how the poor use natural resources.

The 12 data tables that follow are a subset of a larger online data collection: the *EarthTrends* database of the World Resources Institute. Based on the *World Resources* series, *EarthTrends* is a free, online resource that highlights the environmental, social, and economic trends that shape our world. The website offers the public a comprehensive collection of vital statistics, maps, and graphics viewable by watershed, district, country, region, or worldwide.



General Notes

The World Resources 2005 data tables present information for 155 countries. These countries were selected from the 191 official member states of the United Nations based on their population levels, land area, and the availability of data. Many more countries are included in the Earth Trends online database. Country groupings are based on lists developed by the Food and Agriculture Organization of the United Nations (for developed and developing countries), the World Bank (for low-, medium-, and high-income countries), and the World Resources Institute (for regional classifications). See pages 224-226 for a full listing.

Several general notes apply to all the data tables in the report (except where noted otherwise):

- ".." in a data column signifies that data are not available or are not relevant (for example, country status has changed, as with the former Soviet republics).
- Negative values are shown in parentheses.
- 0 appearing in a table indicates a value of either zero or less than one-half the unit of measure used in the table; (0) indicates a value less than zero and greater than negative one-half.
- Except where identified by a footnote, regional totals are calculated using regions designated by the World Resources Institute. Totals represent either a summation or a weighted average of available data. Weighted averages of ratios use the denominator of the ratio as the weight. Regional totals are published only if more than 85 percent of the relevant data are available for a particular region. Missing values are not imputed.
- The regional totals published here use data from all 222 countries and territories in the *World Resources/EarthTrends* database (some of these countries are omitted from the current tables). Regional summations and weighted averages calculated with only the 155 countries listed in these data tables will therefore not match the published totals.
- Except where identified with a footnote, world totals are presented as calculated by the original data source (which may include countries not listed in WRI's database); original sources are listed after each data table.
- When available data are judged too weak to allow for any meaningful comparison across countries, the data are not shown. Please review the technical notes for further consideration of data reliability.
- Comprehensive technical notes are available in the pages following each data table.

More Data Tables available on-line at EarthTrends, http://earthtrends.wri.org

EarthTrends: The Environmental Information Portal

Much of the environmental information on the internet is fragmented, buried. or only available at a price. World Resources Institute's EarthTrends data portal gathers information from more than 40 of the world's leading statistical agencies, supplemented with WRI-generated maps and analyses, into a single, free repository for rapid searching and retrieving. *EarthTrends* supplements its content with detailed metadata that report on research methodologies and information reliability.

The EarthTrends online data source includes more than 40 data tables, similar to those on the following pages. EarthTrends also features over 2,000 two-page country profiles that highlight country-level statistics on key topics in sustainable development, as well as hundreds of maps and feature stories. The core of EarthTrends is a searchable database with over 600 time-series indicators, spanning 30-plus years; a corpus of statistical knowledge from which the data tables in this volume are drawn.

Two new additions to EarthTrends will be of particular interest to readers of this book. EarthTrends now features the EarthTrends Poverty Resource and the EarthTrends Global Watersheds Collection. The EarthTrends Poverty Resource, released in December 2004, provides a starting point for research on the nexus of poverty, governance, and ecosystems. It brings together a unique collection of data, maps, and other resources to help readers comprehend and analyze developing world poverty. In addition, the Poverty Resource contains dozens of subnational maps depicting the distribution of poverty and human well-being within countries. The Global Watersheds Collection, an updated version of the 1998 report Watersheds of the World, provides maps of land cover, population density, and biodiversity for 154 river basins and sub-basins around the world.

Since 2001, EarthTrends has remained an authoritative, independent source of information for users in more than 190 countries and territories, demonstrating that carefully compiled web-based information can provide an important basis for decision-making and policy development. The information on EarthTrends is varied. While researchers will value the raw data (over 500,000 records), much of the information is available in easy-to-use, printable formats, and can be adapted for educational or policy-oriented presentations.

Additional Data Products

In addition to the main, graphics-intensive site, *EarthTrends* offers users additional ways to access our collection of environmental information.

EarthTrends for Low-Bandwidth Users

In an effort to broaden global access to sustainable development information. WRI has developed a low-bandwidth companion to the EarthTrends site. View the entire EarthTrends collection of information without high-resolution graphics at http://earthtrends.wri.org/text.

World Resources/EarthTrends Data CD-ROM

Gain instant, portable access to the EarthTrends database on global conditions and trends with the EarthTrends CD-ROM. This time-saving research and reference tool contains all of the economic, population, natural resource, and environmental statistics contained in the EarthTrends website and the print edition of World Resources 2005. Available for order at http://www.wristore.com.

TerraViva! World Resources

Need more power and flexibility in arranging and understanding data? View the World Resources/EarthTrends database through state-of-the-art mapping, analytical, and statistical tools. Compare hundreds of environmental, social, and economic variables, generating maps, graphics, tables, or text as output. Available for order at http://www.wristore.com.



REGIONS

Classifications by the World Resources Institute

ASIA

(excluding the Middle East)

Armenia Azerbaijan Bangladesh Bhutan

Brunei Darussalam

Cambodia China Georgia Hong Kong India Indonesia Japan Kazakhstan

Korea, Dem People's Republic

Korea, Republic Kyrgyzstan

Lao People's Dem Republic

Macau Malaysia Maldives Mongolia Myanmar Nepal Pakistan **Philippines** Singapore Sri Lanka Taiwan Tajikistan Thailand Timor-Leste Turkmenistan Uzbekistan

EUROPE

Viet Nam

Albania Andorra Austria Belarus Belgium

Bosnia and Herzegovina

Bulgaria
Channel Islands
Croatia
Czech Republic
Denmark
Estonia
Faeroe Islands
Finland
France
Germany
Gibraltar
Greece

Hungary

Iceland

Ireland

Isle of Man

Italy Latvia Liechtenstein Lithuania Luxembourg Macedonia, FYR Malta

Moldova, Republic

Monaco Netherlands Norway Poland Portugal Romania Russian Federation

San Marino

Serbia and Montenegro

Slovakia Slovenia Spain Sweden Switzerland Ukraine United Kingdom

MIDDLE EAST AND NORTH AFRICA

Afghanistan Algeria Bahrain Cyprus Egypt

Egypt Iran, Islamic Republic

Iraq Israel Jordan Kuwait Lebanon

Libyan Arab Jamahiriya

Morocco Oman

Palestinian Territories

Qatar Saudi Arabia Syrian Arab Republic Tunisia

Turkey

United Arab Emirates Western Sahara

Yemen

SUB-SAHARAN AFRICA

Angola
Benin
Botswana
Burkina Faso
Burundi
Cameroon
Cape Verde
Central African Republic

Chad Comoros Congo

Congo, Dem Republic

Côte d'Ivoire Djibouti Equatorial Guinea Eritrea

Eritrea
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia

Madagascar Malawi Mali Mauritania Mauritius Mozambique

Namibia Niger Nigeria Réunion Rwanda

Saint Helena Sao Tome and Principe

Senegal
Seychelles
Sierra Leone
Somalia
South Africa
Sudan
Swaziland
Tanzania
Togo
Uganda
Zambia
Zimbabwe

NORTH AMERICA

Bermuda Canada Greenland Saint Pierre and Miquelon United States

CENTRAL AMERICAN AND CARRIBEAN

Antigua and Barbuda Aruba

Bahamas Barbados Belize

British Virgin Islands Cayman Islands Costa Rica Cuba Dominica Dominican Republic El Salvador Grenada Guadeloupe

Guadeloupe Guatemala Haiti Honduras Jamaica Martinique Mexico

Netherlands Antilles Nicaragua

Panama
Puerto Rico
Saint Kitts and Nevis
Saint Lucia

Saint Lucia
Saint Vincent and Grenadines

Trinidad and Tobago
Turks and Caicos Islands

Virgin Islands

SOUTH AMERICA

Argentina
Bolivia
Brazil
Chile
Colombia
Ecuador
Falkland Islands
French Guiana
Guyana
Paraguay
Peru
Suriname
Uruguay
Venezuela

OCEANIA

American Samoa Australia Cook Islands

Fiji

French Polynesia Guam

Kiribati

Marshall Islands Micronesia, Fed States

Nauru New Caledonia New Zealand Niue

Northern Mariana Islands

Palau

Palau Papua New Guinea

Samoa Solomon Islands

Tonga Vanuatu

DEVELOPING AND DEVELOPED WORLD

Classifications by the Food and Agriculture Organization of the United Nations

DEVELOPING

Afghanistan Algeria American Samoa

Angola

Antigua and Barbuda

Argentina Aruba Bahamas Bahrain Bangladesh Barbados Belize Benin Bermuda Bhutan

Bolivia

Botswana Brazil

British Virgin Islands Brunei Darussalam Burkina Faso Burundi

Cambodia Cameroon Cape Verde Cayman Islands Central African Republic

Chad Chile China Colombia Comoros Congo

Congo, Dem Republic Cook Islands Costa Rica Côte d'Ivoire Cuba Cyprus Djibouti Dominica

Dominican Republic Ecuador Egypt

Equatorial Guinea Eritrea

El Salvador

Ethiopia Falkland Islands

French Guiana French Polynesia

Gabon Gambia Ghana Greenland Grenada Guadeloupe Guam

Guatemala Guinea Guinea-Bissau Guyana Haiti Honduras Hong Kong India

Iran, Islamic Republic

Iraq Jamaica Jordan Kenya Kiribati

Indonesia

Korea, Dem People's Republic

Korea, Republic Kuwait

Lao People's Dem Republic

Lebanon Lesotho Liberia

Libyan Arab Jamahiriya

Macau Madagascar Malawi Malaysia Maldives Mali

Marshall Islands Martinique Mauritania Mauritius Mexico

Micronesia, Fed States

Mongolia Morocco Mozambique Myanmar Namibia Nauru Nepal

Netherlands Antilles New Caledonia Nicaragua Niger Nigeria Niue

Northern Mariana Islands

0man Pakistan Palau

Palestinian Territories

Panama

Papua New Guinea Paraguay Peru **Philippines** Puerto Rico Qatar

Réunion Rwanda Saint Helena Saint Kitts and Nevis Saint Lucia Saint Pierre and Miquelon

Samoa

Sao Tome and Principe

Saudi Arabia Senegal Seychelles Sierra Leone Singapore Solomon Islands Somalia Sri Lanka

Saint Vincent and Grenadines

Sudan Suriname Swaziland

Syrian Arab Republic

Taiwan Tanzania Thailand Timor-Leste Togo Tonga

Trinidad and Tobago Tunisia

Turkey

Turks and Caicos Islands

Uganda

United Arab Emirates

Uruguay Vanuatu Venezuela Viet Nam Virgin Islands Western Sahara Yemen Zambia Zimbabwe

DEVELOPED

Albania Andorra Armenia Australia Austria Azerbaijan Belarus Belgium

Bosnia and Herzegovina

Bulgaria Canada Channel Islands Croatia Czech Republic Denmark Estonia

Finland France Georgia Germany Gibraltar Greece Hungary Iceland Ireland Isle of Man Israel Italy Japan Kazakhstan Kyrgyzstan Latvia Liechtenstein Lithuania Luxembourg Macedonia, FYR

Faeroe Islands

Malta

Moldova, Republic Monaco Netherlands New Zealand

Norway Poland Portugal Romania

Russian Federation San Marino

Serbia and Montenegro

Slovakia Slovenia South Africa Spain Sweden Switzerland Tajikistan Turkmenistan Ukraine United Kingdom United States Uzbekistan

LOW-, MIDDLE-, AND HIGH-INCOME

Classifications by the World Bank

LOW INCOME

Afghanistan Angola Azerbaijan Bangladesh Benin Bhutan Burkina Faso Burundi Cambodia Cameroon

Central African Republic

Chad Comoros Congo

Congo, Dem Republic Côte d'Ivoire Equatorial Guinea

Eritrea Ethiopia Gambia Georgia Ghana Guinea Guinea-Bissau Haiti

Haiti India Indonesia Kenya

Korea, Dem People's Republic

Kyrgyzstan

Lao People's Dem Republic

Lesotho Liberia Madagascar Malawi Mali Mauritania Moldova, Republic

Mongolia Mozambique Myanmar Nepal Nicaragua Niger Nigeria Pakistan

Papua New Guinea

Rwanda

Sao Tome and Principe

Senegal Sierra Leone Solomon Islands Somalia Sudan Tajikistan Tanzania Timor-Leste Togo Uganda Uzbekistan Viet Nam Yemen Zambia Zimbabwe

MIDDLE INCOME

Albania Algeria American Samoa Argentina Armenia Belarus

Belize Bolivia

Bosnia and Herzegovina

Botswana Brazil Bulgaria Cape Verde Chile China Colombia Costa Rica Croatia Cuba Czech Reput

Czech Republic Djibouti Dominica

Dominican Republic

Ecuador Egypt El Salvador Estonia Fiji Gabon Grenada Guatemala Guyana Honduras Hungary

Iran, Islamic Republic

Iraq Jamaica Jordan Kazakhstan Kiribati Latvia Lebanon

Libyan Arab Jamahiriya

Lithuania Macedonia, FYR Malaysia Maldives Marshall Islands Mauritius Mexico

Micronesia, Fed States

Morocco Namibia

Northern Mariana Islands

Oman Palau

Palestinian Territories

Panama Paraguay Peru Philippines Poland Romania

Russian Federation Saint Kitts and Nevis

Saint Lucia

Samoa

Saint Vincent and Grenadines

Saudi Arabia Serbia and Montenegro Seychelles Slovakia South Africa Sri Lanka Suriname

Swaziland Syrian Arab Republic

Thailand Tonga

Trinidad and Tobago

Tunisia
Turkey
Turkmenistan
Ukraine
Uruguay
Vanuatu
Venezuela
Western Sahara

HIGH INCOME

Andorra

Antigua and Barbuda

Aruba
Australia
Austria
Bahamas
Bahrain
Barbados
Belgium
Bermuda
Brunei Darussalam

Canada
Cayman Islands
Channel Islands
Cyprus

Denmark Faeroe Islands Finland France

French Guiana

French Polynesia Germany Greece Greenland Guadeloupe Guam Hong Kong Iceland Ireland Isle of Man Israel Italy

Japan
Korea, Republic
Kuwait
Liechtenstein
Luxembourg
Macau
Malta
Martinique
Monaco

Netherlands Netherlands Antilles New Caledonia New Zealand Norway Portugal Puerto Rico Qatar Réunion San Marino

Singapore Slovenia Spain Sweden Switzerland

United Arab Emirates United Kingdom United States Virgin Islands

Population and Education
Sources: United Nations Population Division, United Nations Children's Fund, United Nations High Commissioner for Refugees, Global IDP Project, United Nations Educational, Scientific, and Cultural Organization

	To	otal Populatio	n	Percer Popula in Spe Age Gr	ition cific	Estimated Total Fertility Rate {a}	Estimated Mortality Under Age 5	Refuge (thousa Granted		Internally Displaced	Estima Literacy 200 (perce	Rate 14	Net So Enrolli	
		ates and Projes sands of peop 2005		Under 15		(children per woman) 2000-2005	(per 1000 live births) 2002	Asylum Elsewhere 2003	Repatri- ations 2003	Persons (thousands) 2004	Adults Over Age 15	Youths Ages 15-24	(perco 2001-2 Primary	
World	4,434,682	6,453,628	8,130,149	28	7	2.7	81	9,672	1,095	25,000	77	89	••	·
Asia (excl. Middle East) Armenia	2,477,179 3,096	3,624,244 3,043	4,436,079 2,786	28 18	7	2.5 1.2	35	1,327	<u>9</u>	50	76 99	91 100	8 5	85
Azerbaijan Bangladesh	6,161 85,004	8,527 152,593	10,486 220,321	27 37	7 3	2.1 3.5	105 73	253 6		570 150-520	 41	 50	80 87	76 44
Bhutan	1,318	2,392	4,030	40	4	5.0	94	104					 86	
Cambodia China	6,613 998,877	14,825 1,322,273	23,555 1,450,521	22	8	4.8 1.8	138 38	31 132			69 91	80 99	93 c	21
Georgia India	5,073 688,856	5,026 1,096,917	4,258 1,416,576	17 32	15 5	1.4 3.0	29 90	12 14	< 0.5	260 650	 61		91 83 c	
Indonesia	150,128	225,313	277,567	29	5	2.4	43	13		535	88	98	92	48 d
Japan Kazakhstan	116,807 14,919	127,914 15,364	121,017 15,258	14 23	20 9	2.0	5 76	< 0.5			99	100	100 90	100 84
Korea, Dem People's Rep Korea, Rep	17,196 38,124	22,876 48,182	24,974 50,042	25 19	7 9	2.0 1.4	55 5	< 0.5 < 0.5					100	 89
Kyrgyzstan	3,628	5,278	6,711	31	7	2.6	61	3					90	
Lao People's Dem Rep Malaysia	3,205 13,763	5,918 25,325	9,282 35,191	41 32	5	4.8 2.9	100	10 < 0.5			66 89	79 97	83 95	31 69
Mongolia Myanmar	1,663 33,705	2,667 50,696	3,491 61,308	30 31	4	2.4 2.9	71 108	< 0.5 147	3	600-1,000	98 85	98 91	87 82	71 35
Nepal	14,881	26,289	40,740	39	4	4.3	87	1		100-200	44	63	70 c	
Pakistan Philippines	80,781 48,088	161,151 82,809	271,600 113,795	41 35	4	5.1 3.2	104 37	24 < 0.5	< 0.5	25 >75	42 93	54 95	67 c 93	 56
Singapore	2,414 14,543	4,372 19,366	4,934 21,670	20 24	8	1.4 2.0	4 19	< 0.5 122	 5	430- 500	93 92	100 97	100	
Sri Lanka Tajikistan	3,953	6,356	8,548	34	5	3.1	72	59	< 0.5	430- 500	100	100	98	 79
Thailand Turkmenistan	46,342 2,861	64,081 5,015	75,424 6,825	25 32	6 5	1.9 2.7	28 98	< 0.5			93 99	98 100	86	
Uzbekistan	15,952	26,868	35,031	32	5	2.4	68	7		3	99	100		
Viet Nam Europe	53,005 692,430	83,585 724,720	108,374 685,441	29 16	5 16	2.3 1.4	26	363 1,098	36		90 99		94	65
Albania	2,671 7,549	3,220 8,120	3,680 7,911	27 15	7	2.3 1.3	30 5	10 < 0.5			99	99	97 c 91 c	74 c 88 c
Austria Belarus	9,659	9,809	8,678	15	16 15	1.2	20	8			100	100	94	78
Belgium Bosnia and Herzegovina	9,859 3,914	10,359 4,209	10,512 4,089	17 16	18 12	1.7 1.3	6 18	< 0.5 300	 14	330	 95	100	100 d 	
Bulgaria	8,862	7,763	6,335	14	16	1.1	16	3			99	100	93 c	86 c
Croatia Czech Rep	4,377 10,283	4,405 10,216	3,990 9,608	17 15	17 14	1.7 1.2	8 5	230 7	10	11	98	100	88 88	86 89
Denmark Estonia	5,123 1,473	5,386 1,294	5,469 943	18 15	15 17	1.8 1.2	4 12	< 0.5 1			 100	100	99 d 98 c	89 d 92 c
Finland	4,780	5,224	5,253	17	16	1.7	5	< 0.5					100 c	95 c
France Germany	53,880 78,289	60,711 82,560	64,577 81,511	18 14	16 19	1.9 1.4	6 5	< 0.5 1					100 с 83	92 c 88
Greece Hungary	9,643 10,707	10,978 9,784	10,567 8,636	14 16	19 15	1.3 1.2	5 9	< 0.5 3					95 c 91	85 c 92
Iceland	228	294	330	22	12	2.0	4	< 0.5					100 c	82 c
Ireland Italy	3,401 56,434	4,040 57,253	4,762 51,546	20 14	11 20	1.9 1.2	6 6	< 0.5 < 0.5					94 с 100 с	82 c 88 d
Latvia Lithuania	2,512 3,413	2,265 3,401	1,750 2,935	14 18	17 15	1.1 1.3	21 9	3 2			100 100	100 100	91 c 97 c	89 c 92 c
Macedonia, FYR	1,795	2,076	2,205	21	11	1.9	26	6	2	3			93 с	
Moldova, Rep Netherlands	4,010 14,150	4,259 16,300	4,011 17,224	19 18	10 14	1.4 1.7	32 5	11 < 0.5		1	99	100	78 с 99 с	68 90 c
Norway Poland	4,086 35,574	4,570 38,516	4,913 36,680	19 16	15 13	1.8 1.3	4 9	< 0.5 15					100 с 98	95 c 91 c
Portugal	9,766	10,080	9,721	17	16	1.5	6	< 0.5						85 c
Romania Russian Federation	22,201 138,660	22,228 141,553	20,328 119,713	16 14	14 14	1.3 1.1	21 21	8 96	 < 0.5	330	97 100	98 100	93 c	80 c
Serbia and Montenegro	9,522 4,976	10,513 5,411	10,094 5,344	18 17	14 12	1.7 1.3	19 9	297 1	9	250	100	100	75 c	 87
Slovakia Slovenia	1,832	1,979	1,814	14	15	1.1	5	1			100	100	87 93 c	96 c
Spain Sweden	37,542 8,310	41,184 8,895	39,951 9,033	14 17	17 18	1.2 1.6	6 3	< 0.5 < 0.5					100 100	94 99
Switzerland	6,319	7,157	6,655	15	17	1.4	6	< 0.5					99 с	88 c
Ukraine United Kingdom	50,044 55,530	47,782 59,598	38,925 64,183	15 18	16 16	1.2 1.6	20 7	94 < 0.5			100	100	82 100 c	91 95 c
Middle East & N. Africa Afghanistan	246,845 15,117	448,715 25,971	667,291 49,987	34 43	4	3.3 6.8	58 e 257	3,488 2,136	705 646	180-300	70	85		
Algeria	18,740	32,877	44,120	31	4	2.8	49	12	< 0.5	1,000	69	90	95	62
Egypt Iran, Islamic Rep	43,915 39,343	74,878 70,675	109,111 94,441	34 30	5 5	3.3 2.3	39 41	6 132	4		56 	73 	90 87	81
Iraq Israel	12,962 3,764	26,555 6,685	45,338 8,970	40 27	3 10	4.8 2.7	125 6	368 1	55	900 150-300	 95	100	91 d 100	33 d 89
Jordan	2,225	5,750	8,643	37	3	3.6	33	1			91	99	91	80
Kuwait Lebanon	1,375 2,669	2,671 3,761	4,198 4,692	25 28	2 6	2.7 2.2	10 32	1 25		300	83	93	85 90	77
Libyan Arab Jamahiriya	3,043	5,768	8,123	30	4	3.0	19 43	2			82 51	97 70		
Morocco Oman	19,382 1,187	31,564 3,020	42,505 5,223	37	5 2	2.8 5.0	13	1 < 0.5	< 0.5		51 74	99	88 75	31 d 68
Saudi Arabia Syrian Arab Rep	9,604 8,959	25,626 18,650	43,193 28,750	38 36	3	4.5 3.3	28 28	< 0.5 20		200-500	78 83	94 95	59 98	53 39
Tunisia	6,469	10,042	12,351	26	6	2.0	26	3			73	94	97	68
Turkey United Arab Emirates Yemen	46,132 1,015 8,140	73,302 3,106 21,480	91,920 4,056 50,584	29 24 48	6 2 2	2.4 2.8 7.0	41 9 114	186 < 0.5 2	< 0.5 < 0.5	>1,000	87 77 49	96 91 68	88 81 67 c	 72 35 d

	Estima	otal Populatio ates and Proje ands of peop	ections	Perce Popul in Spe Age G 20 Under	lation ecific Groups 105	Estimated Total Fertility Rate {a} (children per woman)	Estimated Mortality Under Age 5 (per 1000 live births)	Refuge (thous Granted Asylum Elsewhere		Internally Displaced Persons (thousands)	Estim Literacy 200 (percy Adults Over Age	y Rate 04	Enrol (per	School Ilment rcent) 2002
	1980	2005	2030	15	Over	2000-2005	2002	2003	2003	2004	15	15-24	Primary	Secondary
Sub-Saharan Africa	377,926	732,512	1,181,279	44	3	5.4	174 e	3,306	345		62	77		
Angola	7,048 3,459	14,533	28,588	48	3	7.2 5.7	260	324	133	450			30 d	
Benin Botswana	3,459 987	7,103 1,801	12,091 1,562	45 39	3	3.7	156 110	< 0.5 < 0.5			40 79	56 89	71 d 81	20 с 55 с
Burkina Faso	6,820	13,798	27,910	49	3	6.7	207	1			13	19	35	8 c
Burundi	4,130	7,319	13,652	45	3	6.8	190	532	82	381	50	66	53	8
Cameroon Central African Rep	8,754 2,306	16,564 3,962	21,760 5,475	41 43	4 4	4.6 4.9	166 180	6 35	< 0.5 5	200	68 49	 59		
Chad	4,505	9,117	17,722	47	3	6.7	200	52	1	200	46	70	58	 8 d
Congo	1,804	3,921	7,558	47	3	6.3	108	29	2	100	83	98		
Congo, Dem Rep	27,909	56,079	106,988	47	3	6.7	205	453	3	3,400				
Côte d'Ivoire Equatorial Guinea	8,427 219	17,165 521	23,258 888	40 44	3 4	4.7 5.9	191 152	34 1	17 < 0.5	500-800		60	63 85	 26 d
Eritrea	2,381	4,456	7,942	45	2	5.4	89	124	10	 59			43	21
Ethiopia	35,688	74,189	127,220	45	3	6.1	171	63	< 0.5	132	42	57	46	15
Gabon Gambia	695 652	1,375 1,499	2,044	40	4	4.0 4.7	91 126	< 0.5					78 c	28
Ghana	11,043	21,833	32,648	39	3	4.1	97	16			 74	92	60	32
Guinea	4,688	8,788	14,921	44	3	5.8	165	4		100			61	
Guinea-Bissau Kanya	793 16,368	1,584 32,849	3,154 41,141	47 40	3 3	7.1 4.0	211 122	1 3	< 0.5	350	 84	 96	45 d 70	 24
Kenya Lesotho	1,277	1,797	1,555	39	5	3.8	87	< 0.5		330	81	96	84	22
_iberia	1,869	3,603	6,830	47	2	6.8	235	353	21	500	56	71	70 d	
Madagascar	9,048	18,409	33,464	44	3	5.7	135	< 0.5					69	
Malawi Mali	6,183 7,044	12,572 13,829	19,834 29,572	47 49	4	6.1 7.0	182 222	< 0.5 < 0.5			62 19	73 24	81	29
Mauritania	1,609	3,069	5,482	43	3	5.8	183	31			41	50	67	15
Mozambique	12,084	19,495	26,620	44	3	5.6	205	< 0.5			47	63	60	11
Namibia	1,018	2,032	2,418	43	4	4.6	67	1	< 0.5		83	92	78	38
Niger Nigeria	5,586 64,325	12,873 130,236	30,337 206,696	50 44	2	8.0 5.4	264 201	1 24	< 0.5	250	17 67	25 89	34	5
Rwanda	5,157	8,607	13,453	45	3	5.7	203	75	23		69	85	84	
Senegal	5,538	10,587	16,926	42	2	5.0	138	8	< 0.5	5	39	53	58	
Sierra Leone Somalia	3,239 6,487	5,340 10,742	8,206 24,407	44 48	3 2	6.5 7.3	284 225	71 402	33 10	 375				
South Africa	29,140	45,323	42,170	32	4	2.6	65	< 0.5		3/3	 86	92	90	62 c
Sudan	19,387	35,040	50,525	39	4	4.4	94	606	< 0.5	4,000	60	79	46 d	
Tanzania, United Rep	18,838	38,365	56,903	44	2	5.1	165	1	< 0.5		77	92	54	
Togo Uganda	2,519 12,465	5,129 27,623	8,117 63,953	43 50	3 2	5.3 7.1	141 141	11 35	< 0.5 4	1,600	60 69	77 80	92	 14 c
Zambia	5,977	11,043	15,224	47	3	5.6	182	< 0.5	< 0.5		80	89	66	20
Zimbabwe	7,226	12,963	12,773	42	4	3.9	123	7		100-200	90	98	83	40
North America Canada	256,068 24,516	332,156 31,972	407,530 36,980	21 17	12 13	2.0 1.5	7	< 0.5 < 0.5		••			100 c	98 c
United States	231,428	300,038	370,396	21	12	2.1	8	< 0.5					93	96 C 85
C. America & Caribbean	119,135	186,222	239,093	32	6	2.7	34 e	43	< 0.5		86	93		
Belize	144	266	373	36	4	3.2	40	< 0.5			77	84	96 c	60 c
Costa Rica Cuba	2,347 9,710	4,327 11,353	5,872 11,338	28 19	6 11	2.3 1.6	11 9	< 0.5 16			96 97	98 100	91 96	51 83
Dominican Rep	5,696	8,998	11,290	31	5	2.7	38	< 0.5			84	92	97	41
El Salvador	4,586	6,709	8,802	34	5	2.9	39	6	< 0.5		80	89	89	46
Guatemala	6,820	12,978	21,002	42	4	4.4	49	7	< 0.5	250	70	80	85	29
Haiti Honduras	5,453 3,568	8,549 7,257	11,094 10,715	37 39	4 4	4.0 3.7	123 42	8	< 0.5 < 0.5		52 80	66 89	 87	
Jamaica	2,133	2,701	3,380	30	7	2.4	20	< 0.5			88	95	95	75
Mexico	67,569	106,385	133,591	31	5	2.5	29	2		10-12	91	97	99	60
Nicaragua Panama	2,919 1.949	5,727 3,235	8,929 4,514	41 30	3 6	3.8 2.7	41 25	4 < 0.5	< 0.5 < 0.5		77 92	86 97	82 99	37 62
Trinidad and Tobago	1,082	1,311	1,327	21	7	1.6	20	< 0.5	< 0.5		99	100	94	
South America	242,247	372,042	471,942	29	6	2.5	34 e	48	< 0.5		89	96		
Argentina	28,094	39,311	48,611	27	10	2.4	19	1			97	99	100	81
Bolivia Brazil	5,355 121,614	9,138 182,798	13,275 222,078	38 27	5 6	3.8 2.2	71 37	< 0.5 < 0.5	< 0.5		87 86	97 94	94 97	67 c 72
Chile	11,147	16,185	20,311	27	8	2.4	12	2	< 0.5		96	99	89 c	
Colombia	28,447	45,600	60,843	31	5	2.6	23	38	< 0.5	3,100 d	92	97	87	54
Ecuador	7,961 761	13,379	17,335	32 29	5 5	2.8	29	1			91	96	99	50 75 c
Guyana Paraguay	3,114	768 6,160	695 9,890	38	4	2.3 3.8	72 30	< 0.5 < 0.5			 92	 96	98 d 92	75 c 50
Peru	17,324	27,968	37,170	32	5	2.9	39	6	< 0.5	60	85	97	100	66 c
Suriname	355	442	489	30	6	2.5	40	< 0.5					97	63
Jruguay /enezuela	2,914 15,091	3,463 26,640	3,958 36,991	24 32	13 5	2.3 2.7	15 22	< 0.5 1			98 93	99 98	90 92	72 57
Oceania	22,808	32,969	41,437	24	10	2.7	_	1				96	_	
Australia	14,569	20,092	23,833	19	13	1.7	6	< 0.5					96	88
Fiji	634	854	982	32	4	2.9	21	1			93	99	100	76
New Zealand Papua New Guinea	3,113 3,241	3,932 5,959	4,457 9,075	22 40	12 2	2.0 4.1	6 94	< 0.5 < 0.5	**				98 77	92 c 23
Solomon Islands	229	504	850	40	3	4.1	24	< 0.5		0.35				
					_									
Developed	1,171,410	1,336,153	1,383,167	18	14	1.6	8 e	1,455	36		98			

a. Medium variant population projections; please consult the technical notes for more information. b. Refugees are classified by their country of origin. "Granted asylum elsewhere" refers only to people who have been granted asylum outside of their home country. c. Data are from the 2000-2001 school year. d. Data are from the 1999-2000 school year. e. Regional totals are calculated by UNICEF and combine South America, Central America and the Caribbean; a list of countries classified in each region is available at http://www.unicef.org/files/Table9.pdf. f. Cumulative total since 1985.

Population and Education: Technical Notes

DEFINITIONS AND METHODOLOGY

Total Population refers to estimates and projections of de facto population as of July 1 of the year indicated.

Percent of Population under Age 15 is the proportion of the total population younger than 15 years of age.

Percent of Population Age 65 and Over is the proportion of the total population 65 years of age and older.

Total Fertility Rate is an estimate of the average number of children a woman would have over the course of her entire life if current age-specific fertility rates remained constant during her reproductive years.

The four variables defined above are estimated by the United Nations Population Division (UNPD) for the years 1950-2000 and forecasted based on the assumptions enumerated below for the years 2001-2050.

Past estimates are calculated using census and survey results from all countries. The UNPD compiles, evaluates, and adjusts these data when necessary. Adjustments incorporate data from civil registrations (in developed countries), population surveys (in developing countries), earlier censuses, and, when necessary, population models based on information from similar countries.

The projections reported here assume medium fertility (the "medium-fertility assumption"). All future population projections are based on estimates of the 2000 base-year population and incorporate the three main components of population growth: fertility, mortality, and migration. Fertility is estimated by applying age-specific fertility rates to the projected female population using models based on past trends in fertility to project future declines. Mortality is projected on the basis of the models of life expectancy that assume a medium pace of mortality decline. For countries affected by the HIV/AIDS epidemic, mortality rates are predicted using a model developed by the Joint United Nations Program on HIV/AIDS (UNAIDS). Migration rates are estimated on the basis of past international migration estimates and an assessment of the policy stance of countries with regard to future international migration flows. The UNPD incorporates information on official immigration and emigration, labor migration, undocumented migration, and refugees.

For more information on methodology, see *World Population Prospects*, 2002 Revision. Volume III: Analytical Report. Online at http://www.un.org/esa/population/publications/wpp2002/WPP2002_Vol3.htm.

Mortality under Age 5 is the probability of a child dying between birth and age five expressed per 1,000 live births. Data for estimating mortality of children under age 5 is typically obtained from population census information, civil registration records on deaths of young children, United Nations Childrens' Fund (UNICEF) Multiple Indicator Cluster Surveys (MICS) and Demographic and Health Surveys (DHS). For each country, UNICEF and its partners plotted all data from 1960 to the present on a graph; a curve was fitted through these data using a weighted least-squares regression model.

Refugees Granted Asylum Elsewhere is the number of refugees leaving a country who have been granted asylum status by a foreign government.

Refugees Repatriations is the number of refugees who have successfully returned (repatriated) to their home country.

In both columns, refugees are counted according to their home countries ("country of origin"), not their country of asylum. Data were collected in 2003 but include all persons that have migrated as refugees without returning to their home country. According to Article 1 of the 1951 Convention Relating to the Status of Refugees and the related 1967 Protocol, a refugee is a person who "owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country

of his nationality and is unable to or, owing to such fear, is unwilling to avail himself of the protection of that country." This variable reflects the number of refugees recognized by the United Nations High Commissioner for Refugees (UNHCR), which generally relies on host government reporting to obtain data, supplemented with information collected by aid workers.

Internally Displaced Persons (IDPs) are defined by the United Nations as "persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border." The UNHCR estimates that globally there are 25 million internally displaced people in over 50 countries. Since they have not crossed into another country, IDPs are generally not afforded the same protections and assistance given to refugees. Estimates are from the Global IDP Project and incorporate a wide variety of sources, including non-governmental organizations (NGOs), academic research, governments, and news agencies.

Literacy Rates measure the proportion of the population in a specific age group who can both read and write with understanding a short, simple statement on their everyday life. Adult Literacy Rates refer to all residents of a country or region over the age of 15; Youth Literacy Rates evaluate the population of a country between the ages of 15 and 24 in the year specified. Youth literacy rates are increasingly used to gauge the impact of primary education as well as the speed with which illiteracy can be eradicated.

Most literacy data are collected during national population censuses and supplemented by household surveys, labor force surveys, employment surveys, industry surveys, and agricultural surveys when they are available. UNESCO uses these data to graph a logistic regression model. When census and survey data are not available, literacy rates for a specific country are estimated based on neighboring countries with similar characteristics.

Net School Enrollment Ratio (NER) is defined as the enrollment of the official age group for a given level of education expressed as a percentage of the population from the same age group. The theoretical maximum value is 100 percent. A high NER denotes a high degree of participation of the official school-age population. If the NER is below 100 percent, users should not assume that the remaining school-age population is not enrolled in any school; they could be enrolled in school at other grade levels. Primary Education is defined by the International Standard Classification of Education (ISCED) as the "beginning of systematic apprenticeship of reading, writing and mathematics." Programs are typically six years long and represent the beginning of compulsory education in many countries. Secondary education follows primary education, and is characterized as being subject-oriented with specialized fields of learning. Students achieve a full implementation of basic skills. Programs may be academic, vocational, or technical in nature.

Net enrollment ratio is calculated by dividing the number of pupils enrolled who are of the official age group for a given level of education by the total population of the same age group. National governments provide the United Nations Educational, Scientific, and Cultural Organization (UNESCO) with enrollment data based on a series of electronic questionnaires. When data from national governments are not available or are of inferior quality, UNESCO will estimate enrollment ratios from background data, if available.





FREQUENCY OF UPDATE BY DATA PROVIDERS

UNPD publishes country-level statistics every two years with annual revisions of key estimates. UNICEF and UNHCR publish the most recently available data in an annual report, with more frequent updates online. Education, literacy and IDP data are updated irregularly. Most updates include revisions of past data.

DATA RELIABILITY AND CAUTIONARY NOTES

Total Population, Fertility, and Life Expectancy: Since demographic parameters are estimated on a country-by-country basis, reliability varies among countries. For some developing countries, estimates are derived from surveys rather than censuses, especially when countries lack a civil registration system or have one that does not achieve full coverage of all vital events. Also, for developing countries the availability of detailed information on fertility and mortality is limited and the data on international migration flows are generally inadequate. Although estimates are based on incomplete data and projections cannot factor in unforeseen events (i.e., famine, wars), U.N. demographic models are widely accepted and use well-understood principles, which make these data as comparable, consistent across countries, and reliable as possible.

Mortality Under Age 5: Estimates were calculated based on a wide variety of sources of disparate quality. For information on the underlying data for each country's regressions, refer to the country estimates and new country data available from UNICEF online at http://www.childinfo.org/cmr/kh98meth.html.

Refugees: Since the determination of refugee status varies among countries, UNHCR will estimate numbers in order to provide a normalized dataset. Data are "provisional and subject to change," and accuracy is limited by the politically sensitive nature of refugee estimates and the circumstances under which many refugees live. UNHCR attempts to harmonize the data in order to allow cross-country comparisons.

Internally Displaced Persons: Due to the highly political nature of displacement and the conditions in which many displaced peoples find themselves, accurate data are difficult to collect. While the numbers presented are broad estimates, these data are the best online on the topic.

Adult Literacy Rate: The availability and quality of national statistics on literacy vary widely. National census and survey data are typically collected only once every decade. In addition, many industrialized countries have stopped collecting literacy data in recent years, based on the sometimes incorrect assumption that universal primary education means universal literacy. When census and survey data are not available for a particular country, estimates are sometimes made based on neighboring countries. Actual definitions of adult literacy are not strictly comparable among countries. Some countries equate persons with no schooling with illiterates, or change definitions between censuses. In addition, UNESCO's definition of literacy does not include people who, though familiar with the basics of reading and writing, do not have the skills to function at a reasonable level in their own society.

Net School Enrollment: Even though UNESCO has applied the same methodology to analyze all of the country data, definitions of "schooling" and "enrollment" are not strictly comparable among countries. As net enrollment ratios approach 100 percent, inconsistencies with enrollment and/or population data are more likely to skew the resulting ratios. As a result, some net enrollment ratios are greater than 100 percent. Difficulties also arise when a substantial proportion of students begin school earlier than the prescribed age, or when the reference date for entry into primary education does not coincide with the birthdays of all eligible students.

SOURCES

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Human Health

Sources: United Nations Population Division, World Health Organization, United Nations Children's Fund, Joint United Nations Programme on HIV/AIDS

	Expe at E	ife ctancy Birth ears) 2000- 2005	Physicians Per 100,000 Population 1995- 2003	Use Impro Water S (percei popula 200: Urban	ource nt of tion)	Use of Improved Sanitation (percent of population) 2002 Urban Rural	Children	trition in Under Age 95-2002) Stunting Prev- alence	15-4	ts Ages 9 Living / or AIDS Change Since 2001 {a}	ART Use Rate {b} (percent) 2002-2003	Tuber- culosis Incidence Rate Per 100,000 Population 2002	Reported	Percent of Children Under Age 5 Using Treated Bed Nets 1999-2004	Expendi	
World	61.3	65.4	157 d	95	72	81 37	27	31	1.1	8.5	2003	142	2001	1999-2004	629	349
Asia (excl. Middle East)	61.5	67.7	107	93	75	72 31	31	33	0.4			152			230	115
Armenia Azerbaijan	72.5 68.4	72.4 72.2	353 354	99 95	80 59	96 61 73 36	3 7	13 13	0.1 0.1	25.0	0.0	77 82	2 13	1.4	273 48	112 32
Bangladesh	50.0	61.4	23	82	72	75 39	48	45			0.0	221	40		58	26
Bhutan Cambodia	47.7 52.1	63.2 57.4	5 16	86 58	60 29	65 70 53 8	19 45	40 45	2.6	6.3	3.0	118 549	279 399		64 184	58 27
China	66.6	71.0	164	92	68	69 29	11	16	0.1	27.7	5.0	113	2		224	83
Georgia	70.7	73.6	391	90	61	96 69	3	12	0.1	100.0	8.0	85	8		108	41
India Indonesia	54.9 56.2	63.9 66.8	51 16	96 89	82 69	58 18 71 38	47 26	46	0.9 0.1	31.6 93.0	2.0 2.7	168 256	192 93	0.1	80 77	14 19
Japan	76.9	81.6	201	100	100	100 100			0.1	0.0		33			2,131	1,660
Kazakhstan Korea, Dem People's Rep	67.0 69.1	66.3 63.1	330 297	96 100	72 100	87 52 58 60	4 21	10 42	0.2	59.2	1.0	146 160	516		204 44	123 32
Korea, Rep	67.2	75.5	181	97	71				0.1	48.2		91	5		948	421
Kyrgyzstan Lao People's Dem Rep	65.6 45.8	68.6 54.5	268 59	98 66	66 38	75 51 61 14	11 40	25 41	0.1	160.0 112.5	0.0	142 170	1 498		108 51	53 28
Malaysia	68.0	73.1	70	96	94	98	12		0.4	24.4		95	56		345	185
Mongolia Myanmar	57.5 51.8	63.9 57.3	267 30	87 95	30 74	75 37 96 63	13 35	25 34	0.1 1.2	150.0 18.5	1.0	209 154	252		122 26	88 5
Nepal	49.1	59.9	5	93	82	68 20	48	51	0.5	36.4		190	29		63	19
Pakistan Philippines	53.0 62.1	61.0 70.0	66 116	95 90	87 77	92 35 81 61	38 28	37	0.1	17.7 107.0	2.2 3.5	181 320	55 45		85 169	76
Singapore	71.8	78.1	140	100		100	14	11	0.2	20.6	0.0	43			993	333
Sri Lanka	67.9 65.9	72.6 68.8	43 218	99 93	72 47	98 89 71 47	29	14	0.1	59.1	2.0	54 109	348 186	 1.9	122 43	60 12
Tajikistan Thailand	65.9 65.0	69.3	30	93 95	80	97 100	 19	16	1.5	(9.7)	4.0	109	100	1.9	43 254	145
Turkmenistan	63.2	67.1	317	93	54	77 50	12	22	0.1			94	0		245	180
Uzbekistan Viet Nam	66.6 58.7	69.7 69.2	289 53	97 93	84 67	73 48 84 26	19 33	31 36	0.1	266.7 33.3	0.0 1.0	102 193	0 86	15.8	91 134	68 38
Europe	72.0	74.5	348	100					0.5			51			1,461	1,089
Albania Austria	70.4 73.1	73.7 78.5	139 324	99 100	95 100	99 81 100 100	14	32	0.3	1.0	0.0 92.6	28 15			150 2,259	97 1,565
Belarus	70.7	70.1	450	100	100						< 1.0	83			464	402
Belgium Bosnia and Herzegovina	73.7 70.7	78.8 74.0	418 134	100 100	 96	 99 88	4	 10	0.2	23.5	93.8 10.0	14 60			2,481 268	1,779 99
Bulgaria	71.2	70.9	338	100	100	100 100			0.1		44.5	48			303	249
Croatia Czech Rep	70.5 70.7	74.2 75.4	237 343				1	1 2	0.1	 19.0	98.7	47 13			726 1,129	594 1,032
Denmark	74.6	76.6	366	100	100				0.1	8.7	90.9	13			2,503	2,062
Estonia	69.6	71.7	316	100	100	93			1.1	54.0	32.0	55 10			562	437 1,395
Finland France	73.9 74.7	78.0 79.0	311 329	100 100	100	100 100			0.1	25.0 9.1	94.6	10			1,845 2,567	1,395
Germany	73.8	78.3	362 440	100	100				0.1	4.9	94.7	10			2,820	2,112
Greece Hungary	75.2 69.1	78.3 71.9	316	100	98	100 85	2		0.2	2.3	97.0	20 32			1,522 914	852 686
Iceland	76.8	79.8	347	100	100				0.2	0.0	87.5	3			2,643	2,191
Ireland Italy	73.1 74.5	77.0 78.7	237 606	100 100					0.1 0.5	18.2 7.7	72.7	13 8			1,935 2,204	1,471 1,660
Latvia	69.3	71.0	291						0.6	27.1	51.0	78			509	267
Lithuania Macedonia, FYR	70.8 69.6	72.7 73.6	403 219				6	7	0.1	18.2 0.0	55.0 20.0	66 42			478 331	337 281
Moldova, Rep	64.8	68.9	269	97	88	86 52	3	10	0.2		8.3	155			112	56
Netherlands Norway	76.0 76.0	78.3 78.9	329 356	100 100	99 100	100 100			0.2	11.8 11.1	96.0 89.6	9			2,612 2,920	1,653 2,497
Poland	70.9	73.9	220	100					0.1		92.9	32			629	452
Portugal Romania	72.2 69.7	76.2 70.5	324 189	 91	16	 86 10	 6	8	0.4 0.1	4.8	64.4	47 148			1,618 460	1,116 364
Russian Federation	68.3	66.8	417	99	88	93 70	3	13	1.1	62.3	83.3	126			454	310
Serbia and Montenegro Slovakia	70.2 70.6	73.2 73.7	 325	99 100	86 100	97 77 100 100	2	5	0.2	0.0	26.4 95.0	38 24			616 681	488 608
Slovenia	71.2	76.3	219						0.1	0.0	96.3	21			1,545	1,157
Spain Sweden	75.8 76.3	79.3 80.1	320 305	100	100	100 100			0.7 0.1	0.0 6.1	92.3 95.0	30 5			1,607 2,270	1,147 1,934
Switzerland	76.2	79.1	352	100	100	100 100			0.4	8.3	95.0	8			3,322	1,897
Ukraine United Kingdom	69.1 74.0	69.7 78.2	297 166 e	100 100	94	100 97	3	15	1.4 0.2	20.0 20.5	< 1.0 92.1	95 12			176 1,989	119 1,635
Middle East & N. Africa	59.2	67.9	121	94	73	90 51	15	23	0.2	43.8 f	JZ.1	65			302	174
Afghanistan	40.0 60.5	43.1 69.7	19 85	19 92	11 80	16 5 99 82	48 6	52 18	0.1	32.4	0.0	333 52	1,621 1		34 169	18 127
Algeria Egypt	56.5	68.8	212	100	97	99 82 84 56	11	21	0.1	9.1		29	0		153	75
Iran, Islamic Rep	59.7	70.3	105	98	83	86 78	11	15	0.1	72.2	100.0	29	32		422	184
Iraq Israel	62.3 74.5	60.7 79.2	54 391	97 100	50 100	95 48 100	16	22	0.1			167 10	5		97 1,839	31 1,273
Jordan	63.7	71.0	205	91	91	94 85	5	8	0.1	0.0	21.3	5			412	194
Kuwait Lebanon	71.3 65.9	76.6 73.5	153 325	100	100	 100 87	10 3	24 12	0.1	40.0	100.0	26 14			612 673	482 189
Libyan Arab Jamahiriya	62.2	72.8	129	72	68	97 96	5	15	0.3			21			239	134
Morocco Oman	58.3 62.7	68.7 72.4	48 126	99 81	56 72	83 31 97 61	9 24	24 23	0.1	30.0	20.7	114 12	0 24		199 343	78 277
Saudi Arabia	62.6	72.3	140	97		100	14	20		30.0		42	15		591	441
Syrian Arab Rep Tunisia	62.5 64.9	71.9 72.8	140 70	94 94	64 60	97 56 90 62	7 4	18 12	0.1	100.0		44 23	0		427 463	187 350
Turkey	62.3	70.5	124	96	87	94 62	8	16				32	16		294	209
United Arab Emirates Yemen	68.6 49.1	74.7 60.0	202 22	 74	 68	100 100 76 14	14 46	17 52	0.1			18 92	7,600		921 69	698 24

				Use			e of		trition in		HIV and AI		Tuber-		lalaria	-	th Care
		fe ctancy	Physicians Per	Impro Water S			roved tation		Under Age (95-2002)		ts Ages 9 Living	ART Use	culosis Incidence	Reported Cases Per	Percent of Children Under		itures Per a (\$intl)
	at E		100,000	(perce			ent of	Under-	755 2002)		or AIDS	Rate {b}	Rate Per	100,000	Age 5 Using	Total	Govern-
		ars)	Population	popula			lation)	weight	Stunting	Percent		(percent)	100,000	Population	Treated	Spending	
	1980- 1985	2000- 2005	1995- 2003	200 Urban		Urban	002 Rural	Prev- alence	Prev- alence	in 2003	Since 2001 (a)	2002- 2003	Population 2002	1998- 2001	Bed Nets 1999-2004	{c} 2001	Spending 2001
Sub-Saharan Africa	48.5	46.6	15	82	46	55	26	30	39	7.5	5.0 f		359		3.2 g		36
Angola	40.0	40.1	8	70	40	56	16	31	45	3.9	10.0	< 1.0	336	6,594	2.3	70	44
Benin Botswana	49.2 62.8	50.6 39.7	6 29	79 100	60 90	58 57	12 25	23 13	31 23	1.9 37.3	5.1 0.0	2.5 7.9	86 657	11,545 2,836	7.4	39 381	18 252
Burkina Faso	46.1	45.7	4	82	44	45	5	34	37	4.2	8.0	1.4	157	619	6.5	27	16
Burundi	46.6	40.9	5	90	78	47	35	45	57	6.0	0.0	1.9	359	43,505	1.3	19	11
Cameroon Central African Rep	50.7 46.5	46.2 39.5	7 4	84 93	41 61	63 47	33 12	21 24	35 39	6.9 13.5	4.0 4.3	1.5 < 1.0	188 338	2,900	1.3 1.5	42 58	16 30
Chad	42.3	44.7	3	40	32	30		28	29	4.8	5.9		222	4,683	0.6	17	13
Congo Congo, Dem Rep	56.8 47.1	48.2 41.8	25 7	72 83	17	14 43	2 23	14 31	19 38	4.9 4.2	0.0 5.3	0.0	395 384	5,880 1,414	0.7	22 12	14 5
Côte d'Ivoire	50.0	41.0	9			61	23	21	25	7.0	10.4	2.7	412	2,449	1.1	127	20
Equatorial Guinea	43.8	49.1	25	45	42	60	46	19	39			6.8	191		0.7	106	64
Eritrea Ethiopia	43.3 42.7	52.7 45.5	3	72 81	54 11	34 19	3 4	44 47	38 52	2.7 4.4	0.0 16.7	< 1.0 < 1.0	268 370	5,648 621	4.2	36 14	23 6
Gabon	56.3	56.6	29	95	47	37	30	12	21	8.1	21.6		248	2,148		197	94
Gambia	44.1	54.1	4	95	77	72	46	17	19	1.2	0.0	6.3	230	10,096	14.7	78	39
Ghana Guinea	53.6 40.2	57.9 49.1	9	93 78	68 38	74 25	46 6	25 23	26 26	3.1 3.2	3.2 30.0	1.8	211 215	17,143 75,386	4.5	60 61	36 33
Guinea-Bissau	39.1	45.3	17	79	49	57	23	25	30				196	2,421	7.4	37	20
Kenya	55.7 52.0	44.6 35.1	13 5	89 88	46 74	56 61	43 32	21 18	35 46	6.7 28.9	(8.3)	3.0 < 1.0	540 726	545	4.6	114 101	24 80
Lesotho Liberia	52.0 44.9	35.1 41.4	2	88 72	52	49	32 7	18 26	46 39	5.9	20.0	< 1.0	726 247	26,699		101	80 96
Madagascar	48.0	53.6	9	75	34	49	27	33	49	1.7	32.7		234		0.2	20	13
Malawi Mali	45.7 44.4	37.5 48.6	5 4	96 76	62 35	66 59	42 38	25 33	49 38	14.2 1.9	5.2 0.0	1.8 2.5	431 334	20,080 741	35.5 8.4	39 30	14 12
Mauritania	47.4	52.5	14	63	45	64	9	32	35	0.6	50.8		188	9,724	4.1	45	33
Mozambique	42.8	38.1	2	76	24	51	14	26	44	12.2	9.1	0.0	436	19,842		47	32
Namibia Niger	55.2 40.7	44.3 46.2	30 3	98 80	72 36	66 43	14 4	24 40	24 40	21.3 1.2	5.3 25.5	0.0	751 193	1,502 1,693	3.4 5.8	342 22	232 9
Nigeria	48.1	51.5	27	72	49	48	30	36	43	5.4	6.5	1.5	304	30	1.2	31	7
Rwanda	46.1	39.3 52.9	2	92 90	69 54	56 70	38 34	27	41	5.1	4.5	< 1.0	389	6,510	5	44	24 37
Senegal Sierra Leone	46.3 35.3	34.2	8 7	75	46	53	30	23 27	25 34	0.8	7.9 	< 1.0 0.0	242 405	11,925 8,943	1.7 1.5	63 26	16
Somalia	43.0	47.9	4	32	27	47	14	26	23				405	118	0.3	15	7
South Africa Sudan	57.7 49.1	47.7 55.6	69 16	98 78	73 64	86 50	24	12 17	25	21.5	6.3 26.7	< 1.0	558 217	61 12,530	0.4	652 39	270 7
Tanzania, United Rep	51.0	43.3	2	92	62	54	41	29	44	8.8	7.1	< 1.0	363	1,207	2.1	26	12
Togo	50.2 47.2	49.7 46.2	6 5	80 87	36 52	71 53	15 39	25 23	22 39	4.1 4.1	2.1 (13.5)	 6.3	361 377	9,273 46	2 0.2	45 57	22 33
Uganda Zambia	52.0	32.4	7	90	36	68	32	23 28	47	16.5	3.8	0.0	668	18,877	6.5	52	28
Zimbabwe	59.6	33.1	6	100	74	69	51	13	27	24.6	0.0	0.0	683	5,410		142	64
North America Canada	74.2 75.9	77.3 79.3	516 209	100 100	100	100 100	100	1	2	0.6 0.3	5.3 f		5			4,683 2,792	2,151 1,977
United States	74.0	77.1	549	100	100	100	100	1	2	0.6	5.6		5			4,887	2,170
C. America & Caribbean	66.1	71.5	181	97	76	87	47	10	20	0.8	9.8		54			428	202
Belize Costa Rica	71.2 73.5	71.4 78.1	105 173	100 100	82 92	71 89	25 97	6 5	 6	2.4 0.6	25.0 9.1	7.7	55 15	475 33		278 562	125 385
Cuba	73.4	76.7	591	95	78	99	95	4	5	0.1	3.1		12			229	197
Dominican Rep	62.8 56.6	66.7 70.7	188 124	98 91	85 68	67 78	43 40	5 12	6 23	1.7 0.7	(2.3)	0.0	95 60	12 6		353 376	127 176
El Salvador Guatemala	58.0	65.8	90	99	92	72	52	24	46	1.1	16.7 13.8	46.0	77	307	1.2	199	96
Haiti	51.8	49.5	25	91	59	52	23	17	23	5.6	8.3		319	119		56	30
Honduras Jamaica	60.8 71.2	68.9 75.7	83 85	99 98	82 87	89 90	52 68	17 6	29 6	1.8 1.2	22.9 50.0	< 1.0 < 1.0	86 8	365		153 253	81 107
Mexico	67.5	73.4	171	97	72	90	39	8	18	0.3	6.7	92.0	33	 5		544	241
Nicaragua	59.3	69.5	164	93	65	78	51	10	20	0.2	12.7	0.0	64	201		158	77
Panama Trinidad and Tobago	70.5 70.2	74.7 71.3	168 79	99 92	79 88	89 100	51 100	7 7	14 5	0.9 3.2	36.4 7.7	< 1.0	47 13	32		458 388	316 168
South America	64.8	70.2	190	95	64	83	42	6	14	0.6	14.8		72			551	264
Argentina	70.0	74.2	301	97				5	12	0.7	0.0	91.2	46	1		1,130	603
Bolivia Brazil	53.9 63.0	63.9 68.1	73 206	95 96	68 58	58 83	23 35	10 6	26 11	0.1	20.0 4.8	< 1.0 100.0	234 62	185 225		125 573	83 238
Chile	70.6	76.1	109	100	59	96	64	1	2	0.3	4.0		18			792	348
Colombia Ecuador	66.6 64.3	72.2 70.8	135 148	99 92	71 77	96 80	54 59	7 15	14 27	0.7	50.0		45 137	482 846	0.7	356 177	234 89
Guyana	61.0	63.2	48	83	83	86	60	14	11	2.5	0.0	0.0	115	3,554	5.5	215	172
Paraguay	67.1	70.9	117	100	62	94	58	5	11	0.5	50.0	50.0	70	48		332	127
Peru Suriname	61.4 67.1	69.8 71.1	117 45	87 98	66 73	72 99	33 76	7 13	25 10	0.5 1.7	56.9 25.0	19.2	202 68	305 4,075	2.7	231 398	127 240
Uruguay	70.8	75.3	365	98	93	95	85	5	8	0.3	5.5	50.5	29			971	450
Venezuela	68.6	73.7	194	85	70	71	48	5	13	0.7	40.8		42	81		386	240
Oceania Australia	70.4 75.2	74.6 79.2	189 249	99 100	52	100	57			0.2 0.1	29.2 f 16.7	53.2	55			1,851 2,532	1,283 1,719
Fiji	64.7	69.8	34			99	98	 8	3	0.1	20.0		30			224	150
New Zealand Papua New Guinea	73.7 49.7	78.3 57.6	223 5	100 88	 32	 67	 41	 35		0.1	16.7 60.0	0.0	11 254	1,793		1,724 144	1,324 128
Solomon Islands	49.7 60.6	69.2	13	94	65	98	18	21	 27	0.0		0.0	254 91	16,512		133	128
Developed	72.4	74.8	361	100	94	100	92 h						57			2,221	1,328
Developing	59.6	64.9	99	92	70	73	31	28	32				164	ction receivi		192	80

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a. Measures the percent change in the total number of adults with HIV/AIDS between 2001 and 2003. b. The percent of adults with advanced HIV infection receiving antiretroviral therapy (ART).
c. Includes both personal (private) and government (public) spending on health care. d. Calculated by WRI. e. Data are from 1993. f. Regional totals were calculated by UNAIDS.
g. Calculated by UNICEF. h. Developed country estimates for urban and rural water and sanitation coverage were calculated by WHO.

Human Health: Technical Notes

DEFINITIONS AND METHODOLOGY

Life Expectancy at Birth is the average number of years that a newborn baby is expected to live if the age-specific mortality rates effective at the year of birth apply throughout his or her lifetime.

Physicians per 100,000 Population indicates the density of doctors in a country. "Physician" includes graduates of a faculty or school of medicine who are working in any medical field (including teaching, research, and practice).

Improved Water Source includes any of the following types of drinking water sources: household connections, public standpipes, boreholes, protected dug wells, protected springs, and rainwater collection. To be counted, at least 20 liters per person per day of improved water must be available within one kilometer of a user's dwelling. Examples of unimproved water sources include unprotected wells and springs, vendor-provided water, tanker-provided water, and bottled water. These last examples are considered "unimproved" because they are not consistently available in sufficient quantities. Improved Sanitation includes any of the following excreta disposal facilities: connection to a public sewer, connection to a septic tank, pour-flush latrine, simple pit latrine, and ventilated improved pit latrine. Examples of an unimproved sanitation system include open pit latrines, public or shared latrines, and service or bucket latrines.

Data were collected from assessment questionnaires and household surveys and plotted on a graph for each country to show coverage in available years (not necessarily 2002). A trend line was drawn and reviewed by a panel of experts from WHO and UNICEF to determine the level of sanitation and water available in 2002.

Underweight Prevalence, an indicator of malnutrition, refers to the proportion of children under five years of age whose weight-for-age is more than two standard deviations (for moderate underweight) or more than three standard deviations (for severe underweight) below the median weight-for-age of a reference population.

Stunting prevalence, an indicator of chronic malnutrition, refers to the percentage of children under five whose height-for-age is more than two (moderate stunting) and three (severe stunting) standard deviations from the median of the reference population.

Malnutrition data were obtained from Multiple Indicator Cluster Surveys (MICS), Demographic and Health Surveys (DHS), and other national-level surveys. Where possible, only comprehensive or representative national data have been used.

Adults Ages 15-49 Living With HIV or AIDS is the estimated percentage of people aged 15-49 living with HIV/AIDS. Change Since 2001 measures the percent change in the total population infected with AIDS or HIV between 2001 and 2003. These estimates include all people with HIV infection, whether or not they have developed symptoms of AIDS, who are alive at the end of the year specified. Data for this age group capture those in their most sexually active years. Measuring infection within this age range also allows greater comparability for populations with different age structures. Estimates for a single point in time and the starting date of the epidemic were used to plot an epidemic curve charting the spread of HIV in a particular country.

Antiretroviral Therapy (ART) Use Rate is the estimated percentage of adults with advanced HIV infection receiving antiretroviral therapy. This therapy can dramatically reduce HIV-related mortality and improve the quality of life of those infected. The estimated number of people receiving treatment is determined by national program-monitoring reports or estimates from local WHO offices. The number of adults with advanced HIV infection is estimated by the Joint United Nations Programme on HIV/AIDS (UNAIDS) to be 15 percent of the total number of infected adults.

Tuberculosis Incidence Rate is the estimated number of new tuberculosis (TB) cases per 100,000 people in the year specified. The estimates include all cases (pulmonary, smear positive, and extrapulmonary). If left untreated, each person with an infectious case of TB will infect 10-15 people every year. It is estimated that TB caused 2 million deaths in 2002 and is now the leading cause of death in people infected with HIV. Data are collected by country using a standard collection form. Initial estimates are derived using surveys of the prevalence of infection and are then refined using a consultative and analytical process involving a panel of epidemiological experts at WHO.

Reported Malaria Cases is the total number of malaria cases reported to the WHO by countries in which malaria is endemic. Most countries report only laboratory confirmed cases, but some countries in Sub-Saharan Africa report clinically diagnosed cases as well. Transmitted to humans by the bite of an infected mosquito, malaria is one of the world's prevalent health crises, killing more than one million people annually. Data on malaria are collected from a variety of surveys, including Routine Health Information Systems (HIS), MICS, DHS, Demographic Surveillance Sites (DSS), and Rolling Back Malaria (RBM) baseline surveys.

Percent of Children Under Age Five Using Treated Bed Nets is the percent of children under age five in each country that sleep under a net treated with an insecticide to ward off mosquitoes, a powerful method of preventing malaria infections. According to UNICEF, the majority of deaths from malaria occur in children under age 5. Data are obtained by UNICEF from DHS, MICS, and other national surveys.

Health Care Spending per Capita is defined as the sum of government and private expenditures on health, expressed on a per-person basis. The estimates are provided in international dollars, which minimizes the consequences of differing price levels among countries. Government Health Spending includes all public outlays reserved for the enhancement of the health status of the population and/or the distribution of medical care. Expenditures by all levels of government (national, regional, and local), extrabudgetary agencies, and external resources such as grants are included. The estimates for extrabudgetary expenditure on health include purchase of health goods and services by schemes that are compulsory and government-controlled. Private Health Spending is the sum of expenditures by prepaid plans and risk-pooling arrangements, public and private enterprises for medical care and health-enhancing benefits (outside of payment to social security), nonprofit institutions that primarily serve households, and household out-of-pocket spending.

Per capita totals were calculated by WHO using population estimates from the Organization for Economic Co-operation and Development (OECD) and the United Nations Population Division.

Information on government health expenditures are obtained from the OECD, the International Monetary Fund (IMF), national health-accounts reports, government finance data, statistical yearbooks, and public-finance reports. Information for private health expenditures are obtained from national health-accounts reports, statistical yearbooks and other periodicals, official web sites, reports from non-governmental organizations, household surveys, academic studies, government ministries, and professional and trade associations.

FREQUENCY OF UPDATE BY DATA PROVIDERS

Both the UN Population Division and the Joint United Nations Program on HIV/AIDS (UNAIDS) publish country-level statistics every two years with annual revisions of key estimates. UNICEF publishes the most recent available data each year. WHO publishes country-level statistics annually and updates the *Global Atlas of Infectious Diseases* database as new information becomes available.

DATA RELIABILITY AND CAUTIONARY NOTES

Life Expectancy: The United Nations Population Division (UNPD) estimates demographic parameters on a country-by-country basis, so data reliability varies among countries. In some developing countries, census data are not available or are incomplete, and estimates concerning population trends are derived from surveys. Although estimates are based on incomplete mortality data and projections cannot factor in unforeseen events (e.g., famine, wars), UN demographic models are widely accepted and use well-understood qualities, making these data fairly reliable.

Physicians per 100,000 Population: Data reliability varies by country. Due to outof-date health personnel records, some countries mistakenly include retired
physicians or physicians no longer working in the health sector, resulting in overestimates. Also, this indicator speaks solely of the quantity of physicians, not the
quality or accessibility of the personnel. It does not show the difference in urban
and rural concentrations. The exact definition of "physician" may vary among
countries. Some countries may include interns, physicians that are retraining, and
those working in the private sector.

Improved Water Sources and Sanitation: These data have become more reliable as WHO and UNICEF shift from provider-based information (national census estimates) to consumer-based information (survey data). Nonetheless, estimates were calculated based on a wide variety of sources of disparate quality, and comparisons among countries should be made with care. Definitions of urban and rural are not consistent across countries. The assessment does not account for intermittent or poor quality of water supplies. WHO emphasizes that these data measure use of an improved water supply and excreta disposal system, but access to sanitary and safe systems cannot be adequately measured on a global scale.

Malnutrition in Children under Five: The data included for these variables cover a wide range of years and sources. Some data refer to periods other than 1995-2002, measure stunting or percentage underweight in a different age range than 0-5, or were collected for only part of a country. Since data are not available for more affluent countries, the regional totals reported here may be larger than the actual averages.

Adults Ages 15-49 Living with HIV or AIDS: While HIV surveillance systems are generally more extensive than those for other diseases, data reliability still varies on a country-by-country basis. The extent of uncertainty depends primarily on the type of epidemic—infection rates for generalized (high-level) epidemics are calculated differently from rates for concentrated (low-level) epidemics—and on the quality, coverage, and consistency of a country's surveillance system. A detailed description of the methods, software, quality of data, and development of ranges for these data was published in the journal Sexually Transmitted Infections in July 2004.

Antiretroviral Therapy Use Rate: The data have been reviewed by UNAIDS and compared with other sources to consolidate validity. The reliability of the national data presented in national reports is dependent on the quality of information provided by the countries themselves. Some countries have very small or highly localized epidemics, so the rates presented here do not necessarily reflect national commitment and action. This indicator does not distinguish between the different types of therapy available nor does it measure the cost, quality, or effectiveness of the treatment. In certain settings, a system may not yet be in place to collect data from community-based organizations, private prescribers, and pharmacies. The estimated proportion of the total infected population with advanced HIV infection (currently 15 percent) may require revision, as the proportion varies according to the stage of the HIV epidemic and the coverage and effectiveness of ART.

Tuberculosis Incidence Rate: Data are reviewed at all levels of WHO, and WHO headquarters attempts to complete any missing responses and resolve any inconsistencies. The quality of the information provided by a particular country is dependent on the quality of its national surveillance system.

Reported Malaria Cases: Malaria infection-rate data are less accurate than estimates of HIV/AIDS or tuberculosis. Data may reflect only a fraction of the true number of malaria cases in a country because of incomplete reporting systems or incomplete coverage by health services, or both. Also, many malaria patients may seek treatment outside of the formal health sector. Case detection and reporting systems vary widely.

Health Care Spending: The estimates provided here should be considered the best estimates of WHO and not the official estimates of its member states. WHO has compared the data to a variety of sources, including inpatient care expenditure and pharmaceutical care expenditure, in an effort to ensure the plausibility of the estimates that have been collected. For further information on data collection and reliability, refer to the World Health Report methodology available at http://www.who.int/whr/2004/en/09_annexes_en.pdf.

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Gender and Development
Sources: United Nations Development Programme, United Nations Human Settlements Programme, United Nations Population Division, United Nations Children's Fund, United Nations Educational, Scientific, and Cultural Organization, Inter-Parliamentary Union

	Gender Empowerment Measure (0-1 scale, 1 = complete equality) 2003	Headed Households	Contra- ceptive Prevalence	Maternity and Fa Women With Unmet Family Planning Needs (percent) 1990- 2002 {a}	Maternal Mortality	Skilled Attendants at Delivery (percent of births) 1995-00	Ratio of Women to Mer Enrolled in Secondary Education 2001-02	n and Litera n Literac (perc 2000 Women	y Rate	Annual Inco (interna dolla 1991-0 Women	ome ational ars)	Female Professional and Technical Workers (percent of total) 1992-01 {a}	Parliamentary Seats Held by Women (percent of total) 2004
World		••	60.9		400	58		76.6	87.0	••	••		15.6
Asia (excl. Middle East)			64.6					78.3	88.3				14.2
Armenia Azerbaijan			60.5 55.4	11.8 11.5	55 94	97 84	106 98	99.2	99.7	2,564 2,322	3,700 4,044		4.6 10.5
Bangladesh	0.22		53.8	15.3	380	12	109	31.4	50.3	1,150	2,035	25	2.0
Bhutan			18.8		420	24				1.000	0.117		9.3
Cambodia China	0.36		23.8 83.8	32.6	450 56	32 76	59	59.3 86.5	80.8 95.1	1,622 3,571	2,117 5,435	33	10.9 20.2
Georgia	0.39		40.5	23.8	32	96	108			1,325	3,283	64	
India			48.2 57.4	15.8 9.2	540 230	43 64	74 100	 83.4	92.5	1,442 2,138	3,820 4,161		9.3 8.0
Indonesia Japan	0.53	20.0	55.9	9.2	10	100	101	03.4	92.0	16,977	37,208	46	9.9
Kazakhstan			66.1	8.7	210	99	98	99.2	99.7	4,247	7,156		8.6
Korea, Dem People's Rep Korea, Rep	0.38		61.8 80.5		67 20	97 100	100			10,747	23,226	 34	5.5
Kyrgyzstan	0.56		59.5	11.6	110	98	101			1,269	1,944		6.7
Lao People's Dem Rep			32.2		650	19	72	55.5	77.4	1,358	2,082		22.9
Malaysia Mongolia	0.52 0.43	18.5	54.5 67.4	9.9	41 110	97 97	111 120	85.4 97.5	92.0 98.0	5,219 1,316	13,157 1,955	45 66	16.3 10.5
Myanmar			32.7		360	56	93	81.4	89.2				
Nepal Pakistan	 0.42		39.3	27.8 32.0	740 500	11 20	74	26.4 28.5 j	61.6 53.4 j	891 915	1,776	 26	6.4 20.8
Pakistan Philippines	0.42		27.6 46.5	19.8	200	58	110	28.5 J 92.7	92.5	3,144	2,789 5,326	62	17.2
Singapore	0.65		62.0		30	100		88.6	96.6	15,822	31,927	43	16.0
Sri Lanka	0.28		66.1 33.9		92 100	97 71	 82	89.6 99.3	94.7 99.7	2,570 759	4,523 1,225	49	4.4 12.4
Tajikistan Thailand	0.46		72.2		44	99		99.3	94.9	5,284	8,664	 55	9.6
Turkmenistan			61.8	10.1	31	97		98.3 j	99.3 j	3,274	5,212		26.0
Uzbekistan Viet Nam	**		67.2 78.5	13.7 4.8	24 130	96 70	97 93	98.9 86.9 j	99.6 93.9 j	1,305 1,888	1,983 2,723	**	7.2 27.3
Europe			69.1	4.0				99.0	99.5	1,000	2,725		19.1
Albania			57.5		55	99		98.3	99.2	3,442	6,185		5.7
Austria Belarus	0.77	33.1	50.8 50.4		4 35	100 j 100	96 105	99.6	99.8	15,410 4,405	43,169 6,765	48	30.6 18.4
Belgium	0.81	26.2	78.4 c	2.1 d	10	100 j	112			18,528	37,180	48	33.9
Bosnia and Herzegovina			47.5		31	100		91.1	98.4				12.3
Bulgaria Croatia	0.56		41.5		32 8	100	98 101	98.1 97.1	99.1 99.3	5,719 7,453	8,627 13,374	 51	26.3 17.8
Czech Rep	0.59		72.0	8.0 d	9	99	102			11,322	20,370	52	15.7
Denmark	0.85		78.0 d,j		5	100 ј	105			26,074	36,161	51	38.0
Estonia Finland	0.59 0.82	54.2	70.3 77.4 j		63 6	100 j	102 111	99.8	99.8	9,777 21,645	15,571 30,970	68 52	18.8 37.5
France			74.6	5.7 d	17	99 j	101			19,923	33,950	**	11.7
Germany Greece	0.80 0.52	30.6	74.7		8 9	100 ј	99			18,763 10,892	35,885 25,601	49 48	31.4
Hungary	0.53		77.4	4.2 d	16		101			10,307	17,465	62	9.8
Iceland	0.82				0		106			22,716	36,043	55	30.2
Ireland Italy	0.71 0.58	26.3	60.2 c	 7.4 d	5 5	100	110 96			21,056 16,702	52,008 36,959	52 45	14.2 10.3
Latvia	0.59		48.0	10.6 d	42	100	101	99.7	99.8	7,685	11,085	66	21.0
Lithuania	0.51		46.6	12.1 d	13 23		99 98	99.6	99.6	8,419	12,518 8,293	70 51	10.6
Macedonia, FYR Moldova, Rep	0.52 0.47		62.4	6.7 d	23 36	97 99	103	98.6	99.6	4,599 1,168	1,788	64	18.3 12.9
Netherlands	0.82	42.8	78.5		16	100	97			20,358	38,266	48	35.1
Norway Poland	0.91 0.61	34.3 35.2	73.8 e, j 49.4		16 13	100 j 99 j	103			31,356 8,120	42,340 13,149	49 60	36.4 20.7
Portugal	0.64	19.8	66.3 j		5	100				13,084	24,373	51	19.1
Romania	0.47		63.8	4.5 d	49	98	101	96.3	98.4	4,837	8,311	56 64	9.3
Russian Federation Serbia and Montenegro	0.47	21.8	58.3 f		67 11	99 99	100	99.5	99.7	6,508	10,189	64	8.0 7.9
Slovakia	0.61	23.1	74.0 d		3		101	99.7	99.7	10,127	15,617	61	19.3
Slovenia Spain	0.58 0.72		73.8 80.9	 3.0 d	17 4	100 ј	101 106	99.6	99.7	14,084 13,209	22,832 29,971	55 46	12.2 30.5
Sweden	0.72	37.0	78.0 d, j	3.0 u	2	100 j	121			23,781	28,700	50	45.3
Switzerland	0.77		82.0 c		7		94			20,459	40,769	45	24.8
Ukraine United Kingdom	0.41 0.70	25.3	67.5 84.0 g	14.9	35 13	100 99	100 125	99.5	99.8	3,429 19,807	6,493 32,984	64 44	5.3 17.3
Middle East & N. Africa			51.8		220 i	70 i		61.6	80.5				
Afghanistan	**		4.8		1900	12						**	
Algeria Egypt	0.27		64.0 56.1	11.2	140 84	92 61	107 93	59.6 43.6 j	78.0 67.2	2,684 1,963	8,794 5,216	30	3.6
Iran, Islamic Rep	0.31		72.9		76	90	95	70.4 j		2,835	9,946	33	
Iraq	0.61	 20 F	13.7 j		250 17	72 99 j	 99	02.4	07.2	14 201	26.626	 54	15.0
Israel Jordan	0.61	29.5	68.0 h 55.8	11.0	41	99 J 97	101	93.4 85.9	97.3 95.5	14,201 1,896	26,636 6,118		15.0 7.9
Kuwait			50.2		5	98	106	81.0	84.7	7,116	20,979		0.0
Lebanon Libyan Arab Jamahiriya			61.0 39.7	**	150 97	89 94	109 106	 70.7	 91.8	2,552	8,336		2.3
Morocco			50.3	16.1	220	40		38.3	63.3	2,153	5,354		
Oman Soudi Arabia			23.7		87	95	99	65.4	82.0	4,056	18,239		
Saudi Arabia Syrian Arab Rep	0.21		31.8 36.1		23 160	91 j 76	89 89	69.5 74.2	84.1 91.0	3,825 1,549	18,616 5,496	31	0.0 12.0
Tunisia			60.0		120	90	104	63.1	83.1	3,615	9,933		11.5
Turkey United Arab Emirates	0.29		63.9 27.5	10.1	70 54	81 96	77 106	78.5 80.7	94.4 75.6	4,757	7,873	31 25	4.4 0.0
Yemen Yemen	0.12		27.5	38.6	54 570	22		28.5	69.5	387	1,274	25 15	0.0
								_	_	_	_		

For more information, please visit http://earthtrends.wri.org/datatables/population

	Gender			Maternity and F	amily Planning		Education	and Litera	су		Income ar	nd Labor	
	Empowerment	Woman	Contra-	Women With	Maternal	Skilled	Ratio of			Annual I	Earned	Female	Parliamentary
	Measure	Headed	ceptive	Unmet Family	Mortality	Attendants	Women to Mer		Б.,	Inco		Professional	Seats Held
	(0-1 scale, 1 = complete	Households	(percent)	Planning Needs (percent)	per 100,000	at Delivery (percent	Enrolled in Secondary	Literacy (perc		(interna dolla		and Technical Workers	by Women (percent
	equality)	of Total	1990-	1990-	live births)	of births)	Education	2000		1991-0		(percent of total)	of total)
	2003	1990-99 {a}	2002 {a}	2002 {a}	2000	1995-00	2001-02	Women	Men	Women	Men	1992-01 {a}	2004
Sub-Saharan Africa			20.2	22.4	940 i	42 i		54.4	69.8	1.007			13.5
Angola Benin			6.2 18.6	27.2	1700 850	45 66	81 46	25.5	 54.8	1,627 876	2,626 1,268		15.5 7.2
Botswana	0.56		40.4		100	94	107	81.5	76.1	5,353	10,550	52	17.0
Burkina Faso		5.2	11.9	4.4	1000	31	67	8.1 j	18.5	j 855	1,215	**	11.7
Burundi Cameroon			15.7 19.3	13.0	1000 730	25 60	75 81	43.6 59.8	57.7 77.0	561 1,235	794 2,787		18.5 8.9
Central African Rep			27.9	16.2	1100	44		33.5	64.7	889	1,469		
Chad			7.9	9.4	1100	16		37.5	54.5	760	1,284		5.8
Congo Congo, Dem Rep			31.4		510 990	61	73	77.1	88.9	707 467	1,273 846		10.6 10.2
Côte d'Ivoire			15.0	43.4	690	63				818	2,222		8.5
Equatorial Guinea					880	65	58			16,852	42,304	**	5.0
Eritrea Ethiopia			8.0 8.1	27.0 35.8	630 850	21 6	67 65	33.8	49.2	654 516	1,266 1,008		22.0 7.8
Gabon			32.7	28.0	420	86				4,937	8,351		11.0
Gambia		15.9	9.6		540	55	70			1,263	2,127		13.2
Ghana Guinea			22.0 6.2	23.0 24.2	540 740	44 35	83	65.9	81.9	1,802 1,569	2,419 2,317		9.0 19.3
Guinea-Bissau			7.6		1100	35				465	959		
Kenya			39.0	23.9	1000	44	88	78.5	90.0	962	1,067		7.1
Lesotho Liberia		29.4	30.4 6.4 j		550 760	60 51	127	90.3 39.3	73.7 72.3	1,357	3,578		17.0
Madagascar			18.8	25.6	550	46			72.5	534	906		6.4
Malawi			30.6	29.7	1800	56	74	48.7	75.5	427	626		9.3
Mali Mauritania			8.1 8.0	28.5 31.6	1200 1000	41 57	76	11.9 j 31.3	26.7	j 635 1,581	1,044 2,840		10.2 4.4
Mozambique			5.6	6.7	1000	44	63	31.4	62.3	840	1,265		30.0
Namibia	0.57		28.9	22.0	300	78	114	82.8	83.8	4,262	8,402	55	21.4
Niger Nigeria			14.0 15.3	16.6 17.5	1600 800	16 42	63	9.3 59.4	25.1 74.4	575 562	1,005 1,322		1.2 5.8
Rwanda			13.2	37.0	1400	31	93	63.4	75.3	968	1,570		45.0
Senegal		19.6	12.9	32.6	690	58	68	29.7	49.0	1,140	2,074	**	19.2
Sierra Leone			4.3		2000 1100	42 34				337	815		14.5
Somalia South Africa		37.8	56.3	15.0	230	84	108	85.3	86.7	6,371	14,202		27.8
Sudan			8.3	26.0	590	86 j		49.1	70.8	867	2,752		9.7
Tanzania, United Rep			25.4	21.8	1500	36		69.2	85.2	467	660		21.4
Togo Uganda			25.7 22.8	32.3 24.4	570 880	49 39	 79	45.4 59.2	74.3 78.8	941 1,088	2,004 1,651		7.4 24.7
Zambia			34.2	18.3	750	43	78	73.8	86.3	571	1,041		12.0
Zimbabwe		32.8	53.5	12.9	1100	73	89	86.3	93.8	1,757	3,059		10.0
North America Canada	0.79	46.6	76.2 74.7	••	6	98	99			22,964	36,299	54	18.1 23.6
United States	0.75	29.0	76.4		17	99	98			27,338	43,797	55	14.0
C. America & Caribbean			64.4		190 i	82 i		84.8	88.3				21.4
Belize	0.46		46.7	**	140	83	102	77.1	76.7	2,376	9,799	52	9.3
Costa Rica Cuba	0.66		75.0 73.3		43 33	98 100	103 99	95.9 96.8	95.7 97.0	4,698	12,197	28	35.1 36.0
Dominican Rep	0.53	32.8	64.7	12.5	150	98	125	84.4	84.3	3,491	9,694	49	15.4
El Salvador	0.45		59.7	8.2	150	90	100	77.1	82.4	2,602	7,269	46	10.7
Guatemala Haiti			38.2 27.4	23.1 39.8	240 680	41 24	93	62.5 50.0	77.3 53.8	2,007 1,170	6,092 2,089		8.2 9.1
Honduras	0.36		61.8	7.0	110	56		80.2	79.8	1,402	3,792	36	5.5
Jamaica Maying	0.50	16.2	65.9		87	95	104	91.4	83.8	3,169	4,783		13.6
Mexico Nicaragua	0.56	16.3 29.4	68.4 68.6	14.7	83 230	86 67	107 117	88.7 76.6	92.6 76.8	4,915 1,520	12,967 3,436	40	21.2
Panama	0.49	22.3	58.2 j		160	90	107	91.7	92.9	3,958	7,847	49	9.9
Trinidad and Tobago	0.64		38.2		160	96	109	97.9	99.0	5,916	13,095	51	25.4
South America Argentina	0.65	22.4	74.4	8.1	190 i 82	82 i 98	106	88.8 97.0	90.0 97.0	5,662	15 /21	53	14.7 31.3
Bolivia	0.52	18.1	53.4	26.1	420	98 69	97	97.0 80.7	93.1	1,559	15,431 3,463	40	17.8
Brazil		23.1	76.7	7.3	260	88	111	86.5	86.2	4,594	10,879	62	9.1
Chile Colombia	0.46 0.50	24.4	 76.9	 6.2	31 130	100 86	111	95.6 92.2	95.8 92.1	5,442 4,429	14,256 8,420	52 50	10.1 10.8
Ecuador	0.50		65.8	10.0	130	69	100	92.2 89.7	92.1	1,656	5,491	44	16.0
Guyana			37.3		170	86				2,439	6,217		20.0
Paraguay Peru	0.42 0.52		57.4 68.9	11.3 10.2	170 410	71 59	102 93	90.2 80.3	93.1 91.3	2,175 2,105	6,641 7,875	54 44	9.6 18.3
Suriname	0.52		42.1	10.2	110	59 85	139		51.5	2,105	7,073	51	17.6
Uruguay	0.51	29.2			27	100	114	98.1	97.3	5,367	10,304	52	11.5
Venezuela	0.44				96	94	116	92.7	93.5	3,125	7,550	61	9.7
Oceania Australia	0.81		64.1 76.1 j		8	100	99			23,643	33,259	55	12.4 26.5
Fiji	0.81		/U.1 J		75	100	106	91.4 j	94.5	23,643 j 2,838	7,855	9	26.5 5.9
New Zealand	0.77		74.9		7	100				18,168	26,481	52	28.3
Papua New Guinea Solomon Islands			25.9		300 130	53 85	78			1,586 1,239	2,748 1,786		0.9 0.0
				**					00.1.1				18.5
Developed			68.7					98.6 k	99.1 k	١			10.0

a. Data are for the most recent year available within the range of dates shown. b. Excludes agricultural wages. c. Including some cases of sterilization for non-contraceptive reasons. d. Data pertain to all sexually active women. e. Data pertain to women born in 1945, 1950, 1955, 1960, 1965, or 1968. f. Data pertain to former Yugoslavia, excluding the province of Kosovo and Metohija. g. Data exclude Northern Ireland. h. Data pertain only to the Jewish population. i. Regional totals are calculated by UNICEF and combine South America, Central America, and the Caribbean. j. Data refer to years or periods other than those specified in the column heading. k. Regional totals were calculated by UNESCO.



Gender and Development: Technical Notes

DEFINITIONS AND METHODOLOGY

Gender Empowerment Measure is a composite index that quantifies women's opportunities. The measure is calculated from three components. *Political participation and decision-making power* is measured by the proportional share, by gender, of parliamentary seats. *Economic participation and decision-making power* is measured by (a) the proportional share, by gender, of positions as legislators, senior officials, and managers; and (b) the proportional share, by gender, of professional and technical positions. *Power over economic resources* is measured by the estimated earned income for women and men, in US dollars adjusted for purchasing power parity (PPP). Variables in these three areas are weighted equally and indexed by their relationship to the ideal scenario (i.e., 50-50 distribution between genders is considered the ideal for representation in parliaments). The gender empowerment measure for a particular country is presented on a scale of 0-1, with higher numbers representing greater levels of equality.

Woman-Headed Households is the percent of occupied housing units whose members acknowledge a woman as the head of the household. In many countries, female-headed households suffer from a lower and more precarious tenure status than male-headed households, which leads to greater insecurity for themselves and their dependents. Data were collected primarily through census data and household surveys. In other cases, data may come from specific housing studies carried out by different UN groups. Public housing boards, housing financial institutions, real-estate agencies, and nongovernmental organizations have also supplied data when census or household data were unavailable.

Contraceptive Prevalence Rate is the percentage of women of reproductive age (15-49 years) in a marital or consensual union who are currently using contraception.

Women with Unmet Family Planning Needs is the percentage of fertile women who are not using contraception and report that they do not want children or want their next child with a delay of two years or more. Contraception includes both modern (sterilization, the pill, condoms, vaginal barrier methods, etc.) and traditional (periodic or prolonged abstinence, withdrawal, etc.) methods. Data were compiled primarily from surveys based on nationally representative samples of women aged 15-49. The surveys used for data compilation include Demographic and Health Surveys (DHS), UNICEF's Multiple Indicator Cluster Surveys (MICS), and Family Health Surveys (FHS).

Maternal Mortality Ratio is the annual number of deaths of women from pregnancy-related causes, either when pregnant or within 42 days of birth or termination of pregnancy. Measured per 100,000 live births, it quantifies the risk of death once a woman has become pregnant. Women in countries with both high fertility and high maternal mortality run the highest lifetime risks of death as a result of childbearing. (Reduction of maternal mortality is one the United Nations' MILLENNIUM Development Goals.) Estimates of maternal mortality were obtained by UNICEF from a variety of sources, including government reporting, household surveys, and DHS.

Skilled Attendants At Delivery is the percentage of births attended by physicians, nurses, midwives, or primary health care workers trained in midwifery skills. Women are most in need of skilled care during delivery and the immediate postpartum period, when roughly three-quarters of all maternal deaths occur. Multiple Indicator Cluster Surveys (MICS), developed by UNICEF with partners in 1997, were used by governments in 66 countries to collect the data presented here. Demographic and Health Surveys (DHS) provided relevant data to UNICEF for more than 35 additional countries. For the majority of remaining countries, national governments provided non-MICS data. Where no reliable official figures exist, estimates have been made by UNICEF. Where possible, only comprehensive or representative national data have been used.

Ratio of Women to Men Enrolled in Secondary Education represents the ratio of female to male gross enrollment in secondary schooling. A ratio of 100 indicates equality in representation. Lower numbers represent a higher percentage of male than female enrollment. The data are for the 2001-2002 school year. The ratio is calculated by WRI by dividing the gross enrollment of males by that of females for secondary education. The result is multiplied by 100 to produce the final ratio. UNICEF calculates gross enrollment data by dividing the number of pupils enrolled in a given level of education, regardless of age, by population in the relevant official age group, and then multiplying by 100 to produce a ratio.

Literacy Rate, shown here for both men and women, is generally defined as the percentage of the population aged 15 years and over who can both read and write, with understanding, a short, simple statement on their everyday life. This indicator can be used to measure the achievement of literacy programs and the effectiveness of primary education. According to UNESCO, "literacy represents a potential for further intellectual growth and contribution to economic-socio-cultural development of society." Adult literacy correlates with GNP per capita, life expectancy, fertility rates, infant mortality, and urbanization. Most literacy data are collected during national population censuses. Typically, censuses are held only once in a decade, so UNESCO supplements these data with household surveys, labor force surveys, employment surveys, industry surveys, and agricultural surveys when they are available.

Annual Earned Income, shown here for both men and women, is an estimate of the annual earning power available to workers in the nonagricultural sector. Data are reported in 2002 international dollars adjusted for purchasing power parity (PPP). Direct measures of income disaggregated by gender are unavailable for most countries. In order to calculate this indicator, UNDP uses a ratio of female nonagricultural wage to the male non-agricultural wage, male and female shares of the economically active population, total male and female population, and GDP per capita (PPP). These data are obtained from the World Bank's World Development Indicators and the United Nations Population Division.

Female Professional and Technical Workers is women's share of total positions defined according to the International Standard Classification of Occupations (ISCO-88) Major Group 2. This classification includes physical, mathematical and engineering science professionals, life science and health professionals, teaching professionals and other (business, social science, legal, religious) professionals. Values were calculated by UNDP on the basis of occupational data from the International Labor Organization (ILO) LABORSTA database. The ILO receives these data from country labor surveys.

Parliamentary Seats Held by Women is calculated based on the total number of seats in parliament and the number of seats occupied by women. When there is both an upper house and a lower house of parliament, the total number of women in both houses is divided by the total number of seats in both houses. Data are current as of April 1, 2004. The Inter-Parliamentary Union compiles these data based on information provided by national parliaments.



FREQUENCY OF UPDATE BY DATA PROVIDERS

The Gender Empowerment Index and labor data are published annually by UNDP in the *Human Development Report*. Literacy and education data are compiled annually by UNESCO. UNICEF publishes maternal health indicators in its annual *State of the World's Children*. Household data are released by UN-Habitat in its Human Settlement Statistics database approximately every five years. Data on world contraceptive use are updated every two years. The Inter-Parliamentary Union updates its Women in Parliament data set monthly to reflect elections.

DATA RELIABILITY AND CAUTIONARY NOTES

Gender Empowerment Measure: This index is calculated for the purposes of comparing across countries, so data must be obtained from international datasets, limiting the variables that can be used for the calculation. Without these constraints, other variables that are more detailed could have been used to measure more accurately the political, professional, and economic empowerment of women.

Women-Headed Households: Data reliability varies on a country-by-country basis. Data for women-headed households are limited and were collected over a 15-year period. The reader should use caution when comparing across countries.

Contraceptive Prevalence Rate and Women with Unmet Family Planning Needs: The data refer only to women ages 15-49 who are married or in a consensual union. Information on single men or women is not as widely available, although it constitutes a significant proportion of contraceptive use (or lack thereof).

Maternal Mortality Ratio: The purpose of these estimates is to draw attention to the existence and likely dimensions of the problem of maternal mortality. The data are not intended to serve as precise estimates. The margins of uncertainty associated with these values are large and the estimates cannot be used to monitor trends.

Skilled Attendants at Delivery: The data included for this variable cover a wide range of years and sources. Some data refer to periods other than 1995-2002. Comparisons between countries should be made with caution due to the resulting potential for variability in data quality and timing for individual countries.

Ratio of Women to Men Enrolled in Secondary Education: While UNESCO keeps the most complete global data set on enrollment levels, problems do remain. The availability and quality of national school enrollment statistics vary widely, particularly for developing countries. Even though UNESCO has applied the same methodology to analyze all of the country data, definitions of "schooling" and "enrollment" are not strictly comparable among countries.

Literacy Rate: The availability and quality of national statistics on literacy varies widely, particularly for developing countries. When census and survey data are not available for a particular country, estimates need to be made based on neighboring countries. Even when census and survey data are available, they are typically collected only once every decade. In addition, many industrialized countries have stopped collecting literacy data in recent years, based on the assumption, sometimes incorrect, that universal primary education means universal literacy. Even though UNESCO has applied the same methodology to analyze all of the country data, actual definitions of adult literacy are not strictly comparable among countries. Some countries assume that persons with no schooling are illiterate, or change definitions between censuses. In addition, UNESCO's definition of literacy does not include people who, though familiar with the basics of reading and writing, do not have the skills to function at a reasonable level in their own society. Practices for identifying literates and illiterates during actual census enumeration may also vary, and errors in literacy self-declaration can affect data reliability. Therefore, users should exercise caution when making cross-country comparisons.

Annual Earned Income: Since direct measures of income disaggregated by gender are unavailable for most countries, this indicator is calculated by UNDP from wage figures including both men and women, estimates of the size of the labor force by gender, and ratios of male-to-female income.

Female Professional and Technical Workers: The collection and reporting of labor statistics is governed by a well-defined set of standards developed through a number of international agreements. The ILO applies rigorous quality standards to the data it receives. However, as is the case with all large datasets that rely on government reporting, there are likely to be some irregularities.

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	GDP						(interna	nal Poverty ational doll			Income Ir			Human Develop-	Human Poverty
	Per Capita PPP		onal Pov (perce	erty Rates ent)	S		Perce Popul Livin	ation g on	Pov Gap	{b}		Gini Index {c} (0 =	Unem- ployment Rate	ment Index {e} (1 = most	Index (100 = highest
	(int'l \$) 2002	Survey Year	Total	Urban	Rural	Survey Year	Less TI \$1/day	1an (a) \$2/day	(perc \$1/day	\$2/day	Survey Year	perfect equality)	2000- 2002 {d}	developed) 2002	poverty) 2002
World Asia (excl. Middle East)	7,880 4,684												4.6	0.73	
Armenia	3,117	1998-99	53.7	60.4	44.8	1998 f	12.8	49.0	3.3	17.3	1998 f	37.9		0.75	
Azerbaijan Bangladesh	3,207 1,695	2001 2000	49.6 49.8	36.6	53.0	2001 f 2000 f	3.7 36.0	9.1 82.8	< 1.0 8.1	3.5 36.3	2001 f 2000 f	36.5 31.8	1.3 3.3	0.75 0.51	42.2
Bhutan Cambodia	2,001	 1997	36.1	21.1	40.1	 1997 f	34.1	 77.7	 9.7	 34.5	 1997 f	40.4	1.8	0.54 0.57	 42.6
China	4,577	1998	4.6	< 2.0	4.6	2001 f	16.6	46.7	3.9	18.4	2001 f	44.7	3.1	0.75	13.2
Georgia India	2,307 2,681	1997 1999-00	11.1 28.6	12.1 24.7	9.9 30.2	2001 f 1999-00 f	2.7 34.7	15.7 79.9	0.9 8.2	4.6 35.3	2001 f 1999-00 f	36.9 32.5	11.0	0.74 0.60	31.4
Indonesia	3,228	1999	27.1			2002 f	7.5	52.4	0.9	15.7	2002 f	34.3	6.1	0.69	17.8
Japan Kazakhstan	26,937 5,814	1996	34.6	30.0	39.0	2001 f	< 2.0	8.5	< 0.5	1.4	1993 g 2001 f	24.9 31.3	5.4	0.94 0.77	11.1
Korea, Dem People's Rep Korea, Rep	 17,161					 1998 g	 < 2.0	 < 2.0	< 0.5	 < 0.5	 1998 f	31.6	3.1	0.89	
Kyrgyzstan	1,622	1999	64.1	49.0	69.7	2001 f	< 2.0	27.2	< 0.5	5.9	2001 f	29.0	8.6	0.70	**
Lao People's Dem Rep Malaysia	1,765 9,130	1997-98 1989	38.6 15.5	26.9	41.0	1997-98 f 1997 g	26.3 < 2.0	73.2 9.3	6.3 < 0.5	29.6	1997 f 1997 g	37.0 49.2	3.9	0.53 0.79	40.3
Mongolia Myanmar	1,709	1995	36.3	38.5	33.1	1995 f	13.9	50.0	3.1	17.5	1998 f	44.0		0.67 0.55	19.1 25.4
Nepal	1,382	1995-96	42.0	23.0	44.0	1995 f	37.7	82.5	9.7	37.5	1995-96 f	36.7		0.50	41.2
Pakistan Philippines	1,941 4,171	1998-99 1997	32.6 36.8	24.2 21.5	35.9 50.7	1998 f 2000 f	13.4 14.6	65.6 46.4	2.4	22.0 17.2	1998-99 f 2000 f	33.0 46.1	7.8 9.8	0.50 0.75	41.9 15.0
Singapore Sri Lanka	24,006 3,560	1995-96	25.0	15.0	27.0	 1995-96 f	6.6	 45.4	1.0	 13.5	1998 g 1995 f	42.5 34.4	3.4 8.2	0.90 0.74	6.3 18.2
Tajikistan	981					1998 f	10.3	50.8	2.6	16.3	1998 f	34.7		0.67	**
Thailand Turkmenistan	7,009 5,049	1992	13.1	10.2	15.5	2000 f 1998 f	< 2.0	32.5 44.0	< 0.5	9.0	2000 f 1998 f	43.2	1.8	0.77 0.75	13.1
Uzbekistan	1,661	2000	27.5	22.5	30.5	2000 f	21.8	77.5	5.4	28.9	2000 f	26.8		0.71	
Viet Nam Europe	2,305 18,097	1993	50.9	25.9	57.2	1998 f	17.7	63.7	3.3	22.9	1998 f	36.1	7.8	0.69	20.0
Albania Austria	4,270 29,220	2002	25.4		29.6	2002 f	< 2.0	11.8	< 0.5	2.0	2002 f 1997 g	28.2 30.0	22.7 3.6	0.78 0.93	
Belarus	5,518	2000	41.9			2000 f	< 2.0	< 2.0	< 0.5	0.1	2000 f	30.4	2.3	0.79	
Belgium Bosnia and Herzegovina	27,569 5,777	2001-02	19.5	13.8	 19.9						1996 g 2001 f	25.0 26.2	6.9	0.94 0.78	12.4 h
Bulgaria	7,253	2001	12.8			2001 f	4.7	16.2	1.4	5.7	2001 g	31.9	19.4	0.80	
Croatia Czech Rep	10,286 15,794					2000 f 1996 g	< 2.0 < 2.0	< 2.0 < 2.0	< 0.5 < 0.5	< 0.5 < 0.5	2001 f 1996 g	29.0 25.4	15.2 7.3	0.83 0.87	
Denmark Estonia	30,943 12,255	 1995	 8.9	6.8	 14.7	 1998 f	 < 2.0	 5.2	 < 0.5	0.8	1997 g 2000 g	24.7 37.2	4.3 12.6	0.93 0.85	9.1 h
Finland	26,186										2000 g	26.9	9.0	0.94	8.4 h
France Germany	26,921 27,102										1995 g 2000 g	32.7 28.3	8.9 8.6	0.93 0.93	10.8 h 10.3 h
Greece Hungary	18,718 13,869	 1997	 17.3			 1998 g	 < 2.0	7.3	< 0.5	1.7	1998 g 1999 f	35.4 24.4	9.6 5.8	0.90 0.85	
Iceland	29,749												3.2	0.94	450.1
Ireland Italy	36,360 26,429										1996 g 2000 g	35.9 36.0	4.2 9.0	0.94 0.92	15.3 h 11.6 h
Latvia Lithuania	9,202 10,313					1998 f 2000 f	< 2.0 < 2.0	8.3 13.7	< 0.5 < 0.5	2.0 4.2	1998 g 2000 f	32.4 31.9	12.8 13.8	0.82 0.84	
Macedonia, FYR	6,483					1998 f	< 2.0	4.0	< 0.5	0.6	1998 f	28.2	31.9	0.79	
Moldova, Rep Netherlands	1,478 29,105	1997	23.3		26.7	2001 f	22.0	63.7	5.8	25.1	2001 f 1994 g	36.2 32.6	7.3 3.1	0.68 0.94	 8.2 h
Norway	36,596	 1993				 1999 g					2000 g	25.8	3.9 19.9	0.96	7.1 h
Poland Portugal	10,934 18,282	1993	23.8			1999 g 1994 g	< 2.0	< 2.0 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	1999 f 1997 g	31.6 38.5	5.1	0.85	
Romania Russian Federation	6,556 8,269	1994 1994	21.5 30.9	20.4	27.9	2000 f 2000 f	2.1 6.1	20.5 23.8	0.6 1.2	5.2 8.0	2000 f 2000 f	30.3 45.6	6.6 8.9	0.78 0.80	
Serbia and Montenegro													22.3		
Slovakia Slovenia	12,892 18,615					1996 g 1998 f	< 2.0	< 2.4	< 0.5 < 0.5	< 0.5	1996 g 1998-99 g	25.8 28.4	18.6 5.9	0.84	
Spain Sweden	21,457 26,048										1990 g 2000 g	32.5 25.0	11.4 5.2	0.92 0.95	11.0 h 6.5 h
Switzerland	30,008										1992 g	33.1	2.9	0.94	0.5 11
Ukraine United Kingdom	4,887 26,155	1995 	31.7			1999 g 	2.9	45.7 	0.6	16.3	1999 f 1999 g	29.0 36.0	11.1 5.1	0.78 0.94	14.8 h
Middle East & North Africa Afghanistan	5,994						2.4	29.9				••			
Algeria	5,783	1998	12.2	7.3	16.6	 1995 f	< 2.0	15.1	< 0.5	3.8	1995 f	35.3	29.8	0.70	21.9
Egypt Iran, Islamic Rep	3,813 6,701	1999-00	16.7			2000 f 1998 f	3.1 < 2.0	43.9 7.3	0.5 < 0.5	11.3 1.5	1999 f 1998 f	34.4 43.0	9.0	0.65 0.73	30.9 16.4
Iraq															
Israel Jordan	19,532 4,223	1997	11.7			 1997 f	< 2.0	7.4	< 0.5	1.4	1997 g 1997 f	35.5 36.4	10.3 13.2	0.91 0.75	7.2
Kuwait Lebanon	16,320 4,755												8.0	0.84 0.76	 9.5
Libyan Arab Jamahiriya														0.79	15.3
Morocco Oman	3,810 13,337	1998-99 	19.0	12.0	27.2 	1999 f 	< 2.0 	14.3	< 0.5 	3.1	1998-99 f 	39.5		0.62 0.77	34.5 31.5
Saudi Arabia Syrian Arab Rep	12,845 3,527												11.2	0.77 0.71	15.8 13.7
Tunisia	6,763	1995	7.6	3.6	13.9	2000 f	< 2.0	6.6	< 0.5	1.3	2000 f	39.8		0.75	19.2
Turkey United Arab Emirates	6,365					2000 f	< 2.0	10.3	< 0.5	2.5	2000 f	40.0	10.6 2.3	0.75 0.82	12.0
Yemen	870	1998	41.8	30.8	45.0	1998 f	15.7	45.2	4.5	15.0	1998 f	33.4		0.48	40.3

 $For more information, please \ visit \ http://earthtrends.wri.org/datatables/economics$

	GDP					I		al Poverty tional dolla			Income Ir	oguality		Human	Human
	Per						Percer		115)		mcome n	Gini	Unem-	Develop- ment	Poverty Index
	Capita	Nati	onal Pove		S		Popula		Pove			Index {c}	ployment	Index {e}	(100 =
	PPP (int'l \$)	Survey	(perce	nt)		Survey	Living Less Th		Gap (perce		Survey	(0 = perfect	Rate 2000-	(1 = most developed)	highest poverty)
	2002	Year	Total	Urban	Rural	Year	\$1/day	\$2/day		\$2/day	Year	equality)	2002 {d}	2002	2002
Sub-Saharan Africa Angola	1,779 2,208					••	46.5	78.0						0.38	
Benin	1,073	1995	33.0											0.38	45.7
Botswana	7,928	 1998	45.2	16.5		1993 f 1998 f	23.5 44.9	50.1 81.0	7.7 14.4	22.8 40.6	1993 f 1998 f	63.0	15.8	0.59 0.30	43.5 65.5
Burkina Faso Burundi	1,112 635	1998	45.3	16.5 43.0	51.0 36.0	1998 f	58.4	81.0	24.9	51.3	1998 f	48.2 33.3		0.30	65.5 45.8
Cameroon	2,037	2001	40.2	22.1	49.9	2001 f	17.1	50.6	4.1	19.3	2001 f	44.6		0.50	36.9
Central African Rep Chad	1,171 1,029	1995-96	64.0	63.0	67.0	1993 f 	66.6	84.0	38.1	58.4	1993 f	61.3		0.36 0.38	47.7 49.6
Congo	979													0.49	31.9
Congo, Dem Rep Côte d'Ivoire	621 1,520					 1998 f	15.5	50.4	3.8	18.9	 1998 f	45.2		0.37	42.9 45.0
Equatorial Guinea										10.5				0.70	32.7
Eritrea Ethiopia	909 745	1993-94 1999-00	53.0 44.2	 37.0	 45.0	 1999-00 f	26.3	80.7	5.7	31.8	 2000 f	30.0		0.44 0.36	41.8 55.5
Gabon	6,595				45.0		20.5		J.7 	51.0				0.65	
Gambia	1,571	1998		48.0	61.0	1998 f	59.3	82.9	28.8	51.1	1998 f	38.0		0.45	45.8
Ghana Guinea	2,141 2,098	1998 1994	39.5 40.0	18.6	49.9	1999 f 	44.8	78.5 	17.3	40.8	1999 f 1994 f	30.0 40.3		0.57 0.43	26.0
Guinea-Bissau	705										1993 f	47.0		0.35	48.0
Kenya Lesotho	1,018 2,423	1997	52.0	49.0	53.0	1997 f 1995 f	23.0 36.4	58.6 56.1	6.0 19.0	24.1	1997 f 1995 f	44.5 63.2		0.49	37.5 47.9
Liberia															
Madagascar Malawi	744 581	1999 1997-98	71.3 65.3	52.1 54.9	76.7 66.5	1999 f 1997-98 f	49.1 41.7	83.3 76.1	18.3 14.8	44.0 38.3	2001 f 1997 f	47.5 50.3		0.47 0.39	35.9 46.8
Mali	976	1998	63.8	30.1	75.9	1994 f	72.8	90.6	37.4	60.5	1994 f	50.5		0.33	58.9
Mauritania Mozambique	1,683 1,061	2000 1996-97	46.3 69.4	25.4 62.0	61.2 71.3	2000 f 1996 f	25.9 37.9	63.1 78.4	7.6 12.0	26.8 36.8	2000 f 1996-97 f	39.0 39.6		0.47 0.35	48.3 49.8
Namibia	6,128					1993 g	34.9	55.8	14.0	30.4	1990-97 I	70.7	33.8	0.55	37.7
Niger	806 919	1989-93 1992-93	63.0 34.1	52.0 30.4	66.0	1995 f	61.4 70.2	85.3 90.8	33.9 34.9	54.8 59.0	1995 f	50.5 50.6		0.29	61.4 35.1
Nigeria Rwanda	1,224	1992-93	51.2	30.4	36.4	1997 f 1983-85 f	35.7	84.6	7.7	36.7	1996-97 f 1983-85 f	28.9		0.47	44.7
Senegal	1,594	1992	33.4		40.4	1995 f	26.3	67.8	7.0	28.2	1995 f	41.3		0.44	44.1
Sierra Leone Somalia	523	1989	68.0	53.0	76.0	1989 f	57.0	74.5	39.5	51.8	1989 f	62.9		0.27	
South Africa	10,152					1995 f	7.1	23.8	1.1	8.6	1995 f	59.3	29.5	0.67	31.7
Sudan Tanzania, United Rep	1,936 579	2000-01	 35.7		38.7	 1993 f	 19.9	 59.7	4.8	23.0	 1993 f	 38.2		0.51 0.41	31.6 36.0
Togo	1,486	1987-89	32.3				15.5		4.0	25.0				0.50	38.0
Uganda Zambia	1,413 839	1997 1998	44.0 72.9	 56.0	 83.1	 1998 f	 63.7	 87.4	 32.7	 55.4	1999 f 1998 f	43.0 52.6		0.49 0.39	36.4 50.4
Zimbabwe		1995-96	34.9	7.9	48.0	1990-91 f	36.0	64.2	9.6	29.4	1995 f	56.8		0.39	52.0
North America	35,138										1000	22.1	5.9		10.0
Canada United States	29,484 35,746										1998 g 2000 g	33.1 40.8	7.7 5.8	0.94 0.94	12.2 h 15.8 h
C. America & Caribbean	7,347					••							3.0		
Belize Costa Rica	6,538 8,817	 1992	22.0	19.2	25.5	2000 g	2.0	9.5	0.7	3.0	2000 g	46.5	 6.4	0.74 0.83	16.7 4.4
Cuba													3.3	0.81	5.0
Dominican Rep El Salvador	6,644 4,887	1998 1992	28.6 48.3	20.5 43.1	42.1 55.7	1998 g 2000 g	< 2.0 31.1	< 2.0 58.0	< 0.5 14.1	< 0.5 29.7	1998 g 2000 g	47.4 53.2	15.6 6.2	0.74 0.72	13.7 17.0
Guatemala	4,058	2000	56.2	27.1	74.5	2000 g	16.0	37.4	4.6	16.0	2000 g	48.3	3.1	0.65	22.5
Haiti Honduras	1,623 2,597	1995 1993	 53.0	 57.0	66.0 51.0	 1998 g	23.8	 44.4	 11.6	23.1	 1999 g	 55.0	 3.8	0.46 0.67	41.1 16.6
Jamaica	3,982	2000	18.7		25.1	2000 f	< 2.0	13.3	< 0.5	2.7	2000 f	37.9		0.76	9.2
Mexico	8,972 2,486	1988 1998	10.1 47.9	30.5	68.5	2000 g 2001 f	9.9 45.1	26.3 79.9	3.7 16.7	10.9	2000 g 2001 g	54.6 55.1	2.4 11.2	0.80	9.1
Nicaragua Panama	6,166	1998	37.3	15.3	64.9	2001 I 2000 g	7.2	79.9 17.6	2.3	7.4	2001 g	56.4	13.2	0.67	7.7
Trinidad and Tobago	9,446	1992	21.0	24.0	20.0	1992 g	12.4	39.0	3.5	14.6	1992 g	40.3		0.80	7.7
South America Argentina	7,333 11,083	1998		29.9		2001 g	3.3	14.3	0.5	4.7	2001 g	52.2	11.5 17.8	0.85	
Bolivia	2,459	1999	62.7		81.7	1999 f	14.4	34.3	5.4	14.9	1999 f	44.7	5.2	0.68	14.4
Brazil Chile	7,752 9,796	1990 1998	17.4 17.0	13.1	32.6	2001 g 2000 g	8.2 < 2.0	22.4 9.6	2.1 < 0.5	8.8 2.5	2001 g 2000 g	58.5 57.1	9.4 7.8	0.78 0.84	11.8 4.1
Colombia	6,493	1999	64.0	55.0	79.0	1999 g	8.2	22.6	2.2	8.8	1999 g	57.6	17.9	0.77	8.1
Ecuador	3,583	1994 1998	35.0 35.0	25.0	47.0	1998 g 1998 g	17.7	40.8	7.1	17.7	1998 f 1999 f	43.7	11.0	0.74	12.0 12.9
Guyana Paraguay	4,224 4,657	1998	35.0 21.8	 19.7	28.5	1998 g 1999 g	< 2.0 14.9	6.1 30.3	< 0.5 6.8	1.7 14.7	1999 t 1999 g	43.2 56.8		0.72 0.75	12.9
Peru	5,012	1997	49.0	40.4	64.7	2000 g	18.1	37.7	9.1	18.5	2000 g	49.8	8.7	0.75	13.2
Suriname Uruguay	7,767					2000 g	< 2.0	3.9	< 0.5	0.8	2000 g	44.6	17.2	0.78	3.6
Venezuela	5,368	1989	31.3			1998 g	15.0	32.0	6.9	15.2	1998 g	49.1	12.8	0.78	8.5
Oceania Australia	21,348										1004	25.0	5.9	0.95	12.9 h
Australia Fiji	28,262 5,242										1994 g	35.2 	6.0	0.95	12.9 n 21.3
New Zealand	21,742										1997 g	36.2	5.2	0.93	
Papua New Guinea Solomon Islands	2,366 1,654	1996	37.5	16.1	41.3						1996 f 	50.9		0.54 0.62	37.0
High Income {i}	28,480					••					••		6.2	0.93	••
Middle Income (i)	5,800												4.9	0.76	
Low Income (i)	2,110		A1.00		AO 15				h The Pe		moncures he			0.56	low throsholds

a. Measures the percent of the population living below \$1.08 a day and \$2.15 a day at 1993 international prices. **b.** The Poverty Gap measures both the breadth and severity of poverty below thresholds of \$1.08 a day and \$2.15 a day at 1993 international prices. **c.** The Gini Index measures the equality of income distribution within the population (0 = perfect equality; 100 = perfect inequality).

d. Data are for the most recent year in the listed range. **e.** According to the UNDP, the Human Development Index measures "average achievement in three basic dimensions of human development—a long and healthy life, knowledge, and a decent standard of living." **f.** Ranked by per capita consumption or expenditures. **g.** Ranked by per capita income. **h.** For OECD countries, a separate Human Poverty Index is used (see notes). **i.** Regional totals for high-, middle-, and low- income countries are calculated by the original data providers.

Income and Poverty: Technical Notes

DEFINITIONS AND METHODOLOGY

Gross Domestic Product (GDP) Per Capita is the total annual output of a country's economy divided by the population of the country for that year. GDP is the final market value of all goods and services produced in a country in a given year, equal to total consumer, investment, and government spending. Dollar figures for GDP are converted to international dollars using purchasing power parity (PPP) rates and are not adjusted for inflation. An international dollar buys roughly the same amount of goods and services in each country.

PPP rates account for the local prices of goods and services, allowing GDP estimates to be adjusted for cost of living and more accurately compared across countries. PPP rates are estimated through extrapolation and regression analysis using data from the International Comparison Programme (ICP). Computation of the PPP involves deriving implicit quantities from national accounts expenditure data and specially collected price data and then revaluing the implicit quantities in each country at a single set of average prices. GDP data for most developing countries are collected from national statistical organizations and central banks by visiting and resident World Bank missions. The data for high-income economies are from the OECD.

The Survey Year shows the years in which the surveys used to collect national poverty data, international poverty data, and income inequality data were administered.

National Poverty Rates show the percent of a country's population living below a nationally established poverty line. Estimates include total poverty rates and rates in both urban and rural areas. Values are calculated on a country-by-country basis according to the needs of the poor in a given country. Data for the National Poverty Rates are derived from surveys prepared for the World Bank and conducted between 1985 and 2002. Surveys asked households to report either their income, or, preferably, their consumption levels. These nationally representative household surveys were conducted by national statistical offices, private agencies under the supervision of government, or international agencies. The level of income that is used to determine national poverty lines varies among countries. As the cost of living is frequently higher in urban areas, the urban poverty line is higher than the rural poverty line in the same country.

International Poverty Rates data are based on nationally representative primary household surveys conducted by national statistical offices, or by private agencies under the supervision of government or international agencies and obtained from government statistical offices and World Bank country departments. Surveys were conducted between 1985 and 2002. PPP exchange rates, such as those from the Penn World Tables or the World Bank, are used because they take into account local prices and goods and services not traded internationally. In past years, the World Bank has calculated poverty estimates using PPPs from the Penn World Tables. Beginning in 2002 the World Bank used 1993 consumption PPP estimates produced at the Bank.

Population Living Below \$1/day is the percentage of the population of a country living on less than \$1.08 a day at 1993 international prices, equivalent to \$1 in 1985 prices when adjusted for purchasing power parity. This amount is calculated as the consumption level necessary to basic life maintenance, and income below this level is referred to as "extreme poverty." Population Living Below \$2/day is the percentage of the population of a country living on less than \$2.15 a day at 1993 international prices, equivalent to \$2 in 1985 prices when adjusted for purchasing power parity.

Poverty Gap measures both the breadth and severity of poverty below thresholds (poverty lines) of \$1.08/day and \$2.15/day at 1993 international prices (equivalent to \$1 and \$2 respectively in 1985 prices, adjusted for purchasing power parity). Measured as a percentage, the indicator shows the "poverty deficit" of the country's

population, where the poverty deficit is the per capita amount of resources that would be needed to bring all poor people to the poverty line through perfectly targeted cash transfers.

For example, a greater proportion of the population in Laos is living on less than \$2/day than in El Salvador—73 percent vs. 58 percent. While Laos has a greater breadth (incidence) of poverty, the poverty in El Salvador is more severe, so the two countries both have poverty gaps that approach 30 percent. It would require the same investment in both countries relative to the total population in each to bring the entire population to the poverty line: $30\% \times \$2/day = \$0.60/day$ per capita.

In technical terms, the poverty gap is defined as the mean distance from the poverty line expressed as a percentage of the poverty line, counting the distance of the non-poor as zero. It is calculated by dividing the average income shortfall by the poverty line. For example, in a country with a poverty line of \$1/day and three average daily incomes—\$1.60, \$0.90, and \$0.50—the poverty gap would be 20 percent. (Three shortfalls—\$0.00, \$0.10, and \$0.50—are averaged to yield a mean shortfall of \$0.20, and the resulting poverty gap is \$0.20/\$1.00 = 20 percent)

The Gini Index measures income inequality by quantifying the deviation of income or consumption distribution from perfect equality. A score of zero implies perfect equality while a score of 100 implies perfect inequality. If every person in a country earned the same income, the Gini Index would be zero; if all income was earned by one person, the Gini Index would be 100. The Gini Index is calculated by compiling income (or expenditure) distribution data. For developing countries, the Gini Index is calculated directly from household survey data; for high-income countries the index is calculated directly from the Luxemburg Income Study database, using an estimation method consistent with that applied for developing countries. Once compiled, income or expenditure distribution data are plotted on a Lorenz curve, which illustrates the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini Index is calculated as the area between the Lorenz curve and a hypothetical (45-degree) line of absolute equality, expressed as a percentage of the maximum area under the line.

Unemployment Rate is defined as the percentage of the total labor force which is simultaneously without work, available to work, and actively seeking work. Definitions may vary among countries. The World Bank receives its data on national unemployment rates from the International Labour Organization's (ILO) Bureau of Statistics. The ILO compiles this information from a combination of sources, including labor force surveys, national estimates, social insurance statistics, and employment office statistics. The information presented here is the annual average of the monthly, quarterly, or biannual unemployment estimates.

The Human Development Index is comprised of three sub-indices that measure health and lifespan, education and knowledge, and standard of living. It attempts to describe achievement of development goals related to quality of life using data that can be compared across countries and time. It is aggregated from 4 indicators: life expectancy, adult literacy, the gross school enrollment index, and GDP per capita. Life expectancy is the average number of years that a newborn baby is expected to live using current age-specific mortality rates. Adult literacy is defined as the percentage of the population aged 15 years and over which can both read and write, with understanding, a short, simple statement on their everyday life. The gross enrollment index measures school enrollment, regardless of age, as a percentage of the official school-age population. Gross Domestic Product (GDP) per capita measures the total annual output of a country's economy per person. These four indicators are classified in three separate categories—life expectancy, education, and GDP—which are indexed independently and then weighted equally to calculate the final index. More information is available at http://hdr.undp.org.

The Human Poverty Index is a composite indicator that describes a population's deprivation from three development goals related to quality of life: health, literacy, and sufficient standard of living. The index is scaled from 0-100, with 100 representing the highest possible level of poverty.

Data presented here are from two separate surveys. Non-OECD countries are evaluated using the "HP-1" index based on four indicators: probability at birth of not surviving to age 40 (1/3 total index value), adult illiteracy rate (1/3 total index value), children underweight for age (1/6 total index value), and population without access to an improved water source (1/6 total index value). OECD countries are evaluated using the "HP-2" index with four different indicators: probability at birth of not surviving to age 60, adults lacking functional literacy skills, population below income poverty line, and long-term unemployment. The four OECD indicators are weighted equally in calculating the final index. For more information, see http://hdr.undp.org.

FREQUENCY OF UPDATE BY DATA PROVIDERS

Human Development Index and Human Poverty Index data are published annually by the United Nations Development Programme (UNDP) in the Human Development Report. Poverty Rates and Income Inequality data are updated irregularly as surveys are conducted in individual countries; new survey results are compiled and released annually in the World Bank's World Development Indicators. GDP Per Capita and Unemployment Rates are updated annually in World Development Indicators.

DATA RELIABILITY AND CAUTIONARY NOTES

GDP per capita (PPP): While the World Bank produces the most reliable global GDP estimates available, many obstacles inhibit data collection and compilation of accurate information. Informal economic activities sometimes pose a measurement problem, especially in developing countries, where much economic activity may go unrecorded. Obtaining a complete picture of the economy requires estimating household outputs produced for local sale and home use, barter exchanges, and illicit or deliberately unreported activity. Technical improvements and growth in the services sector are both particularly difficult to measure. Purchasing power parity (PPP) rates are based on price surveys that do not include a full selection of goods and services, and not all countries participate in the International Comparison Program. The World Bank is in the process of developing updated PPP estimates from new price surveys

National Poverty Rates: National poverty lines are based on the calculation of the minimum income necessary to purchase a fixed amount of essential food and non-food items. Since these needs vary by nation, the poverty rates in this category are not comparable among countries, and, unlike international poverty rates, should not be used for comparison. However, national poverty rates can provide a more complete sense of poverty in a nation by describing poverty levels unique to each country and showing the differences between urban and rural areas.

International Poverty Rates: The quality of surveys underlying these estimates varies, and even similar surveys may not be strictly comparable. For example, surveys can be based on either household consumption or household income. Consumption data are considered to be more accurate and accord better with the standard of living, but when consumption data are not available, surveys based on household income are used. Household consumption can also differ widely, for example, based on the number of distinct categories of consumer goods they identify. Comparisons across countries at different levels of development pose a

potential problem because of differences in the relative importance of consumption of nonmarket goods. The local market value of all in-kind consumption (including consumption from own production, particularly important in underdeveloped rural economies) should be included in the measure of total consumption expenditure. Similarly, the imputed profit from production of nonmarket goods should be included in income. This is not always done, though such omissions were a far bigger problem in surveys before the 1980s. Most survey data now include valuations for consumption or income from own production. Nonetheless, valuation methods vary. For example, some surveys use the price in the nearest market, while others use the average farm gate selling price.

Although the \$1/day and \$2/day poverty lines are commonly used, there exists an ongoing debate as to how well they capture poverty across nations. Values should be treated as rough statistical approximations of the number of people earning or consuming at a given level rather than a certain prognosis of how many people are poor. International poverty rates do not capture other elements of poverty, including lack of access to health care, education, safe water, or sanitation.

Income Inequality: Values are derived in part from household surveys that measure expenditure in different countries. Despite recent improvements in survey methodology and consistency in the type of data collection, income distribution indicators are still not strictly comparable across countries. Surveys can differ in the type of information requested—for example, whether income or consumption is used. The distribution of income is typically more unequal than the distribution of consumption. Even where two surveys request income information, definitions of income may vary. Consumption is usually a much better welfare indicator, particularly in developing countries. The households that are surveyed can differ in size and in the extent of income sharing among members, and individuals within a household may differ in age and consumption needs. Differences among countries in these respects may bias comparisons of distribution.

Unemployment Rate: Though the quality of the underlying data compiled by the ILO varies and differences in national reporting standards do exist, the final estimates should be considered generally accurate. The ILO has developed a rigorous accounting procedure, and balances government reports with employment office statistics as well as its own surveys and the knowledge of in-country experts.

Human Development Index and Human Poverty Index: These two indices have been constructed specifically to use data from respected sources and calculated in a fashion as to allow for time-series analysis and cross-country comparisons. Ultimately, there is some degree of subjectivity in the creation of any index of this sort, but the data underlying the index can be considered reliable. For a discussion of the collection of international statistics and their limitations, see the "Note on Statistics in the Human Development Report" in the Technical Notes and Definitions appendix of the Human Development Report 2004.

SOURCES

GDP, National Poverty Rates, International Poverty Rates, Income Inequality, and Unemployment Rates: World Bank. 2004. World Development Indicators Online. Washington, DC: The World Bank. Available at http://www.worldbank.org/data/onlinedbs/onlinedbases.htm.

Human Development and Human Poverty Indices: United Nations Development Programme. 2004. *Human Development Report 2004*. New York: United Nations. Available at http://hdr.undp.org/reports/global/2004/.

Economics and Financial Flows

Sources: World Bank, United Nations Conference on Trade and Development

	Total	ross Domestic I Average Annual Growth	Per		995 \$US Distribution Sector (perc	ent)	Cross- Border Mergers and	ws (million curr Foreign Direct Investment	Official Develop- ment	Workers' Remittances as a Percent of Gross	Average Annual Inflation {b}
	(million dollars) 2002	Rate (percent) 1992-2002	Capita (dollars) 2002	Agriculture 2002	Industry 2002	Services 2002	Acquisitions (net inflows) (a) 2003	(net inflows) 2002	Assistance and Aid 2002	National Income (GNI) 2002	(percent) 1998- 2003
World	35,065,010	2.8	5,708	4	28	68 c		630,827	69,815		
Asia (excl. Middle East) Armenia	9,182,585 4,591	2.6 5.4	2,738 777	6 	33	61 c 37	25	91,267 111	13,009 293	0.28 0.42	1.6
Azerbaijan	4,132	1.2	638	16	52	32	1,387	1,392	349	2.78	(0.3) d
Bangladesh Bhutan	53,751 494	5.0 7.0	396 580	23 34	26 37	51 29	437	47 0	913 73	5.57	3.5 3.5
Cambodia	4,062	4.8	395	36	28	36	0.3	54	487	3.19	1.1
China	1,206,605	9.0 2.1	944 861	15 21	51 23	34 56	2,174 1 e	49,308	1,476	0.14	(0.0) 7.4 d
Georgia India	2,783 517,843	6.0	493	23	23 27	51	(414)	165 3,030	313 1,463	1.41 1.68	4.1
Indonesia	224,386	2.5	1,060	17	44	39	2,029	(1,513)	1,308	0.84	10.3
Japan Kazakhstan	5,608,145 28,009	0.4	45,029 1,933	9	31 39	68 c	2,506 337	9,087 2,583	188	0.02	(0.6)
Korea, Dem People's Rep									267		
Korea, Rep Kyrgyzstan	680,293 2,055	5.3 0.7	14,937 459	4 38	34 23	63 39	3,095 5 e	 5	(82) 186	 2.77	2.8 11.6
Lao People's Dem Rep	2,640	6.3	477	51	23	26 c		25	278	2.77	26.1
Malaysia	116,937	5.3	4,811	9	47	44	(3,601)	3,203	86		1.7
Mongolia Myanmar	1,077	2.8	442	30	16	54	7 е 417 е	78 129	208 121	5.29	6.2 24.7
Nepal	5,803	4.6	242	41	21	38		10	365	3.06	3.8
Pakistan Philippines	76,385 95,570	3.4	521 1,209	23 15	23 33	53 53	229	823 1,111	2,144	5.81 0.23	3.6 4.6
Singapore	113,486	6.1	27,533	0	35	65	(3,252)	6,097	7		0.6
Sri Lanka	16,909	4.6	899	20 29	26 25	54 46	76	242	344	8.01	8.8
Tajikistan Thailand	2,863 183,981	(3.0) 2.5	271 3,000	29 9	25 43	46 48	(121)	900	168 296	7.10	1.2
Turkmenistan	9,909	1.5	911	25	44	30 с		100	41		
Uzbekistan Viet Nam	13,341 33,203	2.3 7.4	693 413	35 23	22 39	44 38	21 e 14	65 1,400	189 1,277		1.4
Europe	11,451,996	2.1	16,010	2	28	69		402,391	9,024		1.4
Albania	3,420	5.8	1,114	25	19	56	2	135	317	14.19	2.7
Austria Belarus	272,562 15,684	2.2 2.0	34,044 2,118	2 11	32 37	66 52	371 2 e	886 247	 39	0.18	1.9 93.7
Belgium	323,356	2.4	31,094	1	27	72	15				2.0
Bosnia and Herzegovina	6,886 13,634	0.3	1,671 1,742	18 13	37 28	45 59	0.1 e 383	293 600	587 381	13.70	6.2
Bulgaria Croatia	24,288	3.6	5,500	8	29	62	581	981	166	3.24	3.3
Czech Rep	58,107	2.0	5,695	4	40	57	1,615	9,323	393		2.8
Denmark Estonia	210,690 6,790	2.6 3.7	39,661 4,315	3 5	27 30	71 65	(1,340) 3	6,410 285	 69	0.10	2.5 3.9
Finland	169,358	4.0	32,284	3	33	64	2,957	8,156			2.1
France Germany	1,822,901 2,706,380	2.2 1.5	30,790 32,826	3 1	25 30	72 69	8,718 5,489	52,020 37,296		0.06	1.6 1.4
Greece	150,494	3.0	14,162	7	22	70	572	53		0.95	3.3
Hungary	58,300	3.4	5,903	4	31	65	160	854	471	80.0	7.9
Iceland Ireland	9,041 116,935	3.7 8.6	31,385 30,551	 3	42	 54 c	(147) (1,516)	125 24,697		0.06	4.7 4.3
Italy	1,229,818	1.8	21,396	3	29	69	10,597	14,699		0.03	2.5
Latvia Lithuania	7,238 9,244	3.4 2.5	3,033 2,999	5 7	25 31	71 62	12 135	382 713	86 147	0.03 0.27	2.4 0.6
Macedonia, FYR	4,928	0.8	2,432	12	30	57	0.2	77	277	2.65	3.3
Moldova, Rep	3,103	(4.0)	488	24	23	53	19 e	111	142	0.09	18.3
Netherlands Norway	503,046 176,295	3.0 3.2	31,287 40,043	3 2	26 38	71 60	674 5,276	28,534 1,008			3.1 2.5
Poland	145,305	4.8	4,557	3	30	66	273	4,131	1,160	0.62	5.3
Portugal Romania	131,930 36,010	3.0 0.6	13,034 1,652	4 13	30 38	66 c 49	1,625 492	4,235 1,144	701	2.47 0.02	3.4 32.7
Russian Federation	393,851	(8.0)	3,273	6	34	60	(884)	3,009	1,301	0.08	26.3
Serbia and Montenegro Slovakia	14,932 24,852	0.1 f 3.9	1,798 4,655	4	 29	 67	863 e 160	475 4,012	1,931 189	17.97	 8.1
Slovenia	24,852	4.1	12,326	3	36	61	(14)	1,865	171	0.08	7.6
Spain	736,495	3.2	18,050	3	30	66	(428)	21,284		0.66	3.2
Sweden Switzerland	286,614 339,642	2.7 1.3	33,665 46,554	2	28	70	(107) 2,977	11,828 3,599		0.08 0.06	1.7 1.0
Ukraine	50,566	(4.7)	1,028	15	38	47	191	693	484	0.35	13.2
United Kingdom Middle East & N. Africa	1,354,618	2.9 1.7 g	22,974	1 13	26 32	73 55	(25,556)	28,180	0 1 <i>4F</i>	1.42	2.1
Afghanistan	744,095 i	1.7 g	2,666	52	24	55 24	··		9,145 1,285	1.42	
Algeria	51,888	2.6	1,665	10	53	37	3	1,065	361		2.2
Egypt Iran, Islamic Rep	82,939 117,104	4.7 3.5	1,253 1,819	17 12	33 39	50 49	2,198	647 37	1,286 116	2.96	2.9 14.7
Iraq									116		
Israel Jordan	106,383 j 8,589	4.6 h 3.7	16,676 1,662	 2	 26	 72	(549) 990	1,649 56	754 534	 21.05	2.7 1.4
Kuwait	27,282 i	3.7 3.4 g	1,552				(441)	7	534	21.00	1.4
Lebanon	12,736	3.3	2,922	12	21	67	98	257	456	5.50	
Libyan Arab Jamahiriya Morocco	43,761	3.0	1,455	16	30	 54	(430) 1,624	428	10 636	8.29	(5.1) d 1.5
Oman	15,940	3.9	6,147				(125)	40	41	0.23	(0.7)
Saudi Arabia Syrian Arab Rep	141,592 i 13,618	1.3 g 3.5	7,562 805	5 24	51 29	44 47	(473)	 225	27 81		(0.6) (0.8) d
Tunisia	25,253	4.7	2,573	10	29	60		795	475	5.49	2.6
Turkey	204,869	2.8	2,947	13	24	63	275	1,037	636	1.11	49.2
United Arab Emirates Yemen	 5,838	5.4	17,520 330	 15	 40	 44	(36)	 114	4 584	 14.10	 9.7
	5,000	J.7	550	10				117	50-1	17.10	5.,

For more information, please visit http://earthtrends.wri.org/datatables/economics

	Total	Average Annual Growth	Product (GD Per		995 \$US Distribution Sector (perc	ent)	Financial Flow Cross- Border Mergers and	ws (million curr Foreign Direct Investment	Official Develop- ment	Workers' Remittances as a Percent of Gross	Average Annual Inflation {b}
	(million dollars) 2002	Rate (percent) 1992-2002	Capita (dollars) 2002	Agriculture 2002	Industry 2002	Services 2002	Acquisitions (net inflows) {a} 2003	(net inflows) 2002	Assistance and Aid 2002	National Income (GNI) 2002	(percent) 1998- 2003
Sub-Saharan Africa	393,001	3.1	593	17	29	53		7,826	17,507		
Angola	8,305	5.2	623	8	68	24		1,312	421		175.5
Benin Botswana	2,872 7,245	5.0 5.7	443 3,983	36 2	14 47	50 50		41 37	220 38	2.70	2.8 7.9
Burkina Faso	3,051	4.5	284	31	18	51		8	473	1.52	1.8
Burundi	1,012	(1.6)	143	49	19	31		0	172		8.8
Cameroon	11,038	3.6	710	44	19	37		86	632		1.6 d
Central African Rep Chad	1,331 2,017	3.0 3.3	332 238	57 38	22 17	21 45		4 901	60 233		2.6 3.8
Congo	2,560	1.9	700	6	63	30		331	420	0.05	1.5
Congo, Dem Rep	4,660	(3.4)	90	58	19	23		32	807		276.8 d
Côte d'Ivoire Equatorial Guinea	11,941 742	3.4 24.2	776 2,444	26 9	20 86	53 5		230 323	1,069 20		3.0
Eritrea	716	5.0	160	12	25	63		21	230		
Ethiopia	8,334	5.5	122	42	11	47		75	1,307	0.51	1.8
Gabon	5,685	2.6	4,323	8	46	46		123	72		
Gambia Ghana	509 8,671	3.7 4.2	356 437	26 36	14 24	60 40	 55	43 50	61 653	 0.79	3.9 d 22.9
Guinea	4,861	4.3	633	24	37	39	1	0	250	0.48	
Guinea-Bissau	241	0.1	187	62	13	25		1	59		2.7
Kenya Lesotho	10,172	2.1 3.7	323 552	16 16	19 43	65 41	(2)	50 81	393 76	0.19	6.4
Liberia	1,205 657	3.7 17.2	552 197		43	41	(37)	(65)	52	0.19	
Madagascar	3,562	2.6	215	32	13	55	5 e	8	373		9.3
Malawi	1,744	3.8	157	37	15	49	**	6	377	0.05	23.3
Mali Mauritania	3,548 1,451	4.6	327 533	34 21	30 29	36 50		102 12	472 355	3.30	1.9 4.2
Mozambique	4,229	8.3	223	23	34	43	 88 e	406	2,058		11.3
Namibia	4,398	3.9	2,411	11	31	58	67		135	0.10	9.4
Niger	2,387 32,953	3.3 2.3	209 254	40 37	17 29	43 34		8 1,281	298 314		1.7 12.2
Nigeria Rwanda	2,405	4.2	295	42	22	37		3	356	0.38	2.9
Senegal	6,287	4.7	618	15	22	63		93	449		1.6
Sierra Leone	862	(2.9)	165	53	32	16		5	353		4.9
Somalia South Africa	182,280	2.7	4,201	4	 32	 64	995	(0) 739	194 657		6.3
Sudan	11,507	6.0	335	39	18	43	768 e	633	351	7.36	8.7 k
Tanzania, United Rep	7,179	3.9	213	44	16	39	2	240	1,233		
Togo	1,545	3.1	320	40	22 22	38		75 150	51	4.13	2.0
Uganda Zambia	8,597 4,292	6.7 1.5	363 422	32 22	26	46 52		150 197	638 641	6.15	3.1 24.0 d
Zimbabwe	6,771	1.2	521	17	24	59		26	201		77.0 d
North America	9,962,239	3.5	31,089	2	23	75 c		60,134			
Canada United States	741,060 9,221,179	3.6 3.5	23,621 31,891	2	23	 75 c	(10,884) (12,726)	20,501 39,633			2.4 2.5
C. America & Caribbean	473,654	2.7	3,009	6	27	68	(12,720)	18,609	2,254	2.48	
Belize	817	4.2	3,568	15	20	65		25	22	1.71	1.1
Costa Rica Cuba	15,479	4.6	3,938	8	29	62	11	662	5 61	1.32	10.3
Dominican Rep	18,388	6.2	2,128	12	33	 55		961	157	9.71	9.9
El Salvador	11,501	3.8	1,758	9	30	61	417	208	233	14.31	2.3
Guatemala	18,532	3.8	1,552	22	19	58		110	249	7.51	6.6
Haiti Honduras	2,851 4,806	0.8 2.8	338 716	27 13	16 31	57 56		6 143	156 435	 11.35	15.5 9.5
Jamaica	5,682	0.1	2,107	6	31	63		481	24	16.03	7.6
Mexico	374,729	3.2	3,721	4	26	70	(4,127)	14,622	136	1.64	7.9
Nicaragua	11,288	3.8	497 3,418	18	25 14	57 80	(120)	174 57	517 35	9.88 0.72	7.7 1.0
Trinidad and Tobago	7,206	4.2	5,526	2	41	58	87	737	(7)	0.72	4.2
South America	1,643,751	2.3	4,093	8	26	66		26,319	2,386	0.65	
Argentina	249,537	1.3	6,842	11	32	57	1,788	785	0	1.05	6.6
Bolivia Brazil	8,240 810,244	3.5 2.7	952 4,642	15 6	33 21	52 73	2,206	677 16,566	681 376	1.05 0.34	2.4 8.1
Chile	84,689	5.0	5,441	9	34	57	56	1,713	(23)		3.2
Colombia	99,472	2.0	2,276	14	30	56	35	2,023	441	3.03	8.2
Ecuador Guyana	223,511 724	1.8 3.5	1,796 950	9 31	28 29	63 41	273 0.3 e	1,275 44	216 65	7.49 7.75	39.7 5.2 d
Paraguay	9,382	1.5	1,701	22	28	50	0.5 6	(22)	57	1.52	9.3
Peru	64,305	4.0	2,380	8	28	64	156	2,391	491	1.30	2.2
Suriname	447	2.9	1,905	11	20	69		177	12	1.53	42.1
Uruguay Venezuela	18,469 74,732	1.2 0.4	5,447 2,978	9	27 43	64 54	9 164	177 690	13 57	0.24	8.8 19.7
Oceania	567,617	3.7	18,031	4	26	70 c		17,585	1,319		
Australia	485,640	4.0	24,455	4	26	71 c	(4,836)	16,622			3.4
Fiji New Zealand	2,396 73,613	2.7 3.2	2,736 18,947	16	27	57	1 1,199	77 823	34	0.41	2.4 2.1
Papua New Guinea	73,613 4,600	3.2 1.1	18,947 879	 27	39	33	1,199	823 50	203	0.41	2.1 12.9
Solomon Islands	234	(1.3)	534					(7)	26		8.3
High Income {I}	28,547,160	2.6	29,541	2	27	71 c		483,001	1,852		
Middle Income {I}	5,864,176 979,032	3.4	1,979	9	34 26	56 49		133,443	27,370		
Low Income {I}	9/9,032	5.0	431	26	26	48		14,640	27,652		

a. Equal to the value of sales minus purchases for all cross-border mergers & acquisitions (M&As). b. Based on the Consumer Price Index (CPI). c. Sectoral GDP data for these countries and regions are from 2001. d. Average annual growth from 1998-2002. e. Data are for cross-border sales only; purchases are either equal to zero or data are unavailable. f. For the time period 1995-2002. g. For the time period 1992-2001. h. For the time period 1992-2000. i. Values are from 2001. j. Values are from 2000. k. Average annual growth from 1998-2001. II. With the exception of FDI inflows regional aggregates for low-, middle-, and high-income countries are obtained directly from the World Bank, not calculated from a list of countries by WRI.



Economics and Financial Flows: Technical Notes

DEFINITIONS AND METHODOLOGY

Gross Domestic Product (GDP), Constant 1995 Dollars is the sum of the value added by all producers in an economy. Data are expressed in millions of U.S. dollars. Currencies are converted to dollars using the International Monetary Fund's (IMF) average official exchange rate for 2002. Gross domestic product estimates at purchaser values (market prices) include the value added in the agriculture, industry, and service sectors, plus taxes and minus subsidies not included in the final value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion of natural resources. To obtain series of constant price data that one can compare over time, the World Bank rescales GDP and value added by industrial origin to a common reference year, currently 1995.

National accounts indicators for most developing countries are collected from national statistical organizations and central banks by visiting and resident World Bank missions. The data for high-income economies are obtained from the Organisation for Economic Cooperation and Development (OECD) data files (see the OECD's monthly *Main Economic Indicators*). Additional data are obtained from the United Nations Statistics Division's *National Accounts Statistics: Main Aggregates and Detailed Tables* and *Monthly Bulletin of Statistics*.

Average Annual Growth Rate of GDP is the average percentage growth of a country or region's economy for each year between (and including) 1992 and 2002. WRI assumes compound growth and uses the least-squares method to calculate average annual percent growth. The least squares method works by fitting a trend line to the natural logarithm of annual GDP values. The slope (m) of this trend line is used to calculate the annual growth rate (r) using the equation $r = e^m - 1$. The growth rate is an average rate that is representative of the available observations over the entire period. It does not necessarily match the actual growth rate between any two periods.

Gross Domestic Product Per Capita is the total annual output of a country's economy divided by the mid-year population. GDP per capita values are obtained directly from the World Bank.

Distribution of GDP by Sector is the percent of total output of goods and services that are a result of value added by a given 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. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. The industrial origin of value added is determined by the International Standard Industrial Classification (ISIC) revision 3. The ISIC is a classification system for economic activity developed and maintained by the United Nations.

Agriculture corresponds to ISIC divisions 1-5 and includes forestry and fishing. Industry corresponds to ISIC divisions 10-45 and comprises the mining, manufacturing, construction, electricity, water, and gas sectors. Services correspond to ISIC divisions 50-99 and include 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 from services is calculated as total GDP less the portion from agriculture and industry, so any discrepancies that may occur in the GDP distribution by sector calculation will appear here.

Cross-Border Mergers and Acquisitions (M&As) are defined as the joining of two firms or the takeover of one by another when the parties involved are based in different national economies. Data are presented here as the net inflows of M&A capital (sales less purchases) and are in millions of U.S. dollars.

The United Nations Conference on Trade and Development (UNCTAD) obtains these data from Thomson Financial Securities Data Company. Data are reported at the time of transaction and recorded by the governments of both the target firm and the purchasing firm. WRI calculates net inflows by subtracting the total value of purchases of firms within a country from total value of acquisitions made by firms within that country. Transaction amounts are recorded at the time of transfer, rather than contract.

Foreign Direct Investment (FDI) is private investment in a foreign economy to obtain a lasting management interest (10 percent or more of voting stock) in an enterprise. The IMF defines FDI in its *Balance of Payments Manual* as the sum of equity investment, reinvestment of earnings, and inter-company loans between parent corporations and foreign affiliates. Data are in million current U.S. dollars. FDI became the dominant means for funds transfer from rich to poor countries after the liberalization of global financial markets in the 1970s and accounts for more than one-half of financial flows to developing countries. Data are based on balance of payments information reported by the IMF, supplemented by data from the OECD and official national sources.

Official Development Assistance (ODA) and Aid includes concessions by governments and international institutions to developing countries to promote economic development and welfare. The data shown here record the actual receipts of financial resources or of goods or services valued at the cost to the donor, less any repayments of loan principal during the same period. Values are reported in million current US dollars. Grants by official agencies of the members of the Development Assistance Committee (DAC) of the OECD are included, as are loans with a grant element of at least 25 percent, and technical cooperation and assistance. The data on development assistance are compiled by the DAC and published in its annual statistical report, Geographical Distribution of Financial Flows to Aid Recipients, and the DAC annual Development Co-operation Report.

WRI calculates **Remittances** as a **Percent of GNI** by dividing workers' remittances by Gross National Income. Both values are originally in current U.S. dollars, and the quotient is expressed as a percentage.

Workers' remittances include the transfer of earned wages by migrant workers to their home country. It includes all transfers by migrants who are employed or intend to remain employed for more than a year in another economy in which they are considered residents. Transfers made by self-employed workers are not considered remittances, as this indicator attempts to describe money raised through labor rather than entrepreneurial activity. Since 1980, recorded remittance receipts to low- and middle-income countries have increased six-fold.

Average Annual Inflation Rate is the average annual percentage change in consumer prices between (and including) 1998 and 2003. The inflation rates shown here are based on the Consumer Price Index (CPI), which measures the change in cost to the average consumer of acquiring a basket of goods and services, using the Laspeyres formula. WRI assumes compound growth and uses the least-squares method to calculate average annual percent growth. The least squares method works by fitting a trend line to the natural logarithm of annual consumer price values. The slope (m) of this trend line is used to calculate the annual growth rate (r) using the equation $r = e^m - 1$. The growth rate is an average rate that is representative of the available observations over the entire period. It does not necessarily match the actual growth rate between any two periods.

FREQUENCY OF UPDATE BY DATA PROVIDERS

The World Bank publishes *World Development Indicators* each year in April. Data for this table were taken from the 2004 on-line edition, which typically include values through 2002 or 2003. UNCTAD updates the *World Investment Report* annually.

DATA RELIABILITY AND CAUTIONARY NOTES

Gross Domestic Product: The World Bank produces the most reliable global GDP estimates available. Informal economic activities sometimes pose a measurement problem, however, especially in developing countries, where much economic activity may go unrecorded. Obtaining a complete picture of the economy requires estimating household outputs produced for local sale and home use, barter exchanges, and illicit or deliberately unreported activity. Technical improvements and growth in the services sector are both particularly difficult to measure. How consistent and complete such estimates will be depends on the skill and methods of the compiling statisticians and the resources available to them. Because values are measured in U.S. dollars, these data do not account for differences in purchasing power among countries.

Mergers and Acquisitions: Values are calculated based on the year that a deal closes, not at the time a deal is announced. M&A values may be paid out over more than one year. Data are accepted "as is" from national surveys. Some underreporting of data may occur, though as all transactions are registered in both the country of the purchasing firm and the targeting firm, this is likely to be uncommon.

Foreign Direct Investment: Because of the multiplicity of sources, definitions, and reporting methods, data may not be comparable across countries. (Data do not include capital raised locally, which has become an important source of financing in some developing countries.) In addition, data only capture cross-border investment flows when equity participation is involved and thus omit non-equity cross-border transactions. For a more detailed discussion, please refer to the World Bank's World Debt Tables 1993-1994, volume 1, chapter 3.

Official Development Assistance: Data are not directly comparable, since the ODA figures do not distinguish among different types of aid, which can affect individual economies in different ways. Because data are based on donor-country reports, they may not match aid receipts recorded in developing and transition economies. According to the World Bank, "the nominal values used here may overstate the real value of aid to the recipient." The purchasing power of foreign aid can decrease when price and exchange rates fluctuate, grants are tied to specific policy restrictions, or technical assistance pays for the work of firms in other countries.

Worker Remittances: Data on worker remittances are reported by the countries receiving the transfers. Variations in reporting standards do exist, particularly in determining the residency status of a worker.

Inflation Rate: Data are based on CPIs, which are updated frequently and based on the prices of explicit goods and services. However, the weights used in calculating CPIs are derived from household expenditure surveys, which can vary in quality and frequency across countries. The definition of a household, the specific "basket" of goods chosen, and the geographic location of a survey can vary across countries and within a specific country over time. According to the World Bank, these data are "useful for measuring consumer prices within a country, [but] consumer price indexes are of less value in making comparisons across countries."

SOURCES

GDP, Financial Flows (excluding M&A data), Remittances, and Inflation data: The World Bank, Development Data Group. 2004. World Development Indicators 2004 online. Washington, D.C.: The World Bank. Available at http://www.worldbank.org/data/onlinedbs/onlinebases.htm.

Mergers and Acquisitions: United Nations Conference on Trade and Development (UNCTAD). 2004. World Investment Report 2004: The Shift Towards Services. Annex tables B.7 "Cross-border M&A sales by region/economy of seller" and B.8 "Cross-border M&A purchases by region/economy of purchaser." New York and Geneva: United Nations. Available at http://www.unctad.org/Templates/Page.asp?intltemID= 1465&lang=1.

Institutions and Governance

Sources: Polity IV Project, Transparency International, World Bank, International Telecommunications Union, Privacy International, Freedom House

		Governance Indice	s	Regulat	ory Barriers				Acc	cess to Informati	on
	Level of	Dalitical	Corruption		Starting		nment Expend		Digital	Status of	Press Freedom
	Democracy (-10 - 10,	Political Competition	Perceptions Index	Average	ness, 2004 Percent of GNI		(as a percent o Domestic Pro		Access Index	Freedom of Information	Index
	10 = most	(0 - 5, 5 = most		Number of	Per Capita (a)	Public	Public		(1 - 100, 100=		(0 - 100, 0=
	democratic) 2002	competitive) 2002	least corrupt) 2003	Days to Incorporate	Required to Incorporate	Health 2000	Education (b) 2000	2000	most access) 2002	Legislation 2005	most free) 2004
World				50	79	5.4	4.1	2.3			
Asia (excl. Middle East) Armenia	5	4	3.0	25	7	4.5 3.2	2.9	1.4 3.6	30	Law Enacted	64
Azerbaijan	-7	2	1.8	123	15	0.7	3.9	2.6	24	Pending Effort	71
Bangladesh Bhutan	6 -8	3 2	1.3	35 62	91 11	1.6 3.5	2.5 5.2	1.4	18 13	Pending Effort	68 68
Cambodia	2	4		94	480	1.7	1.8	 3.5	17		63
China Georgia	-7 5	1 3	3.4 1.8	41 25	15 14	2.0 1.1	2.2	2.1 0.6	43 37	 Law Enacted	80 54
India	9	4	2.8	89	50	0.9	4.1	2.3	32		c 41
Indonesia	7 10	4 5	1.9 7.0	151 31	131 11	0.6 6.0	1.5 3.6	1.1 1.0	34 75	Pending Effort Law Enacted	55 18
Japan Kazakhstan	-6	2	2.4	25	11	2.1	3.0	0.8	41	Law Ellacted	74
Korea, Dem People's Rep	-9	1				1.8					98
Korea, Rep Kyrgyzstan	8 -3	4 2	4.3 2.1	22 21	18 12	2.6 2.0	3.8 2.9	2.8 1.8	82 32	Law Enacted	29 71
Lao People's Dem Rep	-7	1		198	19	1.5	2.3	2.0	15		82
Malaysia Mongolia	3 10	3 5	5.2	30 20	25 8	1.8 4.4	6.2	1.7 2.5	57 35		69 36
Myanmar	-7	1	1.6			0.3	1.3	2.3	17		95
Nepal Pakistan	-4 -5	3 2	 2.5	21 24	74 36	1.6 1.0	3.7 1.8	0.9 4.4	19 24	 Law Enacted	65 c 59
Philippines	-5 8	4	2.5	50	20	1.7	3.5	1.1	43	Pending Effort	
Singapore	-2	2	9.4	8	1	1.3		4.7	75		64
Sri Lanka Tajikistan	6 -1	3 3	3.4 1.8	50	11	1.8 0.9		4.5 1.2	38 21	Pending Effort Law Enacted	53 e 73
Thailand	9	4	3.3	33	7	2.1	5.4	1.5	48	Law Enacted	39
Turkmenistan Uzbekistan	-9 -9	1 1	2.4	 35	 17	3.0 2.8		3.8	37 31	 Law Enacted	95 e 84
Viet Nam	-7	1	2.4	56	29	1.5			31		82
Europe						6.5		2.0			
Albania Austria	7 10	4 5	2.5 8.0	47 29	32 6	2.4 5.6	5.8	1.2 0.8	39 75	Law Enacted Law Enacted	49 23
Belarus	-7	2	4.2	79	25	4.6		1.3	49		84
Belgium Bosnia and Herzegovina	10	5	7.6 3.3	34 54	11 46	6.2 3.1		1.4 9.5	74 46	Law Enacted Law Enacted	9 48
Bulgaria	9	4	3.9	32	10	4.0		2.7	53	Law Enacted	35
Croatia Czech Rep	7 10	4 5	3.7 3.9	49 40	14 11	7.8 6.5	4.4	2.9	59 66	Law Enacted Law Enacted	37 23
Denmark	10	5	9.5	4	0	6.8	8.3	1.5	83	Law Enacted	8
Estonia Finland	6 10	<u>3</u>	5.5 9.7	72 14	8 1	4.5 5.0	5.9	1.6	67 79	Law Enacted Law Enacted	17 9
France	9	5	6.9	8	1	7.1	5.8	2.6	72	Law Enacted	19
Germany	10 10	5 5	7.7 4.3	45 38	6 35	8.0 5.3	4.5 3.8	1.5 4.9	74 66	Pending Effort	16 28
Greece Hungary	10	5	4.3	52	23	5.1	4.9	1.7	63	Law Enacted Law Enacted	20
Iceland		2	9.6	.:.	.::	7.8	6.0		82	Law Enacted	8
Ireland Italy	10 10	5 5	7.5 5.3	24 13	10 16	4.7 6.0	4.3 4.6	0.7 2.1	69 72	Law Enacted Law Enacted	16 33
Latvia	8	4	3.8	18	18	3.5	5.9	1.0	54	Law Enacted	17
Lithuania Macedonia, FYR	10	5 4	4.7 2.3	26 48	4 12	4.4 5.1		1.8	56 48	Law Enacted Pending Effort	18 53
Moldova, Rep	8	3	2.4	30	19	2.9	4.0	0.4	37	Law Enacted	63
Netherlands Norway	10 10	5 5	8.9 8.8	11 23	13 3	5.5 6.5	6.8	1.6 1.8	79 79	Law Enacted Law Enacted	12 9
Poland	9	4	3.6	31	21	4.2	5.0	1.9	59	Law Enacted	19
Portugal	10	5	6.6	78	14	6.2	5.8	2.1	65	Law Enacted	14
Romania Russian Federation	8 7	4 4	2.8 2.7	28 36	7 7	5.2 3.7	2.9	2.5 3.6	48 50	Law Enacted Pending Effort	
Serbia and Montenegro	7 9	4	2.3	51	10	5.9		5.9	45 59	Law Enacted	g 40
Slovakia Slovenia	10	<u>4</u> 5	3.7 5.9	52 61	6 12	5.1 6.1	4.1	1.7	72	Law Enacted Law Enacted	21 19
Spain	10	5	6.9	108	17	5.3		1.2	67	Law Enacted	19
Sweden Switzerland	10 10	5 5	9.3 8.8	16 20	1 9	7.1 5.9		2.1 1.1	85 76	Law Enacted Law Enacted	8 c 9
Ukraine	7	4	2.3	34	18	2.9	4.2	3.6	43	Law Enacted	68
United Kingdom Middle East & N. Africa	10	5	8.7	18	1	5.9 3.5		2.5 5.9	77	Law Enacted	19
Afghanistan	-66	-66		 		2.7					72
Algeria	-3	3	2.6	26	27	2.7		3.5	37 40		63 76
Egypt Iran, Islamic Rep	-6 3	2	3.3 3.0	43 48	63 7	1.8 2.7	4.4	2.5 3.9	40 43		76 79
Iraq	-9	1	2.2			1.0					66
Israel Jordan	10 -2	5 4	7.0 4.6	34 36	6 52	5.7 3.8	7.3	8.2 9.0	70 45	Law Enacted	28 63
Kuwait	-7	2	5.3	35	2	2.7		8.0	51		57
Lebanon Libyan Arab Jamahiriya	-66 -7	-66 1	3.0 2.1	46	132	1.5	3.0	5.4	48 42		66 94
Morocco	-6	2	3.3	11	12	1.6	5.0	4.1	33		61
Oman Saudi Arabia	-8 -10	2	6.3	34	5 70	2.4		10.6	43		74 80
Saudi Arabia Syrian Arab Rep	-10 -7	1 1	4.5 3.4	64 47	70 34	3.3 2.2		10.6 5.5	44 28		80 80
Tunisia	-4	3	4.9	14	11	4.6	6.8	1.7	41		80
Turkey United Arab Emirates	7	3 1	3.1 5.2	9 54	26 27	4.4 2.7	3.5	5.0 2.5	48 64	Law Enacted	52 75
Yemen	-2	3	2.6	63	269	1.4	10.0	5.4	18		67

For more information, please visit http://earthtrends.wri.org/datatables/governance

		Governance Indice	s	Regulat	ory Barriers				Ac	cess to Informatio	n
	Level of		Corruption		Starting	Gover	nment Expend	itures	Digital	Status of	Press
	Democracy	Political	Perceptions		ness, 2004		(as a percent o		Access	Freedom of	Freedom
	(-10 - 10, 10 = most	Competition $(0 - 5, 5 = most)$	Index	Average Number of	Percent of GNI Per Capita (a)	Gross Public	Domestic Pro Public	duct)	Index (1 - 100, 100=	Information (FOI)	Index (0 - 100, 0=
	democratic)	competitive)	least corrupt)	Days to	Required to	Health	Education (b)	Military	most access)	Legislation	most free)
	2002	2002	2003	Incorporate	Incorporate	2000	2000	2000	2002	2005	2004
Sub-Saharan Africa				63	225	2.7		1.9			
Angola Benin	-3 6	3 4	1.8	146 32	885 197	1.9 1.8	2.7 3.1	4.9	11 12	Law Enacted e	: 66 30
Botswana	9	4	5.7	108	11	3.7	J.1 	3.7	43	Pending Effort	30
Burkina Faso	0	4		135	153	1.8		1.7	8		39
Burundi Cameroon	-4	3	1.8	43 37	192 183	2.0	3.4	6.0 1.4	10 16		75 67
Central African Rep	5	3		14	205	2.1		1	10		64
Chad	-2	3		75	344	2.4		1.5	10		74
Congo, Dem Rep	-4 -77	2 -77	2.2	67 155	318 603	1.4 1.4			17 12		54 80
Côte d'Ivoire	4	3	2.1	58	134	1.0	4.6		13		65
Equatorial Guinea Eritrea	-5 -7	2 2				1.3 3.7	0.6		20		89 89
Ethiopia	1	3	2.5	32	 77	1.1	4.8	9.8	13 10	Pending Effort	66
Gabon	-4	2				1.6	3.9		34		62
Gambia Ghana	-5 6	2	2.5 3.3	 85	 88	2.9 2.4	2.7	1.1 1.0	13 16	 Panding Effort	63 28
Guinea	-1	3	J.J	49	208	1.8	1.9	1.5	10	Pending Effort	71
Guinea-Bissau	5	3				3.4		4.4	10		63
Kenya Lesotho	8	3	1.9	47 92	53 58	2.1 4.9	6.3 10.0	1.6 3.1	19 19	Pending Effort Pending Effort	60 40
Liberia	0	3				3.2				. Sharing Elloit	75
Madagascar	7	4	2.6	44	65	1.6	3.2	1.2	15	Danding Effect	41
Malawi Mali	5 6	4 3	2.8 3.0	35 42	141 187	3.0 1.8		0.9 2.5	15 9	Pending Effort	52 27
Mauritania	-6	2		82	141	2.7			14		64
Mozambique Namibia	6 6	4	2.7 4.7	153 85	96 19	3.8 4.8		2.4	12 39	Pending Effort	45 34
Niger	4	4 0	4.7	27	396	1.5	2.8	3.4 1.1	4	Pending Effort	56
Nigeria	4	0	1.4	44	95	0.4		0.8	15	Pending Effort	53
Rwanda Senegal	-4 8	2	3.2	21 57	317 113	3.0 2.6	2.8 3.2	3.8 1.4	15 14		82 37
Sierra Leone	5	3	2.2	26		2.6		3.6	10		58
Somalia	-77	-77				1.2		1	45		80
South Africa Sudan	-6	2	2.3	38	9	3.6		1.5 3.0	45 13	Law Enacted	24 85
Tanzania, United Rep	2	3	2.5	 35	187	2.1		3.0	15	Pending Effort	50
Togo	-2	3	2.2	53	229	1.5	4.8		18	Decide of Effect	78
Uganda Zambia	-4 1	2	2.2	36 35	131 23	3.1 2.9		2.2 0.6	17 17	Pending Effort Pending Effort	44 63
Zimbabwe	-7	2	2.3	96	305	3.8		4.9	29	Law Enacted h	
North America Canada	10	<u></u> 5	8.7	3	1	5.8 6.4	4.9 5.2	3.0 1.2	78	Law Enacted	 15
United States	10	5	7.5	5	1	5.8	4.9	3.1	78 78	Law Enacted	13
C. America & Caribbean						2.7					
Belize Costa Rica	 10	 5	4.5 4.3	 77	 26	2.4 4.7	6.2 4.4		47 52	Law Enacted	22 19
Cuba	-7	1	4.6			6.1	8.5		38		96
Dominican Rep	8	4	3.3	78	25	2.2			42	Law Enacted	39
El Salvador Guatemala	7 8	4	3.7 2.4	115 39	128 63	3.6 2.2	2.5 1.7	0.7	38 38	Pending Effort Pending Effort	42 62
Haiti	-2	3	1.5	203	176	2.5		0.6	15		79
Honduras	7 9	4	2.3	62 31	73 15	3.2 2.9			29 53	Pending Effort	52 17
Jamaica Mexico	8	4 4	3.8 3.6	58	15 17	2.9	6.3	0.5	53 50	Law Enacted Law Enacted	36
Nicaragua	8	3	2.6	45	170	3.7		1.3	19	Pending Effort	37
Panama Trinidad and Tobago	9	5	3.4 4.6	19	25	5.3 1.8	5.0 3.8		47 53	Law Enacted Law Enacted	45 25
South America			4.0			3.4	J.0 	1.5		Law Lilacteu	
Argentina	8	4	2.5	32	16	4.9	4.6	1.3	53	Pending Effort f	35
Bolivia	9	4	2.3 3.9	59 155	174	3.5	5.5 3.8	1.5	38 50	Pending Effort f Pending Effort	37 36
Brazil Chile	9	4	7.4	27	12 10	3.1 2.9	3.9	1.3 2.8	58	Pending Effort	23
Colombia	7	3	3.7	43	27	3.7	4.8	3.4	45	Law Enacted	63
Ecuador Guyana	6 6	3 3	2.2	92	47	2.2 4.2			41 43	Law Enacted	42 20
Paraguay	7	3	1.6	74	 158	3.0	4.9	1.0	39	Pending Effort	54
Peru	9	4	3.7	98	36	2.6		2.0	44	Law Enacted	34
Suriname Uruguay	10	 5	5.5	45	48	6.3 5.1	2.8	1.1	46 54	Pending Effort	18 26
Venezuela	6	3	2.4	116	15	3.4		1.1	47		68
Oceania				2	2	6.2	4.9	1.6			
Australia Fiji	10 5	5 3	8.8	2 64	2 25	6.2 2.6	4.7 6.0	1.7 2.1	74 43	Law Enacted Pending Effort	14 29
New Zealand	10	5	9.5	12	0	6.2	6.0	1.3	72	Law Enacted	10
Papua New Guinea	10	5	2.1	56	31	3.8	2.3	8.0	26	Pending Effort	25
Solomon Islands				35	44	4.6	3.5		17		30

a. Gross national income. b. May include subsidies for private or religious schools. c. Law is not yet implemented. d. Extensive access is available through the national constitution. e. Limited implementation. f. Executive order implementing FOI adopted. g. Laws in Montenegro still pending. h. This law is primarily used to supress media, while its FOIA provisions are unused.

Key to Indices:

Level of Democracy (Polity IV): Scaled from -10 to 10, -10 represents a fully autocratic regime, 10 a fully democratic regime. -66 represents an interruption in government due to foreign occupation. -77 signifies a period of interregnum after a collapse of centralized political authority.

Political Competition (Polity IV): Assigned a value from 0 to 5: 0 = unregulated, 1 = most repressed (least competitive), and 5 = most competitive (least repressed).

Corruption Perceptions Index (Transparency International): Scaled from 0 (most corrupt) to 10 (least corrupt).

Digital Access Index (International Telecommunications Union): Scaled from 0 to 100, 100 represents highest access.

Press Freedom Index (Freedom House): Scaled from 1 to 100. 1-30 = Free, 31-60 = Partly Free, 61-100 = Not Free.

Institutions and Governance: Technical Notes

DEFINITIONS AND METHODOLOGY

The **Level of Democracy** is a scale measuring the degree to which a nation is either autocratic or democratic. A score of plus 10 indicates a strongly democratic state; a score of minus 10 a strongly autocratic state. A democratic government possesses fully competitive political participation, institutionalized constraints on executive power, and guarantee of civil liberties to all citizens. An autocratic system sharply restricts or suppresses competitive political participation, and its chief executives are chosen by an elite group and exercise power with few institutionalized constraints.

The Level of Political Competition measures the extent to which alternate preferences for policy and leadership can be pursued in the political arena. On a scale of 0-5, one of the following categories is assigned to a country: (0) "Not Applicable" is used for a political system without stable groups. (1) "Repressed" is assigned to totalitarian party systems, authoritarian military dictatorships, and despotic monarchies—any regime where oppositional activity is not permitted outside of the ruling party. Repressed regimes also have the power and ability to carry out systematic repression. (2) "Suppressed" political systems contain some limited political competition outside of government; however, peaceful political competition and large classes of people are excluded from the political process. (3) "Factional" polities contain parochial or ethnic-based political factions that compete for influence in order to promote agendas that favor the interests of group members over common interests. (4) "Transitional" arrangements accommodate competing interests, but some factionalism associated with parochial interests may still be present. (5) "Competitive" systems are characterized by relatively stable and enduring political groups with regular competition and voluntary transfer of power. Small parties or political groups may, however, be restricted.

The Level of Democracy and Political Competition indices are reported by the Polity IV Project of the Center for International Development & Conflict Management. The Polity IV indices are compiled by a panel of experts using multiple historical sources for each country, combined with reference to a variety of standard sources.

The Corruption Perceptions Index (CPI) measures the degree to which corruption—the abuse of public office for private gain—is perceived to exist among public officials and politicians. Ratings range in value from 10 (least corrupt) to 0 (most corrupt). CPI is a composite index compiled by Transparency International from the results of 17 surveys reported by 13 different independent institutions.

Regulatory Barriers to Starting a Business measure the average amount of time and money necessary to register and incorporate a new business venture in the largest city of a given country. These two indicators are measured in days and as a percent of the per capita gross national income (GNI). Governments differ significantly in the requirements they set for these processes. Broadly speaking, higher values represent regulatory environments that stifle the creation of new enterprises.

Data are obtained from the World Bank's Doing Business Database. World Bank staff collect this information in an extensive investigative process involving surveys and the input of local experts. Surveys are sent to lawyers working as business retainers in the country of interest. Respondents are asked to list the steps required to begin a business and to estimate both the cost and amount of time required to perform each. Respondents' answers are compared and normalized in order to present a clear picture of the regulations surrounding the start of a business as well as shortcuts and common methods used for compliance. Survey results are corroborated by other in-country experts in business law and practice.

Government Expenditures as a percent of gross domestic product (GDP) roughly indicate the economic importance of public health, public education, and military activities on national economies.

Public Health Expenditure consists of recurrent and capital spending from government (both central and local) budgets, external borrowings and grants (including donations from international agencies and nongovernmental organizations), and social (or compulsory) health insurance funds. The estimates of health expenditure come mostly from the World Health Organization's (WHO) World Health Report 2003 and its subsequent updates, and from the OECD for its member countries, supplemented by World Bank poverty assessments and country-sector studies. Data are also drawn from the World Bank and the International Monetary Fund.

Public Education Expenditure consists of public spending on public education plus subsidies to private education at the primary, secondary, and post-secondary levels. Foreign aid for education is excluded. Education expenditure estimates are provided to the World Bank by the Institute for Statistics of the United Nations Educational, Scientific, and Cultural Organization (UNESCO). UNESCO compiles its data from annual financial reports of central or federal governments and state or regional administrations.

Military Expenditure is defined by the Stockholm International Peace Research Institute (SIPRI) as "all current and capital expenditure on: (a) the armed forces, including peacekeeping forces; (b) defense ministries and other government agencies engaged in defense projects; (c) paramilitary forces, when judged to be trained and equipped for military operations; and (d) military space activities." Expenditures include the cost of procurements, personnel, research and development, construction, operations, maintenance, and military aid to other countries. Civil defense, veteran's benefits, demobilization, and destruction of weapons are not included as military expenditures. SIPRI obtains military expenditure data from several sources. Primary sources include national budget documents, defense white papers, public finance statistics, and responses to surveys. Surveys are administered by either SIPRI, the United Nations, or the Organization for Security and Co-operation in Europe (OSCE). Secondary sources include data published by the North Atlantic Treaty Organization (NATO), the International Monetary Fund (IMF), the Europa Yearbook, and country reports of the Economist Intelligence Unit.

The Digital Access Index reflects the ability of each country's population to take advantage of internet communication technologies. It is a composite score of eight variables describing availability of infrastructure, affordability of access, educational level, quality of information and communication technology (ICT) services, and Internet usage. The index is calculated by the International Telecommunications Union (ITU). ITU receives data on information technology from governments and industry associations. Data on education and literacy rates are provided by UNESCO's Institute for Statistics.

Freedom of Information (FOI) Legislation requires disclosure of government records to the public. There are now 48 countries with comprehensive FOI laws, plus a dozen or so countries with FOI-related constitutional provisions that can be used to access information. Data are collected by Privacy International on a country-by-country basis and were last updated in February 2005. ".." in a data column signifies countries with no FOI legislation or no available data.

The Press Freedom Index is defined by Freedom House as "the degree to which each country permits the free flow of information," measured on a scale of 1 to 100. Countries with a score between 1 and 30 are considered to have a "free" media; 31 to 60, "partly free"; and 61 to 100, "not free." Freedom House emphasizes that this survey does not measure press responsibility; rather, it measures the degree of freedom in the flow of information. Data are collected from overseas correspondents, staff travel, international visitors, the findings of human rights organizations, specialists in geographic and geopolitical areas, the reports of governments, and a variety of domestic and international news media. The final index measures three separate categories of influence on the media: national laws and administrative decisions; censorship and intimidation; and quotas, licensing biases, or government funding.

FREQUENCY OF UPDATE BY DATA PROVIDERS

All variables are updated annually except for the Digital Access Index, which was most recently released by ITU in November, 2003.

DATA RELIABILITY AND CAUTIONARY NOTES

Many of the data in this table are index calculations and therefore contain an unavoidable amount of subjectivity. Indices typically measure ideas and behaviors rather than discrete physical quantities. While these data can illustrate rough comparisons and trends over time, rigid score comparisons and rankings are discouraged.

Level of Democracy and Political Competition: The Polity IV data are subject to substantial cross-checking and inter-coder reliability checks. The least reliable calculations are typically the most recent, due to "the fluidity of real-time political dynamics and the effects this immediacy may have on the assignment of Polity codes in a semi-annual research cycle."

Corruption Perceptions Index (CPI): CPI is based solely on the perceptions of local residents, expatriates, business people, academics, and risk analysts. Hard empirical data such as cross-country comparisons of prosecutions or media reporting are not used because they may measure the extent of anti-corruption efforts instead of the extent of actual corruption.

Regulatory Barriers to Starting a Business: The data have been subject to a rigorous series of quality-control measures in order to ensure accuracy and comparability across countries. However, problems do remain. Data only measure the time and expense of starting an enterprise in the largest city of each country. Only businesses who employ more than 50 people or have more than five local owners are included. Smaller enterprises that are not measured here may have the most difficulty navigating bureaucratic and legal requirements. These data also assume the ability of the business to hire a lawyer well-versed in the regulations regarding the starting of a business, a service not available to many smaller entrepreneurs.

Public Health Expenditure: The values reported here represent the product of an extensive effort by WHO, OECD, and the World Bank to produce a comprehensive data set on national health accounts. Nonetheless, there are some difficulties with the data. Few developing countries have health accounts that are methodologically consistent with national accounting procedures. Data on public spending at the sub-national level is not aggregated in all countries, making total public expenditure on health care difficult to measure. WHO cautions that these data should only be used for an "order of magnitude" estimate, and that specific cross-country comparisons should be avoided.

Public Education Expenditure: Recent data are preliminary. In some cases data refer only to a ministry of education's expenditures, excluding other ministries and local authorities that spend a part of their budget on educational activities. Spending on religious schools, which constitutes a large portion of educational spending in some developing countries, may be included. The World Bank cautions that these data do not measure the effectiveness or levels of attainment in a particular educational system.

Military Expenditure: The entire data set has been carefully compiled with extensive analysis by a single provider, SIPRI, which makes these data fairly reliable. When a time series is not available, or a country's definition of military expenditure differs from SIPRI's, estimates are made based on analysis of official government budget statistics. Estimates are always based on empirical evidence, not assumptions or extrapolations. SIPRI cautions that military expenditure does not relate directly to military capability or security.

Status of Freedom of Information Legislation: While the FOI data have been thoroughly researched, there are unavoidable difficulties in assigning each country to one of three categories. Some countries have laws guaranteeing access, but the laws are not enforced. Others guarantee access to government documents in specific categories, excluding access in other categories. A more thorough description of each country's policies is available at http://www.privacyinternational.org/issues/foia/foia-survey.html.

Press Freedom Index: Freedom House has been reviewing press freedom since 1979; the Press Freedom Survey emerged in its current form in 1994. The data are reproducible and the index components are clear. The data are considered to be reliable; nonetheless, there is an unavoidable amount of subjectivity in any index calculation.

SOURCES:

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	Energy Consumption								Population	Elec	tricity Percent of				
	Total From All Sources (1000 metric toe)								Relying on Solid	sumption Per		Proven Fossil Fuel Reserves			Net Fuel Imports {c}
			Capita (kgoe)	oita	Solid	y Jource (p	Hydro-	Other Renew-	Fuels {b} (percent)	Capita (kWh)	With Access	Coal	Oil	Natural Gas	(1000 metric toe)
World	1991	2001	2001 1,631	Fuels 79.5	Biomass 10.4	Nuclear 6.9	electric 2.2	ables {a}	2000 56 d	2,326	2000 73	2003 501,172	2003 156,700	2003 158,198	2001
Asia (excl. Middle East)	2,215,374	3,145,549	890	75.3	18.2	4.2	1.6	0.5	75	1,087	70			130,130	684,754
Armenia		2,297	744	75.2	0.0	22.6	3.6	0.0	66	1,017			:		1,727
Azerbaijan Bangladesh	12,572	11,582 20,410	1,408 145	98.5 61.7	0.0 37.9	0.0	1.0 0.4	0.0	37 > 95	2,105 99	 20		959	1,233 306	(7,955) 4,276
Bhutan									< 5						
Cambodia China	873,087	1,139,369	887	78.6	18.8	0.4	2.1	0.1	> 95 80	1,069	16 99	58,900	3,238	1,641	3,583
Georgia		2,413	462	52.1	26.7	0.0	19.8	0.4	71	1,204					1,146
India Indonesia	379,440 99,944	531,453 152,304	514 711	59.3 66.2	38.5 31.6	0.9 0.0	1.2 0.6	0.0 1.7	81 50	408 423	43 53	55,597 2,053	741 613	769 2,301	90,862 (80,835)
Japan	446,399	520,729	4,091	80.9	0.7	16.0	1.4	0.7	< 5	8,096	100	515			417,093
Kazakhstan Korea, Dem People's Rep	31,299	40,324 20,440	2,596 912	97.4 90.6	0.2 4.9	0.0	1.7 4.5	0.0	51 68	3,312 760	 20	21,667 300	1,233	1,710	(43,679) 1,291
Korea, Rep	100,390	194,780	4,132	83.6	0.1	15.0	0.2	0.0	< 5	5,607	100	52			164,442
Kyrgyzstan Lao People's Dem Rep		2,235	447	59.1	0.2	0.0	47.8	0.0	> 95 95	1,439					983
Malaysia	26,222	51,608	2,197	94.2	4.7	0.0	1.2	0.0	29	2,824	97		524	2,165	(25,719)
Mongolia Myanmar	10,505	 12,159	 252	21.3	 77.4	0.0	 1.3	0.0	67 > 95	 94	90 5			328	(3,108)
Nepal	5,999	8,416	350	12.8	84.9	0.0	1.9	0.4	> 95	67	15				1,070
Pakistan Philippines	44,819 28,268	64,506 42,151	441 546	59.3 54.1	37.2 23.1	0.9	2.5 1.4	0.0 21.3	76 85	379 517	53 87	755		675	16,331 21,935
Singapore	14,464	29,158	7,103	99.8	0.0	0.0	0.0	0.0	< 5	7,677	100				21,935 47,477
Sri Lanka	5,600	7,923	423 494	43.7	52.9 0.0	0.0	3.4 39.8	0.0	89 > 95	288	62				3,577
Tajikistan Thailand	46,447	3,036 75,542	1,227	56.4 81.9	17.1	0.0	0.7	0.0	> 95 72	2,172 1,563	 82	423	90	393	1,655 35,782
Turkmenistan		15,309	3,243	101.0	0.0	0.0	0.0	0.0	50	1,400			75	2,610	(34,979)
Uzbekistan Viet Nam	24,824	50,650 39,356	2,001 497	98.8 37.8	0.0 58.3	0.0	1.0 4.0	0.0	79 > 95	1,796 332	 76	100	81 338	1,665 207	(5,068) (11,157)
Europe		3,606,369	3,621	84.2	2.0	10.5	2.4	0.3	16	5,598					44,742
Albania Austria	1,862 26,701	1,715 30,721	549 3,790	65.8 77.5	7.5 9.0	0.0	17.8 11.7	0.1 0.6	76 < 5	1,123 7,419	 100				808 20,034
Belarus	20,701	24,415	2,445	92.7	3.7	0.0	0.0	0.0	11	2,995					20,034
Belgium Bosnia and Herzegovina	51,651	59,001 4,359	5,743 1,072	76.5 88.0	0.6 4.1	20.5 0.0	0.1 10.0	0.1	< 5 74	8,272 1,876	100				51,174 1,174
Bulgaria	22,631	19,476	2,424	73.3	2.8	26.2	0.8	0.0	31	3,854		908			9,666
Croatia	40.016	7,904	1,778	86.1	3.7	0.0	6.8	0.0	16	2,938					3,850
Czech Rep Denmark	42,916 19,854	41,396 19,783	4,036 3,706	90.6 88.7	0.9 5.0	9.3 0.0	0.4 0.0	0.2 2.3	< 5 < 5	5,891 6,492	100 100	2,597	 170	 85	11,485 (6,111)
Estonia		4,697	3,472	89.7	11.4	0.0	0.0	0.0	34	4,766					1,763
Finland France	29,582 239,982	33,815 265,570	6,518 4,459	56.9 53.9	18.7 3.6	17.6 41.3	3.4 2.4	0.1 0.3	< 5 < 5	15,687 7,401	100 100	 19			18,319 139,392
Germany	349,219	351,092	4,263	84.1	1.3	12.7	0.5	0.6	< 5	6,852	100	29,667		186	216,864
Greece Hungary	22,286 27,362	28,704 25,340	2,622 2,542	94.5 82.7	3.3 1.3	0.0 14.6	0.6 0.1	0.7 0.0	< 5 26	4,686 3,426	100 100	958 366			21,866 13,511
Iceland	2,123	3,363	11,800	27.1	0.0	0.0	16.8	56.0	< 5	26,947	100				956
Ireland Italy	10,604 156,817	14,981 171,998	3,876 2,990	98.4 91.9	1.0 1.0	0.0	0.3 2.3	0.4 2.0	< 5 < 5	5,917 5,318	100 100		106	198	13,792 142,337
Latvia		4,297	1,828	61.3	29.3	0.0	5.7	0.0	19	2,193					2,607
Lithuania Macedonia, FYR		8,023 2,608	2,303 1,282	58.3 89.9	8.2 5.7	37.2 0.0	0.3 2.1	0.0	42 58	2,687 2,799					4,113 979
Moldova, Rep		3,140	734	92.1	1.9	0.0	0.2	0.0	72	940					2,908
Netherlands Norway	70,332 22,188	77,214 26,607	4,831 5,921	95.0 54.3	0.7 5.0	1.3 0.0	0.0 38.9	0.3	< 5 < 5	6,659 25,595	100 100		1,350	1,500 2,215	30,064 (201,565)
Poland	98,482	90,570	2,343	95.6	4.2	0.0	0.2	0.0	37	3,227	100	14,153		104	10,151
Portugal Romania	17,301 51,476	24,732 36,841	2,465 1,642	86.2 86.6	7.6 5.8	0.0 3.9	4.9 3.5	0.5 0.0	< 5 45	4,145 2,041	100	486	 123	 280	22,013 9,246
Russian Federation	31,470	621,349	4,289	90.9	0.6	5.8	2.4	0.0	7	5,319		68,699	9,500	42,300	(365,972)
Serbia and Montenegro Slovakia	 19,147	16,061 18,717	1,523 3,470	86.6 73.3	5.0 1.4	0.0 24.1	6.2 2.3	0.0 0.2	70 24	2,869 5,005	100		**		5,033 11,856
Slovenia		6,838	3,440	70.8	5.9	20.0	4.8	0.1	< 5	6,007					3,623
Spain Sweden	94,662 48,185	127,381 51,054	3,116 5,762	80.3 34.5	2.9 14.9	13.0 36.8	2.8 13.3	0.7 0.3	< 5 < 5	5,501 16,021	100 100	287			100,320 18,477
Switzerland	25,317	28,019	3,906	59.1	1.9	25.0	12.7	0.7	< 5	8,026	100				16,379
Ukraine United Kingdom	218,742	141,577 235,158	2,872 3,994	85.2 88.5	0.2 0.4	14.0 10.0	0.7 0.1	0.0 0.4	56 < 5	2,767 6,171	100	16,809 833	 595	999 567	58,412 (22,602)
Middle East & N. Africa	378,681	577,251	1,487	96.9	1.8	0.0	0.1	0.4	17	1,848	87		595	307	(1,016,784)
Afghanistan	 25,217	 29,438	 957	 99.7	0.3	0.0	0.0	0.0	> 95 < 5	 723	2 98		 1,425	4,071	(115,502)
Algeria Egypt	32,425	48,012	695	94.7	2.8	0.0	2.5	0.0	23	1,114	94		508	1,580	(7,438)
Iran, Islamic Rep Iraq	75,352 15,545	120,000 28,476	1,785 1,193	99.0 99.7	0.7 0.1	0.0	0.4	0.0	< 5 < 5	1,689 1,471	98 95		17,952 15,520	24,021 2,798	(126,024) (94,820)
Israel	12,102	21,193	3,433	97.6	0.0	0.0	0.2	3.0	< 5	6,459	100		15,520	2,798	20,865
Jordan	3,538	5,116	987	98.1	0.1	0.0	0.1	1.3	10	1,373	95				4,922
Kuwait Lebanon	4,784 2,883	16,368 5,435	6,956 1,537	100.0 95.0	0.0 2.3	0.0	0.0 0.5	0.0 0.1	< 5 < 5	15,818 1,824	100 95		13,292	1,401	(91,991) 5,141
Libyan Arab Jamahiriya	13,791	15,992	2,995	99.1	0.9	0.0	0.0	0.0	< 5	3,968	100		4,688	1,183	(58,285)
Morocco Oman	7,053 5,956	11,006 9,984	372 3,714	93.9 100.0	4.0 0.0	0.0	0.7 0.0	0.2 0.0	11 < 5	570 3,247	71 94		 756	 851	10,648 (55,799)
Saudi Arabia	71,407	110,586	4,844	100.0	0.0	0.0	0.0	0.0	< 5	5,886	98		36,089	6,010	(364,198)
Syrian Arab Rep Tunisia	13,037 5,447	13,955 8,243	822 857	93.8 84.6	0.0 15.2	0.0	6.1 0.1	0.0	19 29	1,539 1,046	86 95		311 65	270	(20,422) 1,641
Turkey	52,505	72,458	1,046	86.6	8.7	0.0	2.8	1.4	11	1,509	95	1,322			45,608
United Arab Emirates Yemen	20,833	32,624 3,560	11,332 191	100.0 97.8	0.0 2.2	0.0	0.0	0.0	< 5 66	12,279 127	96 50		12,954 92	5,454 431	(105,249) (19,029)
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For more information, please visit http://earthtrends.wri.org/datatables/energy

	Energy Consumption									Con-	Percent of				
	To	Per	Cons	umption by	Source (p	ercent). 2	001	Relying on Solid	sumption Per	of Population		ossil Fuel F lion metric		Net Fuel Imports {c}	
		I Sources netric toe) 2001	Capita (kgoe) 2001	Fossil Fuels	Solid Biomass	Nuclear	Hydro- electric	Other Renew- ables {a}	Fuels {b} (percent) 2000	Capita (kWh) 2001	With Access 2000	Coal 2003	0il 2003	Natural Gas 2003	(1000 metric toe) 2001
Sub-Saharan Africa									76		24				
Angola	6,361	8,454	662	30.3	68.7	0.0	1.0	0.0	> 95	101	12		1,201		(34,979)
Benin Botswana	1,703	2,028	318		71.2	0.0	0.0	0.0	89 65	65 	22 22				511
Burkina Faso									> 95		13				
Burundi									> 95						
Cameroon Central African Rep	5,079	6,445	418	16.3	79.0	0.0	4.6	0.0	77 > 95	173	20		31		(6,046)
Chad									95						
Congo	1,082	931	263	29.2	64.9	0.0	3.1	0.0	67	134	21		214		(12,763)
Congo, Dem Rep Côte d'Ivoire	12,116 4,543	15,039 6,497	302 404	4.4 32.5	93.0 66.6	0.0	3.3	0.0	> 95 93	82 194					(562) 509
Equatorial Guinea	4,545	0,437		52.5		0.0		0.0	83						
Eritrea		771	200		68.9	0.0	0.0	0.0	> 95	46	17				244
Ethiopia Gabon	15,614 1,359	19,161 1,702	285 1,327	39.9	93.1 55.7	0.0	0.8 4.5	0.0	> 95 34	25 907	5 31		324		1,171 (13,071)
Gambia	1,339	1,702	1,327	35.5	33.7	0.0	4.5	0.0	> 95						(13,071)
Ghana	5,512	8,180	408	26.5	66.3	0.0	6.9	0.0	95	348	45				2,172
Guinea		**							> 95						
Guinea-Bissau Kenya	12,535	15,377	 495	 17.7	78.2	0.0	1.3	2.7	95 85	118	8				2,801
Lesotho		15,577	-455						85		5				2,001
Liberia									83						
Madagascar Malawi		**			**			**	> 95 > 95		8 5				••
Mali									> 95						
Mauritania									69						
Mozambique	7,167	7,687	422	6.0	88.3	0.0	9.8	0.0	87	272	7				473
Namibia Niger	652	1,159	601	65.5	15.2	0.0	10.2	0.0	83 > 95	1,334	34				759
Nigeria	74,241	95,444	810	21.9	77.5	0.0	0.6	0.0	67	86	40		4,635	4,497	(110,304)
Rwanda			:		:			. :	> 95		_::				
Senegal Sierra Leone	2,235	3,179	330	44.5	55.5	0.0	0.0	0.0	79 92	137	30				1,446
Somalia									< 5						
South Africa	95,393	107,738	2,426	85.5	11.9	2.6	0.2	0.0	28	4,546	66	33,013			(32,589)
Sudan	10,583 10,007	13,525 13,917	421 391	18.9 6.9	80.3 91.5	0.0	0.8 1.6	0.0	< 5 > 95	68 61	30		94		(8,025) 938
Tanzania, United Rep Togo	1,005	1,422	303	0.9	74.3	0.0	0.0	0.0	> 95	109	11 9				323
Uganda									> 95		4				
Zambia Zimbabwe	5,597 9,768	6,423 9,882	608 775	10.2 36.3	81.5 57.4	0.0	10.9 2.6	0.0	87 67	591 813	12 40	335			575 886
North America	2,152,179	2,529,598	7,929	85.3	2.5	9.1	1.8	0.0	< 5	13,416	100	333			510,372
Canada	208,832	248,184	7,999	77.0	4.2	8.1	11.5	0.0	< 5	16,787	100	3,350	2,308 e	1,498	(129,563)
United States	1,943,347	2,281,414	7,921	86.2	2.3	9.2	0.8	0.9	< 5	13,053	100	121,962	4,184	4,711	639,935
C. America & Caribbean Belize	175,649	214,218	1,265	82.7	11.1	1.1	1.7	3.2	37	1,409	85	••	••	-	(53,415)
Costa Rica	2,097	3,481	867	50.8	11.0	0.0	14.0	24.8	58	1,598	96				1,783
Cuba	13,530	13,651	1,215	75.6	24.0	0.0	0.0	0.4	42	1,153	97				7,467
Dominican Rep El Salvador	4,164 2,797	7,810 4,269	920 676	81.0 44.7	18.4 32.7	0.0	0.6 2.3	0.0 19.4	48 65	897 579	67 71				6,325 1,886
Guatemala	4,656	7,313	624	44.7	53.3	0.0	2.3	0.0	73	365	67				2,149
Haiti	1,580	2,088	257		72.7	0.0	1.1	0.0	82	31	34				547
Honduras	2,431	3,236	489	51.8	41.1	0.0	6.3	0.0	66	524	55				1,836
Jamaica Mexico	2,955 129,294	4,009 152,273	1,540 1,516	87.9 88.3	11.9 5.4	0.0 1.5	0.2 1.6	0.0 3.2	47 22	2,352 1,809	90 95	690	2,285	374	3,557 (76,813)
Nicaragua	2,184	2,792	537	44.8	48.2	0.0	0.6	6.3	72	335	48				1,274
Panama	1,610	3,180	1,058	78.9	14.6	0.0	6.8	0.0	37	1,358	76				2,653
Trinidad and Tobago South America	5,730 290,832	8,693 382,156	6,718 1,089	99.7 70.9	0.3 14.9	0.0 1.5	0.0 11.3	0.0 1.6	< 5 25	3,982 1,639	99 90		265	663	(9,185) (181,696)
Argentina	46,421	57,601	1,535	85.8	5.2	3.2	5.5	0.0	< 5	2,126	95		440	598	(24,854)
Bolivia	2,878	4,271	504	78.9	16.8	0.0	4.4	0.0	61	411	60			732	(2,667)
Brazil	134,792	185,083	1,064	60.3	20.3	2.0	12.4	3.3	27	1,794	95	3,976	1,456	221	37,916
Chile Colombia	14,106 25,254	23,801 29,245	1,544 683	74.4 72.8	17.7 17.9	0.0	7.8 9.4	0.0	15 36	2,648 781	99 81	4,305	206	101	15,737 (44,296)
Ecuador	6,289	8,727	692	84.6	8.4	0.0	7.0	0.0	28	654	80		649		(13,460)
Guyana						_ ::		, ::	< 5						
Paraguay Peru	3,161 9,770	3,756 12,113	670 459	27.8 68.4	57.9 18.7	0.0	103.8 f 12.5	0.1	64 40	841 704	75 73		 129	222	1,063 2,677
Suriname			-+35						69						
Uruguay	2,441	2,703	803	59.1	15.5	0.0	29.3	0.0	< 5	1,940	98				1,953
Venezuela Oceania	45,720	54,856	2,216	89.5	1.0	0.0	9.5	0.0	< 5	2,729	94	319	11,239	3,735	(155,765)
Australia	86,717	115,627	5,975	94.2	4.1	0.0	1.2	0.3	< 5	10,316	100	41,547	560	2,294	(134,092)
Fiji					4.1	0.0			< 5			.1,5-7		2,234	(13-1,032)
New Zealand	13,671	18,294	4,795	70.3	4.4	0.0	10.1	13.0	< 5	8,828	100	202			3,308
Papua New Guinea Solomon Islands								:	> 95 < 5				51	385	
		6,112,050	4 600	02.0	2.4	10.4	2	0.7	14	7578.3					1 10F 717
Developed Developing	2,789,194	3,911.044	4,600 828	83.9 73.6	2.4	10.4 1.4	2	0.7 0.7	67	896.2	 67				1,105,717 (1,071,719)

One toe equals one ton of oil equivalent; one kgoe equals one kilogram of oil equivalent.

a. Other renewables refer to biogas, liquid biomass, geothermal, solar, wind, and wave energy. b. Solid fuels include biomass and fossil fuels burned directly by a household. c. Net Fuel Imports are equal to imports minus exports and includes crude oil, petroleum products, coal and coal products, and natural gas. d. World totals are calculated by WRI. e. Includes an official estimate of oil sands under active development. f. Paraguay exports significant amounts of the hydroelectricity listed here to neighboring countries.

Energy: Technical Notes

DEFINITIONS AND METHODOLOGY

Total Energy Consumption is the amount of primary energy from all sources (coal, nuclear, hydroelectric, etc.) used annually by a particular country or region. Consumption equals indigenous production plus imports minus exports, stock changes, and energy delivered to international marine bunkers. Energy losses from transportation, friction, heat, and other inefficiencies are included here. The original source material published by the International Energy Agency (IEA) refers to these values as Total Primary Energy Supply (TPES). To facilitate comparisons among different sources of energy, the heat content of all energy commodities is presented in metric tons of oil equivalent (toe), which measures the energy contained in a metric ton (1000 kg) of crude oil. One toe is equal to 10^7 kilocalories, 41.868 gigajoules, or 11,628 kilowatt-hours (kWh).

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 the distribution of questionnaires, communication with international organizations such as the United Nations, co-operation with national statistical bodies, and direct contact with energy consultants and companies. If data are not available from any of these sources, they are estimated by the IEA. The energy produced by fossil fuels is calculated using conversion factors per unit mass of fuel (e.g., 10,000 kcal/kg of oil). Since energy sources such as coal and crude oil may vary in quality, the IEA uses specific conversion factors supplied by national administrations for the main categories of energy sources and uses (i.e., production, imports, exports). The energy produced by non-fossil fuels is more complicated to measure; the IEA must first assume a primary form of energy to measure using global or regional efficiency averages, and then calculate the primary energy equivalent. Please refer to the original source for further information on the variables and collection methodologies.

Energy Consumption Per Capita is the amount of energy, as defined above, consumed on average by each person, expressed in kilograms of oil equivalent (kgoe). This variable was calculated by dividing total consumption by population figures from the United Nations Population Division.

Energy Consumption by Source data show the amount of energy consumed in five different categories as a percentage of total consumption:

Fossil Fuels include crude oil and natural gas liquids, petroleum products, coal and coal products, and natural gas. Coal and coal products include hard coal, lignite, patent fuel, coke, blast furnace gas, coke-oven gas, brown coal briquettes (BKB), and peat. Oil and natural gas products include crude oil, natural gas liquids, refinery feedstocks, petroleum products, natural gas, gas works gas, and other hydrocarbons. The inclusion of petroleum products accounts for domestic processing of crude oil as well as assorted petroleum imports. Petroleum products refer to refinery gas, ethane, liquified petroleum gas, aviation gasoline, motor gasoline, jet fuels, kerosene, gas/diesel oil, heavy fuel oil, naphtha, white spirit, lubricants, bitumen, paraffin waxes, petroleum coke, and other products.

Solid Biomass includes any plant matter used directly as a fuel or converted into other forms before combustion, including wood; vegetal waste including wood waste and crop waste used for energy; animal materials and wastes; sulphite lyes (also known as black liquor, this is a sludge that contains the lignin digested from wood for paper making); and other solid biomass. Inputs to charcoal production are included here. However, since charcoal is a secondary product, the IEA excludes final charcoal production numbers to avoid double counting.

Nuclear includes all energy produced by nuclear power plants from nuclear fission. The consumption data shown here assume an average thermal efficiency of 33 percent.

Hydroelectric shows the energy content of the electricity produced in hydro power plants. The output from pumped storage plants is not included in these values.

Other Renewables include energy from biogas, liquid biomass, geothermal, solar, ocean, and wave systems. *Biogas energy* is produced by the fermentation of animal dung, human sewage or crop residues. *Liquid biomass energy* is produced from bio-additives such as ethanol (alcohol). *Geothermal technologies* use the heat of the earth to generate energy. *Solar energy* includes the production of electricity from solar photovoltaic cells as well as the production of both electricity and heat from solar thermal energy. Passive solar energy for the direct heating, cooling, and lighting of dwellings or other buildings is not included here. *Ocean energy* includes the production of electricity from the mechanical energy of ocean waves and tides or from the thermal energy (heat) stored in the ocean. *Wind energy* uses the mechanical energy of the wind for generating electricity.

Population Relying on Solid Fuels measures the percentage of the total population that burns solid fuels in their households. Solid fuels include coal or biomass such as dung, charcoal, wood, or crop residues. The World Health Organization (WHO) measures the prevalence of solid fuel usage because the burning of solid fuels in traditional stoves causes high levels of indoor air pollution, emitting dangerous pollutants such as carbon monoxide and particulates.

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 are all included. Electricity output from crude oil and natural gas liquids is not included here. Electricity consumption equals production and imports minus exports and distribution losses.

Population with 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.

Proved Fossil Fuel Reserves are generally measured as quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. In order to facilitate comparisons among different sources of energy, fossil fuel reserves estimates have been converted to metric tons of oil equivalent (toe). A toe measures the energy contained in a metric ton (1000 kg) of crude oil.

Coal reserves include anthracite, bituminous, sub-bituminous, and lignite coal. The standard conversion factors for one ton of oil equivalent are 1.5 tons of anthracite and bituminous coal and 3 tons of sub-bituminous and lignite coal. Oil includes gas condensate and natural gas liquids (NGLs) as well as crude oil. Estimates were converted to metric tons of oil equivalent by BP, the data provider, using individual country conversion factors. Natural Gas was converted using the standard conversion factor of 0.9 million metric tons of oil equivalent per billion cubic meters of natural gas.

Net Fuel Imports measures the amount of fossil fuel that enters the national territorial boundaries of a country, whether or not customs clearance has taken place, minus the amount that leaves via export. Fossil fuel includes crude oil and natural gas liquids, petroleum products, coal and coal products, and natural gas. Quantities of crude oil and oil products imported under processing agreements (i.e., refining on account) are included. Quantities of oil in transit are excluded. Reexports of oil imported for processing within bonded areas are shown as exports of product from the processing country to the final destination. Petroleum products refer to refinery gas, ethane, liquified petroleum gas, aviation gasoline, motor gasoline, jet fuels, kerosene, gas/diesel oil, heavy fuel oil, naphtha, white spirit, lubricants, bitumen, paraffin waxes, petroleum coke, and other petroleum products. Natural gas and gas-works gas are included. Natural gas is reported as coming from the country of origin. Coal imports includes all coal, both primary (including hard coal and lignite/brown coal) and derived fuels (including patent fuel, cokeoven coke, gas coke, BKB, coke oven gas, and blast furnace gas). Peat is also included. In most cases, coal in transit is not included. Regional totals include goods imported from other countries belonging to the same region. Consequently, these totals by no means represent a region's net imports or net exports.

FREQUENCY OF UPDATE BY DATA PROVIDERS

IEA and BP update their energy data annually. WHO updates their information every two years. These updates also often include revisions of past data. Data may therefore differ from those reported in past editions of the World Resources Report.

DATA RELIABILITY AND CAUTIONARY NOTES

Energy

The data on energy balances are based primarily on well-established and institutionalized accounting methodologies and are therefore considered reliable. One exception is fuelwood and other biomass fuels, which are estimated by the IEA based on small sample surveys or other incomplete information. Energy production estimates from nuclear power and renewable sources (hydroelectric, solar, geothermal, and wind power) are calculated using a number of assumptions about primary energy forms and plant efficiencies. As a result, these values may be less reliable than estimates of energy produced from fossil fuels, and the share of renewables in total energy consumption may appear different here than it would from other providers.

IEA data do not distinguish between "no data" (denoted in these tables with "..") and zero values. WRI has distinguished between the two where possible, but some values represented as zero should probably be indicated by ".." and vice versa.

Proven Fossil Fuel Reserves

Every effort is made to come up with a consistent series for reserves based on a common definition; however, in reality, different countries use different methodologies, and the data have varying levels of reliability. Since energy sources such as coal may vary in quality, converting the estimates into toe using standard conversion factors, rather than country specific conversion factors, introduces a level of uncertainty to the reserve estimates shown here.

Percent of Population Relying on Solid Fuels

The estimates of household solid fuel use were compiled with the help of several studies conducted over the past decade. It has been assumed that patterns in solid fuel use have not changed dramatically over this time period.

SOURCES

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Proven Reserves Data: BP plc. 2004. Statistical Review of World Energy. London: BP plc. Online at http://www.bp.com/statisticalreview2004.

Climate and Atmosphere Sources: World Resources Institute, International Energy Agency, United Nations Framework Convention on Climate Change

		n Dioxide (C		ons {a}	Cumula CO ₂ Emi (million me	issions	(as a	nissions by Se percent of tot O ₂ emissions)			ons (in mill CO ₂ equiva		Total GHG Emissions {c}	Kyoto Protocol Status
	(million metric tons)	(percent change since	(metric tons per person)	(percent change since	From Fossil Fuels & Cement	From Land-Use Change	Trans- portation	Industry & Construc- tion	Elec- tricity	Methane	Nitrous Oxide	Fluori- nated Gases {b}	(million metric tons CO ₂ equivalent)	(year ratified, n.r. = not
World	2000	1990) 12.7	3.9	(2.3)	1950-2000 781,501	1950-2000 315,122	2000	2000 18.5	2000 38.3	5,948.2	3,402.9	2000 374.3	2000 33,309	ratified) (d)
Asia (excl. Middle East) Armenia	7,837.0	35.1 (44.5)	2.2 1.2	(36.7)	175,087 219	163,621	13.3 13.9	24.7 34.2	40.1 38.9	2,149.9 2.8	1,395.9 0.3	123.3	11,471	2003
Azerbaijan	29.5 29.9	(39.1) 105.6	3.6	(46.3)	1,630		5.2 10.8	17.2	49.8 31.6	11.9 47.6	0.8 44.8	0.2	42	2000 2001
Bangladesh Bhutan	0.4	203.1	0.2 0.2	63.2 150.7	433 4	(273) 0	10.8	35.4 	31.6	1.1	0.3	0.0	122 2	2002
Cambodia China	0.5 3,473.6	18.8 39.3	0.0 2.7	(10.9) 26.2	71,662	1,658 38,909	6.9	29.0	41.8	68.0 802.9	0.1 644.7	0.0 45.6	69 4,942	2002
Georgia	6.2	(35.2)	1.2	(32.7)	321		27.3	13.5	27.8	4.4	1.1	0.0	12	1999
India Indonesia	1,008.0 286.0	63.7 96.8	1.0 1.4	36.3 69.4	18,195 4,213	(1,191) 75,740	12.2 22.7	21.8 21.0	51.8 22.6	445.3 169.2	399.0 38.7	1.8 0.5	1,837 495	2002 2004
Japan	1,224.7	12.3	9.6	9.2	37,155	5,008	21.8	20.3	35.7	21.8	37.0	50.3	1,333	2002 e
Kazakhstan Korea, Dem People's Rep	123.7 168.3	(51.7) (19.2)	7.9 7.6	(48.1) (27.6)	8,469 4,987	313	5.4 2.5	26.4 61.3	47.8 16.4	27.3 33.5	7.8 6.5	0.2 0.2	159 209	n.r. 2005
Korea, Rep Kyrgyzstan	470.0 4.8	85.4 (55.7)	10.0 1.0	69.7 (60.4)	6,971 362	867	20.2 13.3	19.1 21.1	32.6 41.7	25.0 2.2	16.1 0.1	14.4 0.0	525 7	2002 2003
Lao People's Dem Rep	0.4	78.8	0.1	39.3	11	698				6.2	0.1	0.0	7	2003
Malaysia Mongolia	123.6 7.3	120.3 (27.1)	5.4 2.9	70.9 (35.3)	1,714 248	20,654 69	26.2	23.1	25.5	30.4 8.2	13.3 12.1	0.6 0.0	169 28	2002 1999
Myanmar	8.9	108.1	0.2	78.1	217	12,571	37.5	18.8	26.6	61.1	12.5	0.0	82	2003
Nepal Pakistan	3.2 106.0	235.0 62.7	0.1 0.7	163.5 26.6	34 1,833	3,648 1,292	26.0 24.7	35.0 26.2	0.6 32.6	16.4 94.7	11.3 84.6	0.0 0.2	32 285	n.r. 2005
Philippines	75.3	77.5	1.0	43.4	1,507	2,803	33.5	13.3	32.5	34.2	20.8	0.6	133	2003
Singapore Sri Lanka	61.1 11.2	103.4 167.6	15.2 0.6	52.8 142.3	913 202	1 873	9.8 52.8	4.1 10.1	39.7 26.6	1.2 13.3	0.9 2.9	0.9 0.0	64 28	n.r. 2002
Tajikistan Thailand	4.5 171.7	(67.5) 93.5	0.7 2.8	(71.6) 72.7	448 2,377	1,407	46.7 28.3	0.0 22.8	14.0 35.0	1.4 75.9	0.1 13.1	2.3 0.6	8 261	n.r. 2002
Turkmenistan	34.6	(18.0)	7.4	(35.2)	1,441		4.3	0.0	25.8	27.1	0.6	0.0	62	1999
Uzbekistan Viet Nam	121.0 47.5	(16.7) 147.6	4.9 0.6	(31.4) 108.9	4,992 854	(1,440)	8.7 32.5	16.4 26.4	29.9 22.8	46.2 68.1	13.5 12.9	0.1 0.1	181 130	1999 2002
Europe	6,071.0	(18.3)	8.3	(19.0)	292,323	14,591	13.1	13.5	33.8	987.1	518.9	77.9	7,638	
Albania Austria	3.1 64.4	(55.1) 8.1	1.0 7.9	(52.6) 3.1	183 2,465	26 45	47.8 28.3	15.9 25.4	8.0 21.1	0.5 9.7	0.1 2.8	0.0 1.1	4 79	2005 2002 e
Belarus	59.6 125.0	(40.5)	5.9 12.2	(39.1)	3,358	45	10.5	16.3 28.4	53.1 20.9	21.6	8.3 13.3	0.1 0.9	79 148	n.r. e 2002 e
Belgium Bosnia and Herzegovina	14.3	13.7 (41.6)	3.6	10.5 (36.8)	5,626 620	0	20.4 12.7	14.4	63.2	11.7 1.4	0.6	0.6	148	n.r.
Bulgaria Croatia	44.7 19.2	(43.0) (39.9)	5.5 4.3	(38.6) (34.5)	2,774 733	(17) (4)	12.5 25.3	22.9 20.5	56.4 23.5	10.0 3.8	18.5 3.4	0.2 0.2	62 26	2002 e n.r. e
Czech Rep	124.1	(19.3)	12.1	(19.0)	6,744	(1)	11.1	20.5	52.1	10.8	8.2	0.4	143	2001 e
Denmark Estonia	51.3 14.9	2.0 (39.7)	9.6 10.9	(1.5)	2,490 833	8 16	23.9 10.8	10.9 7.3	46.4 72.3	6.0 2.4	9.3 0.4	0.5 0.0	66 22	2002 e 2002 e
Finland	56.6	4.5	10.9	0.6	2,000	241	22.0	21.2	39.8	4.3	7.3	0.3	69	2002 e
France Germany	363.5 837.4	(3.6) (15.2)	6.1 10.2	(7.8) (18.1)	18,619 47,002	52 188	39.3 20.7	21.6 15.8	12.0 39.0	59.3 62.7	72.3 60.5	7.6 11.0	512 989	2002 e 2002 e
Greece	92.2 56.9	21.6 (18.2)	8.5 5.7	13.4 (15.3)	2,084 3,033	(51) 6	22.7 16.2	12.5 14.1	51.5 40.3	10.9 11.3	11.2 12.9	2.4 0.4	120 76	2002 e 2002 e
Hungary Iceland	2.2	8.5	7.9	(1.9)	81		29.2	35.6	0.0	0.3	0.1	0.2	3	2002 e
Ireland Italy	42.8 446.6	29.8 7.0	11.2 7.8	19.5 5.5	1,186 14,625	(36) (5)	25.8 26.5	12.9 18.7	38.6 32.1	12.9 37.0	9.8 43.5	0.5 7.6	67 531	2002 e 2002 e
Latvia	6.5	(55.4)	2.7	(49.0)	483	28	33.6	16.4	42.7	2.6	1.2	0.1	10	2002 e
Lithuania Macedonia, FYR	11.6 8.9	(47.9)	3.3 4.4	(44.3)	747 359	23	27.2 11.7	18.0 12.3	34.4 70.5	5.9 1.3	3.5	0.1	15 11	2003 e n.r.
Moldova, Rep	6.7	(65.0)	1.6	(64.3)	629	2	7.8	7.6	61.1	2.6	1.6 17.2	0.0	11	2003 2002 e
Netherlands Norway	174.8 35.3	10.4 21.7	11.0 7.9	3.8 15.4	6,370 1,203	(18)	19.1 33.8	20.6 22.8	31.6 1.1	21.6 7.1	5.1	4.5 3.1	216 51	2002 e
Poland Portugal	303.8 64.8	(15.2) 48.8	7.9 6.5	(16.4) 47.1	15,873 1,254	52 (95)	8.7 30.5	17.1 21.3	53.8 35.5	47.2 14.3	23.9 8.1	0.5	382 79	2002 e
Romania	90.7	(48.5)	4.0	(46.8)	5,842	82	11.0	22.0	47.3	36.1	7.2	1.7	125	2001 e
Russian Federation Serbia and Montenegro	1,540.4 44.4	(32.1) (27.7)	10.6 4.2	(30.9) (30.5)	76,722 1,688	13,838 3	11.6 12.4	13.9 16.6	56.6 61.1	298.7 9.5	51.5 6.1	14.5 0.8	1,919 59	2004 e n.r.
Slovakia	36.9	(35.4)	6.9	(37.0)	2,303	22	11.4	29.7	40.5	4.2	3.2	0.3	46	2002 e
Slovenia Spain	15.1 304.9	11.3 35.1	7.6 7.5	7.3 30.3	498 7,662	8 (115)	26.6 32.3	19.5 19.3	37.6 32.5	2.5 39.6	2.0 30.1	0.2 7.4	19 381	2002 e 2002 e
Sweden Switzerland	48.8 41.8	(2.0) (6.0)	5.5 5.8	(5.3) (10.4)	3,017 1,733	257 11	48.2 37.2	23.8 17.8	13.7 5.3	7.1 5.0	7.1 3.7	0.7 0.6	64 50	2002 e 2003 e
Ukraine	348.4	(44.7)	7.0	(42.2)	21,048		4.9	27.6	27.9	153.5	19.9	0.5	517	2004 e
United Kingdom Middle East & N. Africa	558.2 1,531.5	(3.3) 58.6	9.5 3.8	(6.4) 27.2	29,791 27,645	(21) 3,035	24.4 17.9	12.2 20.9	33.4 30.4	51.1 458.3	43.8 175.9	8.6 5.0	2,163	2002 e
Afghanistan	0.9	(65.7)	0.0	(77.7)	74	427				13.2	7.5	0.0	22	n.r.
Algeria Egypt	74.2 127.1	21.3 42.1	2.5 1.9	0.3 16.9	1,531 2,417	115 136	11.3 22.4	9.7 30.6	24.9 27.5	28.5 34.3	9.2 16.0	0.4 0.5	112 178	2005 2005
Iran, Islamic Rep	297.9	59.1	4.5	35.8	5,528	565	22.9	20.4	22.0	96.9	43.8	0.2	439	n.r.
Iraq Israel	78.5 62.7	31.1 70.7	3.4 10.4	(2.1) 27.5	1,704 1,177	9	36.6 18.6	23.2 8.9	23.8 57.8	14.4 11.4	6.5 1.7	0.0 1.5	100 77	n.r. 2004
Jordan Kuwait	15.5 58.5	51.5 173.6	3.1 26.0	(2.1) 160.9	268 1,167	1	24.7 9.6	15.0 25.7	36.5 37.8	7.9 9.9	0.2 0.2	0.1 0.3	24 69	2003 2005
Lebanon	15.6	127.4	4.5	77.3	330	33	27.8	18.8	40.6	1.3	1.1	0.1	18	n.r.
Libyan Arab Jamahiriya Morocco	42.3 33.2	48.5 59.9	8.1 1.1	22.1 35.0	885 651	37 98	25.3 6.0	12.3 16.6	32.1 37.5	9.6 10.0	2.5 15.7	0.0	54 58	n.r. 2002
Oman	25.0	131.0	9.6	63.3	255	0	11.8	30.9	33.0	3.7	1.0	0.1	30	2005
Saudi Arabia Syrian Arab Rep	266.1 51.3	75.8 51.8	12.0 3.1	31.4 16.6	4,081 878	0 6	11.7 11.6	10.3 21.7	25.4 31.9	54.4 9.7	8.7 9.4	0.7 0.2	330 71	2005 n.r.
Tunisia	20.2	40.4	2.1	21.1	394	184	22.8	23.7	34.6	4.8	5.2	0.1	30	2003
Turkey United Arab Emirates Yemen	223.9 72.3 10.4	48.7 66.6 34.8	3.3 25.6 0.6	25.5 20.2 (10.7)	4,085 1,028 246	1,395 18	17.2 8.0 51.3	27.3 43.0 5.6	36.5 45.1 17.4	97.4 35.2 8.7	40.6 0.1 5.6	0.5 0.2 0.0	356 108 25	n.r. e 2005 2004

For more information, please visit http://earthtrends.wri.org/datatables/climate

	Carbon Dioxide (CO ₂) Emissions (a) Total Per Capita				Cumul CO₂ Em (million me	issions	(as a	missions by Se percent of tot O ₂ emissions)			ons (in milli CO ₂ equiva		Total GHG Emissions {c}	Kyoto Protocol Status
	(million metric tons) 2000	(percent change since 1990)	(metric tons per person) 2000	(percent change since 1990)	From Fossil Fuels & Cement 1950-2000	From Land-Use Change 1950-2000	Trans- portation 2000	Industry & Construc- tion 2000	Elec- tricity 2000	Methane 2000	Nitrous Oxide 2000	Fluori- nated Gases {b} 2000	(million metric tons CO ₂ equivalent) 2000	
Sub-Saharan Africa	492.1	1990)	0.8	(8.3)	13,867	39,934	2000		2000	498.7	350.6	8.5	1,323	
Angola	4.9	9.3	0.4	(17.5)	123	507	20.1	42.0	10.4	15.8	6.1	0.0	26	n.r.
Benin	1.7	325.4	0.3	216.7	20	1,030	60.3	9.9	3.3	3.3	2.7	0.0	7	2002
Botswana Burkina Faso	4.0 1.1	85.9 8.9	2.3 0.1	45.9 (18.0)	52 19	560 18				7.0 8.8	4.8 11.7	0.0	15 21	2003 2005
Burundi	0.2	23.7	0.0	8.6	5	207				1.8	1.2	0.0	3	2003
Cameroon	3.4	12.2	0.2	(13.4)	75	2,193	62.3	7.4	1.0	11.8	9.8	2.3	27	2002
Central African Rep	0.3	44.4	0.1	14.9	7	255				6.6	5.1	0.0	11	n.r.
Chad Congo	0.1 0.8	(9.1) (10.2)	0.0 0.2	(32.0)	6 28	99 281	 59.5	10.8	0.0	9.6 3.2	8.7 1.0	0.0	18 5	n.r. n.r.
Congo, Dem Rep	2.5	(42.5)	0.2	(55.6)	153	9,025	26.4	37.4	1.1	32.9	17.2	0.0	53	2005
Côte d'Ivoire	7.1	131.3	0.5	82.6	133	2,592	18.2	8.8	30.9	6.5	2.9	0.0	16	n.r.
Equatorial Guinea	0.7	512.0	1.6	374.3	5	126	22.2			0.3	0.2	0.0	1	2000
Eritrea Ethiopia	0.6 3.6	42.0	0.2 0.1	5.7	6 73	240	33.3 55.5	6.7 27.1	23.3 0.6	0.0 47.5	12.2	0.0	1 59	n.r. 2005
Gabon	1.5	21.5	1.2	(8.0)	69	104	27.3	25.2	29.4	3.8	1.8	0.0	7	n.r.
Gambia	0.3	46.6	0.2	4.4	6	(7)				0.7	0.5	0.0	1	2001
Ghana	5.9	85.9	0.3	44.5	125	794	52.0	14.2	10.4	7.1	7.4	0.2	20	2003
Guinea Guinea-Bissau	1.3 0.3	32.1 36.8	0.2 0.2	0.0 1.5	40 6	297 32				5.7 0.9	2.4 0.8	0.0	9	2000 n.r.
Kenya	10.2	39.9	0.2	8.1	242	339	41.3	 9.7	25.2	21.5	22.6	0.0	53	2005
Lesotho	0.2	35.5	0.1	19.2	3	0				1.2	1.5	0.0	3	2000
Liberia	0.4	(8.8)	0.1	(33.9)	35	1,120				1.2	0.8	0.0	2	2002
Madagascar Malawi	2.5 0.8	161.9 30.1	0.2 0.1	94.9 7.8	46 26	1,713 760				18.9 3.6	11.6 2.3	0.0	32 6	2003 2001
Mali	0.6	34.9	0.0	2.1	15	228				12.0	13.8	0.0	25	2002
Mauritania	3.1	19.1	1.2	(8.6)	53					4.4	6.4	0.0	14	n.r.
Mozambique	1.2	16.9	0.1	(11.7)	92	264	68.3	5.7	0.8	11.1	3.2	0.0	15	2005
Namibia Niger	1.9 1.2	14.1	1.0 0.1	(19.0)	18 26	65 20	63.1	7.5	1.6	4.5 6.5	4.2 5.0	0.0	10 12	2003 2004
Nigeria	48.1	20.4	0.4	(9.7)	1,054	5,540	42.9	12.7	12.3	72.5	41.6	0.3	163	n.r.
Rwanda	0.6	12.9	0.1	(1.3)	12	212				2.2	1.2	0.0	4	2004
Senegal	3.9	62.0	0.4	26.7	86	102	35.0	16.6	37.0	8.4	6.6	0.0	19	2001
Sierra Leone Somalia	0.6	71.8	0.1	58.5	22	379 148		**		2.6	0.9	0.0	4	n.r. n.r.
South Africa	344.6	16.8	7.8	(2.2)	10,165	49	10.4	17.4	53.8	37.4	25.8	5.4	413	2002
Sudan	5.9	5.4	0.2	(16.6)	166	867	48.1	15.1	23.3	46.6	47.1	0.1	96	2004
Tanzania, United Rep	2.7	16.7	0.1	(13.5)	89	414	53.9	22.2	20.4	31.7	27.1	0.0	59	2002
Togo Uganda	1.6 1.4	117.7 77.4	0.4 0.1	65.0 29.8	21 37	245 1,118	31.0	52.4	4.8	2.1 12.4	2.3 12.9	0.0	6 27	2004 2002
Zambia	1.9	(35.6)	0.2	(49.4)	168	6,697	42.1	42.7	3.5	11.2	5.5	0.0	18	n.r.
Zimbabwe	14.1	(5.2)	1.1	(21.6)	468	1,349	15.9	22.1	38.2	11.0	8.6	0.1	33	n.r.
North America	6283.5	18.2	19.9	6.1	229,327	(21,005)	30.1	12.1	40.7	736.8	487.4	137.4	7,599	
Canada United States	521.4 5762.1	22.1 17.9	16.9 20.2	9.9 5.8	17,275 212,052	5,194 (26,199)	29.1 30.2	18.2 11.5	25.5 42.1	123.4 613.4	57.5 430.0	11.3 126.1	675 6,924	2002 e n.r. e
C. America & Caribbean	507.5	28.6	3.0	7.8	12,276	13,469	27.6	18.3	32.9	161.7	50.5	4.7	725	
Belize	0.8	165.9	3.4	106.1	10	949				0.2	0.2	0.0	1	2003
Costa Rica	5.2	67.5	1.3	31.1	104	439	64.5	17.8	1.3	3.6	3.6	0.1	12	2002
Cuba Dominion Bon	31.4	(5.7)	2.8	(10.5)	1,151	(399)	6.4	45.2	39.9	9.1	9.3	0.2	50 30	2002
Dominican Rep El Salvador	19.9 6.6	102.1 148.1	2.4 1.1	70.8 104.4	317 111	0 184	35.2 46.7	7.7 20.9	34.3 20.6	5.9 3.2	4.3 2.2	0.0 0.1	12	2002 1998
Guatemala	10.1	124.0	0.9	71.7	168	2,514	43.7	14.5	25.5	6.2	5.2	0.1	22	1999
Haiti	1.4	35.6	0.2	17.3	31	89	49.6	20.6	13.5	3.4	2.6	0.0	7	2005
Honduras Jamaica	5.0 10.3	97.9 40.8	0.8 4.0	49.1 29.3	89 268	782 117	40.8 19.1	26.8 5.5	23.4 54.1	4.9 1.3	3.5 1.3	0.0	14 13	2000 1999
Mexico	385.1	40.8 24.7	3.9	29.3 4.9	9,238	4,300	28.1	15.9	33.2	111.7	1.3	4.1	511	2000
Nicaragua	3.6	54.2	0.7	16.3	82	2,385	41.9	11.3	40.7	5.3	4.0	0.0	13	1999
Panama	5.7	110.7	1.9	72.2	141	2,110	38.7	18.5	17.4	3.3	2.7	0.0	12	1999
Trinidad and Tobago South America	18.1	45.2 42.0	14.0	36.9 21.0	384 20 753	01 224	9.6	40.9 25.7	22.5 13.4	3.1 639.0	0.3	0.0	1 912	1999
Argentina	796.9 139.0	31.1	2.3 3.7	15.0	20,753 4,322	91,234 2,448	35.4 32.2	25.7 15.3	19.4	86.7	369.3 63.4	11.4 0.7	1,812 287	2001
Bolivia	11.7	110.0	1.4	68.2	201	3,723	25.0	7.3	10.6	21.3	5.8	0.0	39	1999
Brazil	327.9	53.3	1.9	32.8	7,323	60,946	40.8	30.6	9.2	297.2	207.7	8.3	842	2002
Chile	54.8	72.9	3.6	48.7	1,204	687	30.5	21.7	26.1	14.5	7.5	0.1	77	2002
Colombia Ecuador	64.0 20.7	23.3 58.8	1.5 1.7	2.4 31.2	1,800 414	4,715 2,616	31.4 47.0	33.0 16.9	11.9 11.9	55.5 16.2	41.2 2.9	0.2	161 40	2001
Guyana	1.6	44.1	2.1	38.7	60	1,551	- 7.0	10.5	11.5	1.4	0.8	0.0	40	2003
Paraguay	3.7	70.8	0.7	31.7	68	916	84.9	7.9	0.6	12.3	10.2	0.0	26	1999
Peru	28.2	44.1	1.1	20.8	847	8,316 0	35.1	30.1	11.6	19.6	21.9	0.1	70 4	2002
Suriname Uruguay	2.2 6.4	24.0 50.1	5.3 1.9	17.3 39.6	72 252	(1,084)	41.1	15.0	7.3	0.9	0.4	0.0	26	n.r. 2001
Venezuela	136.7	24.1	5.6	(0.4)	4,190	6,399	26.9	26.1	14.3	95.1	6.9	1.8	237	2005
Oceania	369.1	26.4	12.3	8.8	10,224	6,362				155.0	43.4		578	**
Australia	332.4	25.8	17.4	10.9	9,184	1,321	22.8	15.9	51.7	113.2	27.0	5.3	491	n.r. e
Fiji New Zealand	0.7 32.6	(13.8) 37.4	0.9 8.6	(23.3) 22.0	26 924	12 686	 39.3	30.4	 16.7	1.0 36.2	1.1 12.4	0.7	3 73	1998 2002 e
Papua New Guinea	2.4	0.7	0.5	(22.4)	66	4,314	39.3	30.4	10.7	3.9	2.3	0.7	73	2002 e
Solomon Islands	0.2	6.2	0.4	(22.6)	4	19				0.1	0.1	0.0	0	2003
Developed	14679.5	(2.0)	11.2	(6.5)	598,135	655	23.7	15.3	40.8	2,067.1	1,134.3	281.5	18,102	••
Developing All emissions data are expre	9268.5	47.5	1.9	25.6	186,721	310,586	16.1	24.5	36.1	3,741.0	2,265.7	92.8	15,285	**

All emissions data are expressed in terms of carbon dioxide (CO₂) equivalent.

a. CO₂ emissions from land-use change are not included here. **b**. Fluorinated gas ('F' gas) emissions include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF ₆). **c**. Total emissions of all greenhouse gases (GHGs) include CO₂ emissions from fossil fuels and cement manufacture plus emissions of methane, nitrous oxide, and fluorinated gases. **d**. Status of countries as of July, 2005. **e**. Indicates Annex I (developed) countries, which are subject to different restrictions under the Kyoto Protocol.

Climate and Atmosphere: Technical Notes

DEFINITIONS AND METHODOLOGY

Total Carbon Dioxide (CO₂) Emissions measures the mass of carbon dioxide produced during combustion of solid, liquid, and gaseous fuels, as well as from gas flaring and the manufacture of cement. Data are expressed in million metric tons. CO_2 emissions from land-use change are not included here. These estimates do not include bunker fuels used in international transportation. Where values were originally in given in mass of carbon, WRI multiplied by 3.664 (the ratio of the molecular mass of CO_2 to that of carbon) to convert to mass of CO_2 .

 ${
m CO}_2$ Emissions Per Capita measures the mass of ${
m CO}_2$ produced per person for a country or region, in metric tons. WRI calculates per capita emissions with population estimates from the United Nations Population Division (2002 revision).

Data on carbon dioxide emissions are obtained from the World Resources Institute's Climate Analysis and Indicators Tool (CAIT). In order to provide the most complete and accurate data set, CAIT compiles data from the International Energy Agency (IEA), the Carbon Dioxide Information Analysis Center (CDIAC), and the Energy Information Agency (EIA). Fossil fuel emissions estimates for 131 countries are available from the IEA and reported in CAIT. WRI used CDIAC data on fossil fuel emissions for the 53 countries that lack IEA data. (Data for Lesotho were obtained from the EIA.) Data on emissions from cement manufacturing were obtained from CDIAC for all countries and added to the fossil-fuel emissions totals by WRI. A complete country-by-country listing of source and notes can be found at http://cait.wri.org/cait.php?page=notes&chapt=2.

Emissions are calculated by the IEA using the Intergovernmental Panel on Climate Change (IPCC) Reference Approach. CDIAC estimates are derived from energy statistics obtained from United Nations Statistical Office questionnaires and supplemented by official national statistical publications. The U.S. Energy Information Administration (EIA) estimates CO₂ emissions by country and year, based on energy balances.

Cumulative CO_2 Emissions from Fossil Fuels and Cement, 1950-2000 represents the total mass of CO_2 produced in all years from 1950 to 2000 as a result of the combustion of solid, liquid, and gaseous fuels, as well as from gas flaring and the manufacture of cement. CO_2 emissions from land use change are not included here. These estimates do not include bunker fuels used in international transportation. To estimate cumulative emissions in recently formed countries, WRI apportions emissions estimates based on current emissions and historical emissions from former countries and territories.

Cumulative CO₂ Emissions from Land-Use Change, 1950-2000 represents the total mass of carbon dioxide (CO₂) absorbed or emitted into the atmosphere between 1950 and 2000 as a result of man-made land-use changes (for example, deforestation, shifting cultivation, and vegetation re-growth on abandoned croplands and pastures). Positive values signify a positive net flux ("source") of CO₂, indicating that carbon dioxide has been released into the atmosphere. Negative values signify a negative net flux ("sink") of CO₂, indicating that carbon dioxide has been absorbed as a result of the re-growth of previously removed vegetation. Data include emissions from living and dead vegetation disturbed at the time of clearing or harvest, emissions from wood products (including fuel wood), and emissions from the oxidation of organic matter in the soil in years following initial cultivation. Ecosystems that are not directly affected by human activities such as agriculture and forestry are not included in these totals. The net flux of CO₂ for each country was calculated by R.A. Houghton at the Woods Hole Research Center based on regional fluxes. WRI calculated cumulative carbon emissions from land-use change using annual country-level data. For more information, refer to "Data Note: Emissions (and Sinks) of Carbon from Land-Use Change," online at http://cait.wri.org.

Carbon Dioxide Emissions by Sector shows the proportion of total ${\rm CO_2}$ emissions from fossil fuel burning contributed by transportation, industry, and electricity production. The Transportation sector includes fossil fuel emissions from road, rail, air, and other forms of transportation, and agricultural vehicles while they are on highways. Data do not include international aviation or ship emissions. The Industry and Construction sectors include fossil fuel emissions in all industries and construction. The Electricity sector includes fossil fuel emissions from public electricity generation, combined heat and power generation, and heat plants. Emissions from electricity and heat production for use by the producer (autoproduction) for public or private activities are included here.

The emissions figures presented here are calculated by the IEA using the IPCC Sectoral Approach and default emission factors from the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories and the IEA energy balances.

Methane Emissions measures the total release of methane (CH_4) into the earth's atmosphere that results from human activities such as agricultural and industrial methane production. Values are expressed in thousand metric tons of CO_2 equivalent using the global warming potential (GWP), which allows the different gases to be compared on the basis of their effective contributions. One kilogram of methane is 23 times as effective at trapping heat in the earth's atmosphere as a single kilogram of CO_2 (using a time horizon of 100 years).

Nitrous Oxide Total Emissions represents the total release of nitrous oxide (N_2O) into the earth's atmosphere that results from human activities such as agriculture, biomass burning, industrial activities, and livestock management. Values are expressed in thousand metric tons of CO_2 equivalent using the GWP, which allows the different gases to be compared on the basis of their effective contributions. The global warming potential of one kilogram of N_2O is nearly 300 times that of a single kilogram of CO_2 (using a time horizon of 100 years).

Fluorinated Gases Emissions represents the total release of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) into the earth's atmosphere. These three groups of fluorinated gases ("f-gases") persist in the atmosphere for thousands of years. Hydrofluorocarbons are a by-product of HFC-23 and HCFC-22 (IPCC Source Categories 2E and 2F), which are used in the production of aerosols, refrigeration/AC compounds, solvents, foams, fire extinguishing compounds, semiconductors, and flat-panel displays. Perfluorocarbons are produced in the manufacture of semiconductors and as a byproduct of CF₄ and C₂F₆ in primary aluminum production (IPCC Source Categories 2C, 2E, and 2F). Sulfur Hexafluoride emissions are generated from magnesium processing, semiconductor production, and the use and manufacture of gas insulated switchgear in electricity distribution networks (IPCC Source Categories 2C and 2F). Values are expressed in thousand metric tons of CO2 equivalent using the global warming potential (GWP), which allows the different gases to be compared on the basis of their effective contributions. The global warming potential of one kilogram of a fluorinated gas is several thousand times that of a single kilogram of CO₂ (using a time horizon of 100 years).

Most of the **Methane**, **Nitrous Oxide**, **and Fluorinated Gas** data shown here were compiled by WRI from *Non-CO₂ Gases Economic Analysis and Inventory*. This data set was prepared by the U.S. Environmental Protection Agency (EPA), covers 90 countries, and accounts for close to 90 percent of global emissions. The remaining data were either obtained from the EDGAR database of the Dutch National Institute of Public Health and the Environment (RIVM) or estimated by WRI based on regional totals and figures for earlier years. A complete listing of sources by country is available at http://cait.wri.org/cait.php?page=notes&chapt=2.

Total GHG Emissions include the total mass of carbon dioxide (CO_2) emitted from fossil fuel and cement manufacturing plus the CO_2 emissions equivalent of methane (CH_4) , nitrous oxide (N_2O) , hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) in the year 2000. Data shown here exclude CO_2 from land-use change.

Kyoto Protocol Status indicates the year that a country ratified the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC). Ratification (or its equivalents of acceptance, approval, or accession) binds the state to observe the treaty. The Kyoto Protocol was established in 1997 by the third session of the Conference of Parties (COP-3) to the UNFCCC. Upon ratification, Annex I (industrialized) countries commit themselves to reducing their collective emissions of six greenhouse gases by at least 5 percent from 1990 levels during the first commitment period, which is 2008-2012. Compared to emissions levels that would be expected by 2010 without emissions-control measures, the Protocol target represents a 30 percent cut. Under the Protocol, both developed and developing countries agree to limit emissions and promote adaptation to future climate change, submit information on their national climate-change program and inventories, promote technology transfer, cooperate on scientific and public research, and promote public awareness and education. The Protocol came into force on February 16, 2005, following ratification by Russia in November, 2004. More information is available in A Guide to the Climate Change Convention Process, online at http://unfccc.int/resource/process/guideprocess-p.pdf.

FREQUENCY OF UPDATE BY DATA PROVIDERS

Carbon dioxide emissions, cumulative emissions, and non- CO_2 greenhouse gas emissions are updated by WRI's CAIT tool when new data are available; most CO_2 emissions data are updated annually, while non- CO_2 GHG emissions are updated intermittently by RIVM and the EPA. Sectoral emissions data are updated by the IEA every year; as of spring, 2005, data are available from the original source through 2002. Sectoral emissions data from 2000 are included here to enable direct comparisons with the emissions data in this table.

DATA RELIABILITY AND CAUTIONARY NOTES

CO₂ Emissions: The IPCC Reference Approach (used here for most emissions estimates) can overestimate emissions because it uses energy supply data rather than combustion data. In a few cases, the estimates shown here differ significantly (by more than 5 percent) from those reported by individual countries or by the UNFCCC. This is because some countries use different energy figures than the IEA and WRI or treat bunker fuels differently. Other countries calculate emissions with specific calorific values instead of the averages used by the IEA.

Emissions data are synthesized by WRI from three different data sets, which presents both advantages and disadvantages. On the one hand, "filling" the gaps from different data sources improved the ability to make cross-country comparisons and related analyses. Yet comparability can be endangered when data points from different sources (using different methodologies) are placed side-by-side. For a complete discussion of CAIT's methodology, see http://cait.wri.org/downloads/cait_ghgs.pdf.

Cumulative CO $_2$ Emissions from Land-Use Change: CO_2 emissions estimates from land-use change are considerably less reliable than other CO_2 and GHG emissions estimates; as a result, data should be treated as order-of-magnitude estimates. The data provider states that yearly flux estimates are uncertain on the order of ± 150 percent for large fluxes, and ± 50 million tons of carbon per year for estimates near zero. The cumulative emissions presented here, however, are more accurate than the data for individual years. More information is available at: http://cait.wri.org/downloads/DN-LUCF.pdf.

CO₂ Emissions by Sector: Data shown in these columns are calculated using the IPCC Sectoral Approach, which surveys actual consumption of fossil fuels by each sector in order to calculate emissions. Other columns in the table have been calculated using the IPCC Reference Approach. While in theory the numbers should be identical, in practice there are minor variations between the data produced by the two methodologies.

Methane, Nitrous Oxide, and Fluorinated Gas Emissions: Generally, estimates of non-CO₂ GHG emissions are less certain than CO₂ emissions estimates. Estimates of nitrous oxide emissions are less certain than methane and fluorinated gas estimates. This data set provides a sound basis for comparability, however, since the methods used are comparable to IPCC methodologies, the global totals comply with budgets used in atmospheric studies, and the data were based on international information sources.

The data presented here may not match the official methane emissions estimates submitted by countries to the UNFCCC. In most cases, however, the differences are not substantial. In the year 2000, WRI estimated methane and nitrous oxide emissions for some countries (accounting for about 10 percent of all emissions); these estimates should be considered rough approximations.

SOURCES

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Water Resources and Fisheries Source: Food and Agriculture Organization of the United Nations

	Ren	ctual ewable Vater	Aı	nnual Wate		Irawals :hdrawals	s by	Inland	and Marine I	Fisheries Produ	ıction	Trade in	Fish and		Fish Protein as a Percent
	Resou	urces (a)	Total	Capita	Sec	tor (perd 2000 (b	ent),			etric tons) {c}	ulturo	Fisheries (million S		Number	of Animal Protein
	Total	Per Capita (m ³ per	Total (km ³)	(m ³ per person)	Agri-	Indus-	Dom-	1990-	2000-	1990-	2000-	2000-	2002	of Fishers	Supply
World	(km ³)	person) 8,549	2000 3,802.3	2000 633	culture 70	try 20	estic 10	1992 84,529.0	2002 93,650.8 d	1992 14,074.7 d	2002 37,694.7 c	Imports I 60,312.2	Exports 56,520.1	2000 34,501,411	2002 15
Asia (excl. Middle East) Armenia	11	4,079 3,450	2,147.5 3.0	631 949	81	12	7 30	34,528.9 2.2	44,189.1 0.8	11,745.9 3.4	33,275.1 1.1	22,301.9 3.0	19,051.0 0.7	28,890,352 244	1
Azerbaijan	30	3,585	17.2	2,114	68	28	5	36.1	13.7	1.7	0.2	1.6	2.2	1,500	1
Bangladesh Bhutan	1,211 95	8,089 40,860	79.4 0.4	576 204	96 95	1	3 4	684.2 0.3	1,058.8 0.3	210.1 0.0	718.8 0.0	6.2 e	328.3 e	1,320,480 450	52
Cambodia	476	32,876	4.1	311	98	1	2	106.3	372.9	7.2	14.3	3.2	27.9	73,425	57
China Georgia	2,830 63	2,206 12,481	630.3 3.6	494 685	68 59	26 21	7 20	7,449.7 66.9	16,690.0 2.2	7,206.8 1.4	26,132.7 0.1	1,927.0 1.4	4,029.1 0.3	12,233,128 1,900	19 1
India Indonesia	1,897 2,838	1,754 12,749	645.8 82.8	635 391	86 91	5 1	8	2,867.6 2,704.3	3,799.4 4,300.8	1,212.6 522.6	2,084.6 855.6	23.1 88.2	1,351.8 1,536.6	5,958,744 5,118,571	14 57
Japan	430	3,365	88.4	696	62	18	20	8,598.8	4,715.7	808.7	797.7	14,204.2	786.3	260,200	45
Kazakhstan Korea, Dem People's Rep	110 77	7,116 3,387	35.0 9.0	2,238 405	82 55	17 25	2 20	70.7 406.0	27.7 208.1	8.7 56.7	0.7 64.7	16.5 25.8	15.2 138.2	16,000 129,000	2 27
Korea, Rep	70	1,454	18.6	397	48	16	36	2,321.9	1,828.6	364.9	294.9	1,619.9	1,195.9	176,928	40
Kyrgyzstan Lao People's Dem Rep	21 334	3,952 57,638	10.1 3.0	2,048 567	94 90	3 6	3 4	0.3 18.6	0.1 31.2	0.9 10.4	0.1 50.6	1.4 2.0	0.0 0.1	154 15,000	1 40
Malaysia	580	23,316	9.0	392	62	21	17	966.3	1,270.6	65.8	158.4	335.9	359.6	100,666	38
Mongolia Myanmar	35 1,046	13,232 20,870	0.4 33.2	178 699	52 98	28 1	20 1	0.1 731.6	0.2 1,183.1	14.0	113.8	0.4 1.4	0.1 210.4	610,000	0 46
Nepal Pakistan	210 223	8,171 1,415	10.2 169.4	433 1,187	96 96	1 2	3 2	5.5 504.0	17.1 604.7	10.1 11.8	16.2 13.8	0.3 0.3	0.0 136.7	50,000 272,273	4 3
Philippines	479	5,884	28.5	377	74	9	17	1,875.4	1,961.2	391.8	423.9	89.0	396.4	990,872	39
Singapore Sri Lanka	1 50	139 2,602	 12.6	 678	 95	2	2	10.6 185.9	3.8 290.9	2.1 5.5	4.9 9.3	509.8 73.2	380.0 106.3	364 146,188	 51
Tajikistan	16	2,537	12.0	1,965	92	5	4	0.2	0.1	3.1	0.1	0.2		200	0
Thailand Turkmenistan	410 25	6,459 5,004	87.1 24.6	1,429 5,308	95 98	2	2	2,664.2 38.4	2,950.3 12.6	338.7 2.2	702.4	947.7	4,027.6 0.3	354,495 611	40 3
Uzbekistan	50 891	1,904	58.3	2,342	93	2	5	5.8	3.2 1.483.0	21.7	4.8	1.8	0.1	4,800	0
Viet Nam Europe	891	10,805 10,655	71.4 400.3	914 581	68 33	24 52	8 15	826.1 19,025.1	1,483.0 15,773.3	164.4 1,470.1	515.9 2,064.1	44.9 23,051.7	1,764.2 19,356.0	1,000,000 855,333	29 12
Albania	42	13,056	1.7 2.1	551	62	11	27	5.3	3.5	2.1	0.5	6.5	7.0	1,590	2
Austria Belarus	78 58	9,569 5,887	2.1	261 278	1 30	64 46	35 23	0.5 1.8	0.4 2.4	3.1 13.3	2.5 6.1	177.6 91.6	11.9 18.3	2,300 5,000	4 8
Belgium Bosnia and Herzegovina	18 38	1,770 8,958						39.5 2.0	29.7 2.5	0.8	1.7 4.7	1,030.7 15.6	520.2 0.2	544 3,500	4
Bulgaria	21	2,721	10.5	1,296	19	78	3	41.1	9.5	7.9	3.0	14.7	5.8	1,483	2
Croatia Czech Rep	106 13	23,890 1,286	2.6	250	2	 57	 41	26.7	20.3 4.8	6.8	8.4 19.6	62.4 84.0	62.5 31.0	65,151 2,243	9 5
Denmark	6	1,116	1.3	238	42	26	32	1,726.9	1,495.5	42.4	39.1	1,781.8	2,762.9	6,711	10
Estonia Finland	13 110	9,794 21,093	0.2 2.5	120 479	5 3	39 84	56 14	266.6 140.6	106.6 150.5	1.0 18.6	0.3 15.4	45.7 129.6	112.0 15.3	13,346 5,879	13
France	204	3,371	40.0	674	10	74	16	595.1	620.3	250.6	256.0	3,082.0	1,067.7	26,113	9
Germany Greece	154 74	1,866 6,764	47.1 7.8	572 712	20 81	68 3	12 16	259.7 141.2	213.8 94.2	78.6 14.1	56.4 93.6	2,343.5 319.2	1,098.0 221.3	4,358 19,847	6 11
Hungary	104 170	10,579 582,192	7.6	763 543	32	59 66	9	11.1	6.8	15.4	12.5	48.3 65.2	5.1	4,900	2
Iceland Ireland	52	13,003	1.1	296	0	77	23	1,375.8 232.9	2,031.0 305.0	2.7 27.2	58.3	121.5	1,309.5 407.7	6,100 8,478	29 6
Italy Latvia	191 35	3,336 15,507	44.4 0.3	771 124	45 12	37 33	18 55	391.4 341.4	295.4 126.1	161.4 1.9	205.3	2,719.2 43.5	392.7 93.0	48,770 6,571	11 7
Lithuania	25	7,276	0.3	76	7	15	78	330.3	127.0	4.5	1.9	78.5	57.4	4,700	27
Macedonia, FYR Moldova, Rep	6 12		2.3	 539	 33	 58	 9	0.2 0.9	0.2 0.4	1.0 5.1	1.3 1.3	6.7 7.3	0.1 0.2	8,472 40	3 8
Netherlands	91	5,608	7.9	500	34	60	6	415.5	492.7	68.9	62.3	1,241.8	1,522.5	3,743	11
Norway Poland	382 62	83,919 1,598	2.2 16.2	489 419	10 8	67 79	23 13	2,015.3 452.9	2,710.0 221.7	147.5 28.7	518.6 34.7	627.9 334.0	3,488.7 247.2	23,552 8,640	26 12
Portugal	69 212	6,821 9,512	11.3 23.2	1,125	78 57	12	10 9	310.3	192.9	5.9 29.7	8.1 9.9	914.3	284.2	25,021	21 2
Romania Russian Federation	4,507	31,653	76.7	1,031 527	18	34 63	19	86.3 6,481.5	7.3 3,611.6	156.4	88.5	38.8 333.9	2.4 1,437.9	8,519 316,300	13
Serbia and Montenegro Slovakia	209 50	9,266						3.0	1.2 1.5	2.3	2.7 0.9	35.1 34.7	0.3 2.0	1,429 215	1 5
Slovenia	32	16,080						3.9	1.8	0.9	1.2	28.7	6.0	231	4
Spain Sweden	112 174	2,711 19,581	35.6 3.0	874 335	68 9	19 54	13 37	1,086.7 265.2	1,006.9 315.1	199.2 8.1	296.2 5.7	3,640.0 748.4	1,777.8 522.7	75,434 2,783	18 14
Switzerland	54	7,468	2.6	359	2	74	24	3.2	1.6	1.2	1.1	358.3	3.1	522	7
Ukraine United Kingdom	140 147	2,898 2,474	37.5 9.5	755 163	52 3	35 75	12 22	667.0 788.0	339.4 726.2	67.7 55.9	30.9 167.3	101.1 2,249.4	31.7 1,305.9	120,000 17,847	13 10
Middle East & N. Africa		1,505	324.6	807	86	6	8	2,096.7	3,048.9	117.7	525.5	827.6	1,354.7	746,955	10
Afghanistan Algeria	65 14	2,608 443	23.3 6.1	1,087 201	98 65	0 13	2 22	1.1 88.5	0.9 127.0	0.2	0.4	11.9	5.0	1,500 26,151	 6
Egypt	58 138	794 1,970	68.7 72.9	1,013 1,097	78 91	14	8 7	272.6 267.7	412.7 348.4	62.5 23.1	353.1 60.0	147.1 30.9 f	1.6	250,000	23 7
Iran, Islamic Rep Iraq	75	2,917	42.7	1,839	92	5	3	18.1	16.8	2.7	1.7	0.1	0.0	12,000	
Israel Jordan	2 1	255 157	2.0 1.0	338 202	63 75	7 4	31 21	6.7 0.4	5.2 0.5	14.0 0.0	21.2 0.5	135.9 25.5	7.5 1.2	1,535 721	7 6
Kuwait	0	8	0.4	198	52	3	45	4.8	5.9	0.0	0.3	16.7	3.6	670	6
Lebanon Libyan Arab Jamahiriya	4	1,189 106	1.4 4.8	394 919	67 89	1	33 8	1.6 26.5	3.8 33.4	0.1 0.1	0.5 0.1	48.3 9.8	0.2 10.1	9,825 9,500	8 9
Morocco	29	934	12.8	438	90	2	8	571.9	958.5	0.6	1.6	10.4	913.4	106,096	17
Oman Saudi Arabia	1 2	337 96	1.4 17.3	518 782	91 89	2	7 10	115.2 42.3	131.0 51.4	0.0 2.2	0.0 7.0	8.1 123.2	62.0 9.8	28,003 25,360	 6
Syrian Arab Rep	26	1,441	19.9	1,205	95	2	3	4.0	8.0	3.7	6.2	56.5	0.0	11,292	3
Tunisia Turkey	5 229	459 3,171	2.7 37.5	286 550	82 74	2 11	16 15	86.7 394.5	96.9 532.6	0.9 7.6	1.8 69.1	16.3 37.1	88.8 93.7	50,815 33,614	13 11
United Arab Emirates Yemen	0 4	49 198	2.3 6.6	818 368	68 95	9 1	23 4	94.2 79.8	105.2 138.7	0.0	0.0	98.3 5.9	52.9 38.0	15,543 12,200	12 16
		150	0.0	500	55			, ,.0	100.7			5.5	50.0	12,200	10



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	Rer V	octual newable _ Vater ources {a}	Ar	nnual Wate Per Capita	With	rawals hdrawal			and Marine F	Fisheries Produetric tons) {c}	uction	Trade in Fisheries	Fish and	Number	Fish Protein as a Percent of Animal
	Total (km ³)	Per Capita (m³ per person)	Total (km³) 2000	(m ³ per person) 2000	2	2000 {b Indus-	Dom-	Capt 1990-	2000-	Aquact 1990-	2000-	(million 2000	\$US) {c} -2002	of Fishers	Protein Supply 2002
Sub-Saharan Africa	(km²)	6,322	113.4	173	88	try 4	estic 9	1992 4,126.4	2002 5,159.6	1992 25.4	2002 63.1	Imports 812.1	Exports 1,862.1	2000 1,995,694	2002
Angola	184	13,070	0.3	28	61	16	22	121.3	250.6	25.4		17.5	22.4	30,364	34
Benin	25	3,585	0.3	40	74	11	15	35.3	37.1		0.0	7.2	2.3	61,793	21
Botswana	14	8,022	0.1	81	43	19	38	1.0	0.1			6.9	0.0	2,620	3
Burkina Faso Burundi	13 4	933 509	0.8 0.2	66 37	88 82	0	11 17	7.2 20.8	8.5 11.8	0.0	0.0	1.4 0.1	0.1 0.2	8,300 7,030	8 17
Cameroon	286	17,520	1.0	65	74	8	18	70.7	114.4	0.0	0.1	23.7	0.2	24,500	34
Central African Rep	144	36,912	0.0	6	4	19	77	13.2	15.0	0.2	0.1	0.3	0.2	5,410	9
Chad	43	4,857	0.2	30	80	1	19	70.0	84.0			0.3	0.0	300,000	15
Congo	832	217,915	0.0	11	10	30	59	44.4	43.3	0.2	0.2	19.2	2.2	10,500	43
Congo, Dem Rep	1,283		0.4	7	31	16	52	171.7	214.6	0.7	2.6	33.5	0.4	108,400	43
Côte d'Ivoire Equatorial Guinea	81 26	4,794 51,282	0.9 0.1	59 232	65 1	12 16	23 83	88.3 3.6	76.4 3.5	0.2	1.0	154.3 4.2	125.7 0.7	19,707 9,218	
Eritrea	6	1,466	0.1	82	95	10	4	3.0	9.9			0.2	1.3	14,500	11
Ethiopia	110	1,519	2.6	40	93	6	i	4.6	14.5	0.0	0.0	0.2	0.0	6,272	2
Gabon	164	121,392	0.1	102	40	11	48	22.0	43.7	0.0	0.2	12.4	13.5	8,258	33
Gambia	8	5,472	0.0	24	67	11	22	21.5	36.4	0.0	0.0	0.7	2.8	2,000	61
Ghana	53	2,489	0.5	27	48	15	37	393.9	423.6	0.4	5.7	100.4	74.8	230,000	64
Guinea Guinea-Rissau	226 31	26,218 20,156	1.5 0.1	187 81	90 91	2	8	49.5 5.2	100.2 5.0	0.0	0.0	6.6 0.2	2.0 4.4	10,707 2,500	43 6
Guinea-Bissau Kenya	30	932	1.6	52	64	6	30	187.2	5.0 174.9	1.2	0.8	4.2	4.4 37.8	59,565	8
Lesotho	3	1,678	0.1	30	19	41	40	0.0	0.0	0.0	0.0	4.2		60	0
Liberia	232	66,533	0.1	36	56	15	28	8.3	11.5	0.0	0.0	2.1	0.1	5,143	26
Madagascar	337	18,826	15.0	937	96	2	3	102.3	136.4	0.7	7.7	10.0	106.9	83,310	17
Malawi	17	1,401	1.0	88	81	5	15	68.9	41.6	0.2	0.6	0.4	0.2	42,922	26
Mali	100	7,458	6.9	582	99	0	9	69.3	103.3	0.0	0.5	1.8	99.0	70,000	13
Mauritania Mozambique	11 216	3,826 11,266	1.7 0.6	642 36	88 87	3 2	11	66.6 32.5	81.5 34.8	0.0	0.2	1.0 7.6	99.0 98.9	7,944 20,000	9 17
Namibia	18	8,921	0.3	142	63	5	33	374.6	587.4	0.0	0.1	16.5	334.6	2,700	14
Niger	34	2,710	2.2	204	95	1	4	3.0	20.2	0.0	0.0	0.6	2.4	7,983	3
Nigeria	286	2,252	8.0	70	69	10	21	287.5	458.2	13.3	26.9	197.6	17.6	481,264	29
Rwanda	5	613	0.1	10	39	14	48	3.2	6.9	0.1	0.4	0.1		5,690	8
Senegal	39 160	3,811 30,960	1.6 0.4	169 86	90 93	4	6 5	334.9	393.7	0.0 0.0	0.1	1.0	245.5	55,547	44
Sierra Leone Somalia	14	1,309	3.3	378	100	2	0	63.6 24.1	77.6 19.4	0.0	0.0	4.1 0.1	13.7 3.1	17,990 18,900	61
South Africa	50	1,106	15.3	348	73	10	17	574.4	720.0	4.3	4.1	56.1	291.1	10,500	 9
Sudan	65	1,879	37.3	1,187	97	1	3	33.2	56.3	0.2	1.2	0.6	0.3	27,700	2
Tanzania, United Rep	91	2,416	2.0	57	93	1	6	357.1	331.1	0.4	0.4	0.4	107.4	92,529	27
Togo	15	2,930	0.2	36	47	8	45	13.0	22.1	0.1	0.4	10.9	6.3	14,120	40
Uganda	66 105	2,472	0.3 1.7	13 167	39 76	15 8	45 16	241.6 66.4	220.7 65.6	0.1 2.5	2.7 4.2	0.1 1.9	54.8 0.4	57,862 23,833	23 22
Zambia Zimbabwe	20	9,630 1,547	2.6	207	86	5	10	23.1	13.0	0.1	2.2	4.9	3.4	1,804	4
North America		19,992	525.3	1,663	38	48	14	6,908.1	6,071.6	409.1	628.6	11,651.6	6,345.6	303,784	7
Canada	2,902	91,419	46.0	1,494	12	69	20	1,471.7	1,026.2	44.9	151.0	1,371.2	2,883.9	8,696	10
United States	3,069	10,333	479.3	1,682	41	46	13	5,291.2	4,866.7	364.2	477.5	10,268.5	3,210.5	290,000	6
C. America & Caribbean		6,924	100.7	603	75	6	18	1,753.9	1,989.7	50.1	147.4	455.2	1,525.4	446,390	9
Belize	19	71,111	0.1	519	0	89	11	2.3	30.4	0.2	4.2	2.3	18.6	1,872	18
Costa Rica	112	26,447	2.7	681	53	17 12	29 19	16.8	34.4	1.6	12.7	25.0	129.9	6,510	4 14
Cuba Dominican Rep	38 21	3,365 2,367	8.2 3.4	732 405	69 66	2	32	147.0 16.4	46.6 14.2	9.8 0.6	27.0 2.8	36.4 60.7	86.2 1.5	11,865 9,286	13
El Salvador	25	3,815	1.3	205	59	16	25	10.4	21.0	0.4	0.5	9.2	26.4	24,534	6
Guatemala	111	8,788	2.0	176	80	13	6	6.7	28.6	1.0	5.7	10.5	25.4	17,275	3
Haiti	14	1,663	1.0	123	94	1	5	5.1	5.0			5.9	3.6	4,700	9
Honduras	96	13,513	0.9	133	81	11	8	16.5	12.8	4.4	12.4	13.0	72.8	21,000	2
Jamaica Mexico	9 457	3,513 4,357	0.4 78.2	159 791	49 77	17 5	34 17	16.0 1.297.3	5.7 1,388.6	3.3 24.6	5.1 67.9	47.5 165.1	8.5 659.1	23,465 262,401	17 8
	197	35,142	1.3	256	83	3	14	5.2	24.8	0.1	5.8	6.6	72.6	14,502	8
Nicaragua Panama	148	46,579	0.8	279	28	5	66	155.2	260.2	3.7	3.1	14.6	304.8	13,062	8
Trinidad and Tobago	4	2,938	0.3	237	6	27	67	12.3	10.6	0.0	0.0	9.2	10.8	7,297	14
South America		47,044	164.4	474	68	12	19	15,272.4	16,314.5	198.1	868.6	568.9	5,231.8	784,051	6
Argentina	814	20,941	29.1	784	74	9	16	632.9	928.4	0.4	1.5	58.5	810.7	12,320	4
Bolivia	623	69,378	1.4	167	83	3	13	5.7	5.9	0.3	0.4	6.7	0.0	7,754	3
Brazil Chile	8,233 922	45,573 57,639	59.3 12.5	345 824	62 64	18 25	20 11	762.9 5,851.3	798.6 4,122.9	24.6 49.5	210.1 501.1	271.3 49.8	289.3 1,867.4	290,000 50,873	4 9
Colombia	2,132	47,469	12.5	254	46	25 4	50	119.9	131.6	49.5 15.6	63.9	49.8 74.8	1,867.4	129,410	5
Ecuador	432	32,747	17.0	1,367	82	5	12	282.1	499.2	100.5	66.2	10.4	651.6	162,870	6
Guyana	241	314,211	1.6	2,163	97	1	2	39.6	50.1	0.1	0.6	2.4	55.9	6,571	38
Paraguay	336	55,833	0.5	89	72	9	20	14.5	25.0	0.1	0.1	1.4	0.1	4,469	4
Peru	1,913	69,395	20.1	776	82	10	8	7,089.7	9,137.2	5.9	8.2	20.9	1,136.1	66,361	25
Suriname	122	277,904	0.7	1,565	93	3	4	8.3	18.4	0.0	0.4	3.5	9.0	3,628	22
Uruguay Venezuela	139 1,233	40,419 47,122	3.1 8.4	941 345	96 47	1 7	2 45	120.1 335.2	109.0 430.1	0.0 1.3	0.0 16.0	13.9 55.4	104.0 130.4	4,023 44,302	4
Oceania		54,637	26.2	900	72	10	18	817.5	1,104.2	58.4	122.3	643.2	1,793.6	85,324	9
Australia	492	24,708	23.9	1,250	75	10	15	221.8	193.1	14.4	35.3	529.5	933.5	13,800	7
Fiji	29	33,707	0.1	85	78	11	11	29.1	43.6	0.0	1.7	21.5	38.1	8,985	30
New Zealand	327	83,760	2.1	558	42	9	49	394.8	556.9	42.9	83.0	55.4	671.6	1,928	12
Papua New Guinea	801	137,252	0.1	14	1	43	56	26.4	122.8	0.0	0.0	7.4	68.3	16,000	
Solomon Islands	45	91,039						49.7	28.8	0.0	0.0	0.5	15.0	11,000	76
			4 6 7 7 7												
Developed Developing		11,514 7,762	1,221.2 2,583.9	956 545	46 81	40 11	14 8	35,555.2 48,719.3	27,917.4 65,694.4	2,806.4 11,281.5	3,641.1 34,059.6	49,698.5 10,704.1	28,159.2 28,378.4	1,467,401 32,640,482	12 18

a. Although data were obtained from FAO in 2004, they are long-term averages originating from multiple sources and years. For more information, please consult the original source at http://www.fao.org/waicent/faoinfo/agricult/agl/aglw/aquastat/water_res/index.htm. b. Sectoral withdrawal data may not add up to 100 percent because of rounding. c. Figures are three-year averages for the range of years specified. d. World totals were calculated by WRI. e. Year ending 30 June. f. Year beginning 20-23 March.



Water Resources and Fisheries: Technical Notes

DEFINITIONS AND METHODOLOGY

Actual Renewable Water Resources, measured in cubic kilometers per year (km³/year), gives the maximum theoretical amount of water actually available for each country, although 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. IRWR include the average annual flow of rivers and the recharge of groundwater (aquifers) generated from endogenous precipitation—the precipitation occurring within a country's borders. ERWR represent the portion of the country's renewable water resources that is not generated within the country. ERWR include inflows from upstream countries (groundwater and surface water) and a portion of the water of border lakes or rivers.

Per Capita Actual Renewable Water Resources are measured in cubic meters per person per year (m3/person/year). Per capita actual water resources were calculated by WRI using population data from the United Nations Population Division for the year 2004.

Annual Water Withdrawals, measured in cubic kilometers per year, is the gross amount of water extracted 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. Total water withdrawal is the sum of estimated water use by the agricultural, domestic, and industrial sectors. It does not include precipitation.

Per Capita Annual Withdrawals were calculated by WRI using national population data from the UN Population Division for the year 2000.

Withdrawals by Sector, expressed as a percentage, refers to the proportion of water used for one of three purposes: agriculture, industry, or domestic uses. All water withdrawals are allocated to one of these three categories. Agricultural uses of water primarily include irrigation and, to a lesser extent, livestock. Industrial use measures consumption by self-supplied industries not connected to any distribution network for manufacturing, cooling machinery and equipment, producing energy, cleaning and washing manufactured goods, and as a solvent. Domestic uses include drinking water plus water withdrawn for homes, municipalities, commercial establishments, and public services (e.g., hospitals).

Freshwater resources data were provided by AQUASTAT, a global database of water statistics maintained by the Food and Agriculture Organization of the United Nations (FAO). AQUASTAT collects its information from a number of sources—national water resources and irrigation master plans; national yearbooks, statistics, and reports; and national or international surveys.

When possible, FAO cross-checks information between countries to improve assessments in countries where information is limited. When several sources give different or contradictory figures, preference is always given to information collected at national or sub-national level. This preference is based on the assumption that no regional information can be more accurate than studies carried out at the country level. Unless proven inaccurate, official rather than unofficial sources were used. In the case of shared water resources, a comparison between countries was made to ensure consistency at river-basin level.

Inland and Marine Fisheries Production, Capture data refer to the nominal catch of fish, crustaceans, molluscs, aquatic mammals, and other aquatic animals taken for commercial, industrial, recreational, and subsistence purposes from marine, brackish, and inland waters. The harvest from aquaculture and other kinds of farming are excluded. Statistics for aquatic plants are also excluded from country totals. Total capture production includes freshwater fish (carp, tilapias, etc.), diadromous fish (river eels, salmon, etc.), marine fish (flounders, cods, redfishes, tunas, mackerels, sharks, etc.) crustaceans (lobster, shrimp, etc.), and molluscs (oyster, clams, squid, etc.). Data include all quantities caught and landed for both food and feed purposes but exclude catch discarded at sea.

Inland and Marine Fisheries Production, Aquaculture data refer to the harvest of fish, molluscs, crustaceans, and other aquatic animals cultivated in marine, inland, or brackish environments. Data do not include capture production. Statistics for aquatic plants are also excluded. Aquaculture is defined by FAO as "the farming of aquatic organisms, including fish, molluscs, crustaceans, and aquatic plants. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc. [It] also implies ownership of the stock being cultivated." Aquatic organisms that are exploitable by the public as a common property resource are not included in aquaculture production.

Production of fish, crustaceans, and molluscs is expressed in live weight, the nominal weight of the aquatic organisms at the time of harvest. For a more detailed listing of the species mentioned above, refer to the original source at http://www.fao.org/waicent/faostat/agricult/fishitems-e-e.html.

Most fisheries statistics are collected by FAO from questionnaires sent to national fisheries agencies. When these data are missing or considered unreliable, FAO estimates fishery production based on regional fishery organizations, project documents, industry magazines, or statistical interpolations. Regional totals represent a sum of available data and may be incomplete.

Trade in Fish and Fisheries Products measures the value of all fisheries products, excluding non-edible shells and aquatic plants, entering (referred to as imports) or leaving (referred to as exports) a country's borders each year through trade. The totals reported here incorporate the same species as the FAO's Yearbook of Fishery Statistics (ftp://ftp.fao.org/fi/stat/summary/default.htm). The value of this trade is expressed in millions of U.S. dollars.

In accordance with internationally recommended practice, import statistics include fish caught by foreign fishing craft, whether or not processed on board, landed in domestic ports; export statistics include fish caught by domestic fishing craft, whether or not processed on board, landed in foreign ports. As such, land-bound countries can therefore export marine fish and fish products. Exports are generally on a free-on-board basis (i.e., not including insurance or freight costs). Regional totals are calculated by adding up imports or exports of each country included in that region. The regional totals should not be taken as a net trade for that region, since much trade occurs intra-regionally.

Number of Fishers includes the number of people employed full or part-time in commercial and subsistence fishing (both personnel on fishing vessels and on shore), operating in freshwater, brackish, and marine areas, and in aquaculture production activities. Data on people employed in fishing and aquaculture are collected by the FAO through annual questionnaires submitted to the national reporting offices of the member countries. When possible, other national and regional published sources are also used to estimate figures.

Fish Protein as a Percent of Animal Protein Supply is defined as the quantity of protein from both freshwater and marine fish, seafood, and derived products available for human consumption as a percentage of all available animal protein. FAO calculates per capita protein supply for all products, including fish, in its

collection of Supply/Utilization Accounts (SUAs) and food balance sheets. For each product, the SUA traces supplies from production, imports, and stocks to its utilization in different forms—addition to stocks; exports; animal feed; seed; processing for food and non-food purposes; waste (or losses); and lastly as food available for human consumption, where appropriate. For more detailed information, please refer to the following article: "Supply Utilization Accounts and Food Balance Sheets in the Context of a National Statistical System," maintained on-line by FAO at http://www.fao.org/es/ESS/Suafbs.htm.

FREQUENCY OF UPDATE BY DATA PROVIDERS

Most freshwater data are not available in a time series and are updated intermittently; the global data set maintained on-line by AQUASTAT contains data collected over a time span of up to 30 years. Fisheries production and trade data are updated annually by the Fishery Information, Data and Statistics Unit (FIDI) of FAO. Number of fishers data are updated by FIDI every 2-4 years. The FAO updates the data on fish protein annually; the most recent updates incorporated in these tables are from July 2004.

DATA RELIABILITY AND CAUTIONARY NOTES

Water Resources and Withdrawals: While AQUASTAT represents the most complete and careful compilation to date of statistics on country-level water resources, the quality of the primary information on which it relies varies. Information sources are numerous but rarely complete. Some governments will keep internal water resources information confidential because they are competing for water resources with bordering countries. Many instances of water scarcity are highly localized and are not reflected in national statistics. In addition, the accuracy and reliability of information vary greatly among regions, countries, and categories of information, as does the year in which the information was gathered. All data should be considered order-of-magnitude estimates.

Actual Renewable Water Resources: Exchanges between countries are complicated when a river crosses the same border several times. Part of the incoming water flow may thus originate from the same country in which it enters, making it necessary to calculate a "net" inflow to avoid double counting of resources. In addition, the water that is actually accessible to humans for consumption is often much smaller than the total renewable water resources indicated in the data table.

Actual Renewable Water Resources Per Capita: Water resources data are from a different set of years than the population data used in the calculation. While the water resources data are usually long-term averages, inconsistencies may arise when combining it with 2000 population data. For more information about the collection methodology and reliability of the UN population data, please refer to the notes accompanying the Demographics and Education table.

Total Fisheries Production and Trade in Fish and Fisheries Products: While FISHSTAT provides the most extensive global time series of fishery statistics since 1950, there are some problems associated with the data. Country-level data are often submitted with a 1-2 year delay. Statistics from smaller artisanal and subsistence fisheries are particularly sparse. While these statistics provide a good overview of regional fisheries trends, data should be used with caution and supplemented with estimates from regional organizations, academic literature, expert consultations, and trade data. For more information, consult *Fishery Statistics Reliability and Policy Implications*, published by the FAO Fisheries Department and available on-line at http://www.fao.org/DOCREP/FIELD/006/Y3354M/Y3354M00.HTM.

Number of Fishers data are gross estimates. Many countries do not submit data on fishers, or submit incomplete information; some countries have occasionally omitted fish farmers from the total or included subsistence and sport fishers, as well as family members living on fishing. Apart from the gaps and the heavy presence of estimates due to non-reporting, the information provided by national statistical offices may not be strictly comparable due to the utilization of different definitions and methods in the assessment of the number of people engaged in fishing and aquaculture. FAO recognizes that these statistics are incomplete and may not accurately reflect the current level of employment in the fishing sector.

Fish Protein as a Percent of Total Protein Supply: Food supply is different from actual consumption. Figures do not account for discards (including bones) and losses during storage and preparation. Supply data should only be used to assess food security if they are combined with an analysis of food availability and accessibility. Nonetheless, the data are subject to "vigorous consistency checks." According to FAO, the food supply statistics, "while often far from satisfactory in the proper statistical sense, do provide an approximate picture of the overall food situation in a country and can be useful for economic and nutritional studies, for preparing development plans and for formulating related projects." For more information see *Food Balance Sheets: A Handbook*, maintained on-line by FAO at http://www.fao.org/DOCREP/003/X9892E/X9892E0O.htm.

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BiodiversitySources: United Nations Environment Programme - World Conservation Monitoring Centre, Ramsar Convention Bureau, United Nations Educational, Scientific, and Cultural Organization, International Union for Conservation of Nature and Natural Resources

	Protected Areas					Mam	Number nmals Number		nd Threate	ned Species Plants	Plants (b) Number				
	Total Area (1000 ha)	Percent of Total Land Area	I-VI, Number 2004	Importance, Number 2005	Reserves, Number 2004	Known Species 2004	Threat- ened 2003	Known Species 2004	Threat- ened 2003	Known Species 2004	Threat- ened 2003	Live Primates 2002	Live Parrots 2002	Animal Skins {d} 2002	
World	806,722 e	6.1 e	3,459 e	1,420	459	4,629 f		10,000 g		270,000 h					
Asia (excl. Middle East) Armenia	191,450 299	7.9 10.1	661 	145 i	67 	78	9	302	12	3,553	1	(19,001)	43,634	(723,299)	
Azerbaijan Bangladesh	394 66	4.6 0.5	3 5	3 2		82 131	11 22	364 604	11 23	4,300 5,000	0 12	2	(1) 335	0	
Bhutan Cambodia	1,181	29.6	2	3	 1	92 127	21	625	18	5,468	7			0	
China	3,750 105,527	20.5	41	30	26	502	23 80	521 1,221	24 82	32,200	31 443	(14,322)	(53,326)	45,767	
Georgia India	290 15,291	4.2 4.9	2 120	2 19	4	98 422	11 85	268 1,180	8 79	4,350 18,664	0 246	4 4	(5) 75	670 (95)	
Indonesia	8,607	4.5	116	2	6	667	146	1,604	121	29,375	383	(3,250)	15,817	(873,858)	
Japan Kazakhstan	3,123 7,742	2.9	164	13	4	171 145	37 15	592 497	53 23	5,565 6,000	12	5,978 12	17,489	292,287	
Korea, Dem People's Rep	316	2.6	- 7		2	105	12	369	22	2,898	3	4	59	45,256	
Korea, Rep Kyrgyzstan	350 608	3.6 3.1		2 1	2 2	89 58	12 6	423 207	34 4	2,898 4,500	0 1	194	48	30,095 0	
Lao People's Dem Rep Malaysia	1,366	4.1	 67	 4		215 337	30 50	704 746	21 40	8,286 15,500	19 683	 196	3,791	(491,605)	
Mongolia	20,992	13.5		11	4	140	13	387	22	2,823	0			0	
Myanmar Nepal	174 1,127	0.3 7.6	1	1 4		288 203	39 29	1,047 864	41 31	7,000 6,973	38 7	(2)	3 2	0 (2)	
Pakistan	3,509	4.0	5	19	1	195	17	625	30	4,950	2		(476)	(3)	
Philippines Singapore	1,513 3	5.1 5.2	38 2	4	2	222 73	50 3	590 400	70 10	8,931 2,282	212 54	(2,654) 10	(591) 29,328	11 81,980	
Sri Lanka	637 2,603	9.6 18.3	19	3 5	3	123 76	21 7	381 351	16 9	3,314 5,000	280 2	5	199	0	
Tajikistan Thailand	6,516	12.7	 19	10	 4	300	36	971	42	11,625	84	310	15,650	0 103,742	
Turkmenistan Uzbekistan	1,883 2,050	4.0 4.6		1 1	1 1	103 91	12 7	318 343	13 16	4,800	0		 20	0	
Viet Nam	1,099	3.4	 12	1	4	279	41	837	41	10,500	145	(5,142)	2	(133,885)	
Europe Albania	137,694 56	6.1 2.0	761	788 i	172	73	1	303	9	3,031	0	9,783	137,082	1,429,081	
Austria	2,346	28.0		17	 5	101	5	412	8	3,100	3	7	868	7,969	
Belarus Belgium	1,304 83	6.3 2.7	2	7 9	3	71 92	6 9	226 427	4 10	2,100 1,550	0	8 1,135	(2,138)	1 64	
Bosnia and Herzegovina	27	0.5		1		78	8	312	8		1		(2)	0	
Bulgaria Croatia	593 339	5.4 6.0	1 18	10 4	16 1	106 96	12 7	379 365	11 9	3,572 4,288	0	(1) 11	26 56	36 26	
Czech Rep Denmark	196 933	2.5 21.8	 72	11 38 j	7 1	88 81	6 4	386 427	9 10	1,900 1,450	4	31 (1)	(24,481) (905)	8 2,917	
Estonia	350	7.6		11	1	67	4	267	3	1,630	0	4	0	130	
Finland France	1,044 1,624	3.1 3.0	14 83	11 22 j	2 10	80 148	3 16	421 517	10 15	1,102 4,630	1 2	(1) 3,373	1 30,981	81 272,532	
Germany	10,445	29.3	40	32	14	126	9	487	14	2,682	12	705	3,602	266,995	
Greece Hungary	239 821	1.8 8.8	14	10 23	2 5	118 88	11 7	412 367	14 9	4,992 2,214	2 1	269 37	17,170 (610)	2,343 (2,744)	
Iceland Ireland	476 78	4.7 1.1	9 12	3 45	2	33 63	7 4	305 408	0 8	377 950	0 1	 (2)	97 42	1 2	
Italy	2,160	7.2	55	46	8	132	12	478	15	5,599	3	241	51,086	524,785	
Latvia Lithuania	818 592	12.7 9.2	1	6 5	1	68 71	4 5	325 227	8 4	1,153 1,796	0	(2) 12	1 236	43 0	
Macedonia, FYR	180	7.1		1		89	9	291	9	3,500	0		(176)	0	
Moldova, Rep Netherlands	47 175	1.4 4.9	10	2 49 j	1	50 95	4 9	203 444	8 11	1,752 1,221	0	819	98 (15,041)	0 45	
Norway Poland	1,952 3,417	6.1 11.0	18 6	37 j 8	 9	83 110	9 12	442 424	6 12	1,715 2,450	2	(1) 19	1,849 649	32 196	
Portugal	399	4.4	26	12	1	105	15	501	15	5,050	15	11	19,732	0	
Romania Russian Federation	476 90,223	2.0 5.4	8 47	2 35	3 34	101 296	15 43	365 645	13 47	3,400 11,400	1 7	44 146	16 780	79 1,338	
Serbia and Montenegro	327	3.2	2	5	2	96	10	381	10	4,082	1	550	(1,241)	220	
Slovakia Slovenia	357 293	7.3 14.4	2	13	2	87 87	7	332 350	7	3,124 3,200	0	12	(621) 878	41 456	
Spain Sweden	4,059 4,364	8.0	38 95	49 51	27	132 85	20 5	515	20 9	5,050	14	101	34,436	304,775	
Switzerland	1,185	9.8 28.7		11	1 2	93	4	457 382	8	1,750 3,030	2	(3) (13)	(784) 174	6 55,422	
Ukraine United Kingdom	1,937 3,731	3.3 15.3	17 153	33 159 j	6 9	120 103	14 10	325 557	13 10	5,100 1,623	1 13	5 2,266	1,264 17,798	160 (8,970)	
Middle East & N. Africa	33,360	2.7	91	77 i	26							194	40,945	63,360	
Afghanistan Algeria	219 11,864	0.3 5.1	4	 26	 6	144 100	12 12	434 372	17 11	4,000 3,164	1 2		 3	0	
Egypt	4,536	4.6	17	2	2	118	6	481	17	2,076	2		39	55,111	
Iran, Islamic Rep Iraq	10,376 1	6.4 0.0	7	22	9	158 102	21 9	498 396	18 18	8,000	1 0		(1) (1)	0	
Israel Jordan	379	18.4 10.2	19	2	1	115 93	13	534 397	18	2,317 2,100	0	(250)	9,873	(464)	
Kuwait	913 0	0.0	1 4	1	1	23	7 1	358	14 12	234	0	265 	4,980 2,618	0	
Lebanon Libyan Arab Jamahiriya	4 122	0.3 0.1	1 3	4 2		70 87	5 5	377 326	10 7	3,000 1,825	0	20 78	1,415 3	1,651 0	
Morocco	326	0.8	4	4	2	129	12	430	13	3,675	2	(3)	7	19	
Oman Saudi Arabia	22 3,922	0.1 2.0	4			74 94	12 9	483 433	14 17	1,204 2,028	6 3	 28	384 7,790	0 3,108	
Syrian Arab Rep				1		82	3	350	11	3,000	0		1	0	
Tunisia Turkey	28 571	0.2	2 14	9	<u>4</u> 	78 145	10 15	360 436	9	2,196 8,650	3	18 34	75 2,211	15 3,847	
United Arab Emirates Yemen	0	0.0			 1	30 74	5 6	268 385	11 14	1,650	0 159	2	1,112	60 12	

For more information, please visit http://earthtrends.wri.org/datatables/biodiversity

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Comment Comm				**											0
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Component 1,865	Central African Rep	7,320	11.8				187	11	663	3	3,602	15		(10)	(4
Second 16.88 Second 1.68 Second 1.	Chad												1		(43,538
Common				**											0
Figurerian June 455 168 3 3 153 17 418 6 3,250 61				3									(4)		0
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Siera Leone															0 (5)
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Sudan 8,616 3,5 1	Somalia														0
Tanzania, United Rep					17										(49,156)
Togge 429 7.5 2 175 7 566 2 3,086 10 C41 (508) (1.50) (
Uganda															(1,500)
Zimbalwe	Uganda	1,763	7.3		2		360	29	1,015	15	4,900	38	3	(24)	(2)
North America 131,738 6,7 659 5,7 i 60					2										(27,609)
Canada 52,069 53 219 36 13 211 16 472 19 3,270 1 1,209 3,473 (12,49)				650	 57 i	 60					4,440				
United States	Canada										3,270				(12,497)
Belize 633 28.6 22 1 147 5 5 544 3 2,894 30 (2) 1 Decate Rice 477 9.3 21 11 2 232 13 838 18 12,119 110 4 1.918 10 Dub 96 0.9 36 6 6 6 6 5 11 388 18 12,119 110 4 1.918 10 Dub 10 96 0.9 36 6 6 6 6 5 11 388 18 18 12,119 110 4 1.918 10 Dub 10 10 10 10 10 10 10 10 10 10 10 10 10	United States						468	40	888	71		240			(12,616)
Costa Rica	C. America & Caribbean					32								(2,370)	595,983
Duba	Belize														0
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Jamaica 0 0 0.0 4 1 35 5 298 12 3,308 208 12 0.00		,			 5									1 /29	0
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Trinidad and Tobago	Nicaragua												2		(4)
South America 106,018 5.9 196 76 40						2									(6,629)
Argentina						40		1	433		2,233		(1.518)		
Bolivia 12,082 11.1 8 3 361 26 1,414 30 17,367 70 2 (33,72)							375	32	1.038	55	9.372				(230,030)
Chile 2,650 3.5 27 9 7 159 22 445 32 5,284 40 13 167 10. Colombia 9,786 8.6 13 3 5 467 39 1,821 86 51,220 222 3 9 (547,54) Ecuador 2,308 9.3 4 11 3 341 34 1,515 69 19,362 1	Bolivia				8	3									(33,720)
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Guyana 486 2.3 237 13 786 3 6,409 23 (918) (12,264) (1,000 a) a Paraguay 1,391 3.5 6 1 168 11 696 27 7,851 10 (6,552) (91,31 Peru 4,010 3.1 3 10 3 441 46 1,781 94 17,144 274 (298) (3,301) (199 Suriname 1,846 12.7 7 1 203 12 674 0 5,018 27 (318) (9,859) (0 1,000 a) a Paraguay 30 0.2 4 2 1 118 6 414 24 2,278 1 2 (1,004) (8.8 Venezuela 31,357 34.2 19 5 1 1353 26 1,392 25 21,073 67 (4) 2,120 (16,21) (20,200 a) a Paraguay 3 3.0 0.2 4 2 1 118 6 414 24 2,278 1 2 (1,004) (8.8 Venezuela 31,357 34.2 19 5 1 353 26 1,392 25 21,073 67 (4) 2,120 (16,21) (20,200 a) a Paraguay 3 3.0 0.2 4 2 1 118 6 414 24 2,278 1 2 (1,004) (8.8 Venezuela 31,357 34.2 19 5 1 353 26 1,392 25 21,073 67 (4) 2,120 (16,21) (20,200 a) a Paraguay 3 4.2 19 5 1 12 1 3 1,518 66 (1,000 a) a Paraguay 3 4.2 19 4 1 12 1 1 1 1 1 1 247 (11,136) (38,12) (3															1
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Suriname 1,846 12.7 7 1 203 12 674 0 5,018 27 (318) (9,859) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Paraguay	1,391	3.5		6	1	168	11	696	27	7,851	10		(6,552)	(91,317)
Uruguay 30 0.2 4 2 1 118 6 414 24 2,278 1 2 (1,004) (83 4) (46 2) (47 2)	Peru														(197)
Venezuela 31,357 34.2 19 5 1 353 26 1,392 25 21,073 67 (4) 2,120 (16,21) Oceania 58,396 6.9 541 74 1 12 247 (11,136) (38,12) Australia 51,895 6.7 339 64 12 376 63 851 60 15,638 56 266 (95) (10,14) Fiji 16 9.9 15 15 5 112 13 1,518 66 18 ((18 ((New Zealand 6,401 24.0 76 5 73 8 351 74 2,382 21 (24) (1,459) 100 Papua New Guinea 7 0.0 14 2 260 58 720 33 11,544															(83)
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Developed 353,555 6.3 2,010 963 i	Solomon Islands													(9,594)	(20,000)
Developing 454,467 5.9 1,430 464 i (35,821) (84,241) (1,635,646	Developed													84,241	1,637,264
a. Extent of protected areas may include marine components that artificially inflate the percentage of land area protected. b. Total plant species refer to vascular plants only. Threatened plant species	Developing														(1,635,648)

a. Extent of protected areas may include marine components that artificially inflate the percentage of land area protected. b. Total plant species refer to vascular plants only. Threatened plant species include both vascular plants and mosses. c. CITES trade is expressed as the balance of imports minus exports; negative numbers represent net exports. d. Trade in animal skins includes the skins of crocodiles, wild cats, lizards, and snakes. e. Global totals were calculated by WRI. f. Global estimate is from Wilson and Reeder's Mammal Species of the World, 1993. g. Estimate from Birdlife International's Avibase database. h. 1992 estimate from Scientific American. i. Transboundary sites may be included more than once in regional totals. See technical notes for full details. j. Includes sites in overseas territories.



Biodiversity: Technical Notes

VARIABLE DEFINITIONS AND METHODOLOGY

A **Protected Area** is defined by the World Conservation Union (IUCN) as "an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means." Since September 2002 the World Database on Protected Areas (WDPA) consortium has been working to produce an improved and updated database, available to the public and maintained by the United Nations Environment Programme-World Conservation Monitoring Centre (UNEP-WCMC). The WDPA contains summary information for over 100,000 sites, including the legal designation, name, IUCN Management Category, size in hectares, location (latitude and longitude), and year of establishment. WRI calculated protected area data using the 2004 WDPA database.

IUCN categorizes protected areas by management objective and has identified six distinct categories of protected areas. WRI has calculated **Total Area** in thousand hectares and **Percent of Land Protected** for categories I-V.

Category Ia. Strict nature reserve: a protected area managed mainly for scientific research and monitoring; an area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features, and/or species.

Category Ib. Wilderness area: a protected area managed mainly for wilderness protection; a large area of unmodified or slightly modified land and/or sea retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.

Category II. National park: a protected area managed mainly for ecosystem protection and recreation; a natural area of land and/or sea designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations; (b) exclude exploitation or occupation inimical to the purposes of designation of the area; or (c) provide a foundation for spiritual, scientific, educational, recreational, and visitor opportunities, all of which must be environmentally and culturally compatible.

Category III. Natural monument: a protected area managed mainly for conservation of specific natural features; an area containing one or more specific natural or natural/cultural features that is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities, or cultural significance.

Category IV. Habitat/species management area: a protected area managed mainly for conservation through management intervention; an area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.

Category V. Protected landscape/seascape: a protected area managed mainly for landscape/seascape conservation and recreation; an area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological, and/or cultural value, and often with high biological diversity.

Category VI. Managed mainly for the sustainable use of natural ecosystems. These areas contain predominantly unmodified natural systems, managed to ensure long-term protection and maintenance of biological diversity, while also providing a sustainable flow of natural products and services to meet community needs.

IUCN defines a Marine Protected Area (MPA) as: "any area of intertidal or subtidal terrain, together with its overlying water and associated flora and fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment."

These MPAs include areas that are fully marine or littoral. "Littoral" is defined as any site which is known to incorporate at least some intertidal area.

Many MPAs have large terrestrial areas. The extent of the marine portion of most protected areas is rarely documented. The degree of protection varies from one country to another, and may bear little relationship to the legal status of any site. The total number of marine areas in IUCN categories I-VI is shown in this table.

Wetlands of International Importance, or Ramsar sites, are defined under the Wetlands Convention, signed in Ramsar, Iran, in 1971. In order to qualify as a Ramsar site, an area must have "international significance in terms of ecology, botany, zoology, limnology or hydrology." The Convention on Wetlands is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. As of January 2005 there were 1420 Ramsar sites in 146 countries with an overall extent of 123,914,362 hectares.

Biosphere Reserves are terrestrial and coastal environments recognized under United Nations Educational, Scientific, and Cultural Organization's (UNESCO's) Man and the Biosphere Programme. Selected for their value to conservation, they are intended to foster the scientific knowledge and skills necessary for improving the balance between people and nature, and for promoting sustainable development. Ideally, biosphere reserves perform three main roles: (a) conservation in situ of natural and semi-natural ecosystems and landscapes; (b) the establishment of demonstration areas for ecologically and socio-culturally sustainable resource use; and (c) the provision of logistic support for research, monitoring, education, training, and information exchange. Biosphere reserves normally consist of three elements: a minimally disturbed core area for conservation and research; a buffer zone where traditional land uses, research, and ecosystem rehabilitation may be permitted; and a transition area. Biosphere reserves are nominated by national governments and remain under the sovereign jurisdiction of the state where they are located. As of November 2004 there were 459 biosphere reserves in 97 countries.

The **Total Number of Known Species** refers to the total number of a particular type of species in a given country. Data on **known mammals** exclude marine mammals. Data on **known birds** include only birds that breed in that country, not those that migrate or winter there. The number of **known plants** includes higher plants only: ferns and fern allies, conifers and cycads, and flowering plants.

The number of known species is collected by 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 are updated on a continual basis as they become available; however, updates vary widely by country. While some countries (WCMC estimates about 12) have data that were updated in the last six months, other species estimates have not changed since the data were first collected in 1992.

The Number of Threatened Species listed for all countries includes all species that are "critically endangered, endangered, or vulnerable" as defined by the IUCN, but excludes introduced species, species whose status is insufficiently known (categorized by IUCN as "data deficient"), those known to be extinct, and those for which status has not been assessed (categorized by IUCN as "not evaluated"). Species are classified as vulnerable or endangered if they face a risk of extinction in the wild in the immediate future (critically endangered), in the near-term (endangered), or in the medium-term (vulnerable). Threat categories are assigned based on total population size, distribution, and rates of decline. Threatened birds include breeding bird species plus all species that are known to migrate or winter in a given country. Where possible, threatened mammals include marine mammals.

Net Legal Trade in Selected Wildlife Products is the balance of imports minus exports of live primates, live parrots, and animal skins reported by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Negative values represent net exports. Live primates includes all species of monkeys, apes, and prosimians listed under CITES that were traded live in 2002. Live parrots includes individuals from the Psittaciformes species listed under CITES that were traded live in 2002. Animal skins includes whole skins of all crocodile, cat, lizard, and snake species that were traded in 2002. Data are obtained from trade records submitted by parties to the CITES convention and compiled by the secretariat in the CITES Trade Database.

International trade in wildlife and wildlife products, worth billions of dollars annually, causes serious declines in the numbers of many species of animals and plants. In response, CITES entered into force in 1975 with the purpose of protecting wildlife against overexploitation and preventing international trade from threatening species with extinction. Species are listed in appendices to CITES according to their degree of rarity and the threat posed by trade. International trade in either the listed species themselves or in products derived from the species requires permits or certificates for export, import, and re-export.

FREQUENCY OF UPDATE BY DATA PROVIDERS

Protected Areas data are updated annually by the WDPA. Wetlands of International Importance and Biosphere Reserves information is updated several times a year as new sites are added. Data for Known Species are updated when new information is provided to WCMC (see above). Threatened Species data are updated by IUCN on a continual basis. Species trade data are published in annual reports; the data presented here were published in 2004.

DATA RELIABILITY AND CAUTIONARY NOTES

Protected Areas: Due to variations in consistency and methodology of collection, data on protected areas are highly variable among countries. Some countries update their information with greater regularity or have more accurate data on extent of coverage. Many countries have an underreported number and/or extent of protected areas within their borders. Please see http://parksdata.conserveon-line.org for the latest revision.

Biosphere Reserves and Wetlands of International Importance: Reserves can be conterminous or overlapping. Regional wetland totals may include some double counting of sites that are contained in more than one country. A full listing of these sites is available at http://www.unesco.org/mab/BR-WH.htm and at http://www.unesco.org/mab/BR-Ramsar.htm.

Number of Known Species: Values are preliminary estimates based on a compilation of available data from a large variety of sources. They are not based on species checklists. Data have been collected over the last decade without a consistent approach to taxonomy. This can result in significant variations in data quality among countries. Additionally, while the number of species in each country does change, not all countries have been updated; some data may not reflect recent trends. At best, only about 2% of the total species of the world are represented in the UNEP-WCMC Species Database. For this reason, it is important to recognize that numbers of known species in this table are vast underestimates of the actual species worldwide. Data for plant species are less reliable and consistent than data for birds and mammals. Global estimates were not obtained from UNEP-WCMC; see below for citations.

Number of Species Threatened: The total number of threatened species in species groups worldwide are frequently underestimated. For all species groups, there are many species that have yet to be described and whose status is yet unknown. In addition, while threat assessments have been conducted for all described species of mammals and birds, only a small portion of described plant species have been assessed.

Net Legal Trade in Selected Wildlife Products: Data on net exports and net imports as reported by CITES correspond to legal international trade and are based on permits issued, not actual items traded. Figures may be overestimates if not all permits are used that year. Some permits issued in one year are used at a later date;

therefore, numbers of exports and imports may not match exactly for any given year. Species traded within national borders and illegal trade in wildlife and wildlife products are not reflected in these figures. CITES trade data also do not reflect legal trade between non-CITES members. In addition, data on mortality of individuals during capture or collection, transit, or quarantine are also not reflected in these numbers.

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Land Use and Human Settlements
Sources: Food and Agriculture Organization of the United Nations, University of Maryland, United Nations Environment Programme, United Nations Population Division, World Bank, United Nations Human Settlements Programme

	Total	Land Area Classifications Percent of Total Land Area That Is: Forested Agricultural									Deputation		rhon	Popu	ent of lation	Percent of Urban Population
	Total Land	MODIS S	Foreste Satellite {a}	FAO	{b}	Arabl		cultural			Population Density		rban ulation	_	in Cities ore Than	Living in
	Area		y, 2000	Estim			anent	Perma		Dry-	(people		Percent	100,000	1 Million	Slum
	(1000 ha) 2002	>50% Cover	>10% Cover	>10% 2000	1990	2002	land 1992	2002	1992	lands {c}	per km ²) 2000	2000	Total 1990	People 2002	People 2002	Conditions 2001
World	13,066,880	24	50	29	30	12	12	27	26		45	47	43			32
Asia (excl. Middle East) Armenia	2,406,300 2,820	21	38 23	20 12	20	21 20	20 20	34 30	34 24	98	135 104	35 65	30 67	19 56	12 47	40
Azerbaijan	8,260	8	27	13	11	24	22	32	26	84	94	51	54	29	25	7
Bangladesh Bhutan	13,017 4,700	11 61	35 73	9 64	8 64	65 4	64 3	5 9	5 7	0	958 44	23 8	20 6	13 0	10 0	85 44
Cambodia	17,652	47	82	52	55	22	22	8	8	0	73	17	13	11	8	72
China Georgia	932,742 6,949	15 42	31 67	17 43	15 43	17 15	14 16	43 28	43 30	34 34	133 76	36 53	27 e 55	17 38	11 28	38 9
India	297,319	11	44	20	19	57	57	4	4	60	309	28	26	19	11	56
Indonesia Japan	181,157 36,450	78 71	100 87	55 64	62 64	19 13	16 14	6 1	7 1	3 0	111 336	42 65	31 63	24	16	23 6
Kazakhstan	269,970	1	4	4	4	8	13	69	69	99	6	56	57	34	8	30
Korea, Dem People's Rep Korea, Rep	12,041 9,873	 59	 76	68 63	68 63	22 19	21 21	0 1	0 1	0	185 472	60 80	58 74	34 78	14 69	1 37
Kyrgyzstan	19,180	2	9	5	4	7	7	49	47	55	25	34	38	20	0	52
Lao People's Dem Rep	23,080 32,855	76 82	98 97	53 59	55 66	23	23	<u>4</u> 1	3	0	22 70	19 62	15 50	3 40	0 19	66
Malaysia Mongolia	156,650	3	8	59 7	7	23 1	23 1	83	78	65	2	57	50 57	31	0	65
Myanmar	65,755	61	86	51	59	16	15	0	1	 9	70	28	25	16	10	26
Nepal Pakistan	14,300 77,088	34 1	71 7	26 3	32 3	23 29	17 27	12 6	12 6	83	160 179	14 33	9 31	7 24	5 17	92 74
Philippines	29,817	50	89	19	22	36	33	5	4	0	252	59	49	28	20	44
Singapore Sri Lanka	67 6,463	11 33	29 91	3 30	3 35	3 30	3 29	 7	 7	0 24	6478 283	100 21	100 21	 14	 13	0 14
Tajikistan	13,996	0.1	3	3	3	8	7	23	25	40	43	26	32	15	0	56
Thailand Turkmenistan	51,089 46,993	0.0	0.3	29 8	31 8	38 4	40	2 65	2 66	7 100	119 10	31 45	29 45	17 25	14 0	2
Uzbekistan	41,424	0.0	2	4	4	12	12	54	55	99	56	37	40	29	13	51
Viet Nam	32,549	43	86	30	28	27	21	2	1	0	236	24	20	17	12	47
Europe Albania	2,260,099 2,740	32 16	65 67	45 34	45 37	13 26	14 26	8 16	8 15	0	31 108	73	72 36	15	0	6 7
Austria	8,273	55	75	46	45	18	18	23	24	0	97	66	66			6
Belarus Belgium {d}	20,748 3,282	47 24	70 48	45 23	33 22	28 26	30 24	15 21	15 211	0	48 310	70 97	66 96	47	18	6 15
Bosnia and Herzegovina	5,120	57	92	44	44	21	20	20	23	0	78	43	39	20	0	8
Bulgaria Croatia	11,063 5,592	29 44	66 81	33 32	31 31	32 28	39 24	16 28	16 19	53 0	73 79	69 58	66 54	33 23	15 0	6 8
Czech Rep	7,728	41	68	33	33	43		13		13	130	74	75	26	13	6
Denmark Estonia	4,243 4,239	13 74	48 94	11 46	10 43	54 15	60 27	9 2	5 6	0	124 30	85 69	85 71	 36	0	6 12
Finland	30,459	50	96	65	65	7	8	0	0	0	15	61	61			6
France Germany	55,010 34,895	26 36	61 62	28 30	27 30	36 34	35 34	18 14	20 15	0 5	108 231	76 88	74			6 4
Greece	12,890	16	62	27	25	30	31	36	41	45	83	60	85 59			6
Hungary	9,210	18	61	20	19	52	54	12	13	46	108	64	62	38	26	6
Iceland Ireland	10,025 6,889	3 25	35 62	0	0 7	0 16	0 15	23 48	23 49	0	3 54	92 59	91 57			6 1
Italy	29,411	26	58	33	32	38	40	15	15	21	191	67	67			6
Latvia Lithuania	6,205 6,268	70 45	95 75	45 31	43 30	30 48	28 49	10 8	13 7	0	37 54	67 67	70 68	43 40	0	6
Macedonia, FYR	2,543	28	69	35	35	24	26	25	25	37	79	59	58	28	0	8
Moldova, Rep Netherlands	3,288 3,388	5 13	44 42	10 9	9 9	65 28	67 27	12 30	11 31	100 0	127 383	46 64	47 60	30	0	31 9
Norway	30,625	24	61	27	26	3	3	1	0	0	14	76	72			6
Poland Portugal	30,629 9,150	31 11	60 70	29 40	28 34	46 30	48 33	13 16	13	19 29	124 109	62 53	61 47	35	15	6 14
Romania	22,987	34	66	27	26	43	43	21	21	38	94	55	53	33	10	19
Russian Federation Serbia and Montenegro	1,688,850 10,200	32 31	65 65	50 28	50 28	7 37	8 40	5 18	5 21	22	9 103	73 52	73 51	49 25	23 16	6 5
Slovakia	4,808	49	73	44	41	32		18		 0	1103	57	57	12	0	6
Slovenia	2,014	69	89	55	54	10	12	15	16	0	98	51	51 75	13	0	6
Spain Sweden	49,944 41,162	13 56	48 90	28 60	27 60	37 7	40 7	23 1	21 1	69 0	81 20	76 83	75 83			6 6
Switzerland	3,955	40	67	29	28	11	11	28	29	0	174	68	68			6
Ukraine United Kingdom	57,935 24,088	16 21	52 57	16 12	15 11	58 24	59 27	14 46	13 48	65 0	82 242	67 89	67 89	41	19	6 6
Middle East & N. Africa	1,291,988	1	3	2	2	8	8	28	24		31	58	54	39	24	36
Afghanistan Algeria	65,209 238,174	0.1 0.1	1 1	2 1	2 1	12 3	12 3	46 13	46 13	94 21	33 13	22 57	18 51	18 32	9 12	99 12
Egypt	99,545	0.0	0.5	0	0	3	3			8	68	42	43	38	28	40
Iran, Islamic Rep Iraq	163,620 43,737	1 0.0	2 1	4 2	4 2	10 14	11 13	27 9	27 9	90 100	40 53	64 68	56 70	46 63	26 34	44 57
Israel	2,171	0.3	9	6	4	20	20	7	7	69	287	92	90	81	62	2
Jordan Kuwait	8,893 1,782	0.0	0.2	1 0	1 0	4 1	4 0	8 8	9 8	72 92	56 126	79 96	72 95	58 69	47 69	16 3
Lebanon	1,023	1	26	3	4	31	30	8 2	1	59 59	334	96 87	95 83	69 66	53	50
Libyan Arab Jamahiriya	175,954	0.0	0.1	0	0	1	1	8	8	23	3	85	80	94	62	35
Morocco Oman	44,630 30,950	0.2 0.0	5 0.1	7 0	7 0	21 0	22 0	47 3	47 3	92 14	65 8	56 76	48 62	36 47	16 0	33 61
Saudi Arabia	214,969	0.0	0.0	1	1	2	2	79	56	24	10	86	78	5	0	20
Syrian Arab Rep Tunisia	18,378 15,536	0.1 0.3	4	2	2	29 32	30 31	45 31	44 29	98 94	89 58	50 63	49 58	41 25	27 17	1 4
Turkey	76,963	7	28	13	13	37	36	17	16	77	88	65	59	44	26	43
United Arab Emirates Yemen	8,360 52,797	0.0 0.0	0.0 1	4 1	3 1	3 3	1 3	4 30	3 30	0 30	34 34	85 25	83 21	81 17	50 9	2 65

For more information, please visit http://earthtrends.wri.org/datatables/forests

			Land Area Classifications Percent of Total Land Area That Is:												ent of lation	Percent of Urban
	Total		Foreste		11 01 10	tai Land P		cultural			Population	Ur	ban		in Cities	Population
	Land Area	MODIS S	atellite {a} v, 2000	FAC			e and anent	Perma	onont	Dest	Density		lation Percent	With M	ore Than 1 Million	Living in Slum
	(1000 ha)	>50%	>10%	Estim _>10%			land	Past		Dry- lands	(people per km²)		Total	People	People	Conditions
Cub Cabanan Africa	2002	Cover	Cover	2000	1990	2002	1992	2002	1992	{c}	2000	2000	1990	2002	2002	2001
Sub-Saharan Africa Angola	2,362,209 124,670	18 25	52 83	20 56	22 57	8	7	35 43	35 43	19	27 10	34 33	28 26	22 24	13 20	73
Benin	11,062	0.3	94	24	30	25	16	5	5	88	55	42	35	28	0	84
Botswana Burkina Faso	56,673 27,360	0.1 0.0	21 32	21 26	23 26	1 16	1 13	45 22	45 22	100 100	3 43	50 17	42 14	0 10	0 0	61 77
Burundi	2,568	8	95	3	9	53	51	39	33	0	225	9	6	5	0	65
Cameroon Central African Rep	46,540 62,298	57 58	91 98	50 37	55 37	15 3	15 3	4 5	4 5	13 20	32 6	49 41	40 38	25 21	18 0	67 92
Chad	125,920	0.4	18	10	11	3	3	36	36	68	6	24	21	9	0	99
Congo, Dem Rep	34,150 226,705	70 72	94 99	65 58	65 60	1	1 3	29 7	29 7	0	10 21	52 30	48 28	22 30	0 19	90 50
Côte d'Ivoire	31,800	21	98	22	30	22	19	41	41		49	44	40	36	24	68
Equatorial Guinea Eritrea	2,805 10,100	89 0.0	94 3	62 13	66 14	8 5	8	4 69	4	0 83	16 32	45 19	35 16	23 22	0 0	87 70
Ethiopia	100,000	9	52	4	5	11	10	20	41	58	59	15	13	5	4	99
Gabon	25,767 1,000	87 2	97 73	82 43	82 39	26	2 16	18 46	18 45	97	5 116	81 26	68 25	49 15	0	66 67
Ghana	22,754	12	91	27	32	28	19	37	37	66	82	44	37	20	13	70
Guinea Guinea-Bissau	24,572 2,812	25 45	98 108	28 61	30 67	6 19	6 15	44 38	44 38	14 6	33 38	33 32	25 24	20 20	19 0	72 93
Kenya	56,914	3	37	29	31	9	8	37	37	68	53	36	25	16	9	71
Lesotho Liberia	3,035 9,632	0.5 81	62 99	0 31	0 38	11 6	11 6	66 21	66 21	0	59 26	18 45	17 42	9 43	0 43	57 56
Madagascar	58,154	19	76	20	22	6	6	41	41	23	27	26	24	12	8	93
Malawi Mali	9,408 122,019	7 0.1	90 13	22 11	28 11	26 4	21 2	20 25	20 25	0 80	96 10	15 30	12 24	9 12	0 9	91 93
Mauritania	102,522	0.0	0.0	0	0	0	0	38	38	46	3	58	44	23	0	94
Mozambique Namibia	78,409 82,329	20 0.0	95 4	38 10	39 11	6 1	5 1	56 46	56 46	38 91	22 2	32 31	21 27	19 11	9 0	94 38
Niger	126,670	0.0	0.2	1	2	4	3	9	8	62	9	21	16	11	0	96
Nigeria Rwanda	91,077 2,467	7	59 90	15 12	19 17	36 56	36 48	43 19	26	58	124 293	14	35 5	35 4	18 0	79 88
Senegal	19,253	2	39	32	34	13	12	29	30	94	48	47	40	35	24	76
Sierra Leone Somalia	7,162 62,734	54 0.1	99 12	15 12	20 13	8 2	8 2	31 69	31 69	0 80	62 14	37 33	30 29	26 21	22 12	96 97
South Africa	121,447	3	38	7	7	13	12	69	68	66	36	56	49	39	29	33
Sudan Tanzania, United Rep	237,600 88,359	3 11	24 85	25 41	28 42	7 6	6 5	49 40	47 40	67 	13 37	36 32	27 22	26 14	18 7	86 92
Togo	5,439	2	90	9	13	48	40	18	18	34	80	33	29	15	0	81
Uganda Zambia	19,710 74,339	18 20	95 91	17 42	21 53	37 7	35 7	26 40	26 40	16 16	97 14	12 35	11 39	5 36	5 16	93 74
Zimbabwe	38,685	3	78	49	57	9	8	44	44	67	32	34	29	28	18	3
North America Canada	1,879,066 922,097	29 36	55	24 25	23 25	12 5	12 5	13	14	16	16	79 79	75	27 58 f	13 f 31 f	6
United States	915,896	23	49	23	23	19	20	26	26	41	30	79	75	27 f	8 f	6
C. America & Caribbean Belize	264,826 2,280	27 73	66 92	29 59	33	16 4	15 4	38	37	0	64	67 48	64 48	41	26 0	24 62
Costa Rica	5,106	59	97	39	42	10	10	46	46	0	77	59	54	36	36	13
Cuba Dominican Rep	10,982 4,838	29 30	90 89	21 28	19 28	34 33	39 32	26 43	25 43	11 5	101 171	75 58	74 55	 47	 32	2 38
El Salvador	2,072	34	95	6	9	44	41	38	31	0	295	58	49	32	27	35
Guatemala Haiti	10,843 2,756	53 8	98 82	26 3	31 6	18 40	16 40	24 18	23 18	0	105 289	45 36	41 30	22 23	21 21	62 86
Honduras	11,189	51	98	48	53	13	17	13	13	0	58	44	40	33	20	18
Jamaica Mexico	1,083 190,869	58 21	96 56	30 28	34 31	26 14	22 14	21 42	22 41	31 69	235 51	52 75	52 73	35 54	0 32	36 20
Nicaragua	12,140	44	95	25	34	18	13	40	40	0	39	56	53	33	25	81
Panama Trinidad and Tobago	7,443 513	57 60	96 91	38 50	45 55	9 24	9 24	21 2	20 2	0 4	39 251	56 74	54 69	34 31	34 0	31 32
South America	1,752,020	44	81	50	52	7	7	29	29		19	80	74	54	36	36
Argentina Bolivia	273,669 108,438	9 49	40 74	12 48	13 50	13 3	11 2	52 31	52 31	53	13 8	90 62	87 56	64 39	42 31	33 61
Brazil	845,942	49	93	64	66	8	7	23	22	15	20	81	75	54	36	37
Chile Colombia	74,880 103,870	25 66	41 104	21 44	21 45	3 4	4 5	17 40	17 39	21 17	20 37	86 75	83 69	70 54	36 36	9 22
Ecuador	27,684	53	83	37	42	11	11	18	18	63	44	60	55	50	35	26
Guyana Paraguay	19,685 39,730	91 37	102 95	79 57	81 60	3 8	3 6	6 55	6 55	0 55	4 13	36 55	33 49	30 25	0 25	5 25
Peru	128,000	58	72	51	53	3	3	21	21	37	20	73	69	48	28	68
Suriname Uruguay	15,600 17,502	85 4	89 97	86 7	86 4	<u>0</u> 8	7	77	77	0	3 19	74 92	65 89	 51	 51	7
Venezuela	88,205	56	96	54	57	4	4	21	21	49	27	87	84	58	37	41
Oceania Australia	849,088 768,230	10 4	30 24	24 20	23	6	6	49 52	51	86	4 3	73 91	70 85	•• 	•• 	4
Fiji	1,827			45	46	16	14	10	10	0	45	49	42	21	0	68
New Zealand Papua New Guinea	26,799 45,286	43 89	73 99	29 66	28 69	13 2	13 2	52 0	52 0	0 1	14 12	86 13	85 13	 7		1 19
Solomon Islands	2,799	82	90	88	89	3	3	1	1	0	15	16	14	0	0	8
Developed Developing	5,462,781 7,623,524	25 23	51 49	31 25	30 26	12 12	12 11	22 30	22 29		23 60	72 40	70 35	 25	 15	8 43
a 500 km recolution image																

a. 500 km resolution imagery processed by the Global Land Cover Facility (GLCF) at the University of Maryland. b. Forest Resource Assessment by the United Nations Food and Agriculture Organization of the United Nations (FAO) c. Drylands area is determined using aridity zones; arid, semi-arid and dry sub-humid zones are included. Hyper-arid (bare sand deserts) are excluded. Climate data from 1950 to 1981 were analyzed to produce these estimates. d. Land area data includes Luxembourg. e. Data for 1990 and 2000 do not include Hong Kong or Macau. f. Data are from national censuses.



Land Use and Human Settlements: Technical Notes

DEFINITIONS AND METHODOLOGY

Total Land Area is measured in thousand hectares and excludes the area under inland water bodies. Inland water bodies generally include major rivers and lakes. Data on land area were provided to the Food and Agriculture Organization (FAO) by the United Nations Statistical Division.

Forested Area is calculated by WRI as a percentage of total land area using data from MODIS satellite imagery analyzed by the Global Land Cover Facility (GLCF) at the University of Maryland and from FAO's *Global Forest Resources Assessment 2000* (FRA 2000).

MODIS Satellite Imagery identifies the percent of tree crown cover for each 500-meter pixel image of land area based on one year of MODIS photography. Data were aggregated to country-level by the GLCF at the request of WRI. The values presented here show the percentage of total land area with more than 10 percent or 50 percent of the ground covered by tree crowns.

The Food and Agriculture Organization (FAO) Estimates are drawn from FRA 2000. Forest area includes both natural forests, composed primarily of native tree species, and plantations, forest stands that are established artificially. If no other land use (such as agro-forestry) predominates, any area larger than 0.5 hectares with tree crowns covering more than 10 percent of the ground is classified as a forest. Forest statistics are based primarily on forest inventory information provided by national governments; national gathering methodologies can be found at http://www.fao.org/forestry/fo/fra/index.jsp. FAO harmonized these national assessments with the 10-percent forest definition mentioned above. In tropical regions, national inventories are supplemented with high resolution Landsat satellite data from a number of sample sites covering a total of 10 percent of the tropical forest zone. Where only limited or outdated inventory data were available, FAO used linear projections and expert opinion to fill in data gaps. If no forest statistics existed for 1990 and 2000, FAO projected forward or backward in time to estimate forest area in the two reference years.

Arable and Permanent Cropland is calculated by WRI as a percent of total land area. 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 temporarily fallow (less than five years). Abandoned land resulting from shifting cultivation is not included in this category. Permanent cropland 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 trees grown for wood or timber. Wherever possible, data on agricultural land use are reported by country governments in questionnaires distributed by FAO. However, a significant portion of the data is based on both official and unofficial estimates.

Permanent Pasture is calculated by WRI as a percent of total land area. Permanent pasture is land used long-term (five years or more) for herbaceous forage crops, either cultivated or growing wild. Shrublands and savannas may be classified in some cases as both forested land and permanent pasture.

Drylands is calculated by WRI as the percent of total land area that falls within three of the world's six aridity zones—the arid, semi-arid, and dry sub-humid zones. The United Nations Convention to Combat Desertification (UNCCD) adopted this definition of drylands in order to identify areas where efforts combating land degradation should be focused and methods for attaining sustainable development should be promoted. The world is divided into six aridity zones based on the aridity index—the ratio of mean annual precipitation (PPT) to mean annual potential evapotranspiration (PET). Drylands of concern to the UNCCD include those lands with an aridity index between .05 and .65 (excluding polar and sub-polar regions).

Ratios of less than .05 indicate hyper-arid zones, or true deserts. Ratios of 0.65 or greater identify humid zones. The areas with an aridity index between .05 and .65 encompass the arid, semi-arid, and dry sub-humid areas. See the UNCCD's website at http://www.unccd.int/main.php for more information. Climatic data from 1950 to 1981 were used to define aridity zone boundaries for the globe with a resolution of about 50 km.

Population Density is calculated by WRI as the number of persons per square kilometer of land area using FAO land-area data shown in the first column. Population data are from the United Nations Population Division.

Urban Population as a Percent of Total is the proportion of a country's total population that resides in areas defined as urban in each of the countries of the world. These definitions vary slightly from country to country. Many countries define an urban area by the total number of inhabitants in a population agglomeration. Typically the threshold for considering a region urban is between 1,000 and 10,000 inhabitants. Other countries specify several of their cities or provinces as urban, and the remaining population is defined as rural. Estimates of the proportion of the population living in urban areas are obtained from national sources. Censuses and population registers are the most common sources of those counts. Once values of the urban proportion at the national level are established, they are applied to estimates and projections of the total national population from *World Population Prospects: The 2002 Revision*.

Percent of Population Living in Cities with More Than 100,000 and 1 Million People indicates population distribution and levels of urbanization within a country. WRI calculated percentages from the *Urban Population in World Bank Regions by City Size* data set and total population figures from the UN Population Division. Urban population data were primarily collected from national statistical offices, international organizations such as the United Nations, and the World Gazetteer web site. Data from national census bureaus in several OECD countries (Canada, United States) were added to complement this data set.

Percent of Urban Population Living in Slum Conditions is the proportion of a country's urban population that is living in households classified as slum dwellings. A slum household is defined by the United Nations Human Settlements Program (UN-HABITAT) as a group of individuals living under the same roof that lacks one or more of the following conditions: "secure tenure status, adequate access to improved water, adequate access to improved sanitation and other infrastructure, structural quality of housing, and sufficient living area."

While the same methodology was used to determine the slum population in all countries, data sources vary. Where available, household surveys, such as Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS), were the common sources of data. An effort was made to ensure that households were not counted twice, in the event that they lacked more than one of the indicators. In the absence of household surveys, or when household surveys did not provide answers for the desired indicators, the slum populations were estimated. Estimates were derived from a statistical model using available country data and the Human Development Index (HDI) of the United Nations Development Programme (UNDP).

FREQUENCY OF UPDATE BY DATA PROVIDERS

Total Land Area, Arable and Permanent Cropland Area, and Permanent Pasture data are updated annually by the FAO. Population data are updated every two years by the United Nations Population Division. Forested Land Area based on Modis Satellite Imagery was released by the GLCF in 2002. The FRA is published by the FAO every 5 years; data in this table are from the 2000 release. Drylands Area data were prepared in 1991; no update is planned. Data on urban population by city size are updated continually by the World Bank. Urban Population Living in Slum Conditions is the first global compilation of such data.

DATA RELIABILITY AND CAUTIONARY NOTES

Land-area data are intended for broad estimations only and not for strict comparisons. Land-area classification is inherently subjective; experts often express different opinions on the criteria for categorizing ecosystem and use types, and the resolution of the underlying satellite and survey information can vary widely among data sets. In addition, the information on land-area types shown here is from different sources and represents different time periods. They are not intended to represent exclusive land-cover types; some degree of overlap is present.

Forest Cover: As shown in the table, forest cover estimates differ widely based on collection methodology and classification used. FAO uses a more complex definition of forests than is used in the MODIS data set, requiring that there be 10 percent tree cover and that forestry be the predominant land use in the survey area. Thus some areas with tree cover of more than 10 percent may not be counted as forest if the predominant land use is determined to be agriculture, urban settlement, or some other nonforestry use. Because the MODIS tree-cover data set makes no such distinction, the tree cover in the "10 percent and above" categories will sum to a larger area than the FAO forest area for most countries.

MODIS Satellite Imagery: Following publication of the Global Land Cover Characteristics (GLCC) database by GLCF, a number of scientific teams assessed the accuracy of the GLCC's approach by comparing the results with higher-resolution satellite imagery. These teams found that the accuracy of the GLCF's approach was, depending on the assessment approach, in a range from 60 to nearly 80 percent, meaning that the assessment teams' classification of a given area agreed with the GLCF's classification between 60 and 80 percent of the time.

FAO Estimates: FAO acknowledges that the quality of primary data available remains poor, particularly for tropical countries, open woodland areas, and nonproduction forests. In most tropical countries, forests are not monitored comprehensively or frequently enough to map their extent accurately or to track their rate of change. In the absence of inventory data for specific dates (1990 and 2000), FAO's latest estimates of forest area and change over time are often based on projections and expert opinion and thus remain educated guesses. Just one or two satellite images appear to have been the prime source of new information for some countries with poor inventory data. Open woodlands are difficult to monitor by remote sensing techniques, and government forestry agencies tend not to survey them as part of normal forest inventories. Non-production forests are not included in these totals, even though many appear to meet the FAO definition of forests. While the quality of data from developed countries is generally better than from developing countries, problems still arise with estimates because of differences in national forestry definitions and systems of measurement, and the use of different reference periods. In northern countries, the boundary between forest and tundra is vague. For a discussion of some data reliability issues associated with FRA 2000, see http://pdf.wri.org/fra2000.pdf.

Drylands: The accuracy of land-area totals is limited by the 50-kilometer resolution of the data set. The climate data set was derived from a limited number of field observations. Actual boundaries between aridity zones are neither abrupt nor static, making delineated borders somewhat artificial. The data should therefore be considered useful as a general indicator of the extent of drylands within each country, rather than as an exact depiction of the climatic situation on the ground. Alternative methods for measuring extent of drylands area include use of soil moisture and agricultural production systems, although these methods may also be subject to similar problems such as low-resolution data, limited field observations, and subjectivity when delineating exact boundaries on the ground.

Percent of Urban Population Living in Slum Conditions: UN-HABITAT's definition of slum conditions, described above, may not always measure living conditions with sufficient precision. Sub-national coverage for the household surveys varies as does the international coverage for the different indicators. Despite these drawbacks, this is the most reliable global data set available on this complex issue.

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Food and Agriculture
Source: Food and Agriculture Organization of the United Nations, International Federation of Organic Agriculture Movements, United States Department of Agriculture

		Land		Int	ensity of A		Inputs		Capita			, Security, and		
		Irrigated Cropland	Organic Cropland			Mechan- ization			ood duction	Cereals Received as	Net Cereal Imports (b)	Cereal Fed to Livestock	Calorie Supply	Share of Calorie Supply
	Agricultural	as a	as a	Labor	F400	(tractors	Water	1	ndex	Food Aid	as a	as a Percent	Per Capita	From Animal
	Land (a) (000 ha)	Total	Percent of Total	(workers per ha)	Fertilizer (kg/ha)	per 000 ha)	Withdrawals (meters ³ /ha)	=	9-2001 100)	(000 metric tons)	Percent of Consumption	of Total Consumption	(kilocalories /person/day)	Products (percent)
World	2002 1,534,466	2002 18.1	2003	2001 0.87	2001 90.1	2001 17.5	2000	1983 87.1	2003 101.4	2002 8,610	2002	2003 36.9	2002 2,804	2002 16.7
Asia (excl. Middle East)	500,878	34.2		2.02	139.0	12.3				2,182		20.6	2,682	14.3
Armenia Azerbaijan	560 2,009	50.0 72.4	0.20	0.36 0.50	8.9 6.1	32.7 15.0	3,464 6,108		114.6 118.3	16 5	46.1 21.5	29.2 21.6	2,268 2,575	16.1 14.6
Bangladesh Bhutan	8,429 165	54.5 24.2		4.58 5.83	170.8	0.7	8,999 2,500	91.8 119.4	97.8 76.2	353 0	6.6 22.5	0.0	2,205	3.1
Cambodia	3,807	7.1		1.22		0.5	1,052	89.6	99.9	25	3.4		2,046	9.4
China {c} Georgia	153,956 1,064	35.7 44.1	0.06	3.29 0.48	227.6 e 26.3	7.2 16.1	3,149 2,005	52.1	109.1 112.3	 18	(1.4) 48.3	28.1 39.3	2,951 2,354	20.9 17.6
India (d)	170,115 33,700	33.6 14.3	0.03 0.09	1.57 1.48	102.1 78.5 e	9.0	3,291 2,254	83.0 76.2	98.4 104.2	128 204	(5.5) 11.5	4.9 7.4	2,459 2,904	7.7 4.3
Indonesia Japan	4,762	54.7	0.10	0.54	282.4	2.1 423.0	11,435	112.9	95.7		67.6	45.8	2,761	20.7
Kazakhstan Korea, Dem People's Rep	21,671 2,700	10.8 54.1		0.06 1.21	2.3 100.5 e	2.3 25.9	1,321 2,480	 108.7	107.5 106.0	 975	(47.4) 26.5	47.2	2,677 2,142	25.6 6.5
Korea, Rep	1,877	60.6	0.05	1.20	379.4 e	106.5		76.7	92.4		65.0	46.3	3,058	15.6
Kyrgyzstan Lao People's Dem Rep	1,411 1,001	76.0 17.5	0.01	0.38 2.15	18.8 12.8	18.0 1.1	6,587	68.9	99.0 112.6	2 6	11.5 1.4	39.8 	2,999 2,312	19.6 7.1
Malaysia	7,585 1,200	4.8 7.0		0.24 0.26	149.1 2.7	5.7	736 195	60.8 132.4	108.4 95.8		69.0 58.2	41.4	2,881 2,249	18.1 39.7
Mongolia Myanmar	10,611	18.8		1.71	9.0 e	4.2 1.0	3,110	84.2	116.2		(3.6)	4.9	2,937	4.8
Nepal Pakistan {d}	3,294 22,120	34.5 80.5	0.00 0.08	3.33 1.14	22.7 132.9	1.4 14.5	3,307 7,407	88.1 78.8	99.3 97.9	 1	0.3 (13.6)	 3.9	2,453 2,419	6.5 18.1
Philippines	10,700	14.5	0.02	1.18	73.4 e	1.1	2,099	95.5	106.1	68	19.6	23.7	2,379	15.7
Singapore Sri Lanka	2 1,916	33.3	0.65	2.02	 127.7 e	32.5 4.2	6,280	893.0 115.4	71.0 100.1	 81	29.0	14.1	2,385	7.1
Tajikistan Thailand	1,057 19,367	68.0 25.6	0.02	0.77 1.12	11.4 92.0 e	28.4 11.4	12,745 4,597	90.2	120.6 103.2	121 1	37.2 (26.5)	12.9	1,828 2,467	9.2 12.0
Turkmenistan	1,915	94.0	0.02	0.38	54.0	26.1	14,182	50.2	98.1			18.3	2,742	15.4
Uzbekistan Viet Nam	4,827 8,895	88.7 33.7	 0.08	0.62 3.30	149.1 225.9 e	35.2 18.4	11,210 6,615	 64.7	103.4 113.8	119 60	3.8 (5.5)	18.6 10.0	2,241 2,566	17.5 12.1
Europe	303,993	8.3		0.10	73.4	36.1			107.5 f	96		51.3	3,331	27.7
Albania Austria	699 1,462	48.6 0.3	 11.60	1.07 0.13	26.8 e 148.1	11.4 224.5	1,522 14	89.6 96.7	105.0 91.7	25	44.9 (9.7)		2,848 3,673	28.6 33.1
Belarus	5,730	2.3		0.11	121.5	11.5	134		110.9		11.9	50.8	3,000	26.2
Belgium Bosnia and Herzegovina	1,093	0.3	1.45	0.11	38.8	26.2			96.8 83.8	 54	52.6 28.2	62.2	3,584 2,894	30.5 13.5
Bulgaria Croatia	3,583 1,588	16.5 0.3	0.00 0.00	0.06 0.10	43.2 e 110.7	6.7 1.5	425	145.2	101.0 92.6	3	(25.0) (8.3)	39.1 71.1	2,848 2,799	24.5 19.2
Czech Rep	3,305	0.7	5.09	0.14	119.2 e	28.6	17		90.5		(1.6)	,1.1	3,171	27.0
Denmark Estonia	2,284 631	19.6 0.6	6.65 3.00	0.05 0.12	134.2 42.6	53.5 79.7	234 7	87.5	101.4 107.5		(12.5) 25.4		3,439 3,002	38.1 27.0
Finland	2,208	2.9	7.00	0.06	135.1	88.2	30	124.9	101.6		(6.0)		3,100	37.5
France Germany	19,583 11,997	13.3 4.0	1.70 4.10	0.04 0.08	213.3 217.4	64.5 85.8	200 775	99.4 101.0	93.0 93.2		(55.0) (22.2)		3,654 3,496	37.1 30.6
Greece Hungary	3,846 4,804	37.2 4.8	0.86 1.70	0.20	111.9 e 94.5 e	64.9 23.6	1,621 511	100.1 115.5	95.9 95.3		22.0 (44.7)		3,721 3,483	21.8 32.6
Iceland	7		0.70		е	1288.4	29	129.7	104.3				3,249	41.5
Ireland Italy	1,123 11,064	24.9	0.70 8.00	0.15 0.12	562.2 128.1	144.8 148.2	0 1,849	89.8 106.8	92.4 91.4		24.6 25.9		3,656 3,671	31.1 25.9
Latvia Lithuania	1,861 2,989	1.1 0.2	0.81 0.25	0.08 0.07	35.0 54.2	30.1	19 6		111.0 109.6		(8.6) (6.1)		2,938 3,325	28.2 26.3
Macedonia, FYR	612	9.0		0.19	36.4	34.2 88.2			91.1		29.1	44.9	2,655	21.8
Moldova, Rep Netherlands	2,143 949	14.0 59.5	 2.19	0.22 0.26	14.9 443.5	19.1 159.4	2,853	 101.5	102.8 92.6		(24.9) 68.3	59.7	2,806 3,362	16.2 34.2
Norway	871	14.6	3.13	0.12	200.3	151.1	259	118.5	97.5		25.7	68.0	3,484	33.0
Poland Portugal	14,226 2,705	0.7 24.0	0.36 2.20	0.30	110.0 e 76.9	91.4 62.5	94 3,258	111.4 68.2	97.5 97.4		0.3 64.8		3,375 3,741	26.1 29.1
Romania Russian Federation	9,899 125,300	31.1 3.7	0.27 0.00	0.16	37.2 e 12.7	16.6 6.2	1,339 108	124.2	106.2 110.4	1 1	(3.4) (16.9)	59.2 49.0	3,455 3,072	20.5 22.3
Serbia and Montenegro	3,724	0.8	0.30	0.26	66.7	109.2			97.7	0	(8.0)	65.6	2,678	35.0
Slovakia Slovenia	1,559 198	11.7	2.20 1.91	0.17	74.5 e 357.0	14.7 562.6			91.0 106.4		(1.5)		2,889 3,001	27.5 32.1
Spain	18,715	20.2	2.28	0.07	122.3	48.4	1,331	74.4	106.5		28.4		3,371	27.8
Sweden Switzerland	2,682 433	4.3 5.8	6.09 10.00	0.05 0.36	98.5 225.5	61.2 256.9	98 114	115.1 112.5	99.7 99.2		(11.8) 32.5	59.0	3,185 3,526	33.7 33.8
Ukraine United Kingdom	33,457 5,803	6.8 2.9	0.58 4.22	0.11	14.2 327.9	9.5 87.7	588 47	 107.0	95.6 96.8	12	(53.8) 2.1	45.8	3,054 3,412	20.5 30.6
Middle East & N. Africa	100,520	28.7		0.51	66.8	17.2				2,232		33.2	3,110	9.9
Afghanistan Algeria	8,054 8,265	29.6 6.8		0.74 0.31	2.3 12.8 e	0.1 11.4	2,836 481	76.2	 109.7	388 43	 73.8	25.4	3,022	 9.9
Egypt	3,400	100.0	0.19	2.52	392.0	26.8	16,364	68.6	95.7	11	34.1	32.7	3,338	7.6
Iran, Islamic Rep Iraq	17,088 6,090	43.9 57.9		0.38 0.10	80.1 e 105.0 e	14.3 9.8	7,108	72.6 	106.7	10 1,333	24.1	21.2 16.1	3,085	9.5
Israel Jordan	424 400	45.8 18.8	0.90	0.16 0.48	210.8 55.9 e	57.8 14.4	3,055 1,896	124.8 110.0	99.2 121.9	205	75.8 91.4	66.7 49.8	3,666 2,674	21.8 9.2
Kuwait	15	86.7		0.93		5.9	23,333	56.7	103.9		114.4	42.9	3,010	17.4
Lebanon Libyan Arab Jamahiriya	313 2,150	33.2 21.9	0.07	0.14 0.05	187.1 e 34.0 e	26.5 15.8	2,757 1,987	78.1 107.7	96.1 95.4	48	81.6 91.3	40.0 20.9	3,196 3,320	17.0 10.4
Morocco	9,283	14.5	0.14	0.44	37.1 e	4.6	1,180	80.3	116.7	4	43.8	27.1	3,052	7.7
Oman Saudi Arabia	81 3,794	76.5 42.7		0.19	 101.1 e	1.9 2.6	15,340 4,075	107.9 72.7	86.7 100.7		84.2 62.9	69.9	2,845	13.7
Syrian Arab Rep Tunisia	5,421 4,908	24.6 7.8	0.00 0.36	0.28 0.19	54.9 20.4 e	18.4 7.2	3,537 445	115.2 87.0	112.5 89.2	5	7.5 90.6	34.7 36.4	3,038 3,238	13.6 10.7
Turkey	28,523	18.3	0.14	0.55	63.4 e	33.3	1,044	97.3	95.2		5.0	36.0	3,357	9.5
United Arab Emirates Yemen	266 1,669	28.6 30.0		0.31 1.80	147.1 10.2	1.5 4.1	6,371 3,786	32.7 99.8	52.5 98.9	 184	84.5 91.3	12.8 0.9	3,225 2,038	22.5 7.0
	1,000	50.0		1.00	10.2	4.1	0,,00	55.0	50.5	10-1	51.5	0.5	2,000	,.0

For more information, please visit http://earthtrends.wri.org/datatables/agriculture

		Land		Intensity of Agricultural Inputs				Per Capita			Food Aid	, Security, and	Nutrition	
	-	Irrigated	Organic			Mechan-			ood	Cereals	Net Cereal	Cereal Fed to	Calorie	Share of
		Cropland	Cropland			ization			luction	Received as	Imports {b}	Livestock	Supply	Calorie Supply
	Agricultural	as a	as a	Labor	F+:::	(tractors	Water		ndex	Food Aid	as a	as a Percent	Per Capita	From Animal
	Land (a) (000 ha)	Total	Percent of Total	(workers per ha)	Fertilizer (kg/ha)	per 000 ha)	Withdrawals (meters ³ /ha)		9-2001 100)	(000 metric tons)	Percent of	of Total Consumption	(kilocalories /person/day)	Products (percent)
	2002	2002	2003	2001	2001	2001	2000	1983	2003	2002	2002	2003	2002	2002
Sub-Saharan Africa	182,680	3.7		1.02	11.4	1.3		92.4	97.4 f	3,145		7.0	2,262	6.6
Angola	3,300	2.3		1.27	:	3.1	64	91.9	104.1	217	42.7		2,083	8.5
Benin Botswana	2,815 380	0.4 0.3	0.00	0.68 0.94	13.7 12.3	0.1 15.8	84 161	62.4 162.2	99.0 100.4	6	16.5 168.2	12.2	2,548 2,151	4.4 18.1
Burkina Faso	4,400	0.6		1.34	0.4	0.5	179	72.8	108.6	21	7.3	4.8	2,462	4.6
Burundi	1,351	5.5		2.40	2.8	0.1	153	117.0	98.8	55	7.2		1,649	2.1
Cameroon	7,160	0.5	0.09	0.52	7.3 e		102	103.0	105.0 101.5	0 5	20.3		2,273	5.7 9.9
Central African Rep Chad	2,024 3,630	0.6		0.63 0.76	0.3 4.8	0.01 0.05	1 53	88.9 92.0	101.5	16	21.1 5.5		1,980 2,114	6.6
Congo	240	0.4		2.60	21.0	3.0	18	125.8	97.6	14	102.6		2,162	6.1
Congo, Dem Rep	7,800	0.1		1.66	0.2	0.3	14	151.0	89.6	45	23.7	0.0	1,599	2.2
Côte d'Ivoire Equatorial Guinea	6,900 230	1.1		0.42 0.59	9.2 e	0.6 0.7	82 4	83.2 96.6	91.8 90.4	13	43.3	1.9	2,631	4.1
Eritrea	503	4.2		2.87	10.9 e	0.9	574		74.6	184	471.3	2.7	1,513	5.4
Ethiopia	10,671	1.8		2.10	11.8 e		231		99.6	1,219	7.4	1.1	1,857	4.9
Gabon Gambia	495 255	3.0 0.8		0.42 2.11	0.6 3.1	3.0 0.2	104 91	119.3 133.2	95.4 65.5	7	68.5 49.1	0.0	2,637 2,273	12.7 5.6
Ghana	6,331	0.2	0.16	0.95	5.3	0.6	43	57.7	107.6	43	18.2	3.2	2,667	4.5
Guinea	1,540	6.2		2.23	2.1	0.4	919	97.1	103.6	32	26.0		2,409	3.6
Guinea-Bissau Kenya	548 5,162	3.1 1.7	0.00	0.92 2.34	4.4 29.1 e	0.03 2.4	286 223	83.4 96.6	93.6 94.2	6 84	38.1 22.2	1.9	2,024 2,090	6.5 11.9
Lesotho	334	0.3	0.00	0.84	34.0	6.0	31	119.9	104.2	38	240.7	6.8	2,638	4.3
Liberia	600	0.5		1.33		0.5	101	141.0	84.8	37	74.0		1,900	2.9
Madagascar Malawi	3,550 2,440	30.7 1.2	0.01	1.63 1.98	2.5 11.7	1.0	4,089 362	128.6 82.4	94.0 79.5	40 156	5.2 17.9	2.3	2,005 2,155	9.5 2.7
Mali	4,700	2.9	0.01	0.99	8.9	0.6 0.6	1,469	104.0	96.3	7	4.7	2.5 1.5	2,133	9.6
Mauritania	500	9.8		1.28	5.8 e		3,000	109.1	97.6	63		0.0	2,772	17.5
Mozambique Namibia	4,435 820	2.4 0.9		1.82 0.38	5.9 0.4	1.4	133 205	99.7 134.4	98.1 90.7	95 41	27.8 123.4	1.0	2,079	2.3 15.9
Niger	4,500	1.5		1.00	1.1	3.8 0.03	462	115.4	90.7	17	8.7	2.7	2,278 2,130	5.1
Nigeria	33,000	0.7		0.49	7.1	1.0	179	62.4	97.0	13	14.1	1.8	2,726	3.2
Rwanda	1,385	0.4 2.8	0.10	2.99 1.26	0.2 12.0	0.1	25 598	126.4	103.4 86.0	20	8.7 58.4	7.4 0.0	2,084	2.9 9.1
Senegal Sierra Leone	2,500 600	2.8 5.0	0.10	1.26	0.5	0.3 0.1	643	72.2 137.3	96.6	2 50	52.8	0.0	2,280 1,936	3.8
Somalia	1,071	18.7		2.57	0.5	1.6	3,075			16		5.0		
South Africa Sudan	15,712	9.5 11.7	0.05	0.11	48.5 e 5.1 e		708 2,195	94.6 89.7	100.1 102.0	21 126	11.4 25.0	34.4 7.4	2,956	12.2 20.4
Tanzania, United Rep	16,653 5,100	3.3	0.14	2.93	1.6 e		374	129.3	97.3	51	7.7	2.2	2,228 1,975	6.3
Togo	2,630	0.7		0.45	7.3	0.03	30	93.0	96.2		16.0	13.9	2,345	3.4
Uganda Zambia	7,200 5,289	0.1 0.9	1.39 0.06	1.29 0.58	0.8 6.9 e	0.7 1.1	17 250	114.0 107.6	99.1 102.7	113 35	6.4 75.8	4.4 3.4	2,410 1,927	6.2 4.9
Zimbabwe	3,350	3.5		1.08	45.4 e		670	95.5	85.1	174	61.7	8.5	1,943	7.7
North America	223,951	10.4		0.02	99.0	24.8		82.8	97.5 f			62.5	3,756	27.6
Canada United States	45,879 178,068	1.7 12.6	1.30 0.23	0.01	53.6 e 110.7	16.0 27.1	118 1,105	87.1 82.3	95.2 97.8		(47.5) (40.5)	72.0 61.3	3,589 3,774	26.7 27.7
C. America & Caribbean	42,178	19.3		0.40	66.9	10.6				415		45.1	2,878	17.1
Belize	102	2.9	1.30	0.25	45.2	11.6	2	67.7	94.0		31.7		2,869	20.7
Costa Rica Cuba	525 3,788	20.6 23.0	3.11 0.16	0.62 0.17	223.2 e 46.1 e		2,834 1,264	72.4 128.3	88.5 107.9	 1	81.6 61.8	54.7	2,876 3,152	20.0 12.3
Dominican Rep	1,596	17.2	0.40	0.37	61.1 e		1,404	138.2	102.6		61.4	57.1	2,347	14.8
El Salvador	910	4.9	0.31	0.85	80.4 e		934	88.2	95.1	70	40.8	33.9	2,584	13.2
Guatemala Haiti	1,905 1,100	6.8 6.8	0.33	1.03 1.98	107.6 e 12.7	2.3 0.1	844 1,022	85.1 151.6	95.5 98.8	118 144	46.1 61.2	29.4 2.0	2,219 2,086	9.2 7.0
Honduras	1,428	5.6	0.06	0.54	106.1	3.6	486	114.6	101.1	27	52.4	42.8	2,356	14.4
Jamaica Mexico	284 27,300	8.8 23.2	0.26 0.20	0.93 0.31	73.4 68.3 e	10.8	730 2,210	86.4 94.2	97.8 100.8		80.8 31.8	33.8 47.5	2,685 3,145	14.6 19.4
Nicaragua	2,161	4.3	0.20	0.31	8.9 e		393	107.0	110.7	55	19.6	30.6	2,298	7.8
Panama	695	5.0	0.24	0.36	42.0 e		357	126.9	98.5		51.5	32.1	2,272	23.9
Trinidad and Tobago	122	3.3		0.40	14.3 e	22.1	139	100.1	114.3		97.7	34.8	2,732	15.8
South America Argentina	126,594 35,000	8.3 4.5	1.70	0.21 0.04	78.7 24.6 e	10.4 8.6	791	76.0 83.8	107.5 f		(174.9)	52.4 38.6	2,851 2,992	21.2 29.9
Bolivia	3,106	4.2	1.04	0.49	3.7	1.9	524	63.7	110.0	 77	27.3	36.5	2,235	16.2
Brazil	66,580	4.4	0.24	0.19	102.9 e		562	68.5	114.2		12.8	62.3	3,050	22.1
Chile Colombia	2,307 3,850	82.4 23.4	1.50 0.24	0.43 0.87	209.1 e 145.9	23.5 4.9	3,468 1,082	67.5 87.7	102.0 98.7		31.4 48.6	50.9 35.4	2,863 2,585	21.4 16.0
Ecuador	2,985	29.0	0.74	0.42	117.1 e	4.9	4,653	68.6	103.5	63	23.5	40.0	2,754	18.2
Guyana	510	29.4	0.01	0.11	25.5 e	7.1	3,226	65.0	105.2	26	(22.8)	8.1	2,692	16.0
Paraguay Peru	3,115 4,310	2.2 27.7	0.38 0.42	0.23 0.71	21.5 74.7 e	5.3 3.1	147 3,900	81.4 66.8	107.4 105.7	 124	(3.6) 38.7	3.0 40.6	2,565 2,571	22.1 13.1
Suriname	67	76.1	0.28	0.45	83.6	19.9	9,194	149.1	104.1		(12.5)		2,652	13.1
Uruguay	1,340	13.5	4.00	0.14	86.7 e		2,264	92.2	101.8		(18.9)	15.0	2,828	29.7
Venezuela Oceania	3,408 53,664	16.9 5.4		0.23 0.06	88.0 e 59.9	14.4 7.2	1,168	99.1 90.4	91.6 98.7 f		37.4	23.1 62.5	2,336	17.4
Australia	48,600	5.2	2.20	0.01	47.1	6.2	356	85.3	95.9		156.4	64.8	3,054	33.8
Fiji	285	1.1	0.04	0.46	35.1	24.6	190	86.2	96.1		93.5		2,894	16.4
New Zealand Papua New Guinea	3,372 870	8.5	0.33 0.41	0.05 2.22	267.2 13.7	22.5 1.3	270 1	88.2 103.4	110.4 98.0		29.9 85.2	41.6	3,219	33.0
Solomon Islands	75			2.27		0.1		121.1	96.7		85.6		2,265	7.5
Developed	635,324	10.7		0.07	79.9	30.5		100.1	98.5 f			56.3	3,314	26.3
Developing a. Excludes land used for	904,850	23.2	t cereal impo	1.42	98.6	8.3	nus evnorts: n	73.4	103.8 f		at are net evno	rtes of cereal I	2,674	13.5

a. Excludes land used for permanent pasture. **b.** Net cereal imports are calculated as imports minus exports; negative values denote countries that are net exportes of cereal. Includes food received as food aid. Values do not account for changes in cereal stocks. As a result, some numbers may be negative or greater than 100. **c.** Data for China generally include Taiwan. **d.** Data for Kashmir-Jammu are generally included under India and excluded from Pakistan. Data for Sikkim are included under India. **e.** Data are collected from July 1, 2001 to June 30, 2002. **f.** Regional totals are obtained directly from FAO, so regional definitions may vary slightly from those used by WRI.

Food and Agriculture: Technical Notes

DEFINITIONS AND METHODOLOGY

Agricultural Land, in thousand hectares, is the total area of all arable and permanent cropland. Arable land is land under temporary crops (those that are sown and harvested in the same agricultural year), temporary meadows for mowing or pasture, land under market and kitchen gardens, and land temporarily fallow (less than five years). Abandoned land resulting from shifting cultivation is not included under this category. Permanent cropland is land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, including land under trees grown for wood or timber. Land in permanent pasture is not included here.

Irrigated Cropland as a Percent of Total refers to the proportion of agricultural land equipped to provide water to crops. These include areas equipped for full and partial control irrigation, spate irrigation areas, and equipped wetland or inland valley bottoms.

Organic Cropland as a Percent of Total shows the portion of agricultural land converted to certified organic agriculture or in the process of conversion. Definitions of organic agriculture vary among countries. According to the International Federation of Organic Agriculture Movements (IFOAM), "Organic agriculture is an agricultural production system that promotes environmentally, socially, and economically sound production of food and fibers, and excludes the use of synthetically compounded fertilizers, pesticides, growth regulators, livestock feed and additives, and genetically modified organisms." Data are obtained directly from IFOAM. The data shown here include pastures used for grazing. Data on land under organic management are a result of surveys undertaken between October and December of 2003 and research conducted by IFOAM. Experts from member organizations, certification bodies, and other institutions were asked to contribute statistics.

Intensity of Agricultural Inputs: Labor shows the labor input intensity of agricultural systems per hectare of agricultural land. WRI calculates labor intensity by dividing the number of agricultural workers by agricultural land area. Agricultural workers include all economically active persons engaged in agriculture, hunting, forestry, or fishing. According to the International Labor Organization (ILO), the economically active population "comprises all persons of either sex who furnish the supply of labor for the production of economic goods and services." The ILO derives the labor estimates from population censuses and sample surveys of the economically active population. When country data are missing, the ILO estimates figures from similar neighboring countries or by using special models of activity rates. The UN Food and Agriculture Organization (FAO) provided the annual figures used for these calculations through interpolating and extrapolating the ILO's decennial series.

Intensity of Agricultural Inputs: Fertilizer measures the mass in kilograms of the nutrients nitrogen (N), potash (K_20), and phosphate (P_20_5) consumed annually per hectare of cropland. Some countries report data based on the fertilizer year; i.e., 2001 data actually encompassed July 1, 2001 to June 30, 2002. Data are collected through the FAO fertilizer questionnaire, with support from the Ad Hoc Working Party on Fertilizer Statistics.

Intensity of Agricultural Inputs: Mechanization shows the number of tractors used in agriculture per thousand hectares of arable and permanent cropland. WRI calculates the intensity of tractor use with FAO's estimates on agricultural land area and the total number of tractors for each country. Tractors generally refer to total wheeled and crawler tractors, excluding garden tractors. Tractor intensity is useful for understanding the nature of production systems, as tractors tend to be used in areas with flatter lands and scarce labor. Information on agricultural machinery is reported to FAO by country governments through surveys.

Intensity of Agricultural Inputs: Water Withdrawals measures the volume of water used in the agricultural sector per square hectare of arable and permanent cropland. Water use for agriculture is defined as the water withdrawals that are attributed to the agricultural sector, used primarily for irrigation. WRI calculates water intensity using water-use data from FAO's AQUASTAT information system and agricultural land-use data from the FAOSTAT database. To estimate agricultural water use, an assessment has to be made both of irrigation water requirements and of water withdrawal for agriculture. AQUASTAT collects its information from a number of sources, including 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 centers.

The Per Capita Food Production Index shows the food output, excluding animal feed, of a country's agriculture sector relative to the base period 1999-2001. The per capita food production index covers all edible agricultural products that contain nutrients; coffee and tea are excluded. For a given year and country, the index is calculated by taking the disposable average output of all food commodities in terms of weight or volume during the period of interest and dividing that year's output by the average of the 1999-2001 output, and then multiplying by 100. In other words, the index values shown in this table indicate per capita food production levels larger than 1999-2001 levels if their values are larger than 100. Data shown here are for 1983 and 2003.

Cereals Received as Food Aid represents the total shipments of cereals transferred to recipient countries on a total-grant basis or on highly concessional terms. Cereals include wheat, barley, maize, rye, oats, millet, sorghum, rice, buckwheat, alpiste/canary seed, fonio, quinoa, triticale, wheat flour, and the cereal component of blended foods. To facilitate comparisons between deliveries of different commodities, processed and blended cereals are converted into their grain equivalent with specific conversion factors. Information on food aid shipments is provided to the FAO by the World Food Program (WFP).

Net Cereal Imports as a Percent of Consumption indicates whether countries are able to produce sufficient grain for domestic consumption. It is calculated by dividing the sum of net imports (imports minus exports) by total cereal consumption (production plus imports, minus exports). Cereals imported as food aid are included in net imports. This variable does not account for changes in cereal stocks. As a result, some numbers may be negative or greater than 100. Cereals include wheat, barley, maize, rye, oats, millet, sorghum, rice, buckwheat, alpiste/canary seed, fonio, quinoa, triticale, wheat flour, and the cereal component of blended foods. Import and export data have, for the most part, been supplied to FAO by governments, national publications and, most frequently, FAO questionnaires.

Cereal Fed to Livestock as a Percent of Total Consumption is calculated by dividing the total feed grain consumed by total domestic grain consumed. Grains include wheat, rice, corn, barely, sorghum, millet, rye, oats, and mixed grains. Grain consumption includes all domestic use during the local marketing year of the individual country. It is the sum of feed, food, seed, and industrial uses. Data are collected from a variety of sources. Whereas the FAO is required to use official country estimates, the USDA supplements official estimates with data collected from other sources. The international portion of the USDA data is updated with input from agricultural attachés stationed at U.S. embassies around the world, U.S. Foreign Agricultural Service (FAS) commodity analysts, and country and commodity analysts with the USDA's Economic Research Service (ERS). WRI calculates the percentage shown here from USDA grain consumption and feed estimates.

Calorie Supply Per Capita refers to the amount of available food per person per day, expressed in kilocalories. Share of Calorie Supply from Animal Products refers to the percent of available food that is derived from animal products, including all types of meat and fish; animal fats and fish oils; edible offal; milk, butter, cheese, and cream; and eggs and egg products. FAO compiles statistics on apparent food consumption based on Supply/Utilization Accounts (SUAs) maintained in FAOSTAT, its online statistical service. SUAs are time-series data using statistics on supply and utilization. For each food product, the SUA traces supplies from production, imports, and stocks to utilization in different forms—addition to stocks, exports, animal feed, seed, processing for food and non-food purposes, waste (or losses), and lastly, as food available to the population. For internal consistency, total food supply equals total utilization. FAO derives caloric values by applying the appropriate food composition factors to the quantities of the processed commodities, rather than examining primary commodities. Per capita supplies are derived from the total supplies available for human consumption by dividing the quantities of food by the total population actually partaking of the food supplies during the reference period.

FREQUENCY OF UPDATE BY DATA PROVIDERS

Data from FAO are updated annually, with the exception of production data, which are updated three times each year, and trade data, which are updated semiannually. Data on international organic agriculture was first published by IFOAM in 1998 and are updated annually. The USDA's Foreign Agricultural Service updates international grain production estimates every month.

DATA RELIABILITY AND CAUTIONARY NOTES

Agricultural Land and Irrigated Cropland: Data are compiled from various sources (national publications, FAO questionnaires, international publications, etc.). As a result, definitions and coverage do not always conform to FAO recommendations and may not always be completely consistent across countries.

Organic Cropland as a Percent of Total: Data for organic agriculture are collected by IFOAM from a variety of sources, including member organizations, certification bodies, and other institutions. Data collection methods vary depending on the institution and the country. Figures for percent of total agricultural land under organic management are calculated by IFOAM. Data on total agricultural land used in these calculations are different from those provided by FAO for total arable and permanent cropland.

Labor: Values vary widely among and within countries according to labor scarcity, production technologies, and costs of energy and machinery. The annual figures for total number of agricultural workers were obtained by interpolating and extrapolating past trends (1950-2000) taken from ILO decennial population series. As a result, fluctuations in the labor force may not be captured in annual figures. Labor intensity may be overestimated in countries with substantial fishing or forestry industries, since the total agricultural labor force includes some workers engaged in these activities.

Fertilizer: Data are excluded for some countries with a relatively small area of cropland, such as Iceland and Singapore. In these cases, the calculation of fertilizer consumed per hectare of cropland yields an unreliable number.

Mechanization: Data collection methods differ across countries, resulting in varying degrees of reliability. Some caution should be used in interpreting tractors-in-use figures because the data do not account for variations in the size and horsepower of different tractors.

Water Withdrawals: While AQUASTAT represents the most complete and careful compilation of water resources statistics to date, freshwater data are generally of poor quality. Sources of information vary but are rarely complete. Access to information on water resources is still sometimes restricted for reasons related to political sensitivity at the regional level. The accuracy and reliability of the information vary greatly among regions and countries. Data are typically collected in different years for different countries and interpolated or extrapolated to a single year.

Per Capita Food Production Index: Indices are not directly measured; they are derived from a set of formulas and algorithms. The calculation therefore contains an unavoidable amount of subjectivity. Reliability is limited by the accuracy and precision of agricultural production and price data. While these data can illustrate rough comparisons and trends over time, rigid score comparisons and rankings are discouraged. The country-level indices reported here may differ from other calculations of agricultural production due to varying concepts of production, coverage, weights, time reference of data, and methods of calculation.

Cereals Received as Food Aid: Data on shipments and receipts of food aid are governed by established accounting procedures and are generally considered to be reliable. These measurements represent the amount of cereals distributed to recipient countries; they are not a measure of consumption.

Cereal Fed to Livestock as a Percent of Total Consumption: As with any large and complex data set, there are numerous difficulties involved with maintaining accuracy and standardizing reporting standards across countries and commodities. In general, these data should be considered accurate, but users should exercise the usual caution in attempting to create reliable cross-country comparisons.

Calorie Supply: Figures shown here represent only the average calorie supply available for the population as a whole and do not necessarily indicate what is actually consumed by individuals. Even if data are used as approximations of per capita consumption, it is important to note that there is considerable variation in consumption among individuals. Food supply data are only as accurate as the underlying production, trade, and utilization data.

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