PART II

WORLD RESOURCES 2002-2004

DATA TABLES

Information about the *World Resources 2002–2004* Data Tables

Country groupings are based on lists developed by the Food and Agriculture Organization of the United Nations (FAO), (developed and developing countries), the World Bank (high-, medium-, and low-income countries), and the World Resources Institute (WRI) (regional classifications). See pages 282–283 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 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% 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.
- Comprehensive technical notes are available in the pages following each data table.

World Resources Information and Statistics Available On-line and via CD-ROM

The 12 data tables published on the following pages are a subset of a larger on-line data collection, the World Resources/EarthTrends Database. This on-line data source includes more than 30 tables, along with country profiles, maps, feature stories, and a searchable database with over 600 statistical indicators spanning 30-plus years. Access this data source in one of the following ways:

EarthTrends: The Environmental Information Portal

http://earthtrends.wri.org

EarthTrends is a free on-line collection of environmental, social, and economic information. The website offers statistical, graphic, and analytical data from over 40 internationally recognized sources. Detailed metadata documents the data collection, research methodologies, and reliability of all of EarthTrends' content.

EarthTrends for Low-Bandwidth Users

http://earthtrends.wri.org/text

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.

EarthTrends via E-mail

EarthTrends via E-mail provides a way for users to receive environmental and sustainable development information through simple, structured e-mail requests. Send an e-mail to enviro_info@wri.org with "Instructions" in the message body, or view full instructions at **http://earthtrends.wri.org/text/webinvoke.htm**.

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Gain instant, portable access to 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 2002–2004*.

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TerraViva! World Resources, 2003 Edition

The next generation in the World Resources/EarthTrends series, *TerraViva!* World Resources integrates the comprehensive World Resources/EarthTrends Database with state-of-the-art mapping and analytical tools to make world data come alive visually. Compare hundreds of environmental, social, and economic variables, generating maps, graphs, tables, or text as output.

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Governance and Access to Information

Sources: Freedom House, Polity IV Project, Inter-Parliamentary Union, Transparency International, Union of International Associations, Privacy International, World Bank, International Telecommunications Union

	Level of Freedom (free (F), partly free (PF), not free (NF))		Level of Civil Liberties (1=most free, 7= least free)		Polity Index of Democracy/ Autocracy (-10=fully autocratic, 10=fully democratic)	Percent of Parliamentary Seats Held by Women	Corruption Perceptions Index (10=least corrupt, 0= most corrupt)	Non-Governmental Organizations (NGOs) Per Million Population		Press Freedom (1-30=free, 31-60=partly free, 61-100= not free)	Freedom of Information Legislation, Status in	Radios Per 1,000 Population	Internet Users Per 1,000 Population
	1991-1992	2001-2002	1991-1992	2001-2002	2000	2002	2001	1990	2000	2001	2002	1997	2001
WORLD	..	..	..	..	..	**14**	..	**30**	**43**	..	..	**419**	**81**
ASIA (EXCL. MIDDLE EAST)	..	..	..	..	..	**15**	..	**6**	**9**	..	..	**258**	**42**
Armenia	PF	PF	5	4	5	3	..	..	129	60	pending	225	..
Azerbaijan	PF	PF	5	5	-7	11	2.0	..	45	77	..	22	3
Bangladesh	F	PF	3	4	6	2	0.4	6	9	63	pending	49	1
Bhutan	PF	NF	5	6	-8	9	..	108	62	72	..	50	1
Cambodia	NF	NF	6	5	2	9	..	8	30	68	..	119	1
China	NF	NF	7	6	-7	22	3.5	1	2 a	80	..	339	26
Georgia	NF	PF	5	4	5	7	..	..	125	53	in effect	556	5
India	PF	F	4	3	9	9	2.7	2	3	42	pending	121	7 b
Indonesia	PF	PF	5	4	7	8	1.9	6	9 c	53	pending	157	19
Japan	F	F	2	2	10	10	7.1	19	28	17	in effect	956	455
Kazakhstan	PF	NF	4	5	-4	11	2.7	..	26	69	..	422	..
Korea, Dem People's Rep	NF	NF	7	7	-9	20	..	8	10	96	..	154	..
Korea, Rep	F	F	3	2	8	6	4.2	28	45	30	in effect	1,033	518
Kyrgyzstan	PF	NF	4	5	-3	7	..	..	48	68	..	111	..
Lao People's Dem Rep	NF	NF	7	6	-7	..	..	22	43	82	..	148	2
Malaysia	PF	PF	4	5	3	15	5.0	63	83	71	..	420	252
Mongolia	F	F	3	3	10	11	..	55	140	31	..	154	16
Myanmar	NF	NF	7	7	-7	..	..	6	9	96	..	92	0
Nepal	F	PF	3	4	6	6	..	20	33	60	pending	39	3
Pakistan	PF	NF	5	5	-6	..	2.3	9	10	57	pending	105	3
Philippines	PF	F	3	3	8	17	2.9	20	26	30	in effect	161	26
Singapore	PF	PF	4	5	-2	12	9.2	382	477	68	..	672	365
Sri Lanka	PF	PF	5	4	5	4	..	53	69	63	pending	208	8
Tajikistan	PF	NF	3	6	-1	12	..	..	28	80	..	141	1
Thailand	PF	F	4	3	9	10	3.2	20	29	30	in effect	235	56
Turkmenistan	PF	NF	5	7	-9	26	..	..	32	91	..	256	2
Uzbekistan	PF	NF	5	6	-9	7	2.7	..	14	84	in effect d	456	6
Viet Nam	NF	NF	7	6	-7	26	2.6	4	10	82	..	109	5
EUROPE	..	..	..	..	..	**18**	..	..	**163**	..	..	**732**	**196**
Albania	PF	PF	4	4	5	6	..	28	227	48	in effect	243	3
Austria	F	F	1	1	10	25	7.8	350	529	24	in effect	753	322
Belarus	PF	NF	4	6	-7	18	..	..	72	82	..	299	42
Belgium	F	F	1	2	10	25	6.6	365	541	9	in effect	793	281
Bosnia and Herzegovina	..	PF	..	4	..	5	..	..	128	53	in effect	257	11
Bulgaria	F	F	3	3	8	26	3.9	111	244	29	in effect	543	77
Croatia	PF	F	4	2	7	16	3.9	..	390	33	pending	340	..
Czech Rep	..	F	..	2	10	14	3.9	..	292	25	in effect	803	136
Denmark	F	F	1	1	10	38	9.5	654	914	9	in effect	1,139	450
Estonia	F	F	3	2	6	18	5.6	..	1,007	18	in effect	708	312
Finland	F	F	1	1	10	37	9.9	540	829	10	in effect	1,492	432 e
France	F	F	2	2	9	11	6.7	80	118	17	in effect	950	263
Germany	F	F	2	2	10	31	7.4	66	75	15	..	948	366
Greece	F	F	2	3	10	9	4.2	209	335	30	in effect	478	132
Hungary	F	F	2	2	10	8	5.3	153	329	23	in effect	690	149
Iceland	F	F	1	1	10	35	9.2	4,161	5,819	8	in effect	956	693
Ireland	F	F	1	1	10	14	7.5	596	941	16	in effect	695	233
Italy	F	F	1	2	10	9	5.5	66	98	27	in effect	878	278
Latvia	F	F	3	2	8	17	3.4	..	499	19	in effect	713	71
Lithuania	F	F	3	2	10	11	4.8	..	358	19	in effect	513	68
Macedonia, FYR	..	PF	..	4	6	7	..	..	300	46	pending	205	34
Moldova, Rep	PF	PF	4	4	7	13	3.1	..	103	59	in effect d	747	14
Netherlands	F	F	1	1	10	33	8.8	271	392	15	in effect	980	333
Norway	F	F	1	1	10	36	8.6	649	918	9	in effect	915	602
Poland	F	F	2	2	9	21	4.1	45	87	18	in effect	523	99
Portugal	F	F	1	1	10	19	6.3	234	390	15	in effect	304	359 f
Romania	PF	F	5	2	8	9	2.8	39	100	35	in effect	319	45
Russian Federation	PF	PF	3	5	7	6	2.3	..	19	60	..	418	30
Serbia and Montenegro	NF	PF	5	3	7	6	..	150	137	45	pending	297	57
Slovakia	..	F	..	2	9	14	3.7	..	359	22	in effect	966	..
Slovenia	F	F	3	2	10	12	5.2	..	904	20	pending	405	302
Spain	F	F	1	2	10	27	7.0	86	134	17	in effect	333	185
Sweden	F	F	1	1	10	43	9.0	370	559	8	in effect	932	521
Switzerland	F	F	1	1	10	22	8.4	479	673	8	pending	1,002	407
Ukraine	PF	PF	3	4	7	8	2.1	..	28	60	in effect	889	12
United Kingdom	F	F	2	2	10	17	8.3	85	128	18	in effect g	1,432	403
MIDDLE EAST & N. AFRICA	..	..	..	..	..	**4**	..	**42**	**49**	..	..	**258**	**22**
Afghanistan	NF	NF	7	7	-7	..	..	7	7	..	..	114	..
Algeria	PF	NF	4	5	-3	4	..	28	33	62	..	244	2
Egypt	PF	NF	5	6	-6	2	3.6	24	28	77	..	339	9
Iran, Islamic Rep	NF	NF	5	6	3	3	..	12	14	75	..	279	6
Iraq	NF	NF	7	7	-9	8	..	29	22	96	..	222	..
Israel	F	F	2	3	10	13	7.6	401	383 h	30	in effect	526	243
Jordan	PF	PF	4	5	-2	3	4.9	180	133	60	..	372	42
Kuwait	NF	PF	5	5	-7	0	..	253	369	49	..	650	101
Lebanon	PF	NF	4	5	interruption	2	..	182	291	74	..	687	..
Libyan Arab Jamahiriya	NF	NF	7	7	-7	..	..	78	78	88	..	273	4
Morocco	PF	PF	5	5	-6	1	..	37	47 i	58	..	243	13
Oman	NF	NF	6	5	-9	..	..	117	148	68	..	621	46
Saudi Arabia	NF	NF	6	7	-10	..	..	39	48	80	..	326	14
Syrian Arab Rep	NF	NF	7	7	-7	10	..	36	36	78	..	276	4
Tunisia	PF	NF	5	5	-3	12	5.3	102	125	73	..	143	42
Turkey	PF	PF	4	5	7	4	3.6	22	33	58	..	181	37
United Arab Emirates	NF	NF	5	5	-8	0	..	191	295	74	..	318	339 j
Yemen	PF	NF	5	6	-2	1	..	25	18	65	..	65	1

Data Table 1 continued

More data tables are available. Log on to http://earthtrends.wri.org/datatables/governance or send an e-mail to enviro_info@wri.org with "Instructions" in the message body.

	Level of Freedom (free (F), partly free (PF), not free (NF))		Level of Civil Liberties (1=most free, 7= least free)		Polity Index of Democracy/ Autocracy (-10=fully autocratic, 10=fully democratic)	Percent of Parliamentary Seats Held by Women	Corruption Perceptions Index (10=least corrupt, 0= most corrupt)	Non-Governmental Organizations (NGOs) Per Million Population		Press Freedom (1-30=free, 31-60=partly free, 61-100= not free)	Freedom of Information Legislation, Status in	Radios Per 1,000 Population	Internet Users Per 1,000 Population
	1991-1992	2001-2002	1991-1992	2001-2002	2000	2002	2001	1990	2000	2001	2002	1997	2001
SUB-SAHARAN AFRICA	..	..	..	..	..	**12**	..	**40**	**59**	..	..	**198**	..
Angola	PF	NF	4	6	-3	16	..	28	38	79	..	52	4
Benin	F	F	3	2	6	6	..	85	115	30	..	107	4
Botswana	F	F	2	2	9	17	6.0	283	419	30	pending	155	..
Burkina Faso	NF	PF	5	4	-3	11	..	45	58	39	..	35	2
Burundi	NF	NF	6	6	-1	20	..	52	71	77	..	69	1
Cameroon	NF	NF	6	6	-4	6	2.0	53	70	68	..	163	3
Central African Rep	PF	PF	5	5	6	7	..	90	115	69	..	80	1
Chad	NF	NF	6	5	-2	2	..	38	51	74	..	236	0
Congo	PF	PF	4	4	-6	12	..	173	198	53	..	123	..
Congo, Dem Rep	NF	NF	5	6	interregnum	..	..	17	117	86	..	386	0
Côte d'Ivoire	PF	PF	4	4	4	9	2.4	58	67	66	..	153	4
Equatorial Guinea	NF	NF	7	6	-5	5	..	270	362	80	..	427	2
Eritrea	..	NF	..	6	-6	15	..	..	40	79	..	318	3
Ethiopia	PF	PF	5	5	1	8	..	9	13	61	..	197	0
Gabon	PF	PF	3	4	-4	11	..	355	422	52	..	183	..
Gambia	F	PF	2	5	-5	..	..	359	385	65	..	165	13
Ghana	NF	F	6	3	2	9	3.4	55	60	27	pending	244	2
Guinea	NF	NF	5	5	-1	9	..	43	67	74	..	52	2
Guinea-Bissau	PF	PF	5	5	6	8	..	124	213	56	..	44	3
Kenya	NF	NF	6	5	-2	4	2.0	43	54	67	pending	109	16
Lesotho	PF	PF	4	4	in transition	11	..	187	233	46	..	53	2
Liberia	NF	NF	6	6	0	11	..	170	140	77	..	274	0
Madagascar	PF	PF	4	4	7	8	..	42	44	31	..	216	2
Malawi	NF	PF	6	3	7	9	3.2	47	59	54	pending	269	2
Mali	PF	F	4	3	6	12	..	43	55	23	..	56	3
Mauritania	NF	PF	6	5	-6	..	..	130	155	61	..	149	3
Mozambique	PF	PF	4	4	6	30	..	20	31	48	..	44	1
Namibia	F	F	3	3	6	20	5.4	108	372	34	pending	141	25
Niger	PF	PF	5	4	4	1	..	38	46	49	..	70	1
Nigeria	PF	PF	4	5	4	3	1.0	12	14	57	pending	200	..
Rwanda	NF	NF	6	6	-4	26	..	45	68	87	..	76	3
Senegal	PF	PF	3	4	8	19	2.9	103	118	39	..	141	10
Sierra Leone	PF	PF	5	5	interregnum	9	..	115	132	62	..	237	2
Somalia	NF	NF	7	7	interregnum	..	..	29	23	88	..	60	0
South Africa	PF	F	4	2	9	28	4.8	38	67	23	in effect	338	70
Sudan	NF	NF	7	7	-7	10	..	23	25	87	..	257	2
Tanzania, United Rep	NF	PF	5	4	2	22	2.2	27	32	49	pending	281	8
Togo	NF	PF	5	5	-2	5	..	124	146	68	..	227	11
Uganda	NF	PF	6	5	-4	25	1.9	33	45	42	..	127	2
Zambia	F	PF	3	4	1	12	2.6	84	105	65	pending	109	2
Zimbabwe	PF	NF	4	6	-5	10	2.9	81	114	83	in effect k	96	8
NORTH AMERICA	..	..	..	..	..	**19**	..	**23**	**33**	..	..	**2,012**	**493**
Canada	F	F	1	1	10	24	8.9	96	133	16	in effect	1,047	435
United States	F	F	1	1	10	14	7.6	15	22	16	in effect	2,118	500
C. AMERICA & CARIBBEAN	..	..	..	..	..	**19**	..	**72**	**89**	..	..	**317**	**35**
Belize	F	F	1	2	..	14	..	1,270	2,010	24	in effect	613	78
Costa Rica	F	F	1	2	10	..	4.5	300	348	17	..	274	93
Cuba	NF	NF	7	7	-7	28	..	54	89	96	..	353	11
Dominican Rep	F	F	3	2	8	15	3.1	91	106	30	..	181	22 l
El Salvador	PF	F	4	3	7	10	3.6	105	132	35	..	465	..
Guatemala	PF	PF	5	4	8	9	2.9	82	92	49	pending	79	17
Haiti	NF	NF	7	6	-2	9	..	65	74	72	..	55	4
Honduras	F	PF	3	3	7	6	2.7	108	124	43	..	412	..
Jamaica	F	F	2	3	9	16	..	287	347	17	in effect g	476	38
Mexico	PF	F	4	3	8	16	3.7	21	27	40	in effect g	330	35
Nicaragua	PF	PF	3	3	8	21	2.4	130	151	32	pending	265	..
Panama	PF	F	2	2	9	10	3.7	318	354	30	in effect d	300	..
Trinidad and Tobago	F	PF	1	3	10	17	5.3	488	625	30	in effect	532	92
SOUTH AMERICA	..	..	..	..	..	**13**	..	**44**	**55**	..	..	**460**	**60**
Argentina	F	PF	3	3	8	31	3.5	57	74	37	pending	681	80
Bolivia	F	F	3	3	9	10	2.0	116	141	25	pending	676	..
Brazil	F	PF	3	3	8	7	4.0	14	18	32	..	433	46
Chile	F	F	2	2	9	10	7.5	103	140	22	..	354	201
Colombia	PF	PF	4	4	7	12	3.8	36	45	60	in effect	524	27 m
Ecuador	F	PF	3	3	6	15	2.3	84	101	40	..	377	25
Guyana	PF	F	4	2	6	20	..	482	583	23	..	561	124
Paraguay	PF	PF	3	3	7	8	..	144	171	51	pending	182	11
Peru	PF	F	5	3	in transition	18	4.1	55	66	30	in effect	273	115 n
Suriname	PF	F	4	2	..	18	..	634	832	25	..	729	35
Uruguay	F	F	2	1	10	12	5.1	328	450	25	pending	603	119
Venezuela	F	PF	3	5	7	10	2.8	68	76	44	..	472	53
OCEANIA	..	..	..	..	..	**22**	..	**209**	**291**	..	..	**1,065**	..
Australia	F	F	1	1	10	27	8.5	138	196	10	in effect	1,376	372 o
Fiji	PF	PF	4	3	in transition	6	..	538	797	33	pending	639	18
New Zealand	F	F	1	1	10	31	9.4	489	687	8	in effect	997	287
Papua New Guinea	F	F	3	3	10	2	..	121	149	26	pending	86	..
Solomon Islands	F	PF	1	4	..	0	..	477	631	24	..	141	4
DEVELOPED	..	..	..	..	..	**18**	..	..	**112**	..	..	**1,028**	**286**
DEVELOPING	..	..	..	..	..	**12**	..	**17**	**24**	..	..	**245**	**26**

a. Data for China include Tibet, but not Hong Kong or Macao. **b**. Estimates are for fiscal year beginning 1 April. **c**. Data for Indonesia include East Timor. **d**. Although Freedom of Information laws exist, weaknesses in the legislation have prompted criticism. **e**. As of June, 2001. **f**. As of September, 2001. **g.** Law enacted but not yet in force. **h**. Data for Israel include the occupied territories. **i**. Data for Morocco include Western Sahara. **j**. Internet dial-up customers. **k**. The main thrust of the law passed in Zimbabwe was to give the government extensive powers to control the media by requiring the registration of journalists and prohibiting the "abuse of free expression." **l**. Data as of 30 September. **m**. Ministry of Communications' estimate. **n**. OSIPTEL estimate. **o**. Source: Australian Bureau of Statistics.

VARIABLE DEFINITIONS AND METHODOLOGY

Level of Freedom is designated by Freedom House as Free (F), Partly Free (PF), or Not Free (NF). In Free countries, a broad range of political rights and civil liberties are respected. Partly Free countries have a mixed record on political rights and civil liberties, often accompanied by corruption, weak rule of law, and the inordinate political dominance of a ruling party. In Not Free countries, basic political rights and civil liberties are denied. A country's freedom rating reflects both political rights and civil liberties, each measured on a scale of 1 to 7. If a country's combined average political rights and civil liberties ranking is between 1 and 2.5, the country is "Free." Countries with averages between 3 and 5.5 are "Partly Free"; greater than 5.5, "Not Free." For more information, please refer to the web page maintained by Freedom House: http://www.freedomhouse.org/research/freeworld/2001/methodology.htm.

Level of Civil Liberties is rated on a scale of 1 to 7, with 1 representing the most free and 7 representing the least free. Countries with a rating of 1 generally have an established and equitable rule of law with free economic activity. A rating of 2 indicates some deficiencies, while a rating of 3, 4, or 5 indicates varying degrees of censorship, political terror, and prevention of free association. Countries with a rating of 6 experience severely restricted freedom of expression and association coupled with political terror (e.g., political prisoners). A rating of 7 indicates virtually no freedom. Freedom House notes that a poor rating for a country "is not necessarily a comment on the intentions of the government, but may indicate real restrictions on liberty caused by non-governmental terror." To determine each rating, researchers answer a series of survey questions. The survey team may make some small adjustments for factors such as extreme violence. The 14 civil liberties questions, available on-line at http://www.freedomhouse.org/research/freeworld/2001/methodology3.htm, are classified in four categories: Freedom of Expression and Belief, Association and Organizational Rights, Rule of Law and Human Rights, and Personal Autonomy and Economic Rights.

The **Polity Index of Democracy/Autocracy** is a scale from -10 to +10 measuring the degree to which a nation is either autocratic or democratic. A score of +10 indicates a strongly democratic state; a score of -10 a strongly autocratic state. A fully democratic government has three essential elements: fully competitive political participation, institutionalized constraints on executive power, and guarantee of civil liberties to all citizens in their daily lives and in political participation. A fully autocratic system sharply restricts or suppresses competitive political participation. The chief executives are chosen by an elite group and exercise power with few institutionalized constraints. Some countries are labeled "interruption," indicating an interruption in government due to foreign occupation; "interregnum," marking an interregnum period after the complete collapse of a centralized political authority; or, "in transition," indicating a transitional or provisional government in control as new institutions are planned. The Polity index does not measure impacts unless they affect the central governing structure. A complete explanation of the index is available in the Polity IV Project Dataset User's Manual, on-line at http://www.bsos.umd.edu/cidcm/inscr/polity/polreg.htm.

Percent of 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 (Senate) 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 March 1, 2002. The Interparliamentary Union compiles these data based on information provided by national parliaments.

The **Corruption Perceptions Index** (CPI) measures the degree to which corruption is perceived to exist among public officials and politicians. Ratings range in value from 10 (least corrupt) to 0 (most corrupt). The survey measures public sector corruption—the abuse of public office for private gain. In the CPI, data from 14 surveys are combined to measure the perceptions of local residents, expatriates, business people, academics, and risk analysts. Assessments from the past three years (1999–2001) are combined. A country is included in the CPI only if there are data available from three or more surveys. For further information, please consult: J.G. Lambsdorff. 2001. Background Paper to the 2001 Corruption Perceptions Index. Available on-line at http://www.transparency.org/cpi/2001/dnld/methodology.pdf.

Nongovernmental Organizations (NGOs) Per Million Population is the number of NGOs with offices or members in a particular country divided by the population. NGOs are identified by the Union of International Associations based on seven organizational aspects: aims, membership, structure, officers, finance, relations with other organizations, and activities. The following types of organizations are included in this data set: federations of international organizations; universal membership organizations; intercontinental membership organizations; regionally defined membership organizations; organizations emanating from places, persons, or other bodies; and organizations having a special form, including foundations and funds.

Press Freedom is an index, defined by Freedom House as "the degree to which each country permits the free flow of information" 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.

Freedom of Information (FOI) Legislation requires disclosure of government records to the public. There are now 48 countries with comprehensive general applicability FOI laws, plus a dozen or so countries with FOI-related constitutional provisions that can be used to access information. A country's guarantee of public access to information is classified in one of three categories:

In Effect: These countries legally guarantee public access to government records through constitutional provisions or FOI legislation.

Pending: Thirty additional countries are considering adopting freedom of information acts.

No Data: Marked by "..", these are countries where no FOI legislation exists or no data are available concerning FOIA status.

Data are collected by Privacy International on a country-by-country basis and were last updated in July, 2002.

Radios Per 1,000 Population is the number of radio receivers used for broadcast to the general public, divided by a country's population in thousands. Private sets installed in public places

are also included, as well as communal receivers. The World Bank obtains their data from statistical surveys conducted by the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

Internet Users Per 1,000 Population measures the number of people per thousand of a country's population who have used the internet at any point in time during a specific year. Data are supplied by annual questionnaires sent to telecommunication authorities and operating companies. These results are supplemented by annual reports and statistical yearbooks of telecommunication ministries, regulators, operators, and industry associations. In some cases, estimates are derived from International Telecommunications Union background documents or other references.

FREQUENCY OF UPDATE BY DATA PROVIDERS

All data sets are updated annually, with the exception of the parliamentary and Internet data. These data sets are updated every 2–4 months. Data on radio receivers have not been collected on a global scale since 1999 (survey year 1997), when UNESCO discontinued their Statistical Yearbook.

DATA RELIABILITY AND CAUTIONARY NOTES

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

Polity Index of Democracy/Autocracy. 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".

Percent of Parliamentary Seats Held by Women. Data change with each national election; for the most recent statistics, please consult the IPU website at **http://www.ipu.org/wmn-e/classif.htm**. Some governments and political parties have established formal or informal quotas for women in various legislative positions. For more information on gender quotas, please consult the International Institute for Democracy and Electoral Assistance (IDEA) on-line at **http://www.idea.int/gender/quotas.htm**.

Corruption Perceptions Index (CPI). CPI is based solely on perceptions instead of hard empirical data such as cross-country comparisons of prosecutions, or media coverage of corruption. Empirical data are not used because they may measure the extent of anti-corruption efforts instead of the extent of corruption. A spreadsheet with standard deviations, permutation test results, and a list of the surveys used for each country is available on-line at **http://www.gwdg.de/~uwvw/2001.htm**.

Nongovernmental Organizations Per Million Population. The compilation of such a massive data set inevitably leads to misreporting and underreporting of organizations. Many of the data are self-reported and not evaluated for accuracy by the Union of International Associations. Government-controlled NGOs, criticized for their ability to benefit government officials and subvert the original purpose of a non-governmental organization, may be included in some country totals. Regional totals may include double counting of NGOs present in more than one country. Comparisons between countries should be made with care, as actual estimates of the number of NGOs vary widely.

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. Still others guarantee access to government documents in specific sectors, but exclude access in other sectors. For a complete description of the FOI status for each country, please refer to the Freedom of Information web site maintained by Privacy International **http://www.privacyinternational.org/issues/foia**.

Radios Per 1,000 People. In some countries, definitions, classifications, and methods of enumeration do not entirely conform to UNESCO standards. In addition, many countries impose radio license fees to help pay for public broadcasting, discouraging radio owners from declaring ownership.

SOURCES

Level of Freedom and Civil Liberties: Freedom House. 2001. Freedom in the World 2001–2002: The Democracy Gap. New York: Freedom House. Data available on-line at **http://www.freedomhouse.org/research/survey2002.htm**. **Polity Index:** Polity IV Project. 2002. Polity IV Project: Political Regime Characteristics and Transitions. College Park: University of Maryland. Available on-line at **http://www.bsos.umd.edu/cidcm/inscr/polity/index.htm**. **Parliamentary Seats Held by Women:** Inter-Parliamentary Union (IPU). 2002. Women in National Parliament. Geneva: IPU. Available on-line at **http://www.ipu.org/wmn-e/classif.htm**. **Corruption Perceptions Index:** Transparency International. 2001. 2001 Corruption Perceptions Index. Berlin: Transparency International. Available on-line at **http://www.transparency.org/cpi/2001/cpi2001.html**. **NGOs Per Million Population:** Center for the Study of Global Governance. 2001. Global Civil Society 2001. Oxford: Oxford University Press. Available on-line at **http://www.lse.ac.uk/Depts/global/Yearbook/**. Data were collected from the Union of International Associations' Yearbook of International Organizations by the Center for the Study of Global Governance. **Press Freedom:** Freedom House. 2002. The Annual Survey of Press Freedom 2002. New York: Freedom House. Available on-line at **http://www.freedomhouse.org/pfs2002/pfs2002.pdf**. **Freedom of Information Legislation:** David Banisar. 2002. Freedom of Information and Access to Government Records Around the World. Washington, D.C.: Privacy International. Available on-line at **http://www.privacyinternational.org/issues/foia/foia-survey.html**. **Radios Per 1,000 People:** Development Data Group, World Bank. 2002. World Development Indicators 2002 Online. Washington, D.C.: The World Bank. Available at **http://www.worldbank.org/data/**. **Internet Users Per 1,000 People:** International Telecommunications Union (ITU). 2002. World Telecommunications Indicators 2002. Geneva: ITU. Available on-line at **http://www.itu.int/ITU-D/ict/publications/world/world.html**.

Data Table 2

Global Governance: Participation in Major Multilateral Agreements

Sources: Office of the United Nations High Commissioner for Human Rights, Convention on the International Trade in Endangered Species, United Nations Framework Convention on Climate Change, Convention on Biodiversity, United Nations Convention to Combat Desertification, Stockholm Convention on Persistent Organic Pollutants, United Nations Economic Commission for Europe, World Trade Organization, United Nations Commission on Sustainable Development, International Council for Local Environmental Initiatives.

	Year of Ratification of Major Multilateral Agreements (year in brackets = country is signatory to treaty; "n.p."= country is not a party to treaty)										Year of WTO {f} Membership (or status of membership)	Agenda 21 Process: National Reporting Status in 2002 (n.r.= non-reporting)	Agenda 21 Process: Number of Municipalities Involved in Local Agenda 21	
	Covenant on Civil and Political Rights	Covenant on Economic, Social, and Cultural Rights	CITES {a} (species trade)	UNFCCC {b} (climate change)	Kyoto Protocol (CO_2)	CBD {c} (biodiversity)	Bio-Safety Protocol	CCD {d} (desertification)	Stockholm Convention (POPs) {e}	Aarhus Convention			1996	2001
WORLD													**1812**	**6416**
ASIA (EXCL. MIDDLE EAST)													**87**	**461**
Armenia	1993	1993	n.p.	1993	n.p.	1993	n.p.	1997	[2001]	2001	observer	pending	..	..
Azerbaijan	1992	1992	1998	1995	2000	2000	n.p.	1998	n.p.	2000	observer	n.r.	..	..
Bangladesh	2000	1998	1981	1994	2001	1994	[2000]	1996	[2001]	n.p.	1995	submitted	..	2
Bhutan	n.p.	n.p.	2002	1995	2002	1995	2002	n.p.	n.p.	n.p.	observer	n.r.	..	..
Cambodia	1992	1992	1997	1995	2002	1995	n.p.	1997	[2001]	n.p.	observer	n.r.	..	..
China	[1998]	2001	1981	1993	2002	1993	[2000]	1997	[2001]	n.p.	2001	pending	14	25
Georgia	1994	1994	1996	1994	1999	1994	n.p.	1999	[2001]	2000	2000	pending	..	..
India	1979	1979	1976	1993	2002	1994	[2001]	1996	[2002]	n.p.	1995	pending	20	14
Indonesia	n.p.	n.p.	1978	1994	[1998]	1994	[2000]	1998	[2001]	n.p.	1995	submitted	6	8
Japan	1979	1979	1980	1993	2002	1993	n.p.	1998	2002	n.p.	1995	submitted	26	110
Kazakhstan	n.p.	n.p.	2000	1995	[1999]	1994	n.p.	1997	[2001]	2001	observer	submitted	..	..
Korea, Dem People's Rep	1981	1981	n.p.	1994	n.p.	1994	[2001]	n.p.	2002	n.p.	n.p.	n.r.	..	..
Korea, Rep	1990	1990	1993	1993	[1998]	1994	[2000]	1999	[2001]	n.p.	1995	submitted	9	172
Kyrgyzstan	1994	1994	n.p.	2000	n.p.	1996	n.p.	1997	[2002]	2001	1998	pending	..	..
Lao People's Dem Rep	[2000]	[2000]	n.p.	1995	n.p.	1996	n.p.	1996	[2002]	n.p.	observer	n.r.	..	..
Malaysia	n.p.	n.p.	1977	1994	2002	1994	[2000]	1997	[2002]	n.p.	1995	pending	..	9
Mongolia	1974	1974	1996	1993	1999	1993	n.p.	1996	[2002]	n.p.	1997	pending	..	22
Myanmar	n.p.	n.p.	1997	1994	n.p.	1994	[2001]	1997	n.p.	n.p.	1995	submitted	..	..
Nepal	1991	1991	1975	1994	n.p.	1993	[2001]	1996	[2002]	n.p.	observer	submitted	1	4
Pakistan	n.p.	n.p.	1976	1994	n.p.	1994	[2001]	1997	[2001]	n.p.	1995	submitted	..	1
Philippines	1986	1974	1981	1994	[1998]	1993	[2000]	2000	[2001]	n.p.	1995	submitted	3	28
Singapore	n.p.	n.p.	1986	1997	n.p.	1995	n.p.	1999	[2001]	n.p.	1995	submitted	..	1
Sri Lanka	1980	1980	1979	1993	2002	1994	[2000]	1998	[2001]	n.p.	1995	submitted	..	24
Tajikistan	1999	1999	n.p.	1998	n.p.	1997	n.p.	1997	[2002]	2001	observer	submitted	..	..
Thailand	1996	1999	1983	1994	2002	[1992]	n.p.	2001	[2002]	n.p.	1995	submitted	6	21
Turkmenistan	1997	1997	n.p.	1995	1999	1996	n.p.	1996	n.p.	1999	n.p.	n.r.	..	..
Uzbekistan	1995	1995	1997	1993	1999	1995	n.p.	1995	n.p.	n.p.	observer	submitted	..	..
Viet Nam	1982	1982	1994	1994	[1998]	1994	n.p.	1998	2002	n.p.	observer	pending	2	20
EUROPE													**1576**	**5291**
Albania	1991	1991	n.p.	1994	n.p.	1994	n.p.	2000	[2001]	2001	2000	pending	1	7
Austria	1978	1978	1982	1994	2002	1994	2002	1997	2002	[1998]	1995	submitted	2	64
Belarus	1973	1973	1995	2000	n.p.	1993	2002	2001	n.p.	2000	observer	pending	..	..
Belgium	1983	1983	1983	1996	2002	1996	[2000]	1997	[2001]	[1998]	1995	submitted	5	106
Bosnia and Herzegovina	1993	1992	2002	2000	n.p.	2002	n.p.	2002	[2001]	n.p.	observer	n.r.	..	1
Bulgaria	1970	1970	1991	1995	2002	1996	2000	2001	[2001]	[1998]	1996	submitted	..	22
Croatia	1992	1991	2000	1996	[1999]	1996	2002	2000	[2001]	[1998]	2000	submitted	1	20
Czech Rep	1993	1993	1993	1993	2001	1993	2001	2000	2002	[1998]	1995	submitted	..	42
Denmark	1972	1972	1977	1993	2002	1993	2002	1995	[2001]	2000	1995	pending	147	216
Estonia	1991	1991	1992	1994	[1998]	1994	[2000]	n.p.	n.p.	2001	1999	pending	1	29
Finland	1975	1975	1976	1994	2002	1994	[2000]	1995	2002	[1998]	1995	submitted	88	303
France	1980	1980	1978	1994	2002 g	1994	[2000]	1997	[2001]	2002	1995	submitted	15	69
Germany	1973	1973	1976	1993	2002	1993	[2000]	1996	2002	[1998]	1995	pending	30	2042
Greece	1997	1985	1992	1994	2002	1994	[2000]	1997	[2001]	[1998]	1995	submitted	13	39
Hungary	1974	1974	1985	1994	2002	1994	[2000]	1999	[2001]	2001	1995	submitted	12	9
Iceland	1979	1979	2000	1993	2002	1994	[2001]	1997	2002	[1998]	1995	submitted	..	37
Ireland	1989	1989	2002	1994	2002	1996	[2000]	1997	[2001]	[1998]	1995	..	22	29
Italy	1978	1978	1979	1994	2002	1994	[2000]	1997	[2001]	2001	1995	submitted	22	429
Latvia	1992	1992	1997	1995	2002	1995	n.p.	n.p.	[2001]	2002	1999	pending	1	5
Lithuania	1991	1991	2001	1995	[1998]	1996	[2000]	n.p.	[2002]	2002	2001	submitted	..	14
Macedonia, FYR	1994	1994	2000	1998	n.p.	1997	[2000]	2002	[2001]	1999	observer	pending	..	..
Moldova, Rep	1993	1993	2001	1995	n.p.	1995	[2001]	1999	[2001]	1999	2001	pending	..	..
Netherlands	1978	1978	1984	1993	2002	1994	2002	1995	2002	[1998]	1995	pending	143	100
Norway	1972	1972	1976	1993	2002	1993	2001	1996	2002	[1998]	1995	submitted	415	283
Poland	1977	1977	1989	1994	[1998]	1996	[2000]	2001	[2001]	2002	1995	submitted	3	70
Portugal	1978	1978	1980	1993	2002	1993	[2000]	1996	[2001]	[1998]	1995	pending	10	27
Romania	1974	1974	1994	1994	2001	1994	[2000]	1998	[2001]	2000	1995	submitted	2	12
Russian Federation	1973	1973	1992	1994	[1999]	1995	n.p.	n.p.	[2002]	n.p.	observer	submitted	5	29
Serbia and Montenegro	2001	2001	2002	2001	n.p.	2002	n.p.	n.p.	[2002]	n.p.	observer	pending	..	20
Slovakia	1993	1993	1993	1994	2002	1994	[2000]	2002	2002	n.p.	1995	submitted	3	30
Slovenia	1992	1992	2000	1995	2002	1996	[2000]	2001	[2001]	[1998]	1995	submitted	1	3
Spain	1977	1977	1986	1993	2002	1993	2002	1996	[2001]	[1998]	1995	submitted	29	359
Sweden	1971	1971	1974	1993	2002	1993	2002	1995	2002	[1998]	1995	submitted	307	289
Switzerland	1992	1992	1974	1993	[1998]	1994	2002	1996	[2001]	[1998]	1995	pending	2	83
Ukraine	1973	1973	1999	1997	[1999]	1995	n.p.	2002	[2001]	1999	observer	submitted	10	9
United Kingdom	1976	1976	1976	1993	2002	1994	[2000]	1996	[2001]	[1998]	1995	pending	285	425
MIDDLE EAST & N. AFRICA													**8**	**98**
Afghanistan	1983	1983	1985	2002	n.p.	2002	n.p.	1995	n.p.	n.p.	n.p.	n.r.	..	..
Algeria	1989	1989	1983	1993	n.p.	1995	[2000]	1996	[2001]	n.p.	observer	pending	..	3
Egypt	1982	1982	1978	1994	[1999]	1994	[2000]	1995	[2002]	n.p.	1995	submitted	1	7
Iran, Islamic Rep	1975	1975	1976	1996	n.p.	1996	[2001]	1997	[2001]	n.p.	n.p.	pending	..	2
Iraq	1971	1971	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	pending	..	..
Israel	1991	1991	1979	1996	[1998]	1995	n.p.	1996	[2001]	n.p.	1995	submitted	..	3
Jordan	1975	1975	1978	1993	n.p.	1993	[2000]	1996	[2002]	n.p.	2000	submitted	..	4
Kuwait	1996	1996	2002	1994	n.p.	2002	n.p.	1997	[2001]	n.p.	1995	n.r.	..	1
Lebanon	1972	1972	n.p.	1994	n.p.	1994	n.p.	1996	[2001]	n.p.	observer	pending	..	6
Libyan Arab Jamahiriya	1970	1970	n.p.	1999	n.p.	2001	n.p.	1996	n.p.	n.p.	n.p.	n.r.	..	2
Morocco	1979	1979	1975	1995	2002	1995	[2000]	1996	[2001]	n.p.	1995	submitted	3	5
Oman	n.p.	n.p.	n.p.	1995	n.p.	1995	n.p.	1996	[2002]	n.p.	2000	n.r.	..	1
Saudi Arabia	n.p.	n.p.	1996	1994	n.p.	2001	n.p.	1997	[2002]	n.p.	observer	submitted	..	4
Syrian Arab Rep	1969	1969	n.p.	1996	n.p.	1996	n.p.	1997	[2002]	n.p.	n.p.	submitted	..	2
Tunisia	1969	1969	1974	1993	n.p.	1993	[2001]	1995	[2001]	n.p.	1995	submitted	1	1
Turkey	[2000]	[2000]	1996	n.p.	n.p.	1997	[2000]	1998	[2001]	n.p.	1995	submitted	3	50
United Arab Emirates	n.p.	n.p.	1990	1995	n.p.	2000	n.p.	1998	2002	n.p.	1996	n.r.	..	2
Yemen	1987	1987	1997	1996	n.p.	1996	n.p.	1997	[2001]	n.p.	observer	n.r.	..	2

	Year of Ratification of Major Multilateral Agreements (year in brackets = country is signatory to treaty; "n.p."= country is not a party to treaty)										Year of WTO {f} Membership (or status of membership)	Agenda 21 Process		
	Covenant on Civil and Political Rights	Covenant on Economic, Social, and Cultural Rights	CITES {a} (species trade)	UNFCCC {b} (climate change)	Kyoto Protocol (CO_2)	CBD {c} (biodiversity)	Bio-Safety Protocol	CCD {d} (desertification)	Stockholm Convention (POPs) {e}	Aarhus Convention		National Reporting Status in 2002 (n.r.= non-reporting)	Number of Municipalities Involved in Local Agenda 21	
													1996	2001
SUB-SAHARAN AFRICA													**35**	**133**
Angola	1992	1992	n.p.	2000	n.p.	1998	n.p.	1997	n.p.	n.p.	1996	n.r.	..	..
Benin	1992	1992	1984	1994	2002	1994	[2000]	1996	[2001]	n.p.	1996	submitted	..	1
Botswana	2000	n.p.	1977	1994	n.p.	1995	2002	1996	n.p.	n.p.	1995	pending	..	..
Burkina Faso	1999	1999	1989	1993	n.p.	1993	[2000]	1996	[2001]	n.p.	1995	submitted	..	..
Burundi	1990	1990	1988	1997	2001	1997	n.p.	1997	[2002]	n.p.	1995	n.r.	..	2
Cameroon	1984	1984	1981	1994	2002	1994	[2001]	1997	[2001]	n.p.	1995	pending	..	1
Central African Rep	1981	1981	1980	1995	n.p.	1995	[2000]	1996	[2002]	n.p.	1995	n.r.	..	..
Chad	1995	1995	1989	1994	n.p.	1994	[2000]	1996	[2002]	n.p.	1996	n.r.	..	..
Congo	1983	1983	1983	1996	n.p.	1996	[2000]	1999	[2001]	n.p.	1997	n.r.	..	..
Congo, Dem Rep	1976	1976	1976	1995	n.p.	1994	n.p.	1997	n.p.	n.p.	1997	submitted	..	2
Côte d'Ivoire	1992	1992	1994	1994	n.p.	1994	n.p.	1997	[2001]	n.p.	1995	pending	..	..
Equatorial Guinea	1987	1987	1992	2000	2000	1994	n.p.	1997	n.p.	n.p.	n.p.	n.r.	..	..
Eritrea	2002	2001	1994	1995	n.p.	1996	n.p.	1996	n.p.	n.p.	n.p.	n.r.	..	..
Ethiopia	1993	1993	1989	1994	n.p.	1994	[2000]	1997	[2002]	n.p.	observer	n.r.	..	..
Gabon	1983	1983	1989	1998	n.p.	1997	n.p.	1996	[2002]	n.p.	1995	n.r.	..	1
Gambia	1979	1978	1977	1994	2001	1994	[2000]	1996	[2001]	n.p.	1996	submitted	..	..
Ghana	2000	2000	1975	1995	n.p.	1994	n.p.	1996	[2001]	n.p.	1995	submitted	1	3
Guinea	1978	1978	1981	1993	2000	1993	[2000]	1997	[2001]	n.p.	1995	n.r.	..	..
Guinea-Bissau	[2000]	1992	1990	1995	n.p.	1995	n.p.	1995	[2002]	n.p.	1995	pending	..	..
Kenya	1972	1972	1978	1994	n.p.	1994	2002	1997	[2001]	n.p.	1995	pending	4	11
Lesotho	1992	1992	[1974]	1995	2000	1995	2001	1995	2002	n.p.	1995	n.r.	..	..
Liberia	[1967]	[1967]	1981	[1992]	n.p.	2000	2002	1998	2002	n.p.	n.p.	n.r.	..	..
Madagascar	1971	1971	1975	1999	n.p.	1996	[2000]	1997	[2001]	n.p.	1995	submitted	..	5
Malawi	1993	1993	1982	1994	2001	1994	[2000]	1996	[2002]	n.p.	1995	submitted	6	4
Mali	1974	1974	1994	1994	2002	1995	2002	1995	[2001]	n.p.	1995	n.r.	..	2
Mauritania	n.p.	n.p.	1998	1994	n.p.	1996	n.p.	1996	[2001]	n.p.	1995	n.r.	..	1
Mozambique	1993	n.p.	1981	1995	n.p.	1995	2002	1997	[2001]	n.p.	1995	n.r.	2	2
Namibia	1994	1994	1990	1995	n.p.	1997	[2000]	1997	n.p.	n.p.	1995	submitted	..	5
Niger	1986	1986	1975	1995	[1998]	1995	[2000]	1996	[2001]	n.p.	1996	pending	..	..
Nigeria	1993	1993	1974	1994	n.p.	1994	[2000]	1997	[2001]	n.p.	1995	pending	1	5
Rwanda	1975	1975	1980	1998	n.p.	1996	[2000]	1998	2002	n.p.	1996	n.r.	..	1
Senegal	1978	1978	1977	1994	2001	1994	[2000]	1995	[2001]	n.p.	1995	submitted	1	3
Sierra Leone	1996	1996	1994	1995	n.p.	1994	n.p.	1997	n.p.	n.p.	1995	n.r.	..	..
Somalia	1990	1990	1985	n.p.	n.p.	n.p.	n.p.	2002	n.p.	n.p.	n.p.	n.r.	..	..
South Africa	1998	[1994]	1975	1997	2002	1995	n.p.	1997	2002	n.p.	1995	pending	10	20
Sudan	1976	1986	1982	1993	n.p.	1995	n.p.	1995	[2001]	n.p.	observer	n.r.	..	1
Tanzania, United Rep	1976	1976	1979	1996	2002	1996	n.p.	1997	[2001]	n.p.	1995	pending	3	13
Togo	1984	1984	1978	1995	n.p.	1995	[2000]	1995	[2001]	n.p.	1995	n.r.	..	2
Uganda	1995	1987	1991	1993	2002	1993	2001	1997	n.p.	n.p.	1995	submitted	2	5
Zambia	1984	1984	1980	1993	[1998]	1993	n.p.	1996	[2001]	n.p.	1995	n.r.	1	4
Zimbabwe	1991	1991	1981	1992	n.p.	1994	[2001]	1997	[2001]	n.p.	1995	pending	4	39
NORTH AMERICA													**26**	**101**
Canada	1976	1976	1975	1992	[1998]	1992	[2001]	1995	2001	n.p.	1995	pending	7	14
United States	1992	[1977]	1974	1992	[1998]	[1993]	n.p.	2000	[2001]	n.p.	1995	submitted	19	87
C. AMERICA & CARIBBEAN													**..**	**26**
Belize	1996	[2000]	1986	1994	n.p.	1993	n.p.	1998	[2002]	n.p.	1995	n.r.	..	..
Costa Rica	1968	1968	1975	1994	2002	1994	[2000]	1998	[2002]	n.p.	1995	pending	..	4
Cuba	n.p.	n.p.	1990	1994	2002	1994	2002	1997	[2001]	n.p.	1995	submitted	..	2
Dominican Rep	1978	1978	1986	1998	2002	1996	n.p.	1997	[2001]	n.p.	1995	pending	..	..
El Salvador	1979	1979	1987	1995	1998	1994	[2000]	1997	[2001]	n.p.	1995	submitted	..	..
Guatemala	1992	1988	1979	1995	1999	1995	n.p.	1998	[2002]	n.p.	1995	n.r.	..	..
Haiti	1991	n.p.	n.p.	1996	n.p.	1996	[2000]	1996	[2001]	n.p.	1996	submitted	..	..
Honduras	1997	1981	1985	1995	2000	1995	[2000]	1997	[2002]	n.p.	1995	submitted	..	6
Jamaica	1975	1975	1997	1995	1999	1995	[2001]	1997	[2001]	n.p.	1995	pending	..	5
Mexico	1981	1981	1991	1993	2000	1993	2002	1995	[2001]	n.p.	1995	submitted	..	2
Nicaragua	1980	1980	1977	1995	1999	1995	2002	1998	[2001]	n.p.	1995	submitted	..	5
Panama	1977	1977	1978	1995	1999	1995	2002	1996	[2001]	n.p.	1997	pending	..	..
Trinidad and Tobago	1978	1978	1984	1994	1999	1996	2000	2000	n.p.	n.p.	1995	n.r.	..	1
SOUTH AMERICA													**34**	**93**
Argentina	1986	1986	1981	1994	2001	1994	[2000]	1997	[2001]	n.p.	1995	submitted	..	1
Bolivia	1982	1982	1979	1994	1999	1994	2002	1996	[2001]	n.p.	1995	pending	13	1
Brazil	1992	1992	1975	1994	2002	1994	n.p.	1997	[2001]	n.p.	1995	submitted	8	36
Chile	1972	1972	1975	1994	2002	1994	[2000]	1997	[2001]	n.p.	1995	submitted	1	15
Colombia	1969	1969	1981	1995	2001	1994	[2000]	1999	[2001]	n.p.	1995	submitted	4	6
Ecuador	1969	1969	1975	1993	2000	1993	[2000]	1995	[2001]	n.p.	1996	submitted	3	13
Guyana	1977	1977	1977	1994	n.p.	1994	n.p.	1997	n.p.	n.p.	1995	pending	..	1
Paraguay	1992	1992	1976	1994	1999	1994	[2001]	1997	[2001]	n.p.	1995	submitted	..	..
Peru	1978	1978	1975	1993	[1998]	1993	[2000]	1995	[2001]	n.p.	1995	submitted	5	17
Suriname	1976	1976	1980	1996	n.p.	1996	n.p.	2000	[2002]	n.p.	1995	pending	..	..
Uruguay	1970	1970	1975	1994	2001	1993	[2001]	1999	[2001]	n.p.	1995	pending	..	..
Venezuela	1978	1978	1977	1994	n.p.	1994	2002	1998	[2001]	n.p.	1995	submitted	..	3
OCEANIA													**44**	**213**
Australia	1980	1975	1976	1992	[1998]	1993	n.p.	2000	[2001]	n.p.	1995	pending	40	176
Fiji	n.p.	n.p.	1997	1993	1998	1993	2001	1998	2001	n.p.	1996	submitted	..	..
New Zealand	1978	1978	1989	1993	[1998]	1993	[2000]	2000	[2001]	n.p.	1995	pending	3	37
Papua New Guinea	n.p.	n.p.	1975	1993	2002	1993	n.p.	2000	[2001]	n.p.	1996	n.r.	1	..
Solomon Islands	n.p.	1982	n.p.	1994	[1998]	1995	n.p.	1999	n.p.	n.p.	1996	n.r.	..	..
DEVELOPED													**1681**	**5738**
DEVELOPING													**131**	**678**

Data in brackets indicate that a treaty is not yet ratified and show the year in which a country has signed a treaty. Years without brackets show the year of ratification of a major multilateral agreement. This table shows the status of agreements as of September 2002. **a**. Convention on International Trade in Endangered Species. **b.** The United Nations Framework Convention on Climate Change. **c.** The United Nations Convention on Biological Diversity. **d.** The United Nations Convention to Combat Desertification. **e.** Persistent Organic Pollutants. **f**. The World Trade Organization. **g**. Excludes overseas territories.

TECHNICAL NOTES

The ten treaties described below are a small subset of the hundreds of multilateral agreements drafted in recent decades at the global level. The table indicates the year that a country has either signed or ratified a particular agreement. By signing a treaty, a state recognizes the authentic text, intends to complete the procedures for becoming legally bound by it, and is committed not to act against the treaty's objectives before ratification. Ratification (or its equivalents of acceptance, approval, or accession) binds the state to observe the treaty. Depending on a country's system of governance, signing the treaty may be simply an executive decision while ratification requires legislative approval. Treaties vary both in international levels of participation and the extent to which they are legally binding. To a large extent, compliance lies with the individual countries and depends on informed self-interest, peer pressure from other countries, and public opinion. Effectiveness of any international convention or treaty is determined not only by the number of country ratifications, but also by the rigor of its implementation, monitoring, and enforcement.

The International Covenant on Civil and Political Rights. This covenant details the basic civil and political rights of individuals and nations. The rights of nations include: the right to self determination, and the right to own, trade, and dispose of their property freely, and not be deprived of their means of subsistence. Among the rights of individuals are the right to life; the right to liberty and freedom of movement; the right to equality before the law; the right to presumption of innocence until proven guilty; the right to appeal a conviction; the right to privacy; freedom of thought, conscience, and religion; freedom of opinion and expression; and freedom of assembly and association. For more information, please see **http://www.hrweb.org/legal/undocs.html**.

The International Covenant on Economic, Social, and Cultural Rights. This covenant describes the basic economic, social, and cultural rights of individuals and nations, including the rights to self-determination; wages sufficient to support a minimum standard of living; equal pay for equal work; equal opportunity for advancement; form trade unions; strike; paid or otherwise compensated maternity leave; free primary education and accessible education at all levels; and copyright, patent, and trademark protection for intellectual property. In addition, this convention forbids exploitation of children, and requires all nations to cooperate to end world hunger. For more information, please see **http://www.hrweb.org/legal/undocs.html**.

CITES: The Convention on International Trade in Endangered Species of Wild Fauna and Flora, or CITES, is an international agreement between governments to ensure that the survival of wild animals and plants is not threatened by international trade. It has been in force for almost 30 years; today, it accords varying degrees of protection to more than 30,000 species of animals and plants, whether they are traded as live specimens, fur coats, or dried herbs. CITES is legally binding on countries that have joined the Convention and provides a framework to be respected by each Party, which has to adopt its own domestic legislation to make sure that CITES is implemented at the national level. More information is available at **http://www.cites.org**.

UNFCCC: The United Nations Framework Convention on Climate Change (UNFCCC) is the centerpiece of global efforts to combat global warming. Adopted in 1992 at the Rio Earth Summit, its ultimate objective is the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (human-made) interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner." For more information, please consult the UNFCCC Secretariat at **http://www.unfccc.int/resource/docs/convkp/conveng.pdf**.

Kyoto Protocol: The Kyoto Protocol was established in 1997 by the third session of the Conference of Parties (COP-3) to the UNFCCC. With ratification, developed countries commit themselves to reducing their collective emissions of six greenhouse gases. Emissions need to be at least 5 percent lower than 1990 levels by a deadline ranging from 2008 to 2012. Compared to emissions levels that would be expected by 2010 without emissions-control measures, the Protocol target represents a 30 percent cut. Both developed and developing countries agree to take measures to limit emissions and promote adaptation to future climate change impacts; submit information on their national climate change program and inventories; promote technology transfer; cooperate on scientific and public research; and promote public awareness, education, and training. The rules for entry into force of the Kyoto Protocol require 55 Parties to the Convention to ratify the Protocol, including Annex I Parties accounting for 55 percent of that group's carbon dioxide emissions in 1990. As of September 2002, 94 countries had ratified the Protocol, but only 37 percent of Annex I (industrialized country) emissions were represented. More information is available in A Guide to the Climate Change Convention Process, on-line at **http://www.unfccc.int/resource/process/guideprocess-p.pdf**.

CBD: The United Nations Convention on Biological Diversity is one of the key agreements adopted at the 1992 Earth Summit in Rio de Janeiro. The Convention establishes three main goals: the conservation of biodiversity, sustainable use of the components of biodiversity, and sharing the benefits arising from the commercial and other utilization of genetic resources in a fair and equitable way. The convention is legally binding; countries that join it are obliged to implement its provisions, such as reporting on what has been done to implement the accord and the effectiveness of these activities. The national reports, particularly when seen together, are one of the key tools for tracking progress in meeting the Convention's objectives. More information is available on-line at **http://www.biodiv.org/doc/publications/guide.asp**.

Biosafety Protocol: Adopted in January 2000 as a subsidiary agreement to the CBD, the Cartagena Protocol on Biosafety allows governments to signal whether or not they are willing to accept imports of agricultural commodities that include Living Modified Organisms (LMOs). Living Modified Organisms—often known as genetically modified organisms (GMOs)—are becoming part of an increasing number of products, including foods and food additives, beverages, drugs, adhesives, and fuels. In addition, the treaty deals with access to and sharing of the benefits from commercial use of genetic material, such as pharmaceutical products. More information is available on-line at **http://www.biodiv.org/doc/publications/guide.asp**.

CCD: The United Nations Convention to Combat Desertification is an international Convention dedicated to addressing the problems of land degradation in the world's drylands, caused primarily by human activities and climatic variations. Since the Convention entered into force in 1996, countries affected by desertification are implementing the Convention by developing and carrying out national, sub-regional, and regional action programs. The Convention states that these programs must adopt a democratic, bottom-up approach designed to allow local people to help themselves reverse land degradation. More information is available at **http://www.unccd.int/main.php**.

Stockholm Convention: The Stockholm Convention on Persistent Organic Pollutants (POPs) is a global treaty to protect human health and the environment from POPs, which remain intact in the environment for long periods of time, become widely distributed geographically, accumulate in the fatty tissue of living organisms, and are toxic to humans and wildlife. The Convention was adopted in May 2001. Upon signature of the Convention, the first step toward implementation is the development of national action plans to eliminate or reduce the release of POPs into the environment. For more information, please consult the Stockholm Convention website at http://www.pops.int.

Year of World Trade Organization Membership indicates the year in which a country joined the World Trade Organization (WTO). The WTO began in 1995, expanding on the international trade rules set forth by its predecessor, the General Agreement on Tariffs and Trade (GATT). The WTO's purpose is to help trade flow as freely as possible without any undesirable side effects and to ensure that trade rules and tariffs are transparent and equitable among nations. It also serves as a forum for trade negotiations and dispute settlements. In theory, any state or customs territory having full autonomy in the conduct of its trade policies may join the WTO, after lengthy negotiations concerning market access, tariff rates, and other policies in goods and services. Governments marked as "observers" are expected to start accession negotiations within five years of becoming observers.

Aarhus Convention: The UN Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, or Aarhus Convention, was first adopted in June 1998. The Convention is open to the 55 members of the UNECE as well as to non-member states. According to UN Secretary-General Kofi Annan, "Although regional in scope...the Aarhus Convention is global. It is by far the most impressive elaboration of principle 10 of the Rio Declaration, which stresses the need for citizen's participation in environmental issues and for access to information on the environment held by public authorities..." The Convention will include regular reporting requirements and biennial meetings among member states. More information is available on-line at http://www.unece.org/env/pp.

Agenda 21, created as a result of the 1992 Earth Summit, is a comprehensive plan of action to be taken globally, nationally, and locally by organizations of the United Nations system, governments, and major groups in every area with human impacts on the environment.

National Agenda 21 Reporting Status indicates if a country has submitted a report on the status of its implementation of Agenda 21 in relation to the specific themes. Countries with reports "pending" submission are participants in the Agenda 21 process that have not yet submitted reports in 2002. "Non-reporting" countries are not participating in the Agenda 21 process. Country reports focus on social, economic, and environmental issues, including: combating poverty; energy; health; transport; agriculture; atmosphere; biodiversity; forests; freshwater; hazardous, solid, and radioactive wastes; land management; oceans; and toxic chemicals.

Local Agenda 21 Municipalities: The number of municipalities involved in the Local Agenda 21 (LA21) process denotes the number of government authorities that have made a formal commitment to LA21 or are actively undertaking the process.

As part of the Agenda 21 process, local governments are called to create their own agenda outlining local priorities. The following criteria were used to identify local authorities undertaking the LA21 process: The International Council for Local Environmental Initiatives (ICLEI) conducted two separate surveys of global LA21 participation—in 1996 and in 2001. While the data can provide a rough approximation of the number of municipalities involved in LA21s, it does not indicate either (1) the extent of a municipality's involvement or (2) the size of the municipality. Many of the local participants were "self-reported" adherents to LA21 practices, introducing some degree of reporting bias. The survey did not have a clearly defined sample size, so rigorous statistical analysis of the results is not possible.

SOURCES

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Financial Flows, Government Expenditures, and Corporations

Sources: The World Bank, Stockholm International Peace Research Institute, United Nations Conference on Trade and Development, International Standards Organization.

	Foreign Direct Investment, Net Inflows (million current $US) {a}		Exports as a Percent of GDP	Balance of Trade (million current $US)	External Debt as a Percent of GNI	Government Expenditure as a Percent of GDP			Off'l. Development Assistance (ODA) Receipts 1998-2000 {a}		Number of Transnational Corporations 1994-2000 {b}		Corporations With ISO 14000 Certification (number)
	1988-1990 {a}	1998-2000 {a}	1998-2000 {a}	1998-2000 {a}	1998-2000 {a}	Military 2000	Public Health 1998	Education 1998	Million Current $US	as a % of GNI	Parent Corporations	Foreign Affiliates	2000
WORLD	**180,445**	**918,158**	**23**	**..**	**..**	**..**	**5.4**	**4.5**	**59,073**	**..**	**63,312**	**821,818**	**22,897**
ASIA (EXCL. MIDDLE EAST)	**13,703**	**76,746**	**22 c**	**184,697 c**	**..**	**1.5**	**4.6**	**3.5**	**..**	**..**	**9,434**	**452,675**	**7,723**
Armenia	..	161	21	(567)	46	4.4	3.1	2.0	189	10.0	..	1,604	..
Azerbaijan	..	554	31	(639)	22	2.7	0.9	3.4	136	3.0	..	2	..
Bangladesh	2	217	14	(2,389)	35	1.3	1.7	..	1,217	2.7	..	161	..
Bhutan	0	0	31	(101)	42	..	3.2	..	59	13.1	..	2	..
Cambodia	0	130	37	(283)	75	2.4	0.6	5.5	338	11.3	..	598	..
China	3,358	40,301	23	33,802	16	2.1	2.0	..	2,189	0.2	379	364,345	510
Georgia	..	159	28	(508)	48	0.9 d	0.9	..	195	6.2	..	190	..
India	168	2,373	12	(12,250)	23	2.4	..	..	1,529	0.4	187	1,416	257
Indonesia {e}	784	(2,550)	42	10,885	118	1.1	0.8	1.4 f	1,747	1.4	313	2,241	77
Japan	86	7,935	10 c	70,716 c	..	1.0	5.7	3.5 f	..	..	217	1,106	5,556
Kazakhstan	..	1,329	44	499	32	0.7	3.5	..	195	1.1	..	1,865	..
Korea, Dem People's Rep	..	..	..	..	..	..	..	..	128	..	..	..	26
Korea, Rep	973	8,010	46	27,751	33	2.8	2.4	4.1	(101)	(0.0)	7,460	6,486	544
Kyrgyzstan	..	50	41	(231)	110	1.9	2.9	5.4	241	18.7	..	4,004	..
Lao People's Dem Rep	4	66	36 g	(145) g	162	..	1.2	2.4 f	286	20.1	..	669	..
Malaysia	1,573	1,792	121	18,212	53	1.9	1.4	..	133	0.2	..	15,567	174
Mongolia	..	27	61	(137)	87	2.5	..	..	215	22.9	..	1,400	..
Myanmar	56	274	0 c	..	..	1.7	0.2	.. f	87	..	..	299	..
Nepal	3	7	23	(446)	54	0.9 d	1.3	2.5	383	7.3	..	224	..
Pakistan	213	449	16	(2,624)	54	4.5	1.0	.. f	830	1.4	59	644	4
Philippines	676	1,630	53	127	64	1.2	1.5	3.2 f	635	0.8	..	14,802	46
Singapore	4,039	6,634	168	16,517	..	4.8	1.2	..	1	0.0	..	24,114	100
Sri Lanka	36	181	37	(1,309)	59	4.5 d	1.4	..	349	2.2	..	305	2
Tajikistan	..	25	63	(61)	110	1.2	5.2	..	124	11.8	..	..	..
Thailand	1,775	5,631	61	14,347	76	1.6	1.9	4.7	785	0.7	..	2,721	310
Turkmenistan	..	130 g	45	(414)	..	3.8	4.1	..	26	0.8	..	..	..
Uzbekistan	..	120	37	111	41	..	3.4	..	167	1.9	..	4	..
Viet Nam	9	1,460	..	..	69	..	0.8	..	1,435	4.9	..	1,544	9
EUROPE	**80,031**	**445,655**	**34**	**121,923**	**..**	**2.0**	**6.5**	**5.2**	**..**	**..**	**38,595**	**299,691**	**10,926**
Albania	..	76	15	(782)	22	1.2	3.5	..	356	9.9	..	2,422	..
Austria	559	5,578	44 c	(1,145) c	..	0.8	5.8	6.3	..	..	896	2,464	203
Belarus	..	246	62	(788)	4	1.3	4.6	5.6	39	0.1	..	393	..
Belgium	2,804	13,188	80	9,055	..	1.4	6.1	..	..	..	..	..	130
Bosnia and Herzegovina	..	0 h	28	(1,486)	..	4.2	7.9	..	906	19.5	..	7	..
Bulgaria	1	782	50	(663)	88	3.0	3.5	3.4	274	2.3	26	918	..
Croatia	..	1,112	42	(1,600)	55	3.0	..	..	51	0.3	70	353	8
Czech Rep	155	4,865	64	(1,163)	43	2.0	6.5	4.2	404	0.8	660	71,385	116
Denmark	908	17,660	38	6,855	..	1.5	6.8	8.2	..	..	9,356	2,305	580
Estonia	..	424	80	(359)	57	1.6	..	6.8	79	1.6	..	3,066	18
Finland	611	8,601	40	11,419	..	1.3	5.3	..	..	..	1,200	2,006	508
France {i}	10,659	39,772	27	30,604	..	2.6	7.3	5.9	..	..	1,695	9,494	710
Germany	3,567	89,422	31	20,138	..	1.5	7.8	4.7	..	..	8,492	12,042	1,260
Greece	888	825 h	20 c	(10,736) c	..	4.9	4.7	..	..	..	..	798 j	42
Hungary	0	1,902	55	(1,353)	63	1.5	5.2	4.6	247	0.5	..	28,772	164
Iceland	(7)	120	35 c	(380) c	..	..	7.0	7.1	..	..	78	47	2
Ireland	268	17,476	87 c	11,328 c	..	0.7	5.2	4.5	..	..	39	1,140	163
Italy	5,126	7,584	27	25,758	..	2.1	5.5	4.7 f	..	..	806	1,769	521
Latvia	..	371	47	(706)	47	1.0 d	4.1	6.8	96	1.5	..	107	4
Lithuania	..	597	44	(1,033)	44	1.8	4.9	6.4	122	1.2	16	1,893	10
Macedonia, FYR	..	108	43	(503)	39	2.1	5.3	..	207	5.8	..	..	..
Moldova, Rep {k}	..	82	50	(317)	73	0.4	4.3	..	90	6.7	..	..	..
Netherlands	8,005	44,494	61 c	20,264 c	..	1.6	6.0	4.9	..	..	1,608	2,259 l	784
Norway	934	6,046	41	12,285	..	1.8	7.1	7.7	..	..	900	3,100	227
Poland	38	7,659	27	(9,692)	38	1.9	4.2	5.4	1,153	0.7	58	35,840	66
Portugal	1,756	3,464	31	(11,718)	..	2.1	5.1	5.7 f	..	..	1,100	3,500	47
Romania	0	1,366	29	(2,348)	28	2.1	3.1	4.4	395	1.1	20	71,318	5
Russian Federation	0	2,929	40	32,498	63 m	3.6	..	..	1,529	0.7	..	7,793	3
Serbia and Montenegro	33	0	32 n	(1,589) n	..	5.9 d	..	4.2	628	6.9	..	..	2
Slovakia	0	990	65	(1,289)	47	1.8 d	5.7	4.3	196	1.0	..	5,560	36
Slovenia	..	202	56	(610)	..	1.2	6.7	5.8	45	0.2	..	1,195	88
Spain	9,811	21,156	28	(6,819)	..	1.3 d	5.4	4.5	..	..	857	7,465	600
Sweden	1,823	33,641	45	13,779	..	2.1	6.6	8.0	..	..	5,118	4,324	1,370
Switzerland	2,804	13,188	41 c	11,833 c	..	1.1	7.6	5.5	..	..	4,506	5,774	690
Ukraine	..	611	52	726	34	3.6	3.6	4.5	525	1.6	..	7,362	..
United Kingdom	29,240	98,820	27	(21,434)	..	2.5 o	5.7	4.7	..	..	1,094	2,683	2,534
MIDDLE EAST & N. AFRICA	**..**	**..**	**31**	**(876)**	**..**	**6.0**	**..**	**..**	**5,731**	**0.7**	**4,925**	**7,898**	**340**
Afghanistan	..	..	..	..	..	..	..	..	146	..	..	3	4
Algeria	8	7	31	3,932	60	3.5 d	2.6	6.0	215	0.5	..	6	..
Egypt	1,058	1,125	16	(7,509)	36	2.3	..	..	1,622	1.8	..	99	78
Iran, Islamic Rep	(107)	33	24	5,794	10	3.8 p	1.7	4.6	152	0.1	..	16	12
Iraq	..	..	..	..	..	..	3.8	..	98	..	..	..	..
Israel	182	3,014	36	(8,649)	..	8.0	6.0	7.7	924	0.9	4,334	3,321	60
Jordan {q}	20	342	44	(1,728)	109	9.5	3.6	.. f	465	5.8	..	8	16
Kuwait	..	49	49	3,305	..	8.2	..	6.5 f	5	0.0	..	6	..
Lebanon	3	249	12	(4,524)	51	3.6	2.2	2.1	210	1.2	..	24	5
Libyan Arab Jamahiriya	..	..	..	..	..	..	..	.. f	10	..	..	..	..
Morocco	139	8	30	(1,613)	56	4.2	1.2	..	543	1.6	..	156	4
Oman	115	48	..	..	..	9.7	2.9	3.9 f	43	..	92	351	2
Saudi Arabia	..	..	42	22,224	..	11.6	..	..	28	0.0	..	1,461 r	6
Syrian Arab Rep	89	94	34	202	151	5.5	0.9	..	181	1.2	..	5	3
Tunisia	72	584	43	(607)	57	1.7	2.2	7.6	208	1.1	142	2,086	3
Turkey	567	902	24	(9,356)	54	4.9	3.5	..	118	0.1	357	136	91
United Arab Emirates	..	..	..	..	..	2.6 d	0.8	2.0	4	..	..	59	48
Yemen	(44)	(205)	38	(212)	84	5.2	2.0	6.7	345	5.3	..	4	..

	Foreign Direct Investment, Net Inflows (million current $US) {a}		Exports as a Percent of GDP	Balance of Trade (million current $US)	External Debt as a Percent of GNI	Government Expenditure as a Percent of GDP			Off'l. Development Assistance (ODA) Receipts 1998-2000 {a}		Number of Transnational Corporations 1994-2000 {b}		Corporations With ISO 14000 Certification (number)
	1988-1990 {a}	1998-2000 {a}	1998-2000 {a}	1998-2000 {a}	1998-2000 {a}	Military 2000	Public Health 1998	Education 1998	Million Current $US	as a % of GNI	Parent Corporations	Foreign Affiliates	2000
SUB-SAHARAN AFRICA	**..**	**6,903**	**30**	**(7,167)**	**70**	**2.1**	**2.5**	**5.2**	**12,413**	**4.1**	**966**	**4,413**	**143**
Angola	(1)	1,761	78	(90)	306	21.2 s	..	2.6	343	10.3	..	21	..
Benin	1	36	17	(280)	72	..	1.6	2.6	220	9.9	..	5	..
Botswana	59	54	31 c	(110) c	9	3.7	2.5	9.1	66	1.4	..	8	..
Burkina Faso	0	11	12	(431)	57	1.6	1.3	3.0	378	16.0	..	8	..
Burundi	1	5	9	(90)	137	5.4	0.6	3.9	81	11.0	..	3	..
Cameroon	(44)	40	27	149	109	1.3	1.1	2.6	413	4.9	..	47	..
Central African Rep	(1)	8	14	(50)	86	..	2.0	1.9	104	10.3	..	4	..
Chad	7	15	17	(225)	70	..	2.3	1.7	162	10.5	..	3	..
Congo	3	8	72	455	303	..	2.0	4.7	80	4.7	..	20	..
Congo, Dem Rep	(7)	1	..	..	..	..	..	..	147	2.5	..	4	..
Côte d'Ivoire	39	270	44	689	131	..	1.2	4.2	533	5.3	..	91	..
Equatorial Guinea	4	88	97	84	67	..	..	1.8	22	4.9	..	1	..
Eritrea	..	34	14	(483)	32	..	..	5.0	164	21.8	..	..	..
Ethiopia	5	134	15	(851)	111	..	1.7	4.3	665	10.4	..	21	..
Gabon	59	47	43	160	99	..	2.1	3.3	35	0.9	..	33	..
Gambia	5	14	48	(61)	109	1.1	1.9	4.9	40	9.7	..	5	..
Ghana	12	76	38	(1,122)	98	1.0	1.8	4.0	640	9.9	..	54	..
Guinea	15	48	23	(154)	99	1.5	2.3	1.8	250	7.6	..	..	..
Guinea-Bissau	1	1	24	(47)	475	..	..	0.0	76	38.2	..	1	..
Kenya	40	45	26	(815)	63	1.8	2.4	6.6	433	4.1	..	96	2
Lesotho	17	182	26	(634)	61	..	..	13.0	46	4.0	..	411	..
Liberia	0	13	..	..	..	..	..	..	78	..	..	..	..
Madagascar	13	53	24	(328)	122	1.2 p	1.1	1.9 f	392	10.6	..	17	..
Malawi	0	58	29	(203)	136	0.8	2.8	4.6	442	25.9	..	1	..
Mali	3	37	25	(297)	121	2.5	2.1	3.0	354	14.5	3	33	..
Mauritania	4	2	40	(128)	245	..	1.4	4.3	201	21.6	..	2	..
Mozambique	6	245	12	(847)	204	2.5	2.8	2.9	907	24.8	..	12	..
Namibia	..	..	47 c	(328) c	..	3.3	3.7	8.1	170	4.9	..	2	4
Niger	(1)	8	16	(149)	83	..	1.2	2.7 f	230	11.7	..	5	..
Nigeria	949	1,046	41	569	99	0.9	0.8	.. f	180	0.6	..	48	1
Rwanda	15	8	6	(321)	64	3.0 d	..	..	348	18.3	..	2	..
Senegal	24	112	31	(340)	78	1.4 d	2.6	3.5	487	10.8	..	27	..
Sierra Leone	10	2	15	(64)	186	1.4	0.9	1.0	121	18.9	..	1	..
Somalia	(26)	0	..	..	..	..	..	..	100	..	..	..	..
South Africa	..	1,005	27	2,951	18	1.5	3.3	6.1	514	0.4	941	2,044	126
Sudan	1	378	10	(668)	175	3.0	..	3.7	226	2.5	..	3	..
Tanzania, United Rep {t}	3	183	14	(1,001)	93	..	1.3	2.1	1,012	11.7	..	27	..
Togo	7	34	34	(184)	108	..	1.3	4.5	90	6.7	..	5	..
Uganda	1	217	11	(784)	54	1.8	1.9	1.6	686	10.7	..	22	..
Zambia	153	187	27	(477)	197	0.6 d	3.6	2.3	589	20.4	2	1,179	2
Zimbabwe	(13)	194	41	(53)	70	4.8	..	10.8	234	4.0	8	36	4
NORTH AMERICA	**64,718**	**292,463**	**13 c**	**(189,082) c**	**..**	**3.0**	**5.8**	**5.1**	**..**	**..**	**5,109**	**23,812**	**1,517**
Canada	6,559	36,830	43 c	13,418 c	..	1.2 o	6.5	5.6	..	..	1,722	4,562	475
United States	58,159	255,633	11 c	(202,500) c	..	3.1 o	5.8	5.0	..	..	3,387	19,103	1,042
C. AMERICA & CARIBBEAN	**3,563**	**17,503**	**32**	**(17,414)**	**39**	**0.5**	**2.7**	**..**	**2,165**	**0.4**	**..**	**10,245**	**194**
Belize	17	28	50	(86)	57	..	2.3	..	25	3.7	..	4	..
Costa Rica	129	564	49	294	31	..	5.2	6.1	11	0.1	..	111	20
Cuba	..	..	16	..	..	..	..	..	61	..	..	..	..
Dominican Rep	116	997	30	(1,528)	29	..	1.9	..	126	0.8	..	92	1
El Salvador	11	507	26	(1,645)	32	0.7	2.6	..	182	1.5	..	225 u	..
Guatemala	151	353	19	(1,533)	25	0.8	2.1	2.0	263	1.4	..	287 r	2
Haiti	9	18	12	(636)	30	..	1.4	..	293	7.4	..	6	..
Honduras	48	206	44	(632)	108	..	3.9	4.0	529	9.9	..	30	2
Jamaica	61	450	43	(765)	64	..	3.1	6.3	2	0.0	..	177	..
Mexico	2,755	12,171	31	(9,001)	37	0.5	2.6	..	9	0.0	..	8,420 l	159
Nicaragua	0	246	37	(1,052)	358	1.1	8.5	4.2 f	606	31.0	..	21	..
Panama	39	850	33	(736)	77	..	4.9	..	18	0.2	..	279	..
Trinidad and Tobago	107	671	55	339	39	..	2.5	..	13	0.2	..	65	1
SOUTH AMERICA	**4,612**	**61,310**	**13**	**(14,862)**	**42**	**1.5**	**2.8**	**..**	**2,124**	**0.2**	**2,019**	**16,345**	**521**
Argentina	1,337	14,314	10	(4,689)	51	1.3 s	2.2	..	87	0.0	..	635	114
Bolivia	(3)	902	18	(846)	70	1.5	4.1	..	558	6.9	..	257	1
Brazil	1,742	31,089	10	(11,341)	36	1.3	2.9	4.6	281	0.0	1,225	8,050	330
Chile	673	5,845	29	(349)	48	3.3	2.7	3.7	75	0.1	478	3,173	11
Colombia	426	2,224	19	(1,558)	38	2.3	5.2	..	219	0.3	302	2,220	21
Ecuador	95	738	35	798	89	..	1.7	..	158	1.0	..	121	1
Guyana	0	54	97	(82)	228	..	4.5	..	94	14.4	4	59	..
Paraguay	32	170	24	(1,218)	36	1.0	1.7	4.5	79	1.0	..	109	1
Peru	42	1,658	15	(1,749)	54	..	2.4	3.2	453	0.9	10	1,183	13
Suriname	..	..	18	8	..	..	..	..	43	4.8	..	9	..
Uruguay	16	232	19	(233)	38	1.1	1.9	2.6	22	0.1	..	123	22
Venezuela	251	4,083	24	6,398	42	1.2	2.6	..	54	0.1	..	406	7
OCEANIA	**9,511**	**9,932**	**21 c**	**(11,000) c**	**..**	**1.6**	**6.0**	**5.1**	**..**	**..**	**610**	**3,209**	**1,112**
Australia	7,582	7,758	19 c	(9,486) c	..	1.7	6.0	4.8	..	..	610	2,539	1,049
Fiji	44	25	68	66	10	..	2.9	..	34	2.2	..	151	..
New Zealand	1,693	1,937	31 c	(52) c	..	1.0	6.3	7.2 f	..	..	..	81	63
Papua New Guinea	171	179	48 c	143 c	69	0.8	2.5	..	284	7.9	..	345	..
Solomon Islands	8	10	..	..	50	..	..	..	50	16.5	..	56	..
DEVELOPED	**154,292**	**762,210**	**21 c**	**2,829 c**	**..**	**2.1**	**6.1**	**4.8**	**..**	**..**	**49,806**	**340,116**	**19,297**
DEVELOPING	**25,534**	**154,670**	**34**	**74,191**	**37**	**2.4**	**2.3**	**..**	**34,450**	**0.6**	**11,852**	**478,172**	**3,179**

a. Data are averaged over a range of three years. **b**. Data are from a single year within the indicated range of years. **c**. Data are from 1998 and 1999 only. **d**. Military expenditures are underreported for these countries. **e**. Economic data for Indonesia include East Timor. **f**. Partial estimate of education expenditure. **g**. Data are from 1998 only. **h**. Data are from 1999 and 2000 only. **i**. National accounts data exclude overseas territories. **j**. Data are from 1991. **k**. National accounts data exclude Transnistria. **l**. Data are from 1993. **m**. Debt of the former Soviet Union is included as a liabiliy of the Russian Federation. **n**. Data are from 2000 only. **o**. Figures are for the fiscal year rather than the calendar year. **p**. Military expenditures are overreported for these countries. **q**. Economic data for Jordan refer to the East Bank only. **r**. Data are from 1985. **s**. Military expenditure data are highly uncertain. **t**. Economic data cover mainland Tanzania only. **u**. Data are from 1990.

VARIABLE DEFINITIONS AND METHODOLOGY

Foreign Direct Investment (FDI) is the net inflow of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum in million current U.S. dollars of equity capital, reinvestment of earnings, other long-term capital, and short-term capital, as shown in the balance of payments. FDI can show foreign perceptions of investment opportunities in a given country. Data are based on balance of payments information reported by the International Monetary Fund (IMF), supplemented by data from the OECD and official national sources.

Exports of Goods and Services as a Percent of GDP represents the value of all goods and other market services provided to the rest of the world as a proportion of Gross Domestic Product (GDP). Exports include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude labor and property income (formerly called factor services) as well as transfer payments. These data show, among other things, the level to which a country's economy is susceptible to world price fluctuations.

Balance of Trade is the net exports (exports minus imports) in million current U.S. dollars of goods and services for a particular country. It includes all transactions between residents of a country and the rest of the world involving a change in ownership of goods and services. If a country's exports exceed its imports, it has a trade surplus—a "positive" trade balance. If imports exceed exports, the country has a trade deficit—a "negative" trade balance. A change in the trade balance may indicate a change in a country's economic health or in the relative cost of domestic products when compared with international prices. Data are based on International Monetary Fund (IMF) databases, supplemented with estimates by World Bank staff. More information can be found in the IMF's Balance of Payments Manual 1993 (available on-line at **http://www.imf.org/external/np/sta/bop/BOPman.pdf**). Sources include customs data, monetary accounts of the banking system, external debt records, information provided by enterprises, surveys to estimate services transactions, and foreign exchange records.

External Debt as a Percent of GNI is the total debt owed to nonresidents repayable in foreign currency, goods, or services as a percentage of gross national income (GNI). It is the sum of public, publicly guaranteed, and private nonguaranteed long-term debt, use of International Monetary Fund (IMF) credit, and short-term debt. GNI is the sum of value added by all resident producers plus any product taxes not included in the valuation of output plus net receipts of primary income from abroad. Data are gathered by the World Bank using loan-by-loan reports on long-term public and publicly guaranteed borrowing, along with information on short-term debt collected by the countries, or from creditors through the reporting systems of the Bank for International Settlements and the OECD. These data are supplemented by information on loans and credits from major multilateral banks, loan statements from official lending agencies in major creditor countries, and estimates from World Bank and IMF staff.

Military Expenditure as a percent of GDP 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; (c) paramilitary forces associated with military operations; and (d) military space activities" as a proportion of gross domestic product. Expenditures include the cost of procurements, personnel, research & 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 primary sources, secondary sources quoting primary data, and other sources, including specialist journals and newspapers. When a country's definition of military expenditure differs from SIPRI's, estimates are made based on analysis of official government budget statistics.

Public Health Expenditure as a percent of GDP is the proportion of the gross domestic product (GDP) used for recurrent and capital spending from government budgets and social health insurance funds. Health expenditures include preventative and curative health services, family planning activities, nutrition activities, and emergency aid designated for health. Provision of water and sanitation are not included. Health expenditure estimates are those provided to the World Bank from the World Health Organization's World Health Report in 2000 and 2001. These data are supplemented with information from The European Observatory on Health Care Systems, OECD, and World Bank country and sector studies.

Public Education Expenditure as a percent of GDP is the proportion of gross domestic product (GDP) used for public spending on public education plus subsidies to private education at the primary, secondary, and tertiary levels. Foreign aid for education is excluded; spending for religious schools, which constitutes a sizable portion of educational spending in some developing countries, may also be excluded. According to the World Bank, education expenditure as a share of GDP reflects a country's "effort in education." Education expenditure estimates are provided to the World Bank by the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics. UNESCO compiles their data from annual financial reports of central governments and state, provincial, or regional administrations.

Official Development Assistance (ODA) records 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. Data are reported in million current US dollars. Grants by official agencies of the members of the Development Assistance Committee (DAC) 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 Cooperation Report. **Official Development Assistance as a percent of GNI** is calculated as a proportion of gross national income (GNI, formerly GNP), and can be used to measure the level of importance of foreign aid to a country's economy.

A **Parent Corporation** is the portion of a transnational corporation (TNC) that controls assets of other entities outside of its home country. Typically, "control" is defined as an ownership of more than 10 percent of a corporation's equities or its equivalent for an unincorporated enterprise. A TNC is defined by the United Nations Conference on Trade and Development (UNCTAD) as an "incorporated or unincorporated enterprise composed of parent enterprises and their foreign affiliates." **Foreign Affiliates** are corporations in which an investor residing in another country has a lasting interest in the management of the enterprise, typically owning more than 10 percent of a corporation's equities or its equivalent for an unincorporated enterprise. UNCTAD requests data from national governments and publishes data precisely as reported.

Corporations with ISO 14000 Certification is defined as the number of companies in each country that have received ISO 14000 certification by December of any given year. National standards institutes from individual countries have created the ISO 14000, which provides voluntary environmental management systems standards. Companies adhering to the ISO 14000 implement environmental management systems, conduct environmental audits, and evaluate their environmental performance. Their products adhere to environmental labeling standards, and waste streams are managed through life cycle assessments. The International Organization for Standardization compiles data on all countries through an annual survey.

FREQUENCY OF UPDATE BY DATA PROVIDERS

All data sets are updated annually, with the exception of the data on transnational corporations and education expenditure. These are updated intermittently. Most data updates include revisions of past data.

DATA RELIABILITY AND CAUTIONARY NOTES

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 nonequity cross-border transactions. **Exports as a percent of GDP.** Data on exports are compiled from customs reports and balance of payments data. Although the data on exports and imports from the payments side provide reasonably reliable records of cross-border transactions, they may not adhere strictly to appropriate definitions of valuation and timing, or correspond with the change-of-ownership criterion. Neither customs nor balance of payments data usually capture the illegal transactions that occur in many countries. Goods carried by travelers across borders in legal but unreported shuttle trade may further distort trade statistics.

Balance of Trade. Because of the variety of sources, data may be inconsistent. Differences in collection methods—such as timing, definitions of residences and ownership, and exchange rate valuations—contribute to net errors and omissions. In addition, smuggling and other illegal or quasi-legal transactions may be unrecorded or misreported.

External Debt as a percent of GNI. Variations in reporting rescheduled debt affect cross-country comparability. Other areas of inconsistency include country treatment of arrears and of nonresident national deposits denominated in foreign currency. With the widening spectrum of debt instruments and investors and the expansion of private nonguaranteed borrowing, data are increasingly difficult to measure. Military debt is often underreported.

Military Expenditure as a percent of GDP. Many values are uncertain or estimated. SIPRI cautions that military expenditure does not relate directly to military capability or security.

Public Health Expenditure as a percent of GDP. Data on public spending at the sub-national level are not aggregated in all countries, making total health expenditure difficult to measure. Few developing countries have health accounts that are methodologically consistent with national accounting procedures. Health care systems are not always defined clearly. WHO cautions that these data should only be used for an "order of magnitude" estimate; cross-country comparisons should be avoided.

Education Expenditure as a percent of GDP. In some cases, data refer only to the Ministry of Education's expenditures, excluding other authorities that spend money on educational activities. The World Bank cautions that these data do not measure effectiveness or levels of attainment in a particular educational system.

Official Development Assistance. Because data are based on donor country reports, they do not provide a complete picture of the resources received by developing and transition economies for three reasons. First, flows from DAC members are only part of the aggregate resource flows to these economies. Second, the data that record contributions to multilateral institutions measure the flow of resources made available to those institutions by DAC members, not the flow of resources from those institutions to developing and transition economies. Third, because some of the countries and territories on the DAC recipient list are normally classified as high-income, the reported flows may overstate the resources available to low- and middle-income economies.

Parent Corporations and Foreign Affiliates. Regional and global totals represent a sum of available data and may therefore be incomplete. Some countries count the number of foreign-sponsored projects instead of the number of actual companies; in this case, some double counting has occurred. Because of the range of survey years and the acceptance of survey data "as-is" from national governments, cross-country comparisons should be made with caution.

ISO 14000 Certification. A small amount of double counting occurs due to joint assessments of a single company. In addition, some underreporting may occur in all countries. No distinction is made between accredited and non-accredited institutions, and certifications may be for a single site or for multiple sites. Survey data are only as reliable as the reports of each national institute, and ISO does not ensure the accuracy of this data. The ISO 14000 standards have been criticized because they do not require companies to provide public reports on their environmental performance.

SOURCES

Foreign Direct Investment, Exports as a percent of GDP, Balance of Trade, External Debt, Public Health and Education Expenditure, and Official Development Assistance data: Development Data Group, The World Bank. 2002. World Development Indicators 2002 online. Washington, D.C.: The World Bank. Available on-line at **http://www.worldbank.org/data**. **Military Expenditure as a Percent of GDP:** Stockholm International Peace Research Institute (SIPRI). 2002. The SIPRI Military Expenditure Database (available on-line **http://projects.sipri.se/milex/mex_database1.html**). Stockholm: SIPRI. **Transnational Corporations:** United Nations Conference on Trade and Development (UNCTAD). 2001. World Investment Report 2001: Promoting Linkages, pp. 239–243. New York and Geneva: UNCTAD. Available on-line at **www.unctad.org/wir/index.htm**. **ISO Certification:** International Organization for Standardization (ISO). 2001. The ISO Survey of ISO 9000 and ISO 14000 Certificates. Available on-line at **http://www.iso.ch/iso/en/iso9000-14000/pdf/survey10thcycle.pdf**. Geneva: ISO.

Economic Indicators

Sources: World Bank, United Nations Population Division

	Gross Domestic Product (GDP)								Income Inequality				International Poverty Line			Savings Rate (percent of GNI)	
	Total GDP (1995 US$)		GDP per Capita (1995 US$)		GDP per Capita PPP	Distribution by Sector {a} (percent)				Gini Index {b} (0= perfect equality)	Percent Share of Income			Percent Under			
	Total Value (millions) 2000	Average Annual Growth Rate (percent) 1991-2000	Total Value (dollars) 2000	Average Annual Growth Rate 1991-2000	(current int'l $) 2000	Agri-culture 2000	Ind-ustry 2000	Ser-vices 2000	Sur-vey year		Poorest 20%	Richest 20%	Sur-vey year	$1/ Day	$2/ Day	Net National Savings 2000	Adjusted Net Savings 2000
WORLD	**34,109,900**	**2.8**	**5,632**	**1.4**	**7,416**	**5**	**31**	**64** c	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**10.2**	**12.0**
ASIA (EXCL. MIDDLE EAST)	**8,913,075**	**2.8**	**2,670**	**1.4**	**4,327**	**6**	**35**	**59** c	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**16.9**	**18.9**
Armenia	3,711	0.7	980	0.1	2,570	25	36	39	'96 d	44.4	5.5	50.6	'96	8	34	(5.7)	(5.0)
Azerbaijan	4,071	(4.6)	506	(5.7)	2,939	19	38	43	'95 e	36.0	6.9	43.3	'95	2	10	9.5	..
Bangladesh	48,906	4.9	356	2.6	1,527	25	24	51	'96 d	33.6	8.7	42.8	'96	29	78	17.2	16.3
Bhutan	428	6.8	205	4.5	545	33	37	29	..	..	..	..	..	..	..	14.2	16.7
Cambodia	3,565	4.6	272	1.4	1,326 f	37	20	42	'97 d	40.4	6.9	47.6	..	..	..	10.0	11.3
China	1,040,312	10.1	816	9.0	3,936	16	51	33	'98 e	40.3	5.9	46.6	'99	19	53	30.6	26.8
Georgia	2,505	(9.9)	476	(9.6)	2,544	32	13	55	'96 e	37.1	6.1	43.6	'96	2	2	(7.0)	(6.1)
India	466,682	6.3	463	4.4	2,374	25	27	48	'97 d	37.8	8.1	46.1	'97	44	86	13.9	12.2
Indonesia	209,098	3.5	986	2.0	3,019	17	47	36	'99 d	31.7	9.0	41.1	'99	8	55	15.9	2.9
Japan	5,687,635	1.3	44,751	1.0	26,707	1	32	66 c	'93 e	24.9	10.6	35.7	..	..	..	13.5	18.0
Kazakhstan	22,487	(3.3)	1,390	(2.9)	5,398	9	43	48	'96 d	35.4	6.7	42.3	'96	2	15	11.5	(29.6)
Korea, Dem People's Rep	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Korea, Rep	617,513	5.5	13,212	4.6	17,579	5	43	53	'93 d	31.6	7.5	39.3	'93	2	2	19.2	21.9
Kyrgyzstan	4,350	(2.8)	884	(3.9)	2,708	39	26	34	'99 d	34.6	7.6	42.5	..	..	..	(3.2)	(2.9)
Lao People's Dem Rep	2,376	6.6	450	4.0	1,576 f	53	23	24	'97 d	37.0	7.6	45.0	'97	26	73	8.5	10.1
Malaysia	111,617	6.6	5,024	4.3	9,497	11	45	44	'97 e	49.2	4.4	54.3	..	..	..	30.4	22.5
Mongolia	1,027	2.1	405	0.9	1,688	33	19	48	'95 d	33.2	7.3	40.9	'95	14	50	11.5	..
Myanmar	..	..	..	..	..	60	9	31 c	..	..	..	..	..	..	..	..	..
Nepal	5,560	4.8	241	2.4	1,327	40	22	37	'96 d	36.7	7.6	44.8	'95	38	83	19.7	16.6
Pakistan	71,278	3.5	505	0.9	1,884	26	23	51	'97 d	31.2	9.5	41.1	'96	31	85	4.7	1.9
Philippines	88,232	3.6	1,166	1.4	3,967	16	31	53	'97 d	46.2	5.4	52.3	..	..	..	20.8	22.2
Singapore	113,426	7.7	28,229	4.5	23,356	0	34	66	..	..	..	..	..	..	..	38.2	39.9
Sri Lanka	16,658	5.3	880	4.2	3,611	20	27	53	'95 d	34.4	8.0	42.8	'95	7	45	16.5	18.0
Tajikistan	2,381	(9.2)	391	(10.4)	1,167	19	26	55	'98 d	34.7	8.0	40.0	..	..	..	7.8	5.2
Thailand	170,338	3.5	2,712	2.1	6,190	10	40	49	'98 d	41.4	6.4	48.4	'98	2	28	15.4	16.2
Turkmenistan	7,157	(4.3)	1,511	(6.7)	4,342	27	50	23	'98 d	40.8	6.1	47.5	'98	12	44	19.6	..
Uzbekistan	12,007	0.1	483	(1.8)	2,429	35	23	42	'98 d	44.7	4.0	49.1	'93	3	27	5.9	..
Viet Nam	27,934	7.9	357	6.1	2,006	24	37	39	'98 d	36.1	8.0	44.5	..	..	..	21.4	13.6
EUROPE	**11,139,956**	**1.8**	**15,327**	**1.5**	**16,525**	**3**	**30**	**68** c	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**8.6**	**11.5**
Albania	3,068	5.3	979	6.0	3,816	51	26	23	..	..	..	..	..	..	..	4.7	5.9
Austria	265,716	2.1	32,886	1.7	26,866	2	33	65 c	'95 e	31.0	6.9	38.0	..	..	..	9.8	14.5
Belarus	27,618	(0.8)	2,711	(0.7)	7,409	15	37	47	'98 d	21.7	11.4	33.3	'98	2	2	13.5	16.4
Belgium	316,070	2.2	30,838	1.9	27,185	2	27	72	'96 e	28.7	8.3	37.3	..	..	..	9.4	12.2
Bosnia and Herzegovina	6,068	27.3 g	1,526	24.3 g	..	12	26	62	..	..	..	..	..	..	..	..	..
Bulgaria	12,277	(1.6)	1,544	(0.7)	5,866	15	28	58	'97 e	26.4	10.1	36.8	'97	2	22	1.1	0.5
Croatia	22,538	2.5	4,843	2.2	7,615	10	33	58	'98 e	29.0	8.8	38.0	'98	2	2	8.4	..
Czech Rep	54,561	1.6	5,312	1.6	13,993	4	41	55	'96 e	25.4	10.3	35.9	'96	2	2	14.1	17.0
Denmark	205,551	2.7	38,637	2.3	27,710	3	26	71	'92 e	24.7	9.6	34.5	..	..	..	9.2	16.4
Estonia	6,066	1.1	4,354	2.4	9,889	6	27	67	'98 e	37.6	7.0	45.1	'98	2	5	3.1	6.2
Finland	165,787	3.6	32,056	3.3	25,021	4	34	62	'91 e	25.6	10.0	35.8	..	..	..	11.7	18.4
France	1,755,614 h	1.8 h	29,637 h	1.4 h	24,082	3	26	71	'95 e	32.7	7.2	40.2	..	..	..	9.0	14.3
Germany	2,680,002	1.5	32,676	1.2	25,144	1	31	68	'94 e	30.0	8.2	38.5	..	..	..	6.2	10.2
Greece	138,386	2.2	13,043	1.8	16,423	8	24	69 c	'93 e	32.7	7.5	40.3	..	..	..	7.8	9.4
Hungary	54,371	2.5	5,455	2.9	12,484	6	34	.. i	'98 d	24.4	10.0	34.4	'98	2	7	13.3	16.3
Iceland	8,796	3.2	31,496	2.2	29,762	..	..	..	..	..	..	..	..	..	..	..	..
Ireland	105,248	8.0	27,674	7.0	29,795	4	36	60 c	'87 e	35.9	6.7	42.9	..	..	..	18.5	23.5
Italy	1,204,868	1.7	20,943	1.5	23,692	3	30	68	'95 e	27.3	8.7	36.3	..	..	..	7.0	11.2
Latvia	6,160	(1.3)	2,545	(0.2)	6,904	4	25	70	'98 e	32.4	7.6	40.3	'98	2	8	9.5	15.0
Lithuania	7,597	(1.7)	2,055	(1.5)	7,104	8	33	59	'96 d	32.4	7.8	40.3	'96	2	8	4.8	8.9
Macedonia, FYR	5,138	(0.1)	2,526	(0.7)	5,078	12	33	55	..	..	..	..	..	..	..	3.8	..
Moldova, Rep	2,722 j	(8.3)	634 j	(8.1)	2,103	28	20	52	'97 e	40.6	5.6	46.8	'97	11	38	4.9	9.0
Netherlands	492,956	2.9	31,074	2.3	25,746	3	27	70 c	'94 e	32.6	7.3	40.1	..	..	..	14.1	18.4
Norway	170,452	3.7	38,141	3.1	30,065	2	43	55	'95 e	25.8	9.7	35.8	..	..	..	20.6	19.5
Poland	163,236	5.3	4,228	5.2	9,062	4	36	60	'98 d	31.6	7.8	39.7	'98	2	2	9.6	12.7
Portugal	128,039	2.8	12,784	2.7	17,277	4	31	66	'95 e	35.6	7.3	43.4	'94	2	2	2.9	8.1
Romania	32,748	0.1	1,460	0.4	6,422	13	36	51	'98 d	31.1	8.0	39.5	'94	3	28	5.3	2.8
Russian Federation	357,322	(4.1)	2,456	(3.8)	8,381	7	39	54	'98 d	48.7	4.4	53.7	'98	7	25	25.1	(13.4)
Serbia and Montenegro	13,187	0.6 k	1,250	0.6 k	..	..	..	..	..	..	..	..	..	..	..	15.9	18.8
Slovakia	22,471	3.5	4,162	3.2	11,250	4	31	65	'92 e	19.5	11.9	31.4	'92	2	2	12.6	17.2
Slovenia	23,177	3.7	11,660	3.3	17,370	3	38	58	'98 e	28.4	9.1	37.7	'98	2	2	10.1	14.4
Spain	702,395	2.7	17,599	2.6	19,255	4	31	66	'90 e	32.5	7.5	40.3	..	..	..	6.7	14.0
Sweden	276,768	2.3	31,301	2.0	24,351	2	29	69 i	'92 e	25.0	9.6	34.5	..	..	..	19.0	23.6
Switzerland	335,570	1.0	46,799	0.6	28,808	2	30	68 i	'92 e	33.1	6.9	40.3	..	..	..	4.7	(4.2)
Ukraine	44,352	(8.8)	895	(8.3)	3,810	14	38	48	'99 d	29.0	8.8	37.8	'99	3	31	3.6	7.0
United Kingdom	1,294,359	2.8	21,785	2.5	23,637	1	29	70	'95 e	36.8	6.1	43.2	..	..	..	..	..
MIDDLE EAST & N. AFRICA	**826,705**	**2.7**	**2,364**	**0.6**	**5,500**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**15.4**	**(1.7)**
Afghanistan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Algeria	48,819	2.2	1,612	0.2	5,326 f	9	60	31	'95 d	35.3	7.0	42.6	'95	2	15	..	..
Egypt	78,422	4.8	1,155	2.9	3,426	17	34	49	'95 d	28.9	9.8	39.0	'95	3	53	13.2	11.3
Iran, Islamic Rep	104,986	3.2	1,493	1.4	5,326	19	22	59	..	..	..	..	..	..	..	24.9	(12.5)
Iraq	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Israel	106,383	4.8	17,612	1.9	20,773	..	..	..	'97 e	38.1	6.1	44.2	..	..	..	0.1	6.0
Jordan	7,899 l	4.6 l	1,608 l	0.6 l	3,945	2	25	73	'97 d	36.4	7.6	44.4	'97	2	7	11.4	15.8
Kuwait	26,880	3.2 m	14,041	3.5 m	16,377 f	..	..	..	..	..	..	..	..	..	..	36.1	(8.4)
Lebanon	12,511	4.5	3,578	1.9	5,333	12	22	66	..	..	..	..	..	..	..	(10.8)	(9.8)
Libyan Arab Jamahiriya	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Morocco	39,324	2.4	1,316	0.4	3,407	14	32	54	'99 d	39.5	6.5	46.6	'90-91	2	8	14.0	17.6
Oman	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Saudi Arabia	139,438	1.1	6,853	(1.7)	11,578	7	48	45 i	..	..	..	..	..	..	..	21.3	(27.3)
Syrian Arab Rep	13,578	5.4	839	2.7	3,556	24	30	46	..	..	..	..	..	..	..	10.3	(27.9)
Tunisia	23,623	4.7	2,497	3.2	6,433	12	29	59	'95 d	41.7	5.7	47.9	'95	2	10	14.7	15.6
Turkey	204,651	3.7	3,070	2.0	6,830	16	25	59	'94 d	41.5	5.8	47.7	'94	2	18	13.2	15.3
United Arab Emirates	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yemen	5,496	6.0	300	1.3	852	15	46	38	'98 d	33.4	7.4	41.2	'98	16	45	26.7	(18.2)

	Gross Domestic Product (GDP)								Income Inequality				International Poverty Line			Savings Rate (percent of GNI)	
	Total GDP (1995 US$)		GDP per Capita (1995 US$)		GDP per Capita PPP	Distribution by Sector {a} (percent)				Gini Index {b} (0=	Percent Share of Income			Percent Under			
	Total Value (millions) 2000	Average Annual Growth Rate (percent) 1991-2000	Total Value (dollars) 2000	Average Annual Growth Rate 1991-2000	(current int'l $) 2000	Agri-culture 2000	Ind-ustry 2000	Ser-vices 2000	Sur-vey year	perfect equality)	Poorest 20%	Richest 20%	Sur-vey year	$1/ Day	$2/ Day	Net National Savings 2000	Adjusted Net Savings 2000
SUB-SAHARAN AFRICA	**362,493**	**2.6**	**617**	**0.4**	**1,797**	**17**	**31**	**53**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**4.6**	**(1.1)**
Angola	6,647	2.3	506	(1.8)	2,187 f	6	76	18	..	..	..	..	..	..	..	(17.9)	..
Benin	2,598	4.8	414	1.7	991	38	14	48	..	..	..	..	..	..	..	2.6	3.4
Botswana	6,330	4.7	4,107	2.4	7,467	4	44	52	..	..	..	..	'85-86	33	61	1.2	8.1
Burkina Faso	2,842	4.8	246	2.4	954 f	35	17	48	'98 d	55.1	4.6	60.4	'94	61	86	16.8	16.7
Burundi	958	(2.8)	151	(3.6)	633 f	51	18	31	'98 d	42.5	5.1	48.0	..	..	..	(5.5)	(5.8)
Cameroon	10,044	2.4	675	(0.8)	1,703	44	20	36	'96 d	47.7	4.6	53.1	'96	33	64	6.8	(0.5)
Central African Rep	1,258	2.5	339	(0.3)	1,172 f	55	20	26	'93 d	61.3	2.0	65.0	'93	67	84	4.5	5.9
Chad	1,676	2.1	213	(0.8)	850 f	39	14	47	..	..	..	..	..	..	..	(2.6)	(0.6)
Congo	2,539	(0.6)	841	(3.4)	825	5	71	24	..	..	..	..	..	..	..	28.5	..
Congo, Dem Rep	..	..	..	..	.. f	..	..	..	..	..	..	..	..	..	..	(11.3)	(13.5)
Côte d'Ivoire	11,890	3.9	743	1.0	1,630	29	22	48	'95 d	36.7	7.1	44.3	'95	12	49	(1.9)	0.8
Equatorial Guinea	731	24.8	1,600	18.9	15,083	7	88	5	..	..	..	..	..	..	..	..	..
Eritrea	635	3.9 m	174	1.9 m	937 f	17	29	54 c	..	..	..	..	..	..	..	..	..
Ethiopia	7,451	5.4	118	1.8	683	52	11	37	'95 d	40.0	7.1	47.7	'95	31	76	2.8	(7.3)
Gabon	5,385	2.8	4,378	0.1	6,237	6	53	40	..	..	..	..	..	..	..	2.3	(37.6)
Gambia	483	3.2	371	(0.3)	1,649 f	38	13	49	'98 d	50.2	4.0	55.3	'98	59	83	(1.6)	1.5
Ghana	7,978	4.2	413	1.8	1,964 f	35	25	39	'99 d	40.7	5.6	46.7	'99	45	79	6.1	5.3
Guinea	4,474	4.5	549	1.3	1,802	24	37	39	'94 d	40.3	6.4	47.2	..	..	..	5.8	2.2
Guinea-Bissau	251	0.8	210	(1.2)	755	59	12	29	'91 d	56.2	2.1	58.9	..	..	..	..	..
Kenya	9,876	2.2	322	(0.6)	1,003	20	19	61	'97 d	44.9	5.6	51.2	'94	27	62	3.4	8.1
Lesotho	1,122	4.1	552	2.1	2,031 f	17	44	39	'87 d	56.0	2.8	60.1	'93	43	66	12.1	16.9
Liberia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madagascar	3,815	2.6	239	(0.9)	817	35	13	52	'99 d	38.1	6.4	44.9	'99	49	83	(0.4)	1.2
Malawi	1,739	3.9	154	2.0	560	42	19	39	..	..	..	..	..	..	..	(7.6)	(8.1)
Mali	3,119	4.0	275	1.2	761	46	17	37	'94 d	50.5	4.6	56.2	'94	73	91	3.6	5.7
Mauritania	1,321	4.3	496	1.2	1,677	22	31	47	'95 d	37.3	6.4	44.1	'95	29	69	22.7	3.7
Mozambique	3,380	7.0	185	3.2	826 f	24	25	50	'97 d	39.6	6.5	46.5	'96	38	78	2.5	5.9
Namibia	4,230	3.9	2,408	1.7	6,433 f	11	28	61 c	..	..	..	..	'93	35	56	14.2	22.5
Niger	2,197	2.8	203	(1.0)	746 f	39	18	44	'95 d	50.5	2.6	53.3	'95	61	85	(5.6)	(6.3)
Nigeria	32,184	2.3	283	(0.4)	998	30	46	25	'97 d	50.6	4.4	55.7	'97	70	91	21.2	(31.8)
Rwanda	2,057	0.9	270	(1.3)	1,055	44	21	35	'85 d	28.9	9.7	39.1	'83-85	36	85	6.9	6.0
Senegal	5,806	4.1	616	1.1	1,527	18	27	55	'95 d	41.3	6.4	48.2	'95	26	68	5.3	8.1
Sierra Leone	741	(4.2)	168	(4.9)	560	47	30	23	'89 d	62.9	1.1	63.4	'89	57	75	..	..
Somalia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Africa	170,568	2.3	3,938	0.2	9,291 f	3	31	66	'94 d	59.3	2.9	64.8	'96	12	36	1.7	4.5
Sudan	9,922	8.4	319	5.7	1,797	37	18	45	..	..	..	..	..	..	..	(6.7)	(6.2)
Tanzania, United Rep	6,419 n	3.2	183 n	(0.1)	501	45	16	39	'93 d	38.2	6.8	45.5	'93	20	60	6.9	10.1
Togo	1,479	2.9	327	(0.5)	1,442	38	22	40	..	..	..	..	..	..	..	2.6	5.2
Uganda	7,728	7.2	332	3.9	1,152 f	42	19	38	'96 d	37.4	7.1	44.9	..	..	..	3.9	3.7
Zambia	3,959	0.6	380	(2.1)	755	27	24	49	'98 d	52.6	3.3	56.6	'98	64	87	..	..
Zimbabwe	7,838	2.7	621	0.4	2,635	18	25	57	'95 d	50.1	4.7	55.7	'90-91	36	64	..	..
NORTH AMERICA	**9,701,656**	**3.7**	**30,898**	**2.3**	**33,341**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**6.5**	**9.6**
Canada	693,149	3.2	22,537	1.8	27,834	..	..	..	'94 e	31.5	7.5	39.3	..	..	..	12.3	13.7
United States	9,008,507	3.7	31,806	2.4	33,939	..	..	..	'97 e	40.8	5.2	46.4	..	..	..	6.1	9.3
C. AMERICA & CARIBBEAN	**475,273**	**2.0**	**3,035**	**0.5**	**7,226**	**6**	**28**	**66**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**9.8**	**8.2**
Belize	754	3.9	3,330	2.0	5,945	21	27	52	..	..	..	..	..	..	..	10.9	15.3
Costa Rica	14,908	5.3	3,705	2.4	8,193	9	31	59	'97 e	45.9	4.5	51.0	'98	13	26	7.2	11.6
Cuba	..	..	..	..	..	7	46	47	..	..	..	..	..	..	..	..	..
Dominican Rep	17,264	6.4	2,062	4.2	6,033	11	34	55	'98 e	47.4	5.1	53.3	'96	3	16	14.2	14.9
El Salvador	10,995	4.6	1,751	2.6	4,496	10	30	60	'98 e	52.2	3.3	56.4	'98	21	45	3.8	5.0
Guatemala	17,742	4.1	1,558	1.4	3,821	23	20	57	'98 e	55.8	3.8	60.6	'98	10	34	2.4	1.6
Haiti	2,923	(0.2)	359	(2.2)	1,434 f	28	20	51	..	..	..	..	..	..	..	0.1	(1.1)
Honduras	4,563	3.0	711	0.4	2,454	18	32	51	'98 e	56.3	2.2	59.4	'98	24	45	25.8	28.6
Jamaica	4,701	0.0	1,825	(0.4)	3,720	6	31	62	'00 d	37.9	6.7	46.0	'96	3	25	11.4	15.5
Mexico	374,141	3.1	3,784	1.3	8,941	4	28	67	'98 e	53.1	3.5	57.4	'98	16	38	10.1	8.1
Nicaragua	2,361	3.9	466	0.6	2,366 f	32	23	45	'98 d	60.3	2.3	63.6	..	..	..	4.7	5.9
Panama	9,365	3.6	3,279	2.3	6,001	7	17	76	'97 d	48.5	3.6	52.8	'98	14	29	14.2	18.5
Trinidad and Tobago	6,665	3.3	5,149	2.4	9,010	2	43	55	'92 e	40.3	5.5	45.9	'92	12	39	6.1	(24.3)
SOUTH AMERICA	**1,457,476**	**3.2**	**4,218**	**1.7**	**7,374**	**8**	**29**	**63**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**6.0**	**3.8**
Argentina	293,770	3.6	7,933	3.0	12,377	5	28	68	..	..	..	..	..	..	..	1.1	1.7
Bolivia	7,926	4.0	952	1.6	2,424	22	15	63	'99 d	44.7	4.0	49.1	'99	14	34	3.5	2.9
Brazil	788,025	3.0	4,624	1.5	7,625	7	29	64	'98 e	60.7	2.2	64.1	'98	12	27	4.7	6.3
Chile	81,445	6.4	5,354	5.2	9,417	11	34	56	'98 e	56.7	3.3	61.0	'98	2	9	12.7	8.9
Colombia	96,864	2.8	2,301	1.1	6,276	14	31	56	'96 e	57.1	3.0	60.9	'98	20	36	2.7	(3.8)
Ecuador	18,021	1.5	1,425	(0.3)	3,203	10	40	50	'95 d	43.7	5.4	49.7	'95	20	52	22.1	(5.5)
Guyana	716	5.1	942	5.0	3,965	35	28	36	'93 d	40.2	6.3	46.9	..	..	..	..	..
Paraguay	9,344	2.1	1,700	(0.4)	4,426 f	21	27	52 c	'98 e	57.7	1.9	60.7	'98	20	49	0.2	3.3
Peru	60,774	4.8	2,368	2.9	4,799	8	27	65	'96 e	46.2	4.4	51.2	'96	16	41	7.4	7.0
Suriname	414	3.5	993	2.9	3,797 f	10	20	70	..	..	..	..	..	..	..	(7.8)	(5.4)
Uruguay	20,405	3.2	6,115	2.6	9,035	6	27	67	'89 e	42.3	5.4	48.3	'89	2	7	(0.3)	2.3
Venezuela	79,772	1.1	3,300	(0.6)	5,794	5	36	59	'98 e	49.5	3.0	53.2	98	23	7	21.8	(0.7)
OCEANIA	**540,969**	**4.0**	**17,934**	**2.3**	**20,057**	**4**	**26**	**70 c**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**3.3**	**5.2**
Australia	457,255	4.3	23,893	2.8	25,753	3	26	71 c	'94 e	35.2	5.9	41.3	..	..	..	2.7	4.3
Fiji	1,944	1.5	2,390	0.4	4,658	18	29	53	..	..	..	..	..	..	..	7.4	11.7
New Zealand	67,222	3.1	17,793	1.8	20,350	..	..	..	..	..	..	..	..	..	..	7.5	12.2
Papua New Guinea	4,756	3.0	989	1.5	2,432 f	26	44	30	'96 d	50.9	4.5	56.5	..	..	..	8.6	..
Solomon Islands	287	1.9	642	(1.1)	1,646 f	..	..	..	..	..	..	..	..	..	..	..	..
LOW INCOME {o}	**1,146,787**	**2.6**	**417**	**1.8**	**1,898**	**24**	**32**	**44**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**11.9**	**4.7**
MIDDLE INCOME {o}	**5,844,681**	**3.7**	**1,829**	**1.9**	**5,224**	**9**	**36**	**55**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**14.9**	**9.1**
HIGH INCOME {o}	**27,116,800**	**3.5**	**29,575**	**2.4**	**27,119**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**9.2**	**12.8**

a. Data may not sum to 100 percent due to rounding. **b.** 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. **c**. Distribution of GDP by sector data are from 1999. **d**. Ranked by per capita expenditure. **e**. Ranked by per capita income. **f**. Estimates are based on regression. **g**. Data refer to the growth rate from 1994-2000. **h**. National accounts data include French Guiana, Guadeloupe, Martinique, and Réunion. **i**. Data on distribution of GDP by sector are from 1998. **j**. National accounts data exclude Transnistria. **k**. Data refer to the growth rate from 1995-2000. **l**. Data refer to the East Bank only. **m**. Data refer to the growth rate from 1992-2000. **n**. Economic data cover mainland Tanzania only. **o**. Data for high, middle, and low-income countries are as reported by World Bank, except for per capita and growth rate calculations which are done by WRI.

VARIABLE DEFINITIONS AND METHODOLOGY

Gross Domestic Product (GDP), Constant 1995 Dollars is the sum of gross value added by all resident and nonresident producers in the economy plus any taxes and minus any subsidies not included in the value of the products. Data are expressed in millions of U.S. dollars. The gross domestic product estimates at purchaser values (market prices) are the sum of GDP at purchaser values (value added in the agriculture, industry, and services sectors) and indirect taxes, less subsidies. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. 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 come from OECD data files (see the OECD's National Accounts, 1988–1999, volumes 1 and 2). The United Nations Statistics Division publishes detailed national accounts for United Nations member countries in National Accounts Statistics: Main Aggregates and Detailed Tables and updates in the Monthly Bulletin of Statistics. To obtain comparable series of constant price data, the World Bank rescales GDP and value added by industrial origin to a common reference year, currently 1995. WRI calculates **GDP per Capita by** dividing World Bank GDP figures by the population estimates of the United Nations Population Division.

Average Annual Growth Rate is a calculation of the average percent growth between (and including) 1991 and 2000, using least-squares growth rate calculation. Growth rates are calculated by WRI using a least-squares regression. The least squares growth rate is estimated by fitting a linear regression trend line to the logarithmic annual values of the variable in the relevant period. The calculated 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.

Purchasing Power Parity, per capita is gross domestic product, per person, converted to international dollars using Purchasing Power Parity (PPP) rates. An international dollar has the same purchasing power in a given country as a United States dollar in the United States. In other words, it buys an equivalent amount of goods or services in that country. The estimates are a blend of extrapolated and regression-based numbers, using the results of the International Comparison Programme (ICP). The ICP benchmark studies are essentially multilateral pricing exercises. For 62 countries data come from the most recent round of surveys (1996); the rest are from the 1993 round and have been extrapolated to the 1996 benchmark. Estimates from countries not included in the surveys are derived from statistical models. PPP studies recast traditional national accounts through special price collections and the disaggregation of GDP by expenditure components. National statistical offices report ICP details. The international dollar values, which are different from the U.S. dollar values of GDP, are obtained using special conversion factors designed to equalize the purchasing powers of different currencies. This conversion factor, the PPP, is defined as the number of units of a country's currency required to buy the same amounts of goods and services in the domestic market as $1 would buy in the United States. PPP estimates tend to lower per capita GDPs in industrialized countries and raise per capita GDPs in developing countries. Data are expressed in current international dollars.

Distribution by Sector is the percent of total output of goods and services which 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. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The industrial origin of value added is determined by the International Standard Industrial Classification (ISIC) revision 3.

Agriculture corresponds to ISIC divisions 1–5 and includes forestry and fishing. **Industry** corresponds to ISIC divisions 10–45 and includes manufacturing (ISIC divisions 15–37). It comprises value added in mining, manufacturing, construction, electricity, water, and gas. **Services** correspond to ISIC divisions 50–99 and they 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. Also included are imputed bank service charges, import duties, and any statistical discrepancies noted by national compilers as well as discrepancies arising from rescaling.

Income Inequality data is taken from household surveys collected by World Bank regional offices or government agencies. It is based on either income or expenditure. Data are complied by the World Bank's Development Research Group using primary household survey data obtained from government statistical agencies and World Bank country departments. The Gini index and income distribution for high income countries are calculated directly from the Luxemburg Income Study database, using an estimation method consistent with that applied for developing countries. Data are collected through nationally representative household surveys administered between 1985 and 2000. They are based either on expenditure or per capita income, depending on the survey. Each distribution is based on percentiles of population—rather than of households—with households ranked by income or expenditure per person. **Survey Year** is the year in which the survey that collected the data was administered.

The **Gini Index** is a measure of income inequality. 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 distribution (or expenditure) data to attain a single number which indicates the extent of income inequality within a country. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. Graphically, this displays the amount of wealth that segment of the population earns. The Gini index measures 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.

Percent Share of Income is equal to the percentage share of all income in a given country which is earned by a given fifth of the population. Where the original data from household surveys were available, they have been used to directly calculate the income (or consumption) share by quintile. Otherwise, shares have been estimated from the best available grouped data. The distribution indicators have been adjusted for household size, providing a more consistent measure of per capita income or consumption.

International Poverty Line 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. **Population Living Below $1/day** is the percent of the population of a country living on less than $1.08 a day at 1993

international prices, (equivalent to $1 in 1985 prices, adjusted for purchasing power parity). **Population Living Below $2/day** is the percent of the population of a country living on less than $2.15 a day at 1993 international prices, (equivalent to $2 in 1985 prices, adjusted for purchasing power parity). These poverty measures are based on surveys conducted mostly between 1994 and 1999, by the World Bank's Development Research Group. The commonly used $1 a day (or $2/day) standard, measured in 1985 international prices and adjusted to local currency using purchasing power parities (PPPs) is used because it is typical of the poverty lines in low-income countries. PPP exchange rates, such as those from the Penn World Tables or the World Bank, are used because they take into account the local prices and goods and services not traded internationally. These data are based on surveys which were administered to households in each individual country. Surveys asked households to report either their consumption or their income. Whenever possible, consumption has been used as the welfare indicator for deciding who is poor. When only household income was available, average income has been adjusted to accord with either a survey-based estimate of mean consumption (when available) or an estimate based on consumption data from national accounts.

Net National Savings as a Percent of GNI: Net national savings are equal to gross national savings (gross domestic product minus final consumption plus net income and net current transfers from abroad) minus the value of consumption of fixed capital (the replacement value of capital used up in the process of production). The United Nations system of national accounts defines gross national income as "the aggregate value of the balances of gross primary incomes for all sectors; (gross national income is identical to gross national product as hitherto understood in national accounts generally)."

Adjusted Net Savings as a Percent of GNI: Adjusted net savings (previously "genuine savings") are equal to net national savings plus education expenditure and minus energy depletion, mineral depletion, net forest depletion, and carbon dioxide damage. Adjusted Net Savings is an indicator of sustainability. Persistently negative rates of savings must lead, eventually, to declining well-being. It measures the true rate of savings in an economy after taking into account investments in human capital, depletion of natural resources, and damage caused by pollution. For a more complete description of the methodology used by the World Bank, please visit the World Bank website on Adjusted Net Savings: **http://lnweb18.worldbank.org/ESSD/essdext.nsf/44ByDocName/GreenAccountingAdjustedNetSavings**.

FREQUENCY OF UPDATE BY DATA PROVIDERS

The World Bank publishes the World Development Indicators each year in April. The United Nations Population Division publishes the World Population Prospects every two years. Most data updates 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

Gross Domestic Product: The World Bank produces the most reliable global GDP estimates available. However, it should be noted that these data do not account for differences in purchasing power. (To see national accounts data without these differences, see PPP (purchasing power parity) estimates.) 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 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.

Income Inequality and International Poverty: Because the underlying household surveys differ in method and in the type of data collected, the distribution indicators are not strictly comparable across countries. These problems are diminishing as survey methods improve and become more standardized, but achieving strict comparability is still impossible. Two sources of noncomparability should be noted. First, surveys can differ in many respects, including whether they use income or consumption expenditure as the living standard indicator. The distribution of income is typically more unequal than the distribution of consumption. In addition, the definition of income usually differs among surveys. Consumption is usually a much better welfare indicator, particularly in developing countries. Second, households differ in size (number of members) and in the extent of income sharing among members. And individuals differ in age and consumption needs. Differences among countries in these respects may bias comparisons of distribution.

International Poverty Line: Many issues arise in measuring household living standards. The choice between income and consumption as a welfare indicator is one issue. Income is generally more difficult to measure accurately, and consumption accords better with the idea of the standard of living. But consumption data are not always available, and when they are not there is little choice but to use income. Household income can also differ widely, for example, in the number of distinct categories of consumer goods identified. Survey quality varies and even similar surveys may not be strictly comparable. Comparisons across countries at different levels of development also pose a potential problem because of differences in the relative importance of consumption of nonmarket goods. The local market value of all consumption in kind (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. 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.

Adjusted Net Savings (ANS): The data which were used to calculate ANS are mostly from official sources, and are generally considered to be reliable. Due to methodological or data limitations, the calculation omits several important resources including soils, fish, water resources, and water and air pollutants. The calculation is at best an approximation and should not be used as a stand-alone measure of the savings rate of a particular country. These data are useful as a comparison measure and to demonstrate trends over time.

SOURCES

Economic data are taken from the World Bank's World Development Indicators. World Bank. 2002. World Development Indicators. Washington: World Bank. Data are available from World Bank on CD-ROM, or on-line at **http://publications.worldbank.org/ecommerce/catalog/product?item_id=631625**. **Population** (used to calculate per capita values): Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, 2002. World Population Prospects: The 2000 Revision. New York: United Nations.

Agriculture and Food

Sources: Food and Agriculture Organization of the United Nations, United Nations Population Division.

	Average Production of Cereals		Average Cereal Crop Yields		Variation in Domestic Cereal Production	Net Trade of Cereals (imports - exports) as a Percent of Consumption	Average Meat Production Per Capita {a}		Irrigated Land as a Percentage of Total Cropland	Average Annual Fertilizer Use			Average Daily Per Capita Calorie Supply {a,b} Kilocalories, 1999	
	000 Metric Tons 1999-2001 {c}	Percent Change Since 1989-91	Kg Per Hectare 1999-2001 {c}	Percent Change Since 1989-91	(% variation from mean) 1992-2001	2000 {d}	Kg Per Person 1999-2001 {c}	Percent Change Since 1989-91	1999	Kg/ha of Cropland 1997-99 {c}	Percent Change Since 1987-89		Total	From Animal Products
WORLD	**2,075,387**	**9**	**3,096**	**15**	**3**	**(1)**	**39**	**13**	**18**	**92**	**(3)**		**2,808**	**460**
ASIA (EXCL. MIDDLE EAST)	**951,041**	**19**	**3,678**	**13**	**4**	**4**	**26**	**55**	**35**	**144**	**35**		**2,710**	**367**
Armenia	301	..	1,675	..	13	67	13	..	51	14	..		2,167	309
Azerbaijan	1,528	..	2,373	..	20	34	14	..	73	9	..		2,224	358
Bangladesh	39,002	39	3,322	31	13	4	3	12	47	143	69	e	2,201	67
Bhutan	159	56	1,456	34	12	13	4	(12)	25	0	(73)	e	..	..
Cambodia	4,197	62	2,050	43	18	1	15	20	7	3	2,621		2,000	148
China {f}	422,218	8	4,869	16	5	(1)	50	87	40	267	42		3,044	567
Georgia	554	..	1,576	..	22	71	21	..	44	35	..		2,347	370
India {g}	234,313	20	2,321	21	5	(1)	5	5	35	101	66	e	2,417	192
Indonesia {h}	58,954	15	3,860	1	4	10	8	(1)	16	82	8		2,931	132
Japan	12,450	(11)	6,147	9	9	67	24	(17)	55	296	(20)	e	2,782	574
Kazakhstan	14,049	..	1,162	..	33	(111)	39	..	8	1	..		2,181	587
Korea, Dem People's Rep	3,550	(51)	2,753	(39)	41	33	9	(43)	73	88	(78)		2,100	130
Korea, Rep	7,559	(10)	6,500	10	4	63	36	65	61	476	11		3,073	439
Kyrgyzstan	1,657	..	2,726	..	13	12	39	..	75	21	..		2,833	541
Lao People's Dem Rep	2,279	58	2,978	33	17	1	16	47	18	7	1,572	e	2,152	140
Malaysia	2,212	17	3,075	13	3	64	49	39	5	185	41	e	2,947	563
Mongolia	156	(78)	716	(35)	37	35	110	(5)	6	3	(78)		1,963	877
Myanmar	21,322	51	3,082	13	9	(1)	9	45	18	16	65	e	2,803	117
Nepal	6,874	21	2,089	11	8	3	10	0	38	32	25	e	2,264	160
Pakistan	28,682	36	2,305	29	8	(4)	12	3	82	122	46	e	2,462	429
Philippines	16,917	18	2,571	27	8	18	25	39	15	73	41		2,357	345
Singapore	..	..	..	..	..	..	30	(38)	..	..	..	e	..	..
Sri Lanka	2,901	22	3,270	12	9	30	5	56	35	123	13		2,411	150
Tajikistan	383	..	1,025	..	30	..	5	..	84	56	..		1,927	144
Thailand	29,647	25	2,659	24	7	(20)	31	21	26	90	155		2,411	286
Turkmenistan	1,358	..	1,771	..	23	..	28	..	106	i 63	..		2,746	487
Uzbekistan	3,907	..	2,603	..	19	15	21	..	88	176	..		2,871	434
Viet Nam	33,909	69	4,075	33	13	(8)	25	54	41	250	206		2,564	272
EUROPE	**393,862**	**..**	**4,187**	**..**	**5**	**(5)**	**70**	**..**	**8**	**78**	**..**		**3,230**	**906**
Albania	558	(30)	2,622	0	11	41	21	37	49	19	(87)		2,717	733
Austria	4,611	(10)	5,629	3	4	(14)	111	2	0	168	(17)	e	3,639	1,184
Belarus	4,261	..	1,722	..	17	20	61	..	2	139	..		3,171	884
Belgium	..	..	..	..	..	..	..	..	..	..	..	e	..	..
Bosnia and Herzegovina	1,112	..	3,034	..	17	36	7	..	0	50	..		2,960	413
Bulgaria	5,016	(43)	2,696	(35)	14	(7)	60	(29)	18	36	(82)		2,847	679
Croatia	2,889	..	4,355	..	7	(13)	28	..	0	141	..		2,617	495
Czech Rep	6,941	(43)	4,277	(14)	9	(10)	77	(49)	1	88	..	e	3,241	850
Denmark	9,187	(0)	6,032	2	8	(16)	380	25	19	176	(28)	e	3,317	1,229
Estonia	556	..	1,704	..	14	20	41	..	0	26	..		3,154	821
Finland	3,550	(8)	3,071	(9)	11	1	65	(5)	3	144	(36)	e	3,143	1,195
France	63,527	10	7,088	14	7	(90)	109	7	11	249	(20)	e	3,575	1,353
Germany	46,651	23	6,749	22	10	(32)	79	(10)	4	244	(37)	e	3,411	1,067
Greece	4,430	(19)	3,527	(5)	6	16	47	(10)	37	125	(23)		3,689	829
Hungary	12,120	(17)	4,392	(15)	12	(22)	106	(29)	4	79	(68)		3,437	1,058
Iceland	..	..	..	..	..	..	87	15	..	..	..		3,313	1,347
Ireland	2,044	5	7,241	14	8	21	273	15	..	637	(5)	e	3,649	1,195
Italy	20,584	15	4,920	23	3	23	72	5	24	161	(7)	e	3,629	937
Latvia	882	..	2,090	..	12	2	25	..	1	25	..		2,904	721
Lithuania	2,333	..	2,480	..	13	(1)	51	..	0	51	..		2,959	669
Macedonia, FYR	598	..	2,711	..	12	19	17	..	9	68	..		2,878	489
Moldova, Rep	2,082	..	2,437	..	19	(0)	21	..	14	23	..		2,728	400
Netherlands	1,611	21	7,701	11	8	68	183	2	60	517	(25)	e	3,243	1,178
Norway	1,290	(8)	3,928	(0)	6	19	58	14	14	225	(11)	e	3,425	1,132
Poland	25,107	(9)	2,861	(11)	8	8	74	(4)	1	111	(51)	e	3,368	894
Portugal	1,548	(8)	2,729	35	7	62	74	31	24	94	5	e	3,768	1,067
Romania	14,687	(20)	2,569	(17)	16	2	51	(25)	27	31	(77)		3,254	742
Russian Federation	67,270	..	1,767	..	21	5	30	..	4	11	..		2,879	654
Serbia and Montenegro	7,716	..	3,518	..	14	(11)	81	..	1	51	..		2,805	946
Slovakia	2,836	..	3,559	..	11	(18)	56	..	11	66	..	e	3,101	800
Slovenia	489	..	4,912	..	8	55	87	..	1	376	..		3,089	1,015
Spain	20,274	5	3,047	22	17	18	125	42	20	121	19	e	3,353	929
Sweden	5,417	(5)	4,557	(1)	11	(29)	63	7	4	102	(23)	e	3,141	1,030
Switzerland	1,123	(16)	6,204	(2)	5	31	59	(15)	6	273	(37)	e	3,258	1,086
Ukraine	28,856	..	2,226	..	18	(1)	33	..	7	15	..		2,809	611
United Kingdom	21,698	(4)	6,836	11	7	(11)	58	1	2	342	(5)	e	3,318	1,050
MIDDLE EAST & N. AFRICA	**78,527**	**(1)**	**2,585**	**14**	**6**	**44**	**21**	**13**	**28**	**62**	**7**		**3,003**	**301**
Afghanistan	3,257	18	1,285	7	10	..	15	(12)	30	1	(91)	e	1,755	373
Algeria	1,819	(27)	929	9	44	89	17	1	7	14	(35)		2,966	300
Egypt	19,657	55	7,238	30	10	33	21	53	100	347	(6)	e	3,323	241
Iran, Islamic Rep	12,990	0	1,806	32	10	44	21	24	39	58	(10)	e	2,898	269
Iraq	1,408	(45)	530	(43)	25	78	5	(59)	64	69	117		2,446	91
Israel	197	(40)	2,411	(19)	23	94	59	14	45	277	22	e	3,542	660
Jordan	50	(53)	1,949	87	31	96	27	37	19	61	9		2,834	318
Kuwait	3	114	2,260	(45)	26	100	42	111	100	..	..		3,167	737
Lebanon	95	19	2,415	24	6	89	35	10	39	198	156		3,256	460
Libyan Arab Jamahiriya	215	(24)	637	(6)	13	88	35	13	22	26	(36)		3,277	386
Morocco	3,492	(53)	670	(50)	49	72	19	7	14	33	(8)		3,010	198
Oman	5	9	2,266	7	2	98	12	(18)	81	90	20		..	..
Saudi Arabia	2,293	(46)	3,649	(13)	35	75	28	6	43	89	(39)		2,953	446
Syrian Arab Rep	3,990	54	1,304	95	16	33	22	23	22	65	42	e	3,272	407
Tunisia	1,581	(3)	1,109	(0)	36	68	26	43	7	21	(0)		3,388	322
Turkey	28,829	2	2,187	6	6	1	20	(3)	17	75	21		3,469	374
United Arab Emirates	0	(85)	598	(69)	64	100	34	25	57	262	47	e	3,182	798
Yemen	679	(2)	1,094	26	10	75	9	(16)	29	17	69		2,002	129

	Average Production of Cereals		Average Cereal Crop Yields		Variation in Domestic Cereal Production	Net Trade of Cereals (imports - exports) as a Percent of Consumption	Average Meat Production Per Capita {a}		Irrigated Land as a Percentage of Total Cropland	Average Annual Fertilizer Use			Average Daily Per Capita Calorie Supply {a,b} Kilocalories, 1999	
	000 Metric Tons 1999-2001 {c}	Percent Change Since 1989-91	Kg Per Hectare 1999-2001 {c}	Percent Change Since 1989-91	(% variation from mean) 1992-2001	2000 {d}	Kg Per Person 1999-2001 {c}	Percent Change Since 1989-91	1999	Kg/ha of Cropland 1997-99 {c}	Percent Change Since 1987-89		Total	From Animal Products
SUB-SAHARAN AFRICA	**87,715**	**18**	**1,221**	**6**	**7**	**13**	**12**	**(8)**	**4**	**12**	**(5)**		**2,238**	**152**
Angola	570	91	630	86	24	42	11	2	2	1	(83)	e	1,873	146
Benin	882	56	1,047	22	14	17	10	(22)	1	24	528	e	2,489	92
Botswana	21	(64)	146	(52)	52	86	42	(11)	0	12	457	e	2,288	386
Burkina Faso	2,594	31	880	23	8	8	11	3	1	14	167	e	2,376	113
Burundi	261	(12)	1,290	(5)	7	11	4	(28)	7	3	(7)	e	1,628	41
Cameroon	1,350	52	1,842	56	12	18	14	(4)	0	6	13		2,260	127
Central African Rep	184	78	1,217	30	23	20	25	14	..	0	(30)		1,978	182
Chad	1,181	74	555	(4)	15	4	15	(13)	1	4	153	e	2,206	145
Congo	8	(32)	782	8	16	97	9	(6)	0	21	321		2,212	124
Congo, Dem Rep	1,616	10	782	(2)	3	16	5	(24)	0	0	(78)		1,637	46
Côte d'Ivoire	1,878	53	1,307	49	16	27	10	(3)	1	12	119		2,582	89
Equatorial Guinea	..	..	..	..	..	..	1	(5)	..	0	..	e	..	..
Eritrea	227	..	671	..	49	32	8	..	4	17	..		1,646	105
Ethiopia {j}	8,812	50	1,164	(6)	21	1	10	(18)	2	15	192		1,803	104
Gabon	27	16	1,638	2	5	77	26	(10)	3	0	(89)		2,487	322
Gambia	172	73	1,298	20	25	45	5	(25)	1	8	(18)		2,598	124
Ghana	1,702	47	1,305	21	6	21	8	(15)	0	3	17		2,590	97
Guinea	1,052	67	1,311	25	14	17	5	47	6	2	186	e	2,133	71
Guinea-Bissau	157	(5)	1,271	(18)	10	22	15	1	5	1	(18)	e	2,245	160
Kenya	2,869	(1)	1,477	(6)	9	21	14	(10)	1	31	25		1,886	231
Lesotho	322	90	1,337	66	38	32	12	(25)	0	17	26	e	2,300	109
Liberia	188	(2)	1,278	24	43	42	7	(19)	1	0	(100)		2,089	66
Madagascar	2,583	2	1,831	(6)	4	6	17	(17)	35	2	(3)		1,994	206
Malawi	2,650	70	1,634	48	28	4	4	(3)	1	25	(6)		2,164	52
Mali	2,690	27	1,113	23	11	5	19	0	3	8	12		2,314	208
Mauritania	177	36	718	(14)	17	..	24	(23)	10	1	(81)	e	2,703	412
Mozambique	1,656	163	929	130	33	21	5	(18)	3	2	108	e	1,939	55
Namibia	106	3	347	(28)	36	..	49	0	1	0	..	e	2,096	235
Niger	2,718	28	358	5	16	11	12	(5)	1	0	(61)	e	2,064	110
Nigeria	22,729	26	1,197	3	4	9	8	(10)	1	6	(46)		2,833	82
Rwanda	239	(17)	891	(23)	19	17	5	5	0	0	(66)	e	2,011	54
Senegal	1,061	6	854	4	11	44	18	16	3	11	42	e	2,307	206
Sierra Leone	241	(57)	1,092	(11)	25	55	5	2	5	2	27	e	2,017	71
Somalia	278	(44)	544	(24)	20	30	20	(14)	19	0	(83)		1,555	621
South Africa	11,123	(13)	2,334	14	24	6	36	(8)	9	49	(12)		2,805	351
Sudan	3,268	18	484	(3)	22	14	22	29	12	4	(11)		2,360	462
Tanzania, United Rep	3,787	(8)	1,273	(8)	11	13	9	(12)	3	7	(78)		1,940	125
Togo	745	48	1,096	36	12	29	7	(21)	0	7	32	e	2,528	105
Uganda	2,200	38	1,605	8	10	5	11	(3)	0	0	413		2,238	133
Zambia	1,055	(28)	1,437	(8)	22	7	11	(7)	1	9	(44)		1,934	90
Zimbabwe	2,175	(9)	1,221	(18)	30	1	14	4	3	53	3		2,076	105
NORTH AMERICA	**384,394**	**11**	**5,525**	**26**	**7**	**(35)**	**132**	**18**	**10**	**101**	**16**		**3,696**	**1,038**
Canada	49,839	(6)	2,772	12	5	(69)	130	29	2	58	23	e	3,161	927
United States	334,554	14	5,824	27	7	(32)	133	17	13	111	16	e	3,754	1,050
C. AMERICA & CARIBBEAN	**33,983**	**17**	**2,529**	**14**	**3**	**38**	**37**	**26**	**19**	**66**	**(13)**		**2,850**	**460**
Belize	46	67	1,912	17	18	28	43	(0)	3	58	(22)	e	2,889	618
Costa Rica	319	22	4,023	45	14	70	46	(4)	21	371	91		2,761	506
Cuba	541	(1)	2,601	11	23	..	22	(26)	19	41	(75)		2,490	348
Dominican Rep	659	24	4,105	4	11	69	39	25	17	65	25		2,334	341
El Salvador	796	1	2,098	14	9	46	36	158	5	109	(4)		2,463	310
Guatemala	1,165	(18)	1,779	(9)	10	35	20	21	7	112	67	e	2,331	197
Haiti	415	2	899	(10)	6	54	11	28	8	12	290		1,978	117
Honduras	589	(11)	1,327	(5)	10	44	22	24	4	79	298	e	2,396	384
Jamaica	2	(39)	1,183	(4)	29	100	39	28	9	85	(34)		2,708	455
Mexico	28,405	21	2,765	18	4	32	45	33	24	64	(8)		3,168	562
Nicaragua	682	50	1,706	15	10	22	21	11	3	15	(44)		2,314	166
Panama	347	3	2,732	45	7	49	50	19	5	56	(4)		2,496	549
Trinidad and Tobago	12	(28)	2,928	4	30	94	23	(2)	2	64	111		2,703	435
SOUTH AMERICA	**106,762**	**45**	**3,004**	**39**	**8**	**(4)**	**71**	**34**	**9**	**74**	**42**		**2,845**	**603**
Argentina	37,398	87	3,397	45	17	(157)	109	1	6	30	406		3,177	1,010
Bolivia	1,217	44	1,577	16	9	27	48	21	6	3	(8)	e	2,237	410
Brazil	49,886	32	2,825	51	6	19	85	60	4	90	36		3,012	642
Chile	2,624	(12)	4,453	15	9	42	59	52	78	200	119		2,858	611
Colombia	3,622	(11)	3,236	31	6	38	33	(4)	19	140	42		2,567	436
Ecuador	1,985	40	2,212	29	7	19	35	41	29	54	116		2,679	439
Guyana	564	159	3,960	24	18	(54)	20	138	30	30	2		2,569	412
Paraguay	1,153	41	2,092	14	15	(7)	79	(1)	3	29	326	e	2,588	610
Peru	3,603	82	2,977	20	22	39	35	51	28	53	(1)		2,621	344
Suriname	170	(26)	3,830	2	13	(8)	18	(52)	76	107	49		2,604	394
Uruguay	2,055	67	3,796	57	12	(67)	178	21	14	100	96		2,862	1,109
Venezuela	2,465	21	3,341	35	8	46	43	7	16	71	(54)		2,229	355
OCEANIA	**35,238**	**59**	**2,976**	**37**	**16**	**(124)**	**170**	**3**	**..**	**53**	**57**		**2,969**	**825**
Australia	34,332	61	2,058	24	16	(145)	195	9	5	44	52	e	3,150	961
Fiji	17	(43)	2,619	14	18	89	27	(1)	1	61	(42)		2,934	561
New Zealand	870	11	6,303	29	6	21	344	(4)	9	201	123	e	3,152	1,048
Papua New Guinea	11	169	4,079	75	21	97	15	9	..	15	(40)	e	2,186	234
Solomon Islands	5	..	3,999	..	123	88	6	(16)	..	..	..	e	2,222	172
DEVELOPED	**860,966**	**..**	**4,479**	**..**	**3**	**(16)**	**79**	**..**	**10**	**81**	**..**		**3,242**	**861**
DEVELOPING	**1,210,555**	**17**	**3,131**	**15**	**4**	**8**	**27**	**44**	**24**	**100**	**38**		**2,684**	**346**

a. Data are collected from Oct. 1 to Sept. 30. Data from 1999, for example, are actually from October 1998 to September 1999. **b**. 1 kilocalorie = 1 Calorie (U.S.) = 4.19 kilojoules. Figures represent the average supply available for the population as a whole and do not account for variations among individuals. **c**. Data from three years are averaged to produce the above values. **d**. Includes food aid. **e.** Data are collected from July 1 to June 30. Data from 1999, for example, are actually from July 1999 to June 2000. **f**. Data for China include Taiwan. **g**. Data relating to Kashmir-Jammu are generally included under India and excluded from figures for Pakistan. Data for Sikkim are included under India. **h.** Most data for recent years include those from East Timor. **i**. Inconsistencies with cropland or irrigated land data can cause values to erroneously be reported as greater than 100%. **j**. Data before 1993 include Eritrea.

VARIABLE DEFINITIONS AND METHODOLOGY

Data on agricultural production, yield, and trade published by the Food and Agriculture Organization of the United Nations (FAO) are generally gathered by surveys sent to, and filled out by, individual country governments or agencies. These results are compiled by FAO, who supplement missing or inaccurate data with their own estimates.

Average Production of Cereals refers to the amount of cereals produced in a given country or region each year. Data are reported in thousand metric tons. **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. Data relate to crops harvested for dry grain only. Harvesting losses, threshing losses, and unharvested portions of the crop are not included. Production therefore includes the quantities of the commodity sold in the market (marketed production) and the quantities consumed or used by the producers (auto-consumption). Cereal crops harvested for hay or harvested green for food, feed, or silage or used for grazing are excluded, although mixed grains and buckwheat are included. The time reference on crop production is based on the calendar year (Jan. to Dec.). That is to say, the data for any particular crop are reported under the calendar year in which the entire harvest or the bulk of it took place. In a number of cases, crops harvested during a split year (starting in November and ending in February, for example) may appear under two different calendar years.

Average Cereal Crop Yields refers to the amount of grain produced per unit of harvested area of cereals in a given country or region each year (i.e. average yield=total production/harvested area). Data are reported in kilograms per hectare of cropland. Area data relate to harvested area. Some countries report sown or cultivated area instead; however, in these countries the sown or cultivated area does not differ significantly in normal years from the area actually harvested, either because practically the whole area sown is harvested or because the area surveys are conducted around the harvest period. For most countries, FAO does not directly record yield data but instead divides production data by the area harvested for a particular country and year. In all cases, yields are computed from detailed area and production data.

Variation in Domestic Cereal Production, expressed as a percentage**,** is found by taking the average variation (absolute deviation from mean) of cereal production between 1992 and 2001 and dividing this by the mean production. This is an indicator of whether cereal production is stable enough to ensure a predictable food supply. Please refer to the definition of cereal production for more information.

Net Trade of Cereals as a Percent of Consumption indicates whether countries are able to produce sufficient grain for domestic consumption. It is calculated by dividing net imports (imports minus exports) by total cereal consumption (production + imports – exports). Import and export data have, for the most part, been supplied to FAO by governments through magnetic tapes, national publications and, most frequently, FAO questionnaires. Official trade data have sometimes been supplemented with data from unofficial sources, or trade information supplied by other national or international agencies or organizations. Cereal food aid shipments are included in FAO's import and export calculations. Information on food aid shipments has been provided to FAO by the World Food Program (please see http://www.wfp.org).

Average Meat Production Per Capita refers to the mass of meat in kilograms produced annually per person in a given country. Values were calculated by dividing the amount of meat produced (in kilograms) by the population of a given country in a given year. Total meat production comprises horse meat, poultry meat and meat from all other domestic or wild animals such as camels, rabbits, reindeer, and game animals. Both commercial and farm slaughter are included. Meat production for most species is calculated by multiplying the number of animals slaughtered by the average dressed carcass weight. Dressed carcass weights exclude offal and slaughter fats. Data relate to animals slaughtered within national boundaries, irrespective of their origin. Production data were collected mostly from annual FAO surveys completed by governments. Data have been grouped in 12-month periods ending 30 September of the years stated in the tables. For example, animals enumerated in a given country at any time between 1 October and 30 September of the following year are shown under the latter year.

Irrigated Land as a Percentage of Total Cropland refers to the proportion of cropland 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.

Cropland includes arable and permanent cropland. 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 flowering shrubs, fruit trees, nut trees, and vines, but excludes land under trees grown for wood or timber. Data on land use are reported by country governments in questionnaires distributed by the FAO. However, for this variable, a significant percentage of data is based on FAO estimates, and some data are based on unofficial estimates.

Average Annual Fertilizer Use measures the amount of the nutrients nitrogen (N), potash (K_2O), and phosphate (P_2O_5) consumed annually per unit of cropland (see above for more information on cropland data). Data are reported in kg per hectare of cropland. Some countries report data based on the fertilizer year, from 1 July–30 June. For these countries, 1999 data were actually collected from 1 July 1999 to 30 June 2000. Data are collected through the FAO fertilizer questionnaire.

Average Daily Per Capita Calorie Supply refers to the amount of available food per person, per day, expressed in kilocalories (1 kilocalorie = 1 Calorie = 4.19 kilojoules). **Calorie Supply From Animal Products** refers to the amount of available food from animal products per person, per day. Animal products include: all types of meat and fish; animal fats and fish oils; edible offal; milk, butter, cheese, and cream; and eggs and egg products. FAO compiles statistics on apparent food consumption based on Supply/Utilization Accounts (SUAs) maintained in FAOSTAT. SUAs are time series data dealing with statistics on supply and utilization. For each 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, where appropriate. For internal consistency, total supply balances with total utilization. In many cases, commodities are not consumed in the primary form in which they are presented, e.g., cereals enter the household mainly in processed form like flour, meal, husked or milled rice. To take this fact into account, the caloric value has been derived by applying the appropriate food composition factors to the quantities of the processed commodities, not by 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. In almost all cases, the population figures used are the mid-year estimates published by the United Nations Population Division.

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. Population data used in per capita calculations are updated every two years by the United Nations Population Division. These updates often include revisions of past data.

DATA RELIABILITY AND CAUTIONARY NOTES

Agricultural data on production and trade reported to FAO are governed by established accounting practices and are therefore generally considered to be reliable. However, countries vary in the quality of data they have available to report. In addition, problems arise in compiling these data into internationally comparable agricultural statistics and in estimating data that are missing. Each variable in FAO's database can have as many as 30,000 data points associated with it for different countries and years. Officials need to ascertain, based on limited information, which one of various figures reported by various sources (national publications, FAO questionnaires, international publications, etc.) is the most recent or the most reliable. Variable definitions and coverage do not always conform to FAO recommendations, and therefore may not always be completely consistent across countries.

Production of subsistence crops and livestock is seldom reported in records of sales and processing, resulting in missing data points. Estimates of missing data are usually made by following the observed trend of the commodity in question in previous years, while also considering the trends in neighboring countries. When a complete time series is missing for a particular data set, FAO officials base their estimates on first-hand accounts through country visits and data from neighboring countries. For more information, please refer to http://www.fao.org/ES/ESS/index.htm.

Cereal Production and Yields rely on accurate estimates of the sown and harvested crop area. However, in many countries, governments change the area sown each year to control prices and production through subsidies and other programs. Weather, soil quality, and seed availability often affect crop area in developing countries.

Average Meat Production estimates rely on accurate production figures from processing plants and import/export figures of live animals. Trade data are usually given by number rather than by weight, and the size of most domestic animals can vary by a factor of 10 or more depending on the age and condition of the animal. As a result, estimates of "average carcass weight" used to determine meat production vary in accuracy.

Average Annual Fertilizer Use 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.

Per Capita Calorie Supply figures shown in the commodity balances represent only the average 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 could be considerable variation in consumption among individuals. Food supply data are only as accurate as the underlying production, trade, and utilization data.

SOURCES

Agricultural Variables: Food and Agriculture Organization of the United Nations (FAO). 2002. FAOSTAT On-line Statistical Service. Rome: FAO. Data available on-line at: http://apps.fao. org/. **Population** (used to calculate per capita values): Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. 2002. World Population Prospects: The 2000 Revision. New York: United Nations. Data set on CD-ROM.

Biodiversity and Protected Areas

Sources: United Nations Environment Programme-World Conservation Monitoring Centre (UNEP-WCMC), Ramsar Convention Bureau, United Nations Educational, Scientific and Cultural Organization (UNESCO), World Conservation Union (IUCN), Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES).

	Nationally Protected Areas					Known and Threatened Species (1992-2002)						International Legal Net Trade Reported by CITES, 2000 (imports minus exports) {b}		
	Protected Areas Under IUCN Management Categories I - VI (1992-2003) {a}			Wetlands of Int'l Importance	Biosphere Reserves	Mammals		Birds		Higher Plants				
	Total Number	Percent of Land Protected	Number of Marine Areas {c}	Area (000 ha) 2002	Area (000 ha) 2002	Known Species	Number Threat-ened	Breeding Bird Species	Number Threat-ened	Known Species	Number Threat-ened	Live Pri-mates	Live Parrots	Animal Skins {d}
WORLD {e}	**63,478**	**11.3**	**..**	**102,283**	**439,000**	**..**	**..**	**..**	**..**	**..**	**..**	**35,421**	**518,577**	**3,698,726**
ASIA (EXCL. MIDDLE EAST)	**3,655**	**7.6**	**..**	**5,641**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**(19,366)**	**(136,381)**	**(1,406,468)**
Armenia	5	7.6	..	492	..	84	11	236	4	3,553	1	..	(2)	..
Azerbaijan	35	6.1	3	100	..	99	13	229	8	4,300	0	..	..	..
Bangladesh	10	0.8	3	606	..	125	23	166	23	5,000	12	..	89	..
Bhutan	10	25.1	..	..	..	160	22	209	12	5,468	7	..	..	..
Cambodia	23	18.5	1	55	1,481	123	24	183	19	..	29	(200)	..	..
China	809	7.8	30	2,548	3,316	394	79	618	74	32,200	168	(10,519)	(192,459)	67,287
Georgia	17	2.3	1	34	..	107	13	208	3	4,350	..	..	(1)	..
India	497	5.2	60	195	1,515	390	88	458	72	18,664	244	..	4	0
Indonesia	1,080	20.6	95	243	2,062	515	147	929	114	29,375	384	(3,324)	25,025	(834,103)
Japan	96	6.8	19	84	116	188	37	210	34	5,565	11	4,863	27,417	427,978
Kazakhstan	73	2.7	1	..	..	178	16	379	15	6,000	1	7	3	..
Korea, Dem People's Rep	31	2.6	..	..	132	..	13	150	19	2,898	3	25	4	1,828
Korea, Rep	30	6.9	7	1	39	49	13	138	25	2,898	0	51	370	57,126
Kyrgyzstan	78	3.6	..	..	4,335	83	7	168	4	4,500	1	..	..	..
Lao People's Dem Rep	20	12.5	..	..	..	172	31	212	20	8,286	18	..	..	(4)
Malaysia	190	5.7	63	38	..	300	50	254	37	15,500	681	76	11,297	(772,717)
Mongolia	42	11.5	..	631	6,139	133	14	274	16	2,823	0	..	..	..
Myanmar	4	0.3	1	..	..	300	39	310	35	7,000	37	(4)	67	..
Nepal	15	8.9	..	18	..	181	31	274	25	6,973	6	2	135	..
Pakistan	83	4.9	2	284	66	188	19	237	17	4,950	2	20	(17,274)	..
Philippines	43	5.7	7	68	1,174	153	50	404	67	8,931	193	(2,085)	788	1,009
Singapore	5	4.9	..	..	..	85	3	142	7	2,282	54	83	5,484	(301,905)
Sri Lanka	110	13.5	13	8	36	88	22	126	14	3,314	280	(3)	476	..
Tajikistan	19	4.2	..	95	..	84	9	210	7	5,000	2	..	..	..
Thailand	158	13.9	18	132	85	265	37	285	37	11,625	78	63	2,587	(36,938)
Turkmenistan	23	4.2	1	..	35	103	13	204	6	..	0	..	..	..
Uzbekistan	11	2.0	..	..	57	97	9	203	9	4,800	1	(1)	98	..
Viet Nam	107	3.7	7	12	333	213	40	262	37	10,500	126	(3,149)	(2,751)	(109,458)
EUROPE	**39,432**	**8.3**	**..**	**19,248**	**128,034**	**..**	**..**	**..**	**..**	**..**	**..**	**13,583**	**305,812**	**1,868,230**
Albania	52	3.8	7	20	..	68	3	193	3	3,031	0	..	..	..
Austria	719	33.0	..	118	47	83	7	230	3	3,100	3	4	(3)	401
Belarus	903	6.3	..	204	305	74	7	194	3	2,100	0	..	..	..
Belgium	73	X	2	8	..	58	11	191	2	1,550	0	792	6,841	230
Bosnia and Herzegovina	21	0.5	..	7	..	72	10	205	3	..	1	..	..	..
Bulgaria	127	4.5	1	3	38	81	14	248	10	3,572	0	(3)	41	(2)
Croatia	195	7.5	13	80	200	76	9	224	4	4,288	0	18	15	..
Czech Rep	1,789	16.1	..	42	435	81	8	205	2	1,900	4	101	(14,058)	3
Denmark	255	34.0	52	2,283	97,200	43	5	196	1	1,450	3	(9)	(365)	1,632
Estonia	219	11.8	3	216	1,560	65	4	204	3	1,630	0	(3)	0	122
Finland	270	9.3	3	139	770	60	5	243	3	1,102	1	..	6	..
France	1,325	13.3	70	795	900	93	18	283	5	4,630	2	3,437	12,422	310,941
Germany	7,315	31.9	..	829	1,559	76	11	247	5	2,682	12	1,129	4,927	403,919
Greece	88	3.6	10	164	9	95	13	255	7	4,992	2	58	19,717	281
Hungary	186	7.0	..	154	129	83	9	208	8	2,214	1	(33)	(275)	19,858
Iceland	79	9.8	5	59	..	11	6	93	0	377	0	(40)	197	1
Ireland	73	1.7	3	67	11	25	5	143	1	950	1	1	13	..
Italy	427	7.9	28	57	204	90	14	250	5	5,599	3	270	27,557	776,148
Latvia	209	13.4	2	43	474	83	4	216	3	1,153	0	(15)	(4)	..
Lithuania	79	10.3	3	50	..	68	5	201	4	1,796	0	..	155	..
Macedonia, FYR	26	7.1	..	19	..	78	11	199	3	3,500	0	..	..	..
Moldova, Rep	63	1.4	..	19	..	68	6	175	5	1,752	0	..	..	..
Netherlands	86	14.2	10	327	260	55	10	192	4	1,221	0	1,364	1,094	73
Norway	178	6.8	10	70	..	54	10	241	2	1,715	2	(2)	7,386	42
Poland	579	12.4	4	90	398	84	15	233	4	2,450	4	54	683	(735)
Portugal	58	6.6	16	66	1	63	17	235	7	5,050	15	14	79,785	618
Romania	157	4.7	7	665	662	84	17	257	8	3,400	1	..	11	18
Russian Federation	10,863	7.8	14	10,324	20,532	269	45	528	38	11,400	7	2,112	3,001	(457)
Serbia and Montenegro	104	3.3	..	40	..	96	12	238	5	4,082	1	2,047	(1)	..
Slovakia	1,040	22.8	..	38	241	85	9	199	4	3,124	2	1	(2,519)	4
Slovenia	32	6.0	1	1	..	75	9	201	1	3,200	0	..	1,187	140
Spain	328	8.5	27	158	1,181	82	24	281	7	5,050	14	452	152,460	251,411
Sweden	3,632	9.1	46	515	97	60	7	259	2	1,750	3	(10)	(6,145)	12
Switzerland	2,177	30.0	..	7	212	75	5	199	2	3,030	2	(40)	129	18,893
Ukraine	5,182	3.9	10	716	343	108	16	245	8	5,100	1	3	89	3
United Kingdom	579	20.9	95	855	30	50	12	229	2	1,623	13	1,881	7,828	84,667
MIDDLE EAST & N. AFRICA	**561**	**9.2**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**(296)**	**50,330**	**2,428**
Afghanistan	7	0.3	..	..	..	119	13	181	11	4,000	1	..	..	..
Algeria	18	5.0	4	1,866	7,312	92	13	183	6	3,164	2	..	4	(3)
Egypt	35	9.7	12	106	2,456	98	13	123	7	2,076	2	(13)	(17)	(1)
Iran, Islamic Rep	78	4.8	6	1,476	2,753	140	22	293	13	8,000	1	55	2	..
Iraq	8	0.0	..	..	..	81	11	140	11	..	0	..	..	..
Israel	188	15.8	8	0	27	116	14	162	12	2,317	0	(273)	6,852	1
Jordan	11	3.4	..	7	31	71	10	117	8	2,100	0	(4)	373	..
Kuwait	5	1.5	2	..	..	21	1	35	7	234	0	..	16,278	0
Lebanon	3	0.5	1	1	..	57	5	116	7	3,000	0	2	1,926	528
Libyan Arab Jamahiriya	8	0.1	3	..	..	76	8	76	1	1,825	1	..	0	..
Morocco	12	0.7	4	14	9,754	105	16	206	9	3,675	2	(5)	48	38
Oman	6	14.0	2	..	..	56	9	109	10	1,204	6	14	22	..
Saudi Arabia	78	38.3	3	..	..	77	8	125	15	2,028	3	86	9,699	438
Syrian Arab Rep	X	X	..	10	..	63	4	145	8	3,000	0	..	(1)	..
Tunisia	7	0.3	2	13	74	78	11	165	5	2,196	0	5	432	..
Turkey	78	1.6	14	159	..	116	17	278	11	8,650	3	6	2,147	1,422
United Arab Emirates	2	0.0	..	..	..	25	3	34	8	..	0	29	9,241	5
Yemen	X	X	..	..	..	66	5	93	12	1,650	52	..	..	..

	Nationally Protected Areas					Known and Threatened Species (1992-2002)						International Legal Net Trade Reported by CITES, 2000 (imports minus exports) {b}		
	Protected Areas Under IUCN Management Categories I - VI (1992-2003) {a}			Wetlands of Int'l Importance Area (000 ha) 2002	Biosphere Reserves Area (000 ha) 2002	Mammals		Birds		Higher Plants				
	Total Number	Percent of Land Protected	Number of Marine Areas {c}			Known Species	Number Threat-ened	Breeding Bird Species	Number Threat-ened	Known Species	Number Threat-ened	Live Pri-mates	Live Parrots	Animal Skins {d}
SUB-SAHARAN AFRICA	**1,486**	**8.8**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**(12,677)**	**(201,235)**	**(399,556)**
Angola	14	6.6	4	..	..	276	19	265	15	5,185	19	..	(8)	..
Benin	5	11.4	..	139	623	188	8	112	2	2,500	11	1	2	..
Botswana	12	18.5	..	6,864	..	164	6	184	7	2,151	0	..	349	(85)
Burkina Faso	13	11.5	..	299	186	147	7	138	2	1,100	2	(1)	(3)	(1)
Burundi	13	5.7	1	1	..	107	6	145	7	2,500	2	..	..	..
Cameroon	18	4.5	2	..	876	409	40	165	15	8,260	155	(36)	(18,057)	(12)
Central African Rep	14	8.7	..	..	1,640	209	14	168	3	3,602	10	..	(19)	..
Chad	9	9.1	..	1,843	..	134	17	141	5	1,600	2	..	1	(76,139)
Congo	12	5.0	1	439	246	200	15	130	3	6,000	33	(2)	(2,102)	..
Congo, Dem Rep	43	6.5	..	866	283	450	40	345	28	11,007	55	(22)	(15,780)	..
Côte d'Ivoire	12	6	3	19	1,770	230	19	252	12	3,660	101	(5)	(2,727)	(5)
Equatorial Guinea	X	X	..	..	..	184	16	172	5	3,250	23	(1)	(5)	..
Eritrea	3	4.3	..	..	..	112	12	138	7	..	3	..	..	..
Ethiopia	39	16.9	..	..	..	277	35	262	16	6,603	22	..	..	(931)
Gabon	3	0.7	2	1,080	15	190	15	156	5	6,651	71	42	(42)	..
Gambia	6	2.3	5	20	..	117	3	154	2	974	3	1	15	..
Ghana	16	5.6	..	178	8	222	14	206	8	3,725	115	(44)	(2)	(15)
Guinea	3	0.7	..	4,779	261	190	12	109	10	3,000	21	(27)	(17,584)	(16,012)
Guinea-Bissau	X	X	..	39	110	108	3	235	0	1,000	4	..	(7)	..
Kenya	68	8.0	11	91	1,335	359	51	344	24	6,506	98	(218)	(32)	(2,465)
Lesotho	1	0.2	..	..	..	33	3	123	7	1,591	0	..	..	..
Liberia	2	1.7	1	..	..	193	17	146	11	2,200	46	..	(3,000)	(1)
Madagascar	62	4.3	2	53	293	141	50	172	27	9,505	162	0	(3,899)	(5,601)
Malawi	9	11.2	..	225	45	195	8	219	11	3,765	14	..	2	(199)
Mali	13	3.7	..	162	2,500	137	13	191	4	1,741	6	..	(6,829)	(69,323)
Mauritania	9	1.7	3	1,231	..	61	10	172	2	1,100	0	..	10	(1)
Mozambique	12	8.4	6	..	..	179	14	144	16	5,692	36	(1)	(57)	(758)
Namibia	21	13.6	4	630	..	250	15	201	11	3,174	5	2	1,007	(261)
Niger	6	7.7	..	715	25,128	131	11	125	3	1,460	2	17	2	..
Nigeria	27	3.3	..	58	131	274	27	286	9	4,715	119	..	0	(3)
Rwanda	6	6.2	..	..	13	151	9	200	9	2,288	3	..	..	..
Senegal	14	11.6	6	100	1,094	192	12	175	4	2,086	7	(154)	(30,283)	8,950
Sierra Leone	6	2.1	..	295	..	147	12	172	10	2,090	43	..	(1,108)	(75)
Somalia	10	0.8	1	..	..	171	19	179	10	3,028	17	..	..	..
South Africa	542	5.5	20	499	3,371	247	42	304	28	23,420	45	(342)	(99,390)	(26,761)
Sudan	27	5.2	1	..	1,251	267	23	280	6	3,137	17	..	51	(152,270)
Tanzania, United Rep	98	29.8	..	4,272	5,228	316	42	229	33	10,008	236	(4,424)	(82)	(1,582)
Togo	9	7.9	..	194	..	196	9	117	0	3,085	9	..	(436)	(4,079)
Uganda	54	24.6	..	15	247	345	20	243	13	4,900	33	..	..	(508)
Zambia	77	31.9	..	333	..	233	11	252	11	4,747	8	2	54	(12,428)
Zimbabwe	68	12.1	..	..	..	270	11	229	10	4,440	14	(1)	(1,226)	(53,403)
NORTH AMERICA	**7,412**	**23.4**	**..**	**14,241**	**35,943**	**..**	**..**	**..**	**..**	**..**	**..**	**15,476**	**26,860**	**213,733**
Canada	3,822	11.1	109	13,052	4,373	193	14	310	8	3,270	1	629	2,716	1,839
United States	3,481	25.9	229	1,190	31,570	428	37	508	55	19,473	..	14,845	24,034	211,894
C. AMERICA & CARIBBEAN	**1,476**	**15.1**	**..**	**3,186**	**15,729**	**..**	**..**	**..**	**..**	**..**	**..**	**(530)**	**(3,400)**	**710,492**
Belize	53	45.1	11	7	..	125	4	161	2	2,894	28	..	(68)	..
Costa Rica	130	23.0	14	313	729	205	14	279	13	12,119	109	2	118	..
Cuba	321	69.1	43	452	1,384	31	11	86	18	6,522	160	1	(15,944)	..
Dominican Rep {f}	61	51.9	12	20	..	20	5	79	15	5,657	29	6	662	..
El Salvador	3	0.4	2	2	..	135	2	141	0	2,911	23	6	0	(50)
Guatemala	42	20.0	3	503	2,350	250	6	221	6	8,681	77	(5)	3,757	..
Haiti	8	0.4	..	..	..	20	4	62	14	5,242	27	..	..	..
Honduras	72	6.4	10	172	800	173	10	232	5	5,680	108	4	1,412	..
Jamaica	143	84.6	2	6	..	24	5	75	12	3,308	206	..	..	2
Mexico	224	10.2	34	1,157	6,770	491	70	440	39	26,071	..	500	10,190	694,613
Nicaragua	73	17.8	4	406	2,182	200	6	215	5	7,590	39	(6)	(6,327)	(3,164)
Panama	33	21.7	10	111	1,515	218	20	302	16	9,915	193	38	1,084	19,090
Trinidad and Tobago	25	6.0	6	6	..	100	1	131	1	2,259	1	0	147	..
SOUTH AMERICA	**1,697**	**10.6**	**..**	**23,360**	**163,832**	**..**	**..**	**..**	**..**	**..**	**..**	**(1,812)**	**(50,450)**	**(1,023,927)**
Argentina	320	6.6	26	2,670	2,848	320	34	362	39	9,372	42	2	(18,474)	(326,123)
Bolivia	23	13.4	..	5,504	735	316	24	504	28	17,367	70	..	(2)	..
Brazil	802	6.7	70	6,346	125,042	394	81	686	114	56,215	..	14	31	18,460
Chile	87	18.9	26	100	2,479	91	21	157	22	5,284	40	(2)	547	..
Colombia	101	10.2	11	439	3,338	359	41	708	78	51,220	213	(4)	97	(544,565)
Ecuador {f}	27	18.3	4	83	17,375	302	33	640	62	19,362	197	(1)	(1)	(2)
Guyana	1	0.3	..	..	..	193	11	242	2	6,409	23	(1,220)	(12,562)	..
Paraguay	20	3.5	..	775	280	305	10	233	26	7,851	10	..	(1,477)	(171,373)
Peru	36	6.1	4	6,759	3,268	460	49	695	76	17,144	269	(321)	(2,171)	(3)
Suriname	18	4.9	4	12	..	180	12	235	1	5,018	27	(283)	(9,410)	..
Uruguay	13	0.3	4	407	200	81	6	115	11	2,278	1	..	(8,929)	..
Venezuela	195	63.8	16	264	8,266	323	26	547	24	21,073	67	3	1,901	(321)
OCEANIA	**7,759**	**13.2**	**..**	**5,944**	**5,478**	**..**	**..**	**..**	**..**	**..**	**..**	**0**	**(4,496)**	**(13,443)**
Australia {f}	4,071	13.4	285	5,310	5,478	252	63	497	37	15,638	38	102	(75)	(10,440)
Fiji	15	1.1	2	..	..	4	5	47	12	1,518	65		(1)	(70)
New Zealand	3,515	29.6	67	39	..	2	8	190	63	2,382	21	0	(4,004)	50
Papua New Guinea	29	2.3	9	595	..	214	58	414	32	11,544	142	..	(1)	(2,980)
Solomon Islands	1	0.3	1	..	..	53	20	111	23	3,172	16	..	(406)	..
DEVELOPED	**55,408**	**12.0**	**..**	**40,142**	**177,396**	**..**	**..**	**..**	**..**	**..**	**..**	**33,413**	**263,460**	**2,472,791**
DEVELOPING	**8,070**	**10.7**	**..**	**60,580**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**(34,641)**	**(276,420)**	**(2,521,302)**

a. Does not include data protected under international agreements. Data on Total Number and Percent of Land Protected are from a preliminary version of the World Database on Protected Areas and are incomplete for many countries. Please consult UNEP-WCMC for an updated version of this data set. **b**. CITES trade is expressed as the balance of imports minus exports. Exports are shown as negative balance (in parentheses). **c**. Includes both marine and littoral areas with substantial terrestrial components that reach the shore. **d**. Trade in animal skins includes the skins of crocodiles, wild cats, lizards, and snakes. **e**. World totals include countries that are not listed here; World values for CITES trade data represent net exports **f**. Extent of protected areas may include marine components that artificially inflate the percentage of land area protected.

VARIABLE DEFINITIONS AND METHODOLOGY

An **IUCN Management Protected Area** is defined by 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." As of Fall 2002 a World Database on Protected Areas (WDPA) consortium has been working to produce an improved and updated database available in the public domain. Summary information presented in the WDPA, of which UNEP-WCMC is the custodian, includes the legal designation, name, IUCN Management Category, size in hectares, location (latitude and longitude), and the year of establishment for over 100,000 sites. On May 9, 2003, UNEP-WCMC provided WRI with preliminary—and incomplete—protected areas data. IUCN categorizes protected areas by management objective and has identified six distinct categories of protected areas:

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; and (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** 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 marine protected areas (MPAs) include areas that are fully marine and areas that have only a small percentage of intertidal land. 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. "Littoral" is defined as any site which is known to incorporate at least some intertidal area.

Ramsar Sites, or Wetlands of International Importance, 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. There are presently 133 Contracting Parties to the Convention, with 1,179 wetland sites totaling 102.1 million hectares, designated for inclusion in the Ramsar List of Wetlands of International Importance.

Biosphere Reserves are terrestrial and coastal/marine environments recognized under 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, fully functional biosphere reserves perform three main roles: (i) conservation in situ of natural and semi-natural ecosystems and landscapes; (ii) the establishment of demonstration areas for ecologically and socio-culturally sustainable resource use; and (iii) the provision of logistic support for research, monitoring, education, training, and information exchange. Each biosphere reserve consists 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. This data table lists the acreage of all three elements; however, only the core area requires legal protection. Biosphere reserves are nominated by national governments and remain under the sovereign jurisdiction of the state where they are located. As of August 2002, there are 408 biosphere reserves in 94 countries. Several countries share transboundary biosphere reserves. These sites are counted only once in regional and world totals.

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 higher plants** includes ferns and fern allies, conifers and cycads, and flowering plants that have been classified as threatened by IUCN.

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 6 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 full species that are "Critically Endangered, Endan-

gered, or Vulnerable," 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").

CITES Trade Data: The 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, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was drawn up in 1973 to protect wildlife against such overexploitation and to prevent international trade from threatening species with extinction. Species are listed in appendixes to CITES on the basis of 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.

Parties to the Convention are required to submit annual reports, including trade records, to the CITES Secretariat. These trade records are compiled in the CITES Trade Database and were given to WRI by UNEP-WCMC.

Net Trade in 2000 is the balance of imports minus exports. Exports are shown as a negative balance in parentheses. Figures are for trade reported in 2000. 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. World totals show the total number of exports, since calculating the balance of trade for the world would have canceled most figures.

Number of live primates includes all species of monkeys, apes, and prosimians listed under CITES that were traded live in 2000. **Number of live parrots** includes individuals from the Psittaciformes species listed under CITES that were traded live in 2000. **Number of animal skins** includes whole skins of all crocodile, cat, lizard, and snake species that were traded in 2000.

FREQUENCY OF UPDATE BY DATA PROVIDERS

Protected Areas Data. At the time of publication, the **WDPA** was under revision. The current version is expected to be finalized prior to the World Parks Congress in September 2003. Please contact UNEP-WCMC for more information. **Known species** of plants and mammals are updated when new information is provided to WCMC (see above); contact WCMC for the latest data. **Threatened species** data are updated by IUCN on a continual basis. **CITES trade data** refer to annual reports. Table data is for the calendar year 2000. Data are updated annually.

DATA RELIABILITY AND CAUTIONARY NOTES:

Protected areas serve a vital function in protecting the earth's resources. But they face many challenges—external threats associated with pollution and climate change, irresponsible tourism, infrastructure developments and the ever increasing demands for land and water resources. Protected areas are also particularly susceptible to invasive species. In addition, many areas lack political support and have inadequate financial and other resources. 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; others may have more accurate data on extent of coverage. Additionally, at the time of publication, the protected areas data set was under revision and incomplete. Many countries have an underreported number and/or extent of protected areas within their borders. Please contact UNEP-WCMC for a revised data set.

Data on **known species of mammals, birds and plants** 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. Additionally, while the number of species in each country does change, not all countries have been updated; some data may not reflect recent trends. Finally, users should be aware of greater inconsistency and less reliability with the higher plants data than with mammals and birds.

Biosphere Reserves include three zones: a core area or areas, a buffer zone or zones, and an outer transition area. According to the Statutory Framework, the transition area does not have to be clearly defined. Therefore, the area of the biosphere reserves presented in this table may not correspond exactly to the actual territory concerned.

Species traded within national borders and illegal trade in wildlife and wildlife products are not reflected in these figures. Illegal trade in wildlife products is estimated to be in the billions of dollars annually. 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.

SOURCES

Protected Areas (IUCN management categories, marine protected areas): World Database on Protected Areas (WDPA), compiled by the World Database on Protected Areas Consortium, unpublished data (UNEP-WCMC, Cambridge, U.K., May, 2003). **Ramsar Sites (Wetlands of International Importance):** Ramsar Convention Bureau, Gland, Switzerland. Available on-line at: http://ramsar.org/sitelist.pdf. **Biosphere Reserves:** United Nations Educational, Scientific, and Cultural Organization (UNESCO) Man and the Biosphere Programme, List of Biosphere Reserves available on-line at: http://www.unesco.org/mab/wnbr.htm. **Known Species of Mammals, Plants, and Breeding Birds:** World Conservation Monitoring Centre (WCMC) Species Database, unpublished data (WCMC, Cambridge, U.K., July, 2002). **Endangered Species of Mammals, Plants and Birds:** IUCN Redlist available on-line at http://www.redlist.org. **International Legal Net Trade Reported by CITES:** Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) annual report data, World Conservation Monitoring Centre (WCMC) CITES Trade Database (WCMC, Cambridge, U.K., July 2002).

Climate and Atmosphere

Sources: Carbon Dioxide Information Analysis Center (CDIAC), International Energy Agency (IEA), Netherlands Institute for Public Health (RIVM)

	Carbon Dioxide (CO2) Emissions					Emissions of		CO2 Emissions by Economic Sector (million metric tons), 1999				Carbon Intensity: CO2 Emissions per GDP (PPP) (tons CO2 per million $ intl)			
	Total		Per Capita												
	(million metric tons)	(percent change since	(metric tons per person)	(percent change since	Cumulative (million metric tons)	Methane	Nitrous Oxide					All Economic Sectors		Industry Sector	
						(million metric tons CO2 equivalent)									
	1999	1990)	1999	1990)	1800-2000	1995	1995	Industry	Residential	Road Transportation	Public Electricity and Heat	1990	1999	1990	1999
WORLD	**23,172.2**	**8.9**	**3.9**	**(4.2)**	**1,017,359**	**6,340**	**3,570**	**4336.6**	**1802.1**	**4064.7**	**7424.4**	**689**	**582**	**..**	**..**
ASIA (EXCL. MIDDLE EAST)	**6,901.7**	**38.0**	**2.1**	**19.3**	**..**	**2,562**	**1,177**	**1915.4**	**471.0**	**789.0**	**2446.9**	**616**	**540**	**543**	**422**
Armenia	3.0	..	0.8	..	290 a	2	1	1.1	0.0	0.1	1.5	..	347	..	384
Azerbaijan	33.2	..	4.2	..	2,300 a	10	3	4.1	4.9	0.9	13.9	..	1,756	..	653
Bangladesh	26.3	83.4	0.2	46.2	442 b	85	29	8.3	3.2	2.5	8.6	119	144	168	186
Bhutan	..	..	..	..	4	1	0	..	..	..	..	..	..	..	..
Cambodia	..	..	..	..	16	13	4	..	..	..	..	..	..	..	..
China	3,051.1 c	25.6 c	2.5 c	16.6 c	72,615 c	959	538	979.4 c	210.7 c	142.8 c	1247.1 c	1,355 c	700 c	1,249 c	442 c
Georgia	5.3	..	1.0	..	380 a	3	1	0.7	0.8	1.4	0.9	..	376	..	305
India	903.8	52.9	0.9	31.9	20,275	655	257	205.5	56.2	119.3	399.1	446	417	517	360
Indonesia	244.9	76.9	1.2	56.0	4,872	215	67	46.0	42.3	52.6	49.7	365	449	188	174
Japan	1,158.5	10.5	9.1	7.7	36,577 d	61	30	260.6	71.2	224.0	314.4	396	391	234	259
Kazakhstan	114.5	..	7.0	..	8,264 a	42	18	36.4	..	4.1	55.2	..	1,651	..	1,360
Korea, Dem People's Rep	214.3	(1.2)	9.7	(10.8)	6,114 e	10	8	158.4	0.7	9.1	32.3	..	..	..	..
Korea, Rep	410.4	75.5	8.8	62.2	7,120 e	27	12	75.7	24.8	59.3	94.3	546	578	385	247
Kyrgyzstan	4.7	..	1.0	..	440 a	4	3	1.2	..	0.7	1.7	..	405	..	391
Lao People's Dem Rep	..	..	..	..	11	7	4	..	..	..	..	..	..	..	..
Malaysia	101.3	90.4	4.6	55.7	1,832 f	24	12	24.0	2.3	29.3	27.7	552	578	362	321
Mongolia	..	..	..	..	237	8	13	..	..	..	..	..	..	..	..
Myanmar	9.0	122.2	0.2	90.0	257	50	16	1.3	0.8	3.2	2.7	41	54	102	90
Nepal	3.0	234.4	0.1	225.0	32	34	6	1.1	0.8	0.7	0.0	49	107	80	171
Pakistan	92.2	48.9	0.7	17.9	1,952 b	92	68	26.2	9.0	22.9	26.8	370	389	490	467
Philippines	66.3	69.0	0.9	39.1	1,555	44	20	11.2	3.5	20.6	19.1	180	239	106	122
Singapore	53.2	53.1	13.6	17.9	1,690 g	1	1	2.4	..	5.8	27.4	803	643	130	82
Sri Lanka	9.6	141.5	0.5	121.7	220	11	3	1.9	0.3	4.9	1.3	105	161	48	116
Tajikistan	5.7	..	0.9	..	270 a	4	2	0.0	..	3.1	0.7	..	568	..	..
Thailand	155.8	95.5	2.5	73.1	2,535	73	24	35.4	3.9	46.3	49.6	335	445	159	250
Turkmenistan	33.9	..	7.3	..	910 a	19	5	0.0	..	1.5	8.7	..	2,213	..	..
Uzbekistan	117.5	..	4.8	..	5,020 a	45	10	19.2	32.6	6.1	35.0	..	2,241	..	1,423
Viet Nam	36.6	103.7	0.5	74.1	1,061 h	59	20	9.7	2.2	12.2	7.2	248	259	427	198
EUROPE	**5,892.3**	**..**	**8.1**	**..**	**411,552**	**1,164**	**607**	**1010.0**	**714.9**	**988.8**	**1816.4**	**..**	**568**	**..**	**320**
Albania	1.5	(77.4)	0.5	(76.6)	198	2	2	0.4	0.2	0.6	0.1	667	146	585	138
Austria	60.5	6.1	7.5	1.5	4,099	8	7	13.9	8.2	16.6	9.3	365	319	250	214
Belarus	57.1	..	5.6	..	3,457 a	17	11	7.7	4.3	5.4	22.3	..	853	..	255
Belgium	118.7	11.8	11.6	8.9	10,569	10	12	32.0	20.3	23.3	21.2	517	487	440	466
Bosnia and Herzegovina	5.3	..	1.4	..	185 i	1	1	0.2	..	0.8	2.6	..	..	..	..
Bulgaria	43.8	(42.5)	5.4	(37.7)	3,144	7	9	9.7	1.4	5.2	22.2	1,545	1,147	501	924
Croatia	19.0	..	4.1	..	576 i	3	3	3.7	2.1	4.1	4.5	..	..	..	..
Czech Rep	110.6	(26.5)	10.8	(26.3)	10,139 j	16	8	25.0	7.1	10.6	51.8	1,122	860	857	458
Denmark	53.3 k	7.2 k	10.0 k	3.9 k	3,342	6	8	5.1 k	4.7 k	11.4 k	24.8 k	457 k	401 k	170 k	128 k
Estonia	14.7	..	10.4	..	349 a	2	1	1.0	0.5	1.2	10.7	..	1,294	..	315
Finland	57.8	8.4	11.2	4.8	2,001	7	6	14.0	3.9	11.2	18.0	536	495	437	349
France	361.4 l	(0.7) l	6.1 l	(4.5) l	30,997 l	50	90	79.4 l	58.6 l	128.1 l	25.1 l	320 l	276 l	227 l	224 l
Germany	821.7 m	(15.0) m	10.0 m	(17.7) m	75,606	93	78	128.7 m	118.9 m	173.8 m	274.4 m	599 m	444 m	282 m	218 m
Greece	81.5	18.2	7.7	13.4	2,390	6	14	9.6	7.0	15.8	41.6	565	556	297	253
Hungary	57.9	(14.4)	5.8	(11.4)	3,920	12	7	7.4	8.8	8.7	26.2	647	538	392	..
Iceland	2.1	3.0	7.4	(5.2)	88	0	0	0.6	0.0	0.6	0.0	345	294	261	..
Ireland	39.9	24.1	10.6	15.8	1,269	12	14	4.9	5.8	9.1	15.2	620	430	259	143
Italy	420.5	6.0	7.3	4.4	16,337 e	40	33	79.0	72.4	110.9	97.1	366	342	231	217
Latvia	6.8	..	2.8	..	470 a	2	1	1.2	0.3	1.7	2.7	..	481	..	291
Lithuania	13.0	..	3.5	..	889 a	4	2	1.9	0.6	3.2	4.8	..	560	..	251
Macedonia, FYR	10.0	4.7	5.0	(1.0)	300 i	1	1	0.9	0.3	1.1	6.2	..	..	..	..
Moldova, Rep	6.6	..	1.5	..	590 a	4	2	0.8	0.8	0.4	2.8	..	754	..	445
Netherlands	166.6 n	6.4 n	10.5 n	0.8 n	9,404	18	17	34.8 n	18.9 n	28.7 n	46.8 n	529 n	442 n	387 n	337 n
Norway	37.1	30.5	8.3	24.3	1,717	10	3	6.9	0.9	9.8	0.2	336	323	203	164
Poland	310.0	(11.0)	8.0	(12.3)	20,764	83	32	48.1	32.3	29.0	151.5	1,432	926	351	389
Portugal	61.1 o	53.1 o	6.1 o	51.6 o	1,509	8	7	12.4 o	2.1 o	15.8 o	21.4 o	319 o	390 o	235 o	237 o
Romania	86.6	(49.5)	3.9	(47.9)	6,440	29	17	18.9	6.1	7.4	35.7	1,059	666	734	389
Russian Federation	1,486.3	..	10.2	..	86,705 a	498	64	192.4	146.1	101.0	495.5	..	1,482	..	530
Serbia and Montenegro	41.9	(30.3)	4.0	(33.0)	2,390 j	10	7	7.4	0.1	4.2	26.1	..	..	..	..
Slovakia	39.4	(28.9)	7.3	(30.7)	3,644 i	6	3	14.4	3.6	4.1	10.2	1,096	718	844	818
Slovenia	15.0	17.0	7.5	12.9	455	2	1	2.2	1.8	3.8	5.7	..	..	..	..
Spain	272.0 p	28.6 p	6.8 p	26.6 p	9,151	31	36	47.7 p	16.2 p	77.5 p	76.9 p	379 p	395 p	236 p	223 p
Sweden	48.2	(0.6)	5.4	(3.9)	4,058	8	7	10.4	3.6	20.0	7.1	283	246	197	..
Switzerland	39.9 q	(3.1) q	5.6 q	(7.7) q	2,262	5	3	6.1 q	12.0 q	14.7 q	0.2 q	227 q	208 q	.. q	.. q
Ukraine	379.0	..	7.6	..	22,729 a	101	33	105.8	61.8	10.1	110.4	..	2,329	..	1,726
United Kingdom	535.3	(6.5)	9.0	(9.2)	68,803	52	66	74.4	81.6	114.4	143.5	567	440	226	205
MIDDLE EAST & N. AFRICA	**1,339.2**	**45.0**	**3.6**	**19.7**	**..**	**289**	**186**	**299.5**	**118.5**	**233.7**	**395.5**	**655**	**721**	**374**	**..**
Afghanistan	..	..	..	..	82	11	7	..	..	..	..	..	..	..	..
Algeria	68.2	19.8	2.3	0.4	2,178	20	9	7.0	9.6	6.2	16.4	444	463	77	63
Egypt	110.3	33.7	1.7	13.0	2,682	27	19	29.4	11.3	16.6	32.9	580	529	612	448
Iran, Islamic Rep	263.2	45.6	3.8	23.0	6,664	67	53	58.4	45.5	66.4	62.1	765	783	647	762
Iraq	81.1	47.7	3.6	14.5	1,985	9	6	17.2	6.4	25.9	16.2	1,178	2,816	..	..
Israel	55.9	58.2	9.5	20.8	1,203	1	2	6.0	1.9	9.5	30.9	510	517	..	..
Jordan	13.4	43.1	2.8	(2.8)	286	1	1	2.0	1.7	3.3	4.9	824	744	409	427
Kuwait	46.5	122.0	25.2	157.4	1,268	7	0	15.1	3.0	6.0	21.2	1,174	1,960	796	..
Lebanon	15.6	143.6	4.5	92.8	326	1	1	2.9	1.9	4.2	6.7	717	875	..	729
Libyan Arab Jamahiriya	41.4	52.6	8.0	27.0	1,062	9	2	4.9	2.2	10.1	12.7	880	1,550	..	..
Morocco	28.0	49.9	1.0	26.7	703	9	14	5.4	3.3	1.3	9.0	243	298	157	177
Oman	21.1	104.3	8.6	48.3	307	2	1	5.7	0.2	2.5	6.3	376	519	156	..
Saudi Arabia	216.6	35.1	11.0	5.9	5,836	51	9	41.6	3.3	29.7	57.1	923	1,031	277	..
Syrian Arab Rep	48.1	49.8	3.0	17.4	898	6	8	9.7	2.3	3.7	11.2	1,051	938	413	626
Tunisia	16.7	31.3	1.8	14.1	416	4	5	3.8	1.7	3.8	5.1	350	303	308	245
Turkey	182.8	32.2	2.8	13.0	4,137	25	41	43.3	22.1	29.9	56.8	466	467	320	397
United Arab Emirates	67.1	59.8	26.2	25.8	2,047	26	1	30.0	0.3	5.4	28.3	1,014	1,347	837	..
Yemen	8.6	17.9	0.5	(22.6)	295 r	6	5	0.5	1.6	3.9	1.3	734	664	199	97

	Carbon Dioxide (CO2) Emissions					Emissions of		CO2 Emissions by Economic Sector (million metric tons), 1999				Carbon Intensity: CO2 Emissions per GDP (PPP) (tons CO2 per million $ intl)			
	Total		Per Capita									All Economic Sectors		Industry Sector	
	(million metric tons) 1999	(percent change since 1990)	(metric tons per person) 1999	(percent change since 1990)	Cumulative (million metric tons) 1800-2000	Methane (million metric tons CO2 equivalent) 1995	Nitrous Oxide (million metric tons CO2 equivalent) 1995	Industry	Residential	Road Transportation	Public Electricity and Heat	1990	1999	1990	1999
SUB-SAHARAN AFRICA	**..**	**..**	**..**	**..**	**17,665**	**488**	**378**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Angola	4.8	11.6	0.4	(17.8)	219	14	5	1.6	0.3	1.2	0.4	410	428	401	185
Benin	1.2	391.7	0.2	280.0	19	3	2	0.2	0.3	0.8	0.0	54	216	62	193
Botswana	..	..	..	..	54	6	4	..	..	..	..	..	..	..	..
Burkina Faso	..	..	..	..	16	8	11	..	..	..	..	..	..	..	..
Burundi	..	..	..	..	6	2	1	..	..	..	..	..	..	..	..
Cameroon	2.6	(5.5)	0.2	(26.1)	143	11	9	0.2	0.6	1.6	0.0	131	115	36	44
Central African Rep	..	..	..	..	8	6	5	..	..	..	..	..	..	..	..
Chad	..	..	..	..	7	9	8	..	..	..	..	..	..	..	..
Congo	0.4	(53.2)	0.1	(65.7)	50	3	1	0.0	0.0	0.3	..	321	164	59	..
Congo, Dem Rep	2.5	(41.0)	0.0	(63.6)	178	29	20	0.7	0.3	0.5	0.0	74	78	56	..
Côte d'Ivoire	4.7	52.8	0.3	20.8	156	6	3	0.7	0.4	1.3	3.3	162	184	130	112
Equatorial Guinea	..	..	..	..	14	0	0	..	..	..	..	..	..	..	..
Eritrea	0.6	..	0.2	..	9	2	1	0.1	0.1	0.2	0.1	..	181	..	52
Ethiopia	2.9	22.1	0.0	(20.0)	81	42	53	0.8	0.5	1.6	0.0	86	76	170	186
Gabon	1.5	30.7	1.2	2.5	161	..	..	0.4	0.1	0.5	0.3	190	209	80	132
Gambia	..	..	..	..	5	1	0	..	..	..	..	..	..	..	..
Ghana	4.4	67.6	0.2	35.3	127	6	7	0.5	0.6	1.9	1.0	112	129	123	53
Guinea	..	..	..	..	40	5	2	..	..	..	..	..	..	..	..
Guinea-Bissau	..	..	..	..	6	1	1	..	..	..	..	..	..	..	..
Kenya	7.7	17.2	0.3	(7.4)	239	20	20	1.5	0.5	2.2	1.1	259	260	297	288
Lesotho	..	..	..	..	3	1	1	..	..	..	..	..	..	..	..
Liberia	..	..	..	..	42	1	1	..	..	..	..	..	..	..	..
Madagascar	..	..	..	..	45	17	10	..	..	..	..	..	..	..	..
Malawi	..	..	..	..	27 s	3	2	..	..	..	..	..	..	..	..
Mali	..	..	..	..	15	11	12	..	..	..	..	..	..	..	..
Mauritania	..	..	..	..	46	4	6	..	..	..	..	..	..	..	..
Mozambique	1.1	7.0	0.1	(28.6)	102	10	3	0.1	0.1	0.8	0.0	115	76	88	26
Namibia	2.2	..	1.3	..	16	4	4	0.2	..	1.1	0.0	..	252	..	12
Niger	..	..	..	..	25	6	4	..	..	..	..	..	..	..	..
Nigeria	38.4	0.4	0.3	(22.7)	2,276	70	33	9.3	3.0	15.7	5.9	480	387	160	265
Rwanda	..	..	..	..	14 t	2	1	..	..	..	..	..	..	..	..
Senegal	3.3	49.8	0.4	20.7	99	6	8	0.6	0.3	1.0	1.2	225	255	131	182
Sierra Leone	..	..	..	..	30	2	1	..	..	..	..	..	..	..	..
Somalia	..	..	..	..	26	17	22	..	..	..	..	..	..	..	..
South Africa	346.3	19.0	8.1	1.3	12,162	54	24	60.6	5.9	33.4	167.8	916	960	521	508
Sudan	5.4	(1.5)	0.2	(22.7)	166	42	42	0.7	0.2	3.5	0.9	589	316	..	266
Tanzania, United Rep	2.2	7.8	0.1	(14.3)	94	29	24	0.4	0.3	0.8	0.1	143	120	154	138
Togo	0.9	63.0	0.2	33.3	24	2	2	0.3	0.1	0.3	0.1	91	143	129	256
Uganda	..	..	..	..	38	10	8	..	..	..	..	..	..	..	..
Zambia	1.9	(22.9)	0.2	(40.0)	167 s	10	5	0.8	..	0.6	..	352	259	318	387
Zimbabwe	13.7	(6.0)	1.1	(22.0)	586	10	8	2.4	0.1	2.0	5.3	562	425	545	311
NORTH AMERICA	**6,074.0**	**15.3**	**19.5**	**4.8**	**..**	**958**	**535**	**645.6**	**392.2**	**1528.2**	**2124.2**	**738**	**649**	**..**	**..**
Canada	489.2	16.1	16.0	5.5	22,363	123	62	89.8	40.4	115.3	113.4	683	635	366	..
United States	5,584.8	15.2	19.9	4.7	301,279	835	473	555.8	351.8	1412.9	2010.9	743	650	..	..
C. AMERICA & CARIBBEAN	**464.3**	**22.1**	**2.8**	**4.1**	**13,376**	**149**	**105**	**90.6**	**26.5**	**122.8**	**127.7**	**497**	**463**	**404**	**300**
Belize	..	..	..	..	9	0	0	..	..	..	..	..	..	..	..
Costa Rica	4.7	67.3	1.2	29.3	110	3	3	0.8	0.1	3.0	0.1	161	169	139	80
Cuba	28.4	(10.7)	2.5	(14.8)	1,179	9	9	11.9	0.9	2.1	11.2	834	906	..	760
Dominican Rep	17.8	91.1	2.2	64.1	284	6	4	1.4	2.5	5.6	3.5	342	396	93	94
El Salvador	5.3	126.9	0.9	91.1	107	3	2	1.1	0.4	2.6	1.0	138	208	119	150
Guatemala	8.3	126.7	0.8	82.9	173	6	5	1.4	0.5	3.7	0.8	136	212	147	171
Haiti	1.4	46.8	0.2	30.8	33	3	3	0.4	0.1	0.3	0.3	72	127	78	176
Honduras	4.3	97.7	0.7	54.5	93	5	3	1.2	0.1	1.9	0.8	194	290	258	246
Jamaica	10.1	26.6	3.9	17.3	282	1	1	0.8	0.4	1.4	2.2	890	1,112	159	275
Mexico	358.2	20.6	3.7	3.1	9,930	98	64	62.7	20.4	96.2	101.3	516	472	440	271
Nicaragua	3.4	94.8	0.7	51.1	85	5	4	0.4	0.1	1.3	1.2	186	282	144	80
Panama	4.8	77.5	1.7	51.3	179	3	3	0.9	0.2	1.9	1.2	264	311	328	357
Trinidad and Tobago	15.6	27.6	12.1	20.4	699	3	0	7.2	0.1	1.6	3.7	1,494	1,489	1,251	1,679
SOUTH AMERICA	**744.9**	**41.3**	**2.2**	**22.5**	**..**	**588**	**433**	**183.2**	**52.2**	**235.8**	**86.2**	**310**	**330**	**195**	**276**
Argentina	142.7	36.9	3.9	21.9	4,895	87	67	20.4	16.9	37.0	25.1	385	335	169	174
Bolivia	9.8	85.0	1.2	50.0	190	16	15	1.1	0.9	3.0	1.8	404	526	225	304
Brazil	305.6	52.0	1.8	34.1	8,140	302	244	87.2	17.0	109.9	17.5	222	271	158	267
Chile	59.0	92.4	3.9	68.2	1,457	16	9	11.4	3.4	14.6	16.4	431	465	207	242
Colombia	56.5	15.8	1.4	(2.2)	1,854	54	21	19.3	3.4	18.3	4.4	268	245	175	294
Ecuador	19.3	44.3	1.6	19.2	490	14	10	2.6	1.8	5.5	2.4	440	544	186	196
Guyana	..	..	..	..	57	1	1	..	..	..	..	..	..	..	..
Paraguay	4.0	101.5	0.7	60.9	69	12	10	0.3	0.2	3.4	..	108	179	34	48
Peru	21.2	18.4	0.8	1.2	984	19	15	6.6	2.8	8.8	2.3	229	188	162	214
Suriname	..	..	..	..	62	1	0	..	..	..	..	..	..	..	..
Uruguay	6.8	73.8	2.0	63.2	254	17	16	1.1	0.5	2.7	1.3	187	240	98	143
Venezuela	120.0	19.9	5.1	(1.4)	4,475	49	23	33.2	5.2	32.6	15.1	920	946	538	720
OCEANIA	**..**	**..**	**..**	**..**	**11,839**	**133**	**139**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Australia	321.6	23.8	17.0	10.4	10,524	101	95	50.5	6.7	63.9	166.3	779	687	420	352
Fiji	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..
New Zealand	30.6	33.1	8.2	19.5	1,229	26	31	7.9	0.5	6.7	4.7	429	449	409	..
Papua New Guinea	..	..	..	..	68	3	2	..	..	..	..	..	..	..	..
Solomon Islands	..	..	..	..	4	0	0	..	..	..	..	..	..	..	..
DEVELOPED	**14,196.7**	**..**	**10.8**	**..**	**..**	**2,494**	**1,367**	**2103.8**	**1231.6**	**2872.4**	**4742.2**	**..**	**594**	**..**	**..**
DEVELOPING	**8,020.2**	**37.2**	**1.8**	**18.2**	**197,323**	**3,836**	**2,192**	**2180.8**	**564.4**	**1167.5**	**2613.3**	**628**	**532**	**561**	**413**

a. Emissions for the Former Soviet Union countries prior to 1992 are estimates. **b**. Emissions prior to 1972 are estimates. **c**. China includes the People's Republic of China and Hong Kong but excludes Taiwan. **d**. Includes the Ruyukui Islands only after 1949. **e**. Emissions prior to 1945 are estimates. **f**. Emissions from 1890-1949 and 1957-1969 are for Peninsular Malaysia. **g**. Estimates from 1950-1956 are derived from figures for the Federation of Malaya Singapore. **h**. Emissions prior to 1970 are estimates. **i**. Emissions for Former Yugoslav Republics before 1992 are estimates. **j**. Emissions for countries of the former Czechoslovakia prior to 1992 are estimates. **k**. Denmark excludes Greenland and the Danish Faroes. **l**. France includes Monaco, and excludes overseas departments (French Polynesia, Guadeloupe, Martinique, and La Réunion). **m**. Germany includes the new federal states of Germany from 1970 and Western Germany only from 1960 to 1969. **n**. The Netherlands excludes Suriname and the Netherlands Antilles. **o**. Portugal includes the Azores and Madeira. **p**. Spain includes the Canary Islands. **q**. Switzerland includes Liechtenstein. **r**. Emissions prior to 1980 are estimates. **s**. Emissions from 1950 to 1963 are estimates derived from figures for Rhodesia-Nyasaland. **t**. 1950-61 data includes Rwanda-Urundi.

VARIABLE DEFINITIONS AND METHODOLOGY

Total Carbon Dioxide (CO_2) Emissions and **Per Capita CO_2 Emissions** include the total and the average emissions of carbon dioxide per person, respectively, from combustion of all fossil fuels used by a country.

The CO_2 emissions presented here are based on the International Energy Agency's (IEA) energy data gathered and rectified for their Energy Balances of Organization for Economic Cooperation and Development (OECD) Countries and Energy Balances of non-OECD Countries databases (please see the notes for the Energy and Resource Use table in this book for more information on how these data are gathered and adjusted). Methods and emissions factors are spelled out in the Revised 1996 International Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories available at http://www.ipcc-nggip.iges.or.jp/public/gl/invs1.htm. The IPCC allows countries to use either the reference or the sectoral approach when reporting their emissions. The figures provided here are based on the reference approach, which calculates emissions using data on a country's energy supply, and captures refining, flaring, and other "fugitive emissions" that do not result directly from end-use fossil fuel combustion. In contrast, the sectoral approach estimates emissions based on the combustion rather than the supply of fossil fuels.

The reference approach accounts for the carbon in fuels supplied to the economy. Apparent consumption of fuels is calculated as production minus exports plus imports. Net stock changes are either added or subtracted. International marine and aviation bunkers (fuels used for international transport) are subtracted from the national total as well, as these figures are accounted for separately. The production of secondary fuels is not accounted for, because the carbon contained in those fuels is already included in the primary fuel. However, imports and exports of secondary fuels are included in the calculations. Stored carbon from fuels used for non-energy purposes is subtracted from the total carbon emissions. Emissions from biomass fuels are not included in these estimates because the IPCC assumes that such emissions are equal to sequestration during regrowth.

Cumulative CO_2 Contribution, 1800–2000 consists of the sum of CO_2 produced during consumption of solid, liquid, and gaseous fuels; gas flaring; and cement manufacture from 1800 to the year 2000. The variable does not include emissions from land use change, or from bunker fuels used in international transportation.

WRI calculates cumulative CO_2 emissions levels based on the Carbon Dioxide Information Analysis Center's (CDIAC) emissions data from 1800 to 1980, and on Energy Information Administration (EIA) data from 1980 to 2000. CDIAC and EIA both report CO_2 emissions as the weight of the elemental carbon portion of CO_2; WRI converted the values to the actual mass of CO_2 by multiplying the carbon mass by 3.664 (the ratio of the mass of CO_2 to that of carbon). CDIAC bases CO_2 emissions from before 1950 on several compilations of fossil fuel production and trade: World Energy Production 1800–1985 by Etemad et al. and four regional volumes of International Historical Statistics authored by B.R. Mitchell. Emissions and estimates from 1950 to the present are derived primarily from energy statistics published by the United Nations in their "Energy Statistics Yearbook." U.N. gas flaring estimates are supplemented with data from the U.S. Energy Information Administration, G. Marland at CDIAC, and a 1974 paper authored by R.M. Rotty entitled "First estimates of global flaring of natural gas." Emissions are calculated from data on fuel production, trade, and net apparent consumption by CDIAC. More information on the data, methodology, and sources used can be found at: http://cdiac.esd.ornl.gov/trends/emis/meth_reg.htm. A complete record of the formulas and assumptions used to calculate CO_2 emissions is available online at http://cdiac. esd.ornl.gov/trends/emis/factors.htm.

Methane and Nitrous Oxide emissions include emissions, in million metric tons of CO_2 equivalent, from energy, agriculture, waste, and other sources. Energy emissions from energy comprise the production, handling, transmission, and combustion of fossil and biofuels (IPCC categories 1A and 1B). Agriculture comprises animals, animal wastes, rice production, agricultural waste burning not intended for energy production, and savanna burning (IPCC category 4). Waste includes emissions from landfills, wastewater treatment and disposal, and waste incineration not intended for energy production (IPCC category 6). Other sources include industrial process emissions, and tropical and temperate forest fires (IPCC categories 2 and 5).

The Emission Database for Global Atmospheric Research (EDGAR) uses activity data taken from international statistical data to estimate emissions of the individual gases reported by the database. Activity data were multiplied by emissions factors specific to that activity. The emissions factors were primarily from Olivier et al. (1999), "Sectoral emission inventories of greenhouse gases for 1990 on a per country basis as well as on 1° x 1°." Various factors were taken from other international and national-level sources. For more information, please see: http://www.rivm.nl/env/int/coredata/edgar/v2/index.html.

CO_2 Emissions by Economic Sector represents total CO_2 emissions from fossil fuel burning by individual economic sectors. It is important to note that emissions from electricity generation are not distributed to end users, but are treated in an independent sector. **Industry** represents CO_2 emissions from manufacturing industries and construction. Carbon dioxide emissions from **residential** sources include emissions from combustion of all fossil fuel types in households but excludes transportation. **Road transportation** refers to emissions from all road vehicles and agricultural vehicles while they are on highways. Emissions from **public electricity and heat** production include the sum of emissions from combustion of all fossil fuel types used for public electricity generation, public combined heat and power generation, and public heat plants. Emissions from electricity and heat production for use by the producer (autoproduction) are not included in this variable.

These data are produced by IEA in the same manner as described above under Total Carbon Dioxide Emissions.

Carbon Intensity: All Economic Sectors is the amount of CO_2 emitted per amount of Gross Domestic Product (GDP) in Purchasing Power Parity (PPP) terms generated by the country's economy. This measure provides an indicator of how efficiently a country performs, in carbon emission terms, relative to its wealth generation. Please see the notes after the Economic Indicators data table for more information on GDP PPP.

WRI calculated CO_2 emissions per GDP PPP using data from IEA. Total energy consumption in each country was divided by total GDP PPP in constant dollar terms.

Carbon Intensity: Industry Sector is the amount of CO_2 emitted by the sector per amount of income generated. The industry sector is defined as including International Standard Industrial Classification (ISIC) divisions 15–37 (please see http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=17 for more information on ISIC classifications). This measure provides an indicator of how efficiently, in greenhouse gas emissions terms, a country's industrial sector is able to generate wealth.

Industrial carbon intensity was calculated as follows: Industrial CO_2 emissions were divided by the amount of GDP PPP generated by the industry sector. Industrial GDP, as defined by the World Bank, includes ISIC divisions 15–37. WRI adjusted

IEA's value for industrial CO_2 emissions by subtracting emissions from mining and quarrying (ISIC Divisions 13–14) and construction (ISIC division 45) from IEA's total industrial CO_2 emissions figure. The only differences remaining after this adjustment are that the World Bank definition includes emissions from the manufacture of coke, petroleum products, and other derived fossil fuels (ISIC division 23), manufacture of coke oven products (ISIC group 231), manufacture of refined petroleum products (ISIC group 232), and processing of nuclear fuels. According to the IEA, however, the energy consumed for these activities, and therefore the CO_2 emissions, are captured in the energy contained in the original fuels used for these processes. The differences remaining between the World Bank and IEA definitions of the industry and manufacturing sector should therefore be small. After the definitions for industrial CO_2 emissions and the percentage of GDP generated by industry were brought into agreement, industrial GDP PPP was calculated by dividing total GDP PPP by the percentage generated by industry, and industrial CO_2 emissions was divided by this value.

FREQUENCY OF UPDATE BY DATA PROVIDERS

The IEA, World Bank, CDIAC, and IEA update their data annually. The National Institute for Public Health and the Environment (RIVM) calculates emissions of methane and nitrous oxide periodically. The UN Population Division updates population data every other year.

DATA RELIABILITY AND CAUTIONARY NOTES

CO_2 Emissions Data: The IEA CO_2 emissions data are based on well-established and institutionalized accounting methodologies and undergo thorough review and adjustments. The reference and sectoral approaches will, in most cases, give very similar results. However, because the reference approach is calculated using energy supply, it can lead to slight overestimates. For some countries, especially developing countries, statistical differences in basic data or unexplained differences in the two approaches can lead to significant discrepancies. Individual countries may use different energy figures than the IEA or treat bunker fuels differently. Countries may use specific calorific values, instead of the averages used by IEA. Also, military emissions may be treated differently by the IEA. As a result, the data shown here can differ from the numbers reported by a country to the IPCC.

Cumulative CO_2 contribution since 1900: The share of carbon emissions for recently formed countries such as the independent republics of the former Soviet Union is estimated based on each country's CO_2 emissions in the years immediately following its formation. For example, Kazakhstan was formed in 1992. Total 1992–1996 emissions for the former Soviet Union were 3,802,544 tons; Kazakhstan's emissions from 1992–1996 were 6.3% of this total. It is then assumed that Kazakhstan produced roughly 6.3% of the carbon emitted in the former Soviet Union each year before 1992. As a result, total contributions from the former Soviet republics, the former Yugoslav republics, and other newly formed countries should be taken only as rough approximations.

Methane and Nitrous Oxide Emissions: The methane and nitrous oxide emissions data are calculated using a standardized methodology and reviewed for accuracy by the United Nations Framework Convention on Climate Change (UNFCCC). The data can therefore be used with considerable confidence in their accuracy.

Carbon Intensity Indicators: While CO_2 emissions per GDP PPP is a useful indicator of greenhouse gas efficiency at the scale of the entire economy, it does not necessarily indicate how efficient the individual elements that make up the economy are. For example, it does not differentiate between economies that are more focused on industry as opposed to services, which generally require less energy and generate comparatively more income than industry. Interpretation of between-country comparisons should therefore be made with care. In addition, a number of countries, particularly rapidly-developing countries, over-report their GDP and GDP growth rate, which makes them appear more efficient than they actually are. Given the close match achieved between the World Bank and IEA's definitions when calculating the **industrial sector** indicator, the results of WRI's calculation can serve as an acceptable indicator of how efficiently, in terms of greenhouse gas emissions, the industry sector is able to generate economic goods. However, this match is not perfect and could lead to slight distortions in some countries. In addition, while focusing in on the industry sector reduces the potential for mismatched comparisons as discussed above, industries in different countries can have different foci. Between-country comparisons should therefore be made with care.

SOURCES

Carbon Dioxide (CO_2) Emissions Variables: International Energy Agency (IEA), 2001. CO_2 Emissions from Fossil Fuel Combustion (2001 Edition). Paris: Organization for Economic Cooperation and Development (OECD). Electronic database available on-line at: http://data.iea.org/ieastore/default.asp. **Cumulative CO_2 Emissions Since 1900:** Carbon Dioxide Information Analysis Center (CDIAC), Environmental Sciences Division, Oak Ridge National Laboratory: 2001. Global, Regional, and National CO_2 Emission Estimates from Fossil Fuel Burning, Cement Production, and Gas Flaring: 1751–1998, NDP-030. Oak Ridge, Tennessee: CDIAC. Available on-line at http://cdiac.esd.ornl.gov/ftp/ndp030/. Energy Information Administration of the U.S. Department of Energy: 2001. Carbon Dioxide Emissions from Use of Fossil Fuels, International Energy Annual, 2000. Washington, DC: EIA. Available on-line at http://www.eia.doe.gov/iea/carbon.html. **Methane and Nitrous Oxide Emissions:** National Institute for Public Health (RIVM) and Netherlands Organisation for Applied Scientific Research (TNO). 2001. The Emission Database for Global Atmosphereic Research (EDGAR) 3.2: The Netherlands: RIVM. Database available on-line at http://www.rivm.nl/env/int/coredata/edgar/index.html. **Carbon Intensity Indicators:** International Energy Agency (IEA), 2001. CO_2 Emissions from Fossil Fuel Combustion (2001 Edition). Paris: Organisation for Economic Co-operation and Development (OECD). Electronic database available on-line at: http://data.iea.org/ieastore/default.asp. Development Data Group, The World Bank. 2002. World Development Indicators 2002 online. Washington, DC: The World Bank. Available on-line at http://www.worldbank.org/data/onlinedbs/onlinedbases.htm. **Population** (used to calculate per capita values): Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, 2002. World Population Prospects: The 2000 Revision. New York: United Nations. Data set available on CD-ROM.

Energy

Source: International Energy Agency (IEA)

	Energy Consumption by Source								Energy Intensity: Energy Use per GDP PPP {a}			Energy Consumption (as a percent of total consumption), 1999		Electricity Consumption per Capita
	Total from all sources			Total Fossil Fuels	Nuclear	Hydro-electric	Renewables		All Economic Sectors	Industry Sector	Residential per Capita			
	(1000 metric toe) {d}	Percent Change Since	Per Capita (kgoe) {e}	(1000 metric toe) {d}			Modern {b}	Traditional {c}	(toe per million $Intl)		(kgoe per person) {e}	Industrial	Transportation	(kgoe) {e}
	1999	1989	1999	1999	1999	1999	1999	1999	1999	1999	1999			1999
WORLD	**9,702,786**	**12.7**	**1,623**	**7,689,047**	**661,901**	**222,223**	**62,750**	**1,035,139**	**244**	**167**	**309**	**22**	**18**	**174**
ASIA (EXCL. MIDDLE EAST)	**2,919,333**	**43.1**	**867**	**2,175,366**	**117,291**	**44,424**	**16,892**	**561,751**	**221**	**144**	**219**	**26**	**12**	**78**
Armenia	1,845	..	487	1,220	542	103	0	1	213	165	45	26	3	83
Azerbaijan	12,574	..	1,575	12,376	0	130	0	4	665	300	404	15	5	151
Bangladesh	17,935	44.4	133	10,395	0	72	0	7,469	98	84	65	21	7	7
Bhutan	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cambodia	..	..	..	..	..	..	..	..	..	..	..	..	..	..
China {f}	1,088,349	29.2	861	854,743	3,896	17,527	1,234	211,705	241	141	233	29	6	65
Georgia	2,573	..	487	1,944	0	554	0	70	183	144	114	13	21	107
India	480,418	38.1	484	271,806	3,409	7,004	89	198,018	222	172	202	20	9	33
Indonesia	136,121	57.3	650	86,325	0	806	2,346	46,748	250	77	299	14	15	29
Japan	515,447	23.6	4,064	416,131	82,512	7,432	3,993	4,332	174	137	391	26	18	639
Kazakhstan	35,439	..	2,180	34,581	0	527	0	73	511	395	29	30	7	193
Korea, Dem People's Rep	58,925	1.2	2,665	56,108	0	1,815	0	1,001	..	..	11	67	5	20
Korea, Rep	181,365	128.2	3,908	151,848	26,859	358	119	151	255	180	293	30	15	448
Kyrgyzstan	2,451	..	506	1,567	0	1,044	0	4	211	136	34	17	12	130
Lao People's Dem Rep	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malaysia	42,650	109.3	1,957	39,551	0	647	0	2,470	243	151	144	26	27	222
Mongolia	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Myanmar	12,897	17.9	274	3,328	0	65	0	9,504	77	..	196	7	9	6
Nepal	8,051	37.1	358	1,002	0	98	0	6,937	287	72	316	5	3	4
Pakistan	59,830	43.6	435	34,363	74	1,931	0	23,462	253	236	188	22	14	27
Philippines	40,728	49.5	549	21,580	0	674	9,111	9,363	147	85	72	19	21	39
Singapore	22,693	130.5	5,791	22,629	0	0	0	0	274	139	121	18	19	576
Sri Lanka	7,728	41.7	412	3,181	0	359	0	4,189	130	104	178	22	24	22
Tajikistan	3,344	..	555	2,033	0	1,327	0	0	333	190	42	14	32	190
Thailand	70,415	85.3	1,136	56,128	0	278	0	13,844	201	132	129	26	26	113
Turkmenistan	13,644	..	2,943	13,764	0	0	0	0	891	21	19	1	4	89
Uzbekistan	49,383	..	2,017	48,613	0	489	0	0	942	704	595	19	8	141
Viet Nam	35,209	48.1	457	11,684	0	1,185	0	22,340	249	68	300	9	13	22
EUROPE	**2,559,701**	**..**	**3,516**	**2,117,484**	**303,885**	**60,847**	**8,471**	**56,374**	**243**	**176**	**653**	**22**	**18**	**400**
Albania	1,052	(63.5)	336	511	0	451	0	60	102	54	81	14	20	73
Austria	28,432	18.0	3,516	21,804	0	3,482	105	2,957	150	92	756	21	23	532
Belarus	23,895	..	2,337	22,484	0	2	0	794	357	253	593	30	10	228
Belgium	58,642	21.2	5,731	44,995	12,774	29	25	349	241	232	937	27	17	626
Bosnia and Herzegovina	2,008	..	522	1,676	0	138	0	175	..	..	45	3	21	47
Bulgaria	18,203	(41.0)	2,264	13,610	4,128	237	0	406	477	404	271	24	11	255
Croatia	8,156	..	1,753	7,053	0	567	0	278	..	..	370	23	19	216
Czech Rep	38,584	(21.8)	3,751	34,549	3,481	144	41	473	300	190	535	27	11	402
Denmark {g}	20,070	13.4	3,783	18,391	0	3	333	843	151	76	822	14	25	520
Estonia	4,557	..	3,231	4,101	0	0	3	505	401	213	713	14	11	290
Finland	33,372	13.9	6,463	19,038	5,987	1,099	22	6,124	286	301	..	35	14	1,236
France	255,043	14.8	4,321	139,942	102,742	6,227	561	9,440	194	133	674	18	20	546
Germany	337,196	(6.4)	4,111	286,465	44,304	1,671	715	1,361	182	119	774	21	20	490
Greece	26,894	23.8	2,539	25,370	0	395	141	911	183	116	406	16	28	330
Hungary	25,289	(16.5)	2,524	21,116	3,674	16	2	332	235	..	538	17	13	248
Iceland	3,173	57.2	11,452	899	0	520	1,753	0	444	..	2,114	20	11	1,991
Ireland	13,979	43.9	3,715	13,702	0	73	53	131	151	73	647	18	27	430
Italy	169,041	12.0	2,938	156,777	0	3,901	2,926	1,477	137	115	617	25	25	391
Latvia	3,822	..	1,569	2,504	0	237	0	913	270	183	444	19	19	158
Lithuania	7,909	..	2,137	4,885	2,627	36	0	591	340	163	383	16	15	152
Macedonia, FYR	3,058	..	1,512	2,736	0	119	31	180	..	..	248	16	13	218
Moldova, Rep	2,813	..	653	2,613	0	7	0	59	321	209	150	13	7	53
Netherlands {h}	74,068	13.7	4,690	70,145	999	8	189	267	196	186	654	26	19	516
Norway	26,606	22.3	5,980	14,862	0	10,398	6	1,343	232	178	854	28	19	2,090
Poland	93,382	(23.2)	2,417	89,664	0	185	26	3,541	279	159	503	21	12	206
Portugal {i}	23,627	47.2	2,364	21,761	0	626	99	1,158	151	136	208	29	26	311
Romania	36,432	(47.3)	1,621	30,734	1,362	1,573	18	2,816	280	195	389	26	9	130
Russian Federation	602,952	..	4,124	550,704	32,120	13,802	24	4,972	601	378	929	23	14	349
Serbia and Montenegro	13,375	..	1,266	11,862	0	1,150	0	210	..	..	130	20	12	242
Slovakia	17,991	(20.4)	3,335	14,095	3,418	390	0	76	328	333	434	33	8	363
Slovenia {j}	6,506	..	3,268	4,838	1,224	322	7	230	..	..	558	20	21	448
Spain	118,467	32.9	2,970	96,314	15,337	1,966	377	3,605	172	123	298	22	28	382
Sweden	51,094	8.9	5,773	17,513	19,073	6,157	67	8,084	261	..	903	25	16	1,217
Switzerland {k}	26,689	14.3	3,722	15,761	6,753	3,440	174	493	139	..	820	16	26	624
Ukraine	148,389	..	2,966	128,625	18,790	1,008	0	262	912	627	518	26	5	198
United Kingdom	230,324	8.8	3,886	201,296	25,091	460	773	944	189	117	716	18	22	465
MIDDLE EAST & N. AFRICA	**518,436**	**46.1**	**1,302**	**500,461**	**0**	**5,694**	**963**	**10,976**	**279**	**167**	**194**	**23**	**17**	**129**
Afghanistan	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Algeria	28,280	27.8	950	28,147	0	60	0	76	192	36	165	13	12	50
Egypt	44,490	44.7	667	41,893	0	1,315	0	1,282	214	185	100	27	14	73
Iran, Islamic Rep	103,635	68.4	1,497	102,422	0	427	0	786	308	317	303	23	22	110
Iraq	28,802	17.9	1,290	28,726	0	50	0	26	1,000	..	103	22	32	114
Israel	18,493	56.9	3,129	18,053	0	3	538	4	171	..	355	16	21	505
Jordan	4,871	52.4	1,018	4,803	0	1	64	3	271	167	170	16	27	103
Kuwait	17,289	0.9	9,356	17,289	0	0	0	0	729	..	1,625	26	14	1,255
Lebanon	5,469	136.1	1,591	5,234	0	29	7	125	307	243	259	17	29	190
Libyan Arab Jamahiriya	12,254	13.1	2,368	12,117	0	0	0	136	459	..	184	26	31	333
Morocco	9,931	51.4	339	9,273	0	71	0	429	106	69	66	22	9	36
Oman	8,469	197.1	3,447	8,469	0	0	0	0	209	..	162	26	13	237
Saudi Arabia	84,907	33.2	4,322	84,902	0	0	0	0	404	..	282	17	15	416
Syrian Arab Rep	18,049	69.1	1,144	17,296	0	748	0	5	352	255	92	22	9	74
Tunisia	7,673	44.4	820	6,441	0	8	0	1,224	139	91	200	19	21	79
Turkey	70,326	43.8	1,071	60,040	0	2,982	319	6,792	180	161	251	24	17	118
United Arab Emirates	28,085	60.0	10,979	28,068	0	0	0	0	564	..	433	44	9	1,007
Yemen	3,139	8.0	178	3,061	0	0	0	77	242	..	34	5	46	9

	Energy Consumption by Source								Energy Intensity: Energy Use per GDP PPP {a}			Energy Consumption (as a percent of total consumption), 1999		Electricity Consumption per Capita (kgoe) {e}
	Total from all sources			Total Fossil Fuels	Nuclear	Hydro-electric	Renewables		All Economic Sectors	Industry Sector	Residential per Capita (kgoe per person) {e}			
	(1000 metric toe) {d}	Percent Change Since	Per Capita (kgoe) {e}	(1000 metric toe) {d}			Modern {b}	Traditional {c}	(toe per million $Intl)			Industrial	Transportation	
	1999	1989	1999	1999	1999	1999	1999	1999	1999	1999	1999			1999
SUB-SAHARAN AFRICA	..	..	..	..	..	..	..	..	**425**	**193**	..	..	..	..
Angola	7,591	28.7	595	2,032	0	77	0	5,482	678	83	323	9	9	7
Benin	1,973	19.5	323	433	0	0	0	1,511	355	69	164	3	15	5
Botswana	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Burkina Faso	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Burundi	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cameroon	6,103	22.5	419	939	0	287	0	4,877	270	214	280	16	10	16
Central African Rep	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chad	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Congo	720	(31.3)	246	124	0	8	0	571	295	5	141	1	15	4
Congo, Dem Rep	14,525	26.0	293	888	0	489	0	13,238	454	..	204	20	2	4
Côte d'Ivoire	6,052	34.8	386	1,934	0	101	0	4,113	237	45	151	5	10	17
Equatorial Guinea	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Eritrea {l}	681	..	193	214	0	0	0	467	205	20	108	3	11	4
Ethiopia {m}	18,227	24.9	297	1,052	0	138	22	17,016	477	65	6	2	3	2
Gabon	1,608	16.4	1,341	647	0	60	0	901	224	111	659	20	16	60
Gambia	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ghana	7,108	37.7	376	1,555	0	344	0	5,196	209	81	206	10	10	17
Guinea	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Guinea-Bissau	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kenya	14,690	18.8	489	2,549	0	282	335	11,512	495	228	243	8	8	11
Lesotho	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Liberia	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madagascar	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malawi	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mali	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mauritania	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mozambique	6,985	(5.5)	389	387	0	588	0	6,468	480	462	278	23	4	4
Namibia	1,108	..	643	748	0	101	0	169	127	1	98	5	41	101
Niger	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nigeria	87,286	25.7	787	14,410	0	486	0	72,390	881	258	585	10	7	8
Rwanda	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Senegal	2,957	36.9	322	1,279	0	0	0	1,678	229	122	138	14	19	10
Sierra Leone	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Somalia	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Africa	109,334	17.3	2,557	93,483	3,345	62	0	12,466	303	198	272	24	12	320
Sudan	15,372	52.4	505	1,851	0	95	0	13,426	900	174	205	3	8	4
Tanzania, United Rep	15,033	22.7	438	762	0	187	0	14,079	823	544	312	11	2	5
Togo	1,373	44.8	313	321	0	0	0	1,014	218	49	57	5	9	9
Uganda	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Zambia	6,190	19.0	608	648	0	690	0	4,985	843	..	309	18	4	45
Zimbabwe	10,170	15.2	820	3,976	0	254	0	5,487	315	..	430	11	8	77
NORTH AMERICA	**2,511,765**	**15.2**	**8,075**	**2,127,336**	**221,874**	**54,524**	**19,498**	**74,745**	**268**	**..**	**913**	**17**	**26**	**1,052**
Canada	241,780	10.9	7,929	184,529	19,152	29,711	20	10,851	314	..	968	28	22	1,312
United States {n}	2,269,985	15.7	8,095	1,942,807	202722	24813	19,477	63,894	264	..	906	16	26	1,023
C. AMERICA & CARIBBEAN	**205,471**	**22.9**	**1,207**	**169,759**	**2,607**	**4,236**	**6,235**	**22,586**	**205**	**148**	**178**	**24**	**23**	**105**
Belize	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Costa Rica	3,052	56.9	776	1,741	0	441	700	181	110	50	77	16	38	116
Cuba	12,464	(26.1)	1,117	9,619	0	8	51	2,786	398	..	65	51	9	84
Dominican Rep	7,451	86.4	905	5,960	0	95	0	1,396	166	63	247	13	28	56
El Salvador	4,005	61.6	651	1,848	0	152	514	1,470	157	94	214	18	23	49
Guatemala	6,074	46.5	548	2,812	0	229	0	3,053	155	90	270	12	21	29
Haiti	2,067	27.9	258	489	0	23	0	1,555	187	128	146	14	12	3
Honduras	3,267	36.2	522	1,439	0	183	0	1,633	221	126	251	18	20	39
Jamaica	4,136	68.6	1,619	3,495	0	10	0	631	456	200	121	14	22	200
Mexico	148,991	23.4	1,530	130,612	2,607	2,819	4,882	8,026	196	145	172	22	24	134
Nicaragua	2,664	28.9	539	1,176	0	34	88	1,361	221	115	233	14	18	23
Panama	2,347	67.1	835	1,648	0	242	0	462	152	144	195	16	28	113
Trinidad and Tobago	8,022	56.8	6,225	7,990	0	0	0	32	766	1,021	100	55	8	304
SOUTH AMERICA	**383,514**	**34.4**	**1,126**	**272,172**	**2,888**	**43,346**	**7,432**	**57,856**	**170**	**174**	**154**	**30**	**25**	**137**
Argentina	63,182	38.9	1,727	56,028	1,852	1,864	3	2,975	148	119	253	22	22	167
Bolivia	4,572	73.9	562	3,571	0	154	0	846	245	238	121	17	27	34
Brazil	179,701	30.8	1,068	107,150	1,036	25,188	7,415	35,645	159	201	121	36	27	156
Chile	25,348	95.6	1,688	20,079	0	1,222	7	4,040	200	139	305	25	23	199
Colombia	28,081	17.8	678	19,920	0	2,902	0	5,259	122	105	108	25	26	67
Ecuador	8,750	45.4	705	6,745	0	620	0	1,383	247	95	153	14	28	53
Guyana	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paraguay	4,140	28.9	773	1,351	0	4,465	7	2,269	185	233	240	33	28	68
Peru	13,101	15.3	519	7,442	0	1,251	0	4,409	116	101	198	24	26	56
Suriname	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uruguay	3,232	32.9	976	2,228	0	473	0	488	114	72	216	17	28	161
Venezuela	53,406	32.9	2,253	47,658	0	5,208	0	541	421	340	151	29	22	214
OCEANIA	..	..	..	..	..	..	..	..	**235**	**172**	..	..	..	..
Australia	107,930	26.6	5,701	101,140	0	1,434	234	4,943	231	172	466	22	25	765
Fiji	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Zealand	18,176	37.1	4,850	12,346	0	2,023	2,667	835	267	..	367	29	27	737
Papua New Guinea	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Solomon Islands	..	..	..	..	..	..	..	..	..	..	..	..	..	..
DEVELOPED	**5,962,100**	**..**	**4,550**	**5,002,071**	**612,157**	**130,499**	**35,401**	**153,852**	**248**	**170**	**651**	**20**	**21**	**568**
DEVELOPING	**3,597,314**	**38.5**	**771**	**2,604,225**	**39,733**	**90,276**	**27,349**	**833,261**	**232**	**149**	**212**	**25**	**13**	**63**

a. GDP PPP is Gross Domestic Product in Purchasing Power Parity terms. **b**. Modern renewables include wind, solar, geothermal, wave/tide, liquids such as ethanol and gas derived from biomass. **c**. Traditional renewables include fuelwood, crop residues, and biomass left from industrial sources such as papermaking. **d**. Toe is tons of oil equivalent. **e**. Kgoe is kilograms of oil equivalent. **f.** Data for China do not include Taiwan. **g**. Denmark excludes Greenland and the Danish Faroes. **h**. The Netherlands excludes Suriname and the Netherlands Antilles. **i**. Portugal includes the Azores and Madeira. **j**. Spain includes the Canary Islands. **k**. Switzerland includes Liechtenstein. **l**. Data for Eritrea previous to 1992 are included under Ethiopia. **m**. Data for Ethiopia prior to 1992 include Eritrea. **n**. The United States includes Puerto Rico, Guam, and the Virgin Islands.

VARIABLE DEFINITIONS AND METHODOLOGY

Energy Consumption by Source is the total amount of primary energy consumed by each country in the year specified, and is reported in thousands of metric tons of oil equivalent (toe). Primary energy also includes losses from transportation, friction, heat loss, and other inefficiencies. Specifically, consumption equals indigenous production plus imports, minus exports plus stock changes, minus international marine bunkers. IEA calls this value Total Primary Energy Supply (TPES).

Total From All Sources is total consumption from all energy sources including fossil, nuclear, hydroelectric, modern renewables, and all renewable fuels and wastes.

Total Fossil Fuels includes energy consumption from oil and natural gas liquids, coal and coal products, and natural gas.

Nuclear energy consumption shows the primary heat equivalent of the electricity produced by nuclear power plants. Heat-to-electricity conversion efficiency is assumed to be 33% (its average in Europe). **Hydroelectric** includes the energy content of the electricity produced in hydro power plants. Hydro output excludes output from pumped storage.

Modern Renewables include energy from wind; tide, wave and ocean; thermal and photovoltaic solar; liquid biomass fuels such as ethanol; biogas from digesters; and geothermal systems. Wind includes electrical power generated from wind energy. Tide, wave, ocean represents the amount of energy from wave, ocean, and tide activity that is captured and transformed into electrical power. Thermal solar represents solar radiation exploited for hot water production and electricity generation by: (1) flat plate collectors, mainly of the thermosiphon type, for domestic hot water or for the seasonal heating of swimming pools and (2) solar thermal-electric plants. Passive solar energy for the direct heating, cooling, and lighting of dwellings or other buildings is not included. Solar from photovoltaics includes solar energy converted by photovoltaic cells to electricity. Energy from liquid biomass includes liquid derivatives from biomass used as a fuel. Biogases are gases derived principally from the anaerobic fermentation of biomass and solid wastes which are combusted to produce heat and electrical power. Landfill gases and gases from sewage and animal waste facilities are included in this category. Ethanol is the main form of liquid biomass produced.

Traditional Renewables include primary solid biomass, i.e., 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.

All energy consumption values presented here are calculated and reported by the International Energy Agency (IEA) using an energy balance methodology that uses metric tons (tonnes) of oil equivalent (toe)—a common unit based on the calorific content of energy commodities. One toe is defined as 10 Exp.7 kilocalories, 41.868 gigajoules, or 11,628 giga watt-hours (GWh). This amount of energy is roughly equal to the amount of energy contained in a ton of crude oil. To account for the differences in quality between types of coal and other energy sources, the IEA has applied specific conversion factors supplied by national administrations for the main categories of energy sources and flows or uses (i.e., production, imports, exports, industry).

Energy statistics are expressed in terms of net calorific value and therefore may be slightly lower than statistics presented by other statistical compendia. The difference between the net and the gross calorific value for each fuel is the latent heat of vaporization of the water produced during combustion of the fuel. For oil and coal, net calorific value is 5 percent less than gross; for most forms of natural and manufactured gas the difference is 9–10 percent. Using net calorific values is consistent with the United Nations and European Community statistical offices.

The IEA has used the following conventions in accounting for primary energy such as nuclear, solar, geothermal, hydro, wind, etc.: (1) The first form of energy production with multiple practical uses is reported. This means that heat is the form reported for geothermal heat and electrical production, nuclear heat and electrical production, and solar heat production. Electricity is the form reported for hydro, wind, wave, and photovoltaic solar electricity production. (2) The physical energy content of the energy source is reported as energy production. For nuclear fuels, this is the heat energy produced in a nuclear reactor; for hydropower, it is the amount of energy in the electricity produced. Please refer to the original source for further information on the variables and collection methodologies.

Energy Intensity: All Economic Sectors is the amount of energy consumed per unit of Gross Domestic Product (GDP) in Purchase Power Parity (PPP) terms; the units are toe per million international dollars GDP PPP. This variable provides an indicator of how efficiently, in terms of energy, the economy generates wealth. Please see the notes in the Economic Indicators table for more information on GDP PPP.

WRI calculated energy consumption per GDP PPP using IEA's energy consumption data as defined above under Total From All Sources, and IEA's data on GDP in PPP terms. Total energy consumption in each country was divided by total GDP PPP for that country. IEA's GDP PPP data were used instead of the World Bank's figures (which were used for the Economic Indicators table) as they are reported in constant dollar terms, allowing WRI to calculate a meaningful time series (available in the EarthTrends searchable database). The calculation was made by dividing total energy consumption by total GDP PPP.

Energy Intensity: Industry Sector is the amount of energy consumed by the industry sector per unit of Gross Domestic Product (GDP) in Purchase Power Parity (PPP) terms generated by industry. This variable, reported in toe per million international dollars GDP PPP, indicates, in energy terms, how efficiently the industry sector generates wealth. The industry sector is defined as including International Standard Industrial Classification (ISIC) divisions 15–37 (please see **http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=17** for more information on ISIC classifications).

Industrial energy intensity was calculated in a similar fashion as described above for all economic sectors: Industrial energy consumption was divided by the amount of GDP PPP generated by the industry sector. Unlike the indicator above which used data in the form provided by IEA, WRI adjusted some data elements to make this calculation. The definition of industry was determined by the percent of GDP generated by industry, provided by World Development Indicators. This variable defines industry as including International Standard Industrial Classification (ISIC) divisions 15–37. WRI adjusted IEA's value for industrial energy consumption by subtracting energy consumed by mining and quarrying (ISIC Divisions 13–14) and construction (ISIC division 45) from IEA's total industrial energy consumption. The only differences remaining after this adjustment are that the World Bank definition includes the manufacture of coke, petroleum products, and other derived fossil fuels (ISIC division 23), manufacture of coke oven products (ISIC group 231), manufacture of refined petroleum products (ISIC group 232), and processing of nuclear fuels. According to the IEA, however, the energy consumed for these activities is captured by the energy contained in the original fuels used for these processes. The differences remaining

between the World Bank and IEA definitions of the industry and manufacturing sector should therefore be small. After the definitions for industrial energy consumption and the percentage of GDP generated by industry were brought into agreement, industrial GDP PPP was calculated by multiplying total GDP PPP by the percent generated by industry, and industrial energy consumption was divided by this value.

Residential Energy Use Per Capita, reported in kilograms of oil equivalent (kgoe) is the average amount of energy consumed per person by the residential sector. The residential sector includes all energy used for activities by households except for transportation. The variable provides an indicator of how much energy people in different countries require for housing.

Energy Consumption by Residences Per Capita was calculated by dividing the IEA data defined above by total population provided by the United Nations Population Division. Please see the Population, Health, and Human Well-Being table for more information on the population data.

Energy Consumption by Industry as a Percent of Total Consumption and Energy Consumption by Transportation as a Percent of Total Consumption is the percentage of the total amount of energy, from all sources, consumed by industry and transportation, respectively. Units for both variables are the percentage of the total energy consumed by that country.

The **industry sector** is defined for this variable as the combination of all industrial sub-sectors, such as mining and quarrying, iron and steel, construction, etc. Energy used for transport by industry is not included here but is reported under transportation.

Transportation represents both road and air transportation. Road transport includes all fuels used in road vehicles, including military, as well as agricultural and industrial highway use. The sector excludes motor gasoline used in stationary engines and diesel oil used in tractors. Air transportation includes both domestic and international transport. The domestic sector includes deliveries of aviation fuels to all domestic air transport: commercial, private, agricultural, military, etc. It also includes use for purposes other than flying, e.g., bench testing of engines, but not airline use of fuel for road transport. For many countries this also incorrectly includes fuel used by domestically owned carriers for outbound international traffic. The international air transportation sector includes deliveries of aviation fuels to all international civil aviation.

The amount of energy consumed by industry and transportation as a percent of total energy consumption was calculated by dividing the amount of energy consumed by these sectors by the total energy consumption in that country.

Electricity Consumption Per Capita is the amount of electricity consumed on average by each person, regardless of source, and is represented in kilograms of oil equivalent. The figure reported is final consumption, which measures only the amount of energy delivered to the end user. Losses due to transportation, friction, heat loss, and other inefficiencies are not included.

Final Electricity Consumption Per Capita was calculated by dividing total electricity consumption in each country by that country's total population.

FREQUENCY OF UPDATE BY DATA PROVIDERS

IEA updates their energy data annually. The UN Population Division updates the figures used for per capita calculations every other year. 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 Data

The energy balances data 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. The data give only a broad impression of trends and should not be strictly compared between countries. The IEA reports that it can be difficult to distinguish between agriculture, commercial, and public sectors, and there may be some overlap in these sectors. 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.

Please note that, in a departure from World Resources 2000–01, energy consumption by energy sector is based on primary energy supply as opposed to total final consumption. The figures should therefore not be used in conjunction with data from that edition to indicate change in any sector's relative energy use. Please see the EarthTrends searchable database at http://earthtrends.wri.org for a time series on energy data.

Energy Intensity Variables

As is the case with the energy data, economic data collection in most countries is well-established and institutionalized, resulting in accurate information. A number of countries, particularly rapidly developing countries, however, over-report GDP and the rate of GDP growth in their countries. This will make those countries appear more energy efficient than they actually are.

SOURCES

Energy Variables: International Energy Agency (IEA), 2001. Energy Balances of OECD Countries (2001 Edition) and Energy Balances of non-OECD Countries (2001 Edition). Paris: Organisation for Economic Co-operation and Development (OECD). Electronic database available on-line at: http://data.iea.org/.
Population (used to calculate per capita values): Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, 2002. World Population Prospects: The 2000 Revision. New York: United Nations. Data set available on CD-ROM.

Fisheries and Aquaculture

Sources: Food and Agriculture Organization of the United Nations, United Nations Population Division

	Marine Catch {a} (annual average)		Freshwater Catch {b} (annual average)		Total Aquaculture Production (annual average)		Trade in Fish and Fish Products {c} (annual average million US$)		Food Supply from Fish and Fish Products (kg/person/year) {d}	Fish Protein as a Percent of All Animal Protein	Number of Fishers		Number of Decked Fishery Vessels {e}	Population within 100 km of the Coast (percent)
	Metric Tons (000) 1998-00	Percent Change Since 1988-90	Metric Tons (000) 1998-00	Percent Change Since 1988-90	Metric Tons (000) 1998-00	Percent Change Since 1988-90	Exports 1998-00	Imports 1998-00	1997-99	1997-99	2000		1995	1995
WORLD	**81,601.9**	**2**	**9,550.7**	**31**	**33,179.7**	**63**	**52,548.9**	**57,624.7**	**16.0**	**16**	**34,501,411**		**1,256,841**	**39**
ASIA (EXCL. MIDDLE EAST)	**36,527.8**	**20**	**5,751.2**	**61**	**26,625.3**	**62**	**15,235.0**	**20,418.1**	**18.0**	**28**	**28,890,352**		**1,057,966**	**38**
Armenia	..	..	1.0	(63)	0.7	..	0.3	1.0	0.5	1	244	f	6	0
Azerbaijan	0.0	(67)	14.8	(70)	0.2	..	1.7	1.3	0.9	1	1,500	f	..	56
Bangladesh	179.6	27	754.6	47	597.4	69	313.6	2.5	10.2	47	1,320,480		61	55
Bhutan	..	..	0.3	-	0.0	67	..	..	..	..	450	f	..	0
Cambodia	36.4	25	184.1	212	14.5	62	35.3	3.1	12.0	35	73,425	g	..	24
China	14,395.9	170	2,367.1	188	22,722.0	73	3,081.3	1,315.0	24.5	21	12,233,128	h	432,674	24
Georgia	2.2	(99)	0.2	(60)	0.1	..	0.3	1.6	1.3	2	1,900	f	82	39
India	2,726.5	33	753.5	48	2,039.2	52	1,221.4	24.0	4.7	14	5,958,744	f	56,600	26
Indonesia	3,624.7	69	375.3	18	722.5	37	1,582.2	69.7	19.0	56	5,118,571		67,325	96
Japan	4,836.3	(52)	285.1	(3)	763.0	(5)	756.2	14,406.3	65.4	45	260,200		360,747	96
Kazakhstan	0.0	(83)	23.3	(70)	1.2	..	13.2	13.3	1.9	2	16,000	f	1,970	4
Korea, Dem People's Rep	190.2	(87)	20.0	(66)	67.9	23	69.6	5.6	9.4	36	129,000	f	2,900	93
Korea, Rep	1,968.3	(16)	16.4	(59)	317.9	(30)	1,346.6	1,037.6	47.3	39	176,928	j	76,801	100
Kyrgyzstan	..	..	0.1	(79)	0.1	..	..	2.0	0.7	1	154	f	..	0
Lao People's Dem Rep	..	..	26.3	34	31.2	73	0.0	1.4	10.0	31	15,000	f	..	6
Malaysia	1,201.8	42	20.4	74	146.8	65	189.6	262.6	57.0	35	100,666	f	17,965	98
Mongolia	..	..	0.4	91	..	..	0.2	0.0	0.1	0	0		..	0
Myanmar	772.7	33	166.2	21	90.7	93	162.0	1.0	16.0	45	610,000	f	140	49
Nepal	..	..	13.8	131	13.6	48	0.2	0.3	1.1	3	50,000	f	..	0
Pakistan	448.3	28	173.9	78	17.6	50	141.9	0.4	2.5	3	272,273		5,064	9
Philippines	1,719.0	14	146.4	(37)	342.7	(5)	408.7	109.2	29.6	42	990,872	f	3,220	100
Singapore	6.5	(44)	0.04	(68)	4.3	55	413.6	483.9	..	..	364		110	100
Sri Lanka	255.3	67	32.7	4	10.2	45	103.5	66.5	21.2	54	146,188		2,990	100
Tajikistan	..	..	0.1	(81)	0.1	..	..	0.2	0.1	0	200	f	..	0
Thailand	2,654.6	14	206.5	77	664.5	61	4,180.5	841.3	28.2	37	354,495		17,600	39
Turkmenistan	0.0	(93)	9.4	(79)	0.6	(338)	0.4	0.1	1.7	2	611	i	45	8
Uzbekistan	..	..	3.0	(40)	5.9	(257)	0.0	2.0	0.5	1	4,800		..	3
Viet Nam	1,217.6	92	156.3	19	463.6	66	1,080.4	12.1	18.1	37	1,000,000		140	83
EUROPE	**15,710.1**	**(24)**	**674.7**	**(18)**	**1,726.0**	**13**	**19,063.8**	**22,875.8**	**20.6**	**10**	**855,333**		**105,324**	**40**
Albania	2.1	(73)	0.8	(64)	0.2	..	6.5	4.5	2.4	1	1,590	j	2	97
Austria	..	..	0.6	4	2.9	(37)	9.0	189.7	14.3	4	2,300		..	2
Belarus	..	..	0.5	(84)	5.6	(203)	16.4	72.8	8.5	4	5,000	f	..	0
Belgium	29.7	(27)	0.5	4	1.4	49	471.9	1,059.0	..	..	544	j	156	83
Bosnia and Herzegovina	0.0	..	2.5	..	..	..	..	8.3	1.9	2	3,500	f	..	47
Bulgaria	10.2	(87)	1.9	37	5.2	(102)	7.2	15.5	4.2	3	1,483	f	30	29
Croatia	20.6	..	0.4	..	6.3	..	40.9	38.1	5.2	5	65,151	l	305	38
Czech Rep	..	..	4.3	..	18.5	..	27.7	79.4	12.7	5	2,243		..	0
Denmark	1,497.3	(15)	1.5	(71)	42.9	19	2,856.3	1,804.9	26.0	10	6,711	j	4,285	100
Estonia	110.2	(72)	4.4	(36)	0.2	(286)	86.6	37.6	19.7	12	13,346		186	86
Finland	108.7	28	56.4	(16)	15.6	(14)	19.1	127.5	33.6	14	5,879		3,838	73
France	573.2	(10)	3.3	(40)	266.8	11	1,104.7	3,275.8	31.3	9	26,113	g	6,586	40
Germany	212.6	(33)	24.5	96	66.8	(1)	1,044.5	2,403.1	14.9	7	4,358		2,406	15
Greece	104.4	(16)	4.4	15	73.1	92	248.5	301.0	26.0	11	19,847		18,375	99
Hungary	..	..	7.3	(58)	11.7	(60)	8.1	45.7	4.3	2	4,900		..	0
Iceland	1,799.9	13	0.3	(57)	3.8	50	1,352.0	80.3	93.1	n 30	6,100		826	100
Ireland	290.2	38	2.6	(52)	45.8	52	356.4	113.5	16.0	6	8,478	i	1,353	100
Italy	298.7	(24)	5.2	(61)	208.8	34	370.5	2,705.7	24.2	11	48,770		16,000	79
Latvia	120.2	(77)	1.2	(43)	0.4	(853)	54.4	35.9	15.4	11	6,571		351	75
Lithuania	57.8	(85)	1.9	(63)	1.7	(152)	40.0	56.1	22.0	15	4,700	f	131	23
Macedonia, FYR	..	..	0.2	..	1.5	..	0.6	8.8	5.1	5	8,472		..	14
Moldova, Rep	..	..	0.3	(86)	1.1	(537)	2.0	4.6	3.3	4	40	f	..	9
Netherlands	513.6	27	2.1	(47)	101.4	5	1,490.2	1,237.0	19.7	9	3,743		1,008	93
Norway	2,726.8	59	1.4	(56)	458.2	74	3,668.3	635.4	52.2	26	23,552		8,664	95
Poland	211.1	(60)	19.5	23	33.1	21	266.8	293.7	12.8	11	8,640	i	445	14
Portugal	206.6	(37)	0.04	(23)	7.1	(12)	276.6	936.1	65.7	23	25,021		9,265	93
Romania	3.0	(98)	5.1	(75)	9.4	(369)	5.4	38.8	2.5	2	8,519		33	6
Russian Federation	3,700.0	(50)	488.3	(10)	68.6	(179)	1,269.1	230.6	21.7	15	316,300		3,584	15
Serbia and Montenegro	0.4	..	1.2	..	4.3	..	0.8	44.0	2.9	1	1,429	f	5	8
Slovakia	..	..	1.7	..	0.8	..	2.2	36.3	8.3	5	215		..	0
Slovenia	1.8	..	0.2	..	1.1	..	6.4	28.5	6.9	3	231		11	61
Spain	1,133.8	(8)	8.9	(6)	316.3	26	1,582.1	3,399.6	44.4	18	75,434	f	15,243	68
Sweden	363.2	51	3.6	(46)	5.5	(55)	472.0	688.9	30.4	14	2,783		1,240	88
Switzerland	..	..	1.8	(49)	1.1	26	3.1	374.1	18.3	7	522		..	0
Ukraine	409.3	(57)	11.6	(81)	31.0	(193)	56.4	109.6	11.4	10	120,000	f	444	21
United Kingdom	830.6	(1)	4.2	81	148.2	69	1,421.8	2,294.9	21.8	10	17,847	i	9,562	99
MIDDLE EAST & N. AFRICA	**2,348.0**	**24**	**411.0**	**74**	**355.9**	**62**	**..**	**756.3**	**7.2**	**9**	**746,955**		**21,990**	**47**
Afghanistan	..	..	1.1	10	..	..	..	..	..	..	1,500	f	..	0
Algeria	98.2	(1)	0.0	..	0.3	(35)	2.7	11.2	3.5	6	26,151	i	2,184	69
Egypt	156.0	81	219.8	44	235.3	75	1.6	157.3	11.2	19	250,000		..	53
Iran, Islamic Rep	248.3	23	140.3	424	35.2	25	48.2	56.1	4.4	7	138,965		900	24
Iraq	12.5	204	10.1	(43)	3.8	16	..	0.6	1.5	8	12,000	f	8	6
Israel	4.2	(57)	1.8	8	19.1	23	8.2	133.2	23.4	9	1,535	f	384	97
Jordan	0.1	..	0.4	10	0.5	87	..	23.4	5.1	5	721		..	29
Kuwait	5.8	(19)	1.0	127	0.3	..	5.3	16.4	12.1	5	670	j	917	100
Lebanon	3.6	122	0.0	..	0.4	75	..	24.2	8.0	7	9,825		5	100
Libyan Arab Jamahiriya	33.0	45	0.0	-	0.1	50	35.0	11.3	6.1	7	9,500	f	93	79
Morocco	782.3	43	1.8	16	2.2	89	815.3	11.3	8.4	17	106,096		3,052	65
Oman	110.1	(18)	0.0	-	5.1	22	46.6	5.3	..	..	28,003	j	390	88
Saudi Arabia	49.1	10	0.1	..	5.4	78	8.6	108.5	7.6	6	25,360		23	30
Syrian Arab Rep	2.6	81	4.6	282	6.7	58	..	48.9	1.8	2	11,292		5	34
Tunisia	90.9	(4)	1.0	291	1.5	37	94.7	13.1	9.4	12	50,815		17	84
Turkey	491.3	5	28.9	(12)	66.2	93	96.4	62.7	8.0	10	33,614	f	9,710	58
United Arab Emirates	112.5	22	0.1	82	0.0	..	36.8	27.5	25.9	12	15,543		4,050	85
Yemen	122.3	64	0.0	..	..	..	26.1	4.8	6.8	22	12,200	j	71	63

	Marine Catch {a} (annual average)		Freshwater Catch {b} (annual average)		Total Aquaculture Production (annual average)		Trade in Fish and Fish Products {c} (annual average million US$)		Food Supply from Fish and Fish Products (kg/person/ year) {d}	Fish Protein as a Percent of All Animal Protein	Number of Fishers		Number of Decked Fishery Vessels {e}	Population within 100 km of the Coast (percent)
	Metric Tons (000) 1998-00	Percent Change Since 1988-90	Metric Tons (000) 1998-00	Percent Change Since 1988-90	Metric Tons (000) 1998-00	Percent Change Since 1988-90	Exports 1998-00	Imports 1998-00	1997-99	1997-99	2000		1995	1995
SUB-SAHARAN AFRICA	**2806.5**	**15**	**1808.0**	**13**	**37.2**	**25**	**1,691.4**	**845.5**	**7.6**	**25**	**1,995,694**	**j**	**71**	**21**
Angola	186.4	50	6.0	(25)	..	..	10.8	14.3	10.4	28	30,364	f	580	29
Benin	13.8	6	24.5	(6)	0.0	..	2.2	4.7	8.7	26	61,793		5	62
Botswana	..	..	0.2	(89)	..	..	0.1	5.3	6.1	5	2,620	f	..	0
Burkina Faso	..	..	8.1	7	0.0	..	0.0	1.4	1.9	6	8,300		..	0
Burundi	..	..	10.9	(18)	0.1	60	0.2	0.1	2.3	23	7,030	j	..	0
Cameroon	59.6	21	50.0	138	0.1	(117)	2.7	30.2	12.3	31	24,500		25	22
Central African Rep	..	..	14.8	14	0.1	20	..	0.4	4.2	9	5,410		..	0
Chad	..	..	84.0	31	..	..	..	..	6.9	14	300,000	g	..	0
Congo	20.6	(6)	25.5	10	0.2	(29)	2.4	19.7	21.4	46	10,500		26	25
Congo, Dem Rep	3.9	97	194.4	21	0.4	(66)	0.5	42.5	6.7	34	108,400		23	3
Côte d'Ivoire	65.5	(2)	11.5	(59)	1.0	86	171.0	171.7	14.2	42	19,707	f	63	40
Equatorial Guinea	4.5	34	1.0	162	..	..	2.8	2.1	..	..	9,218		5	72
Eritrea	7.0	..	0.0	..	..	..	1.0	0.1	0.9	3	14,500	f	..	73
Ethiopia {k}	..	..	15.2	365	0.0	..	..	..	0.2	1	6,272		..	1
Gabon	40.4	114	10.1	421	0.4	..	14.0	7.1	49.6	37	8,258		39	63
Gambia	26.5	69	2.5	(7)	0.0	..	4.9	1.3	24.1	64	2,000	f	..	91
Ghana	384.6	24	77.9	24	0.5	18	81.1	97.3	28.1	66	230,000	f	500	42
Guinea	78.9	108	4.0	33	0.0	..	23.1	14.3	11.2	51	10,707	f	15	41
Guinea-Bissau	5.1	3	..	..	..	..	3.1	0.4	4.4	14	2,500	f	8	95
Kenya	6.0	(29)	191.7	25	0.3	(188)	36.8	6.3	5.4	10	59,565		32	8
Lesotho	..	..	0.0	494	0.00	..	..	..	0.0	0	60	f	..	0
Liberia	8.5	3	4.1	(1)	0.0	..	0.0	1.9	5.9	26	5,143		14	58
Madagascar	98.9	47	30.0	(10)	5.9	96	77.0	6.4	7.5	16	83,310	j	65	55
Malawi	..	..	43.8	(41)	0.4	55	0.2	0.3	4.5	34	42,922	j	57	0
Mali	..	..	102.1	55	0.1	80	0.4	2.2	8.8	15	70,000	i	..	0
Mauritania	32.9	(51)	5.0	(17)	..	..	70.1	0.5	10.6	11	7,944	g	126	40
Mozambique	25.8	(16)	10.8	215	0.0	..	84.0	8.8	2.7	21	20,000	f	291	59
Namibia	305.0	191	1.5	49	0.0	50	266.1	..	11.6	20	2,700	f	218	5
Niger	..	..	11.4	226	0.0	(100)	0.7	0.6	0.9	3	7,983	f	..	0
Nigeria	316.4	66	136.9	46	22.6	35	4.8	231.6	8.8	32	481,264	g	318	26
Rwanda	..	..	6.6	287	0.2	65	..	0.1	1.0	7	5,690		..	0
Senegal	378.8	42	27.3	47	0.1	82	287.6	7.0	32.1	45	55,547	j	180	83
Sierra Leone	49.5	32	16.3	(0)	0.03	33	14.6	3.3	13.6	61	17,990	f	27	55
Somalia	20.7	(2)	0.2	(50)	..	..	3.7	..	2.9	2	18,900	f	12	55
South Africa	596.4	(34)	0.9	10	4.4	47	259.0	64.1	6.9	8	10,500	f	600	39
Sudan	5.7	336	44.0	52	1.0	88	0.4	0.4	1.7	2	27,700	j	..	3
Tanzania, United Rep	49.6	(4)	280.0	(18)	0.2	(30)	66.8	0.4	8.9	32	92,529		30	21
Togo	15.4	34	5.2	20	0.1	89	1.8	14.2	13.4	51	14,120		3	45
Uganda	..	..	267.5	19	0.2	80	33.8	0.1	8.9	28	57,862	j	..	0
Zambia	..	..	68.0	6	4.2	70	0.4	0.9	7.4	25	23,833	f	235	0
Zimbabwe	..	..	14.0	(41)	0.2	11	2.2	9.3	2.7	10	1,804	i	..	0
NORTH AMERICA	**5457.1**	**(19)**	**419.4**	**(19)**	**559.8**	**32**	**5,682.6**	**10,840.9**	**21.5**	**12**	**303,784**		**45,480**	**41**
Canada	933.5	(37)	68.9	(56)	109.1	70	2,575.9	1,318.9	23.8	10	8,696		18,280	24
United States	4365.8	(15)	350.5	(3)	450.7	23	2,847.5	9,511.3	21.3	7	290,000	f	27,200	43
C. AMERICA & CARIBBEAN	**1582.5**	**(7)**	**117.0**	**(25)**	**132.8**	**(697)**	**1,529.2**	**423.0**	**8.8**	**14**	**446,390**		**7,161**	**55**
Belize	37.8	..	0.0	(50)	2.5	92	27.7	2.4	13.0	13	1,872		12	100
Costa Rica	23.2	40	1.0	233	9.0	95	177.4	27.4	5.9	5	6,510	j	1,003	100
Cuba	58.4	(68)	5.0	(61)	51.5	86	90.1	26.9	13.1	16	11,865	f	1,250	100
Dominican Rep	9.2	(44)	0.6	(57)	1.2	80	0.9	52.4	12.6	10	9,286		..	100
El Salvador	7.5	2	2.6	(5)	0.3	(119)	31.9	6.9	2.9	4	24,534		80	99
Guatemala	13.7	324	6.9	477	4.0	79	29.9	7.6	1.6	3	17,275		85	61
Haiti	4.6	(9)	0.5	58	..	..	3.4	7.4	3.1	11	4,700	f	1	100
Honduras	10.8	(25)	0.1	115	8.3	62	40.2	14.8	2.9	3	21,000	i	280	65
Jamaica	6.5	(18)	0.5	1	4.0	23	13.0	56.0	25.5	20	23,465		5	100
Mexico	1130.8	(9)	98.5	(27)	47.7	60	694.0	125.2	9.6	8	262,401		3,100	29
Nicaragua	21.7	444	1.2	813	4.8	99	87.1	6.5	3.3	7	14,502		280	72
Panama	182.2	27	0.0	21	5.3	28	232.8	15.4	11.0	8	13,062		695	100
Trinidad and Tobago	9.1	12	0.0	-	0.02	..	11.8	7.7	14.2	14	7,297		19	100
SOUTH AMERICA	**14649.6**	**1**	**345.7**	**6**	**318.2**	**61**	**4,980.1**	**687.7**	**8.9**	**12**	**784,051**		**13,106**	**49**
Argentina	1006.7	101	24.7	133	1.3	77	824.7	86.5	8.5	4	12,320		800	45
Bolivia	0.9	(64)	5.2	59	0.4	21	0.1	5.6	1.7	2	7,754	f	..	0
Brazil	520.5	(16)	180.9	(6)	132.7	86	168.7	357.0	6.5	4	290,000	f	1,450	49
Chile	4150.8	(26)	0.0	(97)	319.6	94	1,694.4	54.1	17.6	10	50,873		563	82
Colombia	101.7	71	25.1	(37)	53.6	88	195.1	86.5	4.5	5	129,410	i	167	30
Ecuador	466.4	(18)	0.4	(32)	112.0	33	915.7	16.1	7.0	9	162,870	g	515	61
Guyana	51.2	44	0.7	(16)	0.5	92	38.6	0.7	59.9	47	6,571		55	77
Paraguay	..	..	25.0	124	0.1	44	0.1	2.3	5.5	4	4,469	g	..	0
Peru	7773.0	15	34.6	2	7.6	34	852.2	15.4	20.3	21	66,361		7,710	57
Suriname	16.0	209	0.2	(27)	0.2	..	6.9	4.1	24.6	24	3,628	f	22	87
Uruguay	117.9	11	2.2	878	0.0	..	115.0	13.4	8.6	4	4,023		958	78
Venezuela	389.9	37	46.7	41	11.1	94	126.9	45.5	18.3	19	44,302	i	866	73
OCEANIA	**1110.1**	**75**	**23.0**	**(1)**	**127.6**	**62**	**1,681.7**	**629.9**	**22.7**	**25**	**85,324**		**1,917**	**87**
Australia	214.6	13	4.1	9	33.9	62	885.7	518.8	21.3	7	13,800	i	246	90
Fiji	27.9	17	5.5	18	1.3	99	28.5	16.8	32.1	21	8,985	j	..	100
New Zealand	594.9	97	1.6	(20)	90.4	69	682.2	55.9	30.3	13	1,928		1,375	100
Papua New Guinea	47.1	271	11.7	(7)	0.0	..	31.7	11.5	15.1	31	16,000	f	35	61
Solomon Islands	46.8	(0)	0.0	-	0.0	..	10.2	0.2	52.5	82	11,000	m	130	100
DEVELOPED	**27258.0**	**(30)**	**1439.3**	**(21)**	**3180.4**	**12**	**27,094.4**	**48,905.7**	**23.7**	**10**	**1,467,401**		**516,259**	**45**
DEVELOPING	**53010.2**	**32**	**8110.6**	**49**	**26702.3**	**60**	**24,010.7**	**8,571.6**	**13.8**	**20**	**32,640,482**		**740,322**	

Negative values are shown in parentheses. **a**. Includes marine fish and diadromous fish caught in marine areas, as well as molluscs and crustaceans. **b**. Includes freshwater fish and diadromous fish caught in inland waters or low-salinity marine areas, as well as molluscs and crustaceans. **c**. Includes trade of all marine and freshwater catch, and total aquaculture production, excluding aquatic plants. **d**. Per capita values are expressed on a live-weight equivalent basis, which means that all parts of the fish, including bones, are taken into account when estimating consumption of fish and fishery products. **e**. Includes fishing vessels such as trawlers, long liners, etc., and non-fishing vessels such as motherships, fish carriers, etc. **f**. Data were collected between 1991 and 1996. **g**. Data are for 1997. **h**. Does not include Taiwan or Hong Kong. **i**. Data are for 1998. **j**. Data are for 1999. **k**. Data for Ethiopia before 1993 include Eritrea **l**. Since independence, data include a substantial but unquantifiable number of sport fishers. **m**. Data are for 1980. **n**. Per capita fish consumption in Iceland includes quantities of fish and fish products destined for the export market.

VARIABLE DEFINITIONS AND METHODOLOGY

Marine and Freshwater Catch data refer to marine and freshwater fish caught or trapped for commercial, industrial, and subsistence use (catches from recreational activities are included where available); data refer to fish caught by a country's fleet anywhere in the world. Statistics for mariculture, aquaculture, and other kinds of fish or shellfish farming are not included in the country totals. Marine fish includes demersal fish (flounders, halibuts, soles, etc.; cods, hakes, haddocks, etc.; redfishes, basses, congers, etc.; and sharks, rays, chimeras, etc.), pelagic fish (jacks, mullets, sauries, etc.; herrings, sardines, anchovies, etc.; tunas, bonitos, billfishes, etc.; and mackerels, snooks, cutlassfishes, etc.), and diadromous fish caught in marine areas (i.e., sturgeons, paddlefishes, river eels, salmons, trouts, smelt, shads, and miscellaneous diadromous fishes), marine molluscs (squids, cuttlefishes, octopuses, etc.; abalones, winkles, conchs, etc.; oysters; mussels; scallops, pectens, etc.; clams, cockles, arkshells, etc.; and miscellaneous marine molluscs) and marine crustaceans (sea-spiders, crabs, etc.; lobsters, spiny-rock lobsters, etc.; squat lobsters; shrimps, prawns, etc.; krill, planktonic crustaceans, etc.; and miscellaneous marine crustaceans).

Freshwater fish includes fish caught in inland waters (i.e., carps, barbels, and other cyprinids; tilapias and other cichlids; and miscellaneous and freshwater fishes), and diadromous fish caught in inland waters, as well as freshwater molluscs and crustaceans. Catch figures are the national totals averaged over a 3-year period.

Data are represented as nominal catches, which are the landings converted to a live-weight basis, that is, the weight when caught. Fish catch does not include discards. Landings for some countries are identical to catches. Catch data are provided annually to the Food and Agriculture Organization of the United Nations (FAO) Fisheries Department by national fishery offices and regional fishery commissions. Some recent data are provisional. If no data are submitted, FAO uses the previous year's figures or makes estimates based on other information.

Aquaculture is defined by FAO as "the farming of aquatic organisms, including fish, molluscs, and crustaceans. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, and 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 included in the harvest of fisheries.

FAO's global collection of aquaculture statistics from questionnaires to national fishery offices was begun in 1984. FAO's aquaculture database has 337 "species items" that are grouped into six categories. **Total Aquaculture Production** includes marine, freshwater, and diadromous fishes, molluscs and crustaceans cultivated in marine, inland, or brackish environments. For a detailed listing of species, please refer to the original source. Aquaculture production is expressed as an annual average over a 3-year period.

Trade in Fish and Fish Products expresses the value associated with imports and exports of fish that are live, fresh, chilled, frozen, dried, salted, smoked, or canned, and other derived products and preparations. Trade includes freshwater and marine fish, aquaculture, molluscs and crustaceans, meals, and solubles. Aquatic plants are not included. Figures are the national totals averaged over a 3-year period in millions of U.S. dollars. Exports are generally on a free-on-board basis (i.e., not including insurance or freight costs). Imports are usually on a cost, insurance, and freight basis (i.e., insurance and freight costs added in).

Regional totals are calculated by adding up imports or exports of each country included in that region. Therefore, the regional totals should not be taken as a net trade for that region, since there may also be trade occurring within a region. To collate national data, FAO uses its International Standard Statistical Classification of Fishery Commodities. Commodities produced by aquaculture and other kinds of fish farming are also included.

Food Supply from Fish and Fish Products is defined as the quantity of both freshwater and marine fish, seafood and derived products available for human consumption. Data were calculated by taking a country's fish production plus imports of fish and fishery products, minus exports, minus the amount of fishery production destined to non-food uses (i.e., reduction to meal, etc.), and plus or minus variations in stocks. The quantity of fish and fish products consumed include the bones and all parts of the fish.

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 food supply for all products, including fish, in its food balance sheets. FAOSTAT maintains statistics on apparent consumption of fish and fishery products, in live weight, for 220 countries in a collection of Supply/Utilization Accounts (SUAs). 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**.

Number of Fishers includes the number of people employed 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/or regional published sources are also used to estimate figures. Please refer to the original source for further information on collection methodologies (available on-line at **http://www.fao.org/fi/statist/fisoft/fishers.asp**) or to the following publication: Numbers of Fishers 1970–1997, FAO Fisheries Circular N. 929 Revision 2, Fishery Information, Data and Statistics Unit (FAO, Rome, 1999).

Decked Fishery Vessels include trawlers, purse seiners, gill netters, long liners, trap setters, other seiners and liners, multipurpose vessels, dredgers, and other fishing vessels. Data on undecked vessels are being collected by FAO, but are not yet available. Fleet data are collected by the FAO through questionnaires submitted to the national reporting offices of the member countries. Other national or regional published sources, such as the registry of fishing vessels, are also used to estimate fleet size. The flag of the vessel is used to assign its nationality. However, in many cases vessels are flagged in one country, while the ownership, landings, and trade resides with another nation. This approach is referred to as a "flag of convenience," and fishers or corporations use this method to facilitate registration of a vessel (i.e., some countries have fewer registration restrictions), to gain access to fish in different Exclusive Economic Zones, or to avoid having to follow set fishing quotas in their own nation.

Population within 100 km of the Coast refers to estimates of the percentage of the population living within the coastal area

based on 1995 population figures. These estimates were calculated using a data set that provides information on the spatial distribution of the world's human population on a 2.5-minute grid. Populations are distributed according to administrative districts, which vary in scale, level, and size from country to country. A 100-km coastal buffer was used to calculate the number of people in the coastal zone for each country. The percentage of the population in the coastal zone was calculated from 1995 United Nations Population Division totals for each country.

FREQUENCY OF UPDATE BY DATA PROVIDERS

FAO updates the FishStat database annually. Updates can be found on the FishStat website at http://www.fao.org/fi/statist/FISOFT/FISHPLUS.asp. The FAO updates the data on Food Supply variables annually; the most recent updates incorporated in these tables are from July 2002. Data on the number of fishers and decked fishery vessels are updated by the Fishery Information, Data and Statistics Unit (FIDI) of FAO.

DATA RELIABILITY AND CAUTIONARY NOTES

Marine Catch, Freshwater Catch, Total Aquaculture Production, and Trade in Fish and Fishery Products. While the FAO data set provides the most extensive, global time series of fishery statistics since 1970, there are some problems associated with the data. Funding for the development and maintenance of fisheries statistics at the national level has been decreasing in real terms since 1992, while the demand is growing for a variety of global statistics on discards, fish inventories, aquaculture, and illegal activities. Country-level data are often submitted with a 1–2 year delay, and countries are declaring an increasing percentage of their catch as "unidentified fish." Stock assessment working groups can more accurately estimate the composition of a catch; however, due to financial constraints, these groups are rare, especially in developing countries. Statistics from smaller artisanal and subsistence fisheries are particularly sparse. In addition, fishers sometimes underreport their catches because they have not kept within harvest limits established to manage the fishery. In some cases, catch statistics are inflated to increase the importance of the fishing industry to the national economy. FAO states that "general trends are probably reliably reflected by the available statistics...but the annual figures and the assessments involve a certain degree of uncertainty and small changes from year to year are probably not statistically significant." The quality of the aquaculture production estimates varies because many countries lack the resources to adequately monitor landings within their borders.

These statistics provide a good overview of regional fisheries trends. However, when reviewing the state of fisheries stocks, evaluating food security, etc., these data should be used with caution and supplemented with estimates from regional organizations, academic literature, expert consultations, and trade data. For more information, please consult Fishery Statistics: Reliability and Policy Implications, published by the FAO Fisheries Department and available on-line at http://www.fao.org/fi/statist/nature_china/30jan02.asp.

Food Supply from Fish and Fishery Products and Fish Protein as a Percent of Total Protein: Food supply as represented here 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 it is combined with an analysis of food availability and accessibility. Per capita supply averages can also mask disparate food availability within a particular country. 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/X9892E00.htm.

Number of Fishers: Numbers presented in this table are gross estimates. Many countries do not submit data on fishers, or submit incomplete information; therefore the quality of these data is poor. 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 since different definitions and methods are used in assessing 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. Specifically, it is aware that some countries failed to report for several years. Those which report regularly have occasionally omitted fish farmers from the total or included subsistence and sport fishers as well as family members living on fishing.

Decked Fishery Vessels: As with the number of fishers, FAO recognizes that these fleet statistics are incomplete and may not accurately reflect current world fishing capacity. These data may include vessels that are no longer in operation. The quality of the estimates varies because many countries lack the resources to adequately monitor and report on fleet size. For further information, please refer to the original source or to Fishery Fleet Statistics, 1970, 1975, 1980, 1985, 1989–95, Bulletin of Fishery Statistics No. 35 (FAO, Rome, 1998).

SOURCES

Catch, Aquaculture Production, and Trade in Fish and Fishery Products: Fishery Information, Data and Statistics Unit, Food and Agriculture Organization of the United Nations (FAO). 2002. FISHSTAT Plus: Universal software for fishery statistical time series, Version 2.3 Rome: FAO. Available on-line at: http://www.fao.org/fi/statist/FISOFT/FISHPLUS.asp. **Food Supply Variables:** Food and Agriculture Organization of the United Nations (FAO), FAOSTAT on-line statistical service. 2002. Rome: FAO. Available on-line at: http://apps.fao.org. **Data on the Number of Fishers:** Food and Agriculture Organization of the United Nations (FAO), Fishery Information, Data and Statistics Unit (FIDI) December, 1999. **Number of People within 100 km of the Coast:** Center for International Earth Science Information Network (CIESIN), World Resources Institute, and International Food Policy Research Institute. 2000. Gridded Population of the World, Version 2 alpha Columbia University, Palisades, NY. Available on-line at: http://sedac.ciesin.org/plue/gwp. **Population** (used to calculate per capita values): Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. 2002. World Population Prospects: The 2000 Revision. Data set on CD-ROM. New York: United Nations.

Forests, Grasslands, and Drylands

Sources: Food and Agriculture Organization of the United Nations (FAO), Forest Stewardship Council (FSC), United Nations Environment Program—Global Resource Information Database, Global Land Cover Characteristics Database (GLCCD).

	Forest Area						Certified Forest Area			Drylands {a}		Grassland Area		
	Total Forest		Natural Forest		Plantations		FSC {b} Certified		All Certification Schemes					
	Area (1000 ha) 2000	Annual % Change 1990-2000	Area (1000 ha) 2000	Annual % Change 1990-2000	Area (1000 ha) 2000	Annual % Change 1990-2000	Area (1000 ha) 2002	Annual % Change 1998-2002	(1000 ha) 2000	Average Area (1000 ha) 1950-1981	Percent of Total Land Area	Shrublands	Savannas ($1000\ km^2$)	Herbaceous Grasslands
												1992-93	1992-93	1992-93
WORLD	**3,869,455**	**(0.2)**	**3,682,722**	**..**	**186,733**	**..**	**27,227**	**30.9**	**80,717**	**5,060**	**..**	**23,343**	**16,013**	**10,542**
ASIA (EXCL. MIDDLE EAST)	**504,180**	**(0.1)**	**375,824**	**(0.1)**	**110,953**	**5.3**	**245**	**29.9**	**..**	**1,078**	**..**	**4,003**	**1,061**	**4,054**
Armenia	351	1.3	338	..	13	..	0	..	0	3	98	1	4	2
Azerbaijan	1,094	1.3	1,074	..	20	..	0	..	0	7	84	9	2	4
Bangladesh	1,334	1.3	709	(0.8)	625	4.4	0	..	0	0	0	3	0	1
Bhutan	3,016	..	2,995	(0.0)	21	4.7	0	..	0	0	0	3	0	4
Cambodia	9,335	(0.6)	9,245	(0.6)	90	3.3	0	..	0	0	0	4	3	0
China	163,480	1.2	118,397	0.6	45,083	3.0	0	..	0	318	34	1,829	415	1,815
Georgia	2,988	..	2,788	..	200	..	0	..	0	2	34	5	2	1
India	64,113	0.1	31,535	(3.8)	32,578	6.2	0	..	0	185	60	285	246	26
Indonesia	104,986	(1.2)	95,116	(1.5)	9,871	3.2	152	..	72	5	3	1	111	48
Japan	24,081	..	13,399	..	10,682	..	6	..	3	0	0	18	43	2
Kazakhstan	12,148	2.2	12,143	..	5	..	0	..	0	269	99	479	8	1,180
Korea, Dem People's Rep	8,210	..	..	..	..	..	0	..	0	0	0	0	45	1
Korea, Rep	6,248	(0.1)	..	..	..	..	0	..	0	0	0	1	37	0
Kyrgyzstan	1,003	2.6	946	..	57	..	0	..	0	11	55	53	4	53
Lao People's Dem Rep	12,561	(0.4)	12,507	(0.5)	54	..	0	..	0	0	0	2	6	0
Malaysia	19,292	(1.2)	17,543	(1.4)	1,750	2.2	68	4.1	55	0	0	3	0	1
Mongolia	10,645	(0.5)	..	..	..	..	0	..	0	101	65	450	45	806
Myanmar	34,419	(1.4)	33,598	(1.5)	821	5.9	0	..	0	..	..	8	43	2
Nepal	3,900	(1.8)	3,767	(2.0)	133	5.1	0	..	0	1	9	25	4	11
Pakistan	2,361	(1.5)	1,381	(4.1)	980	3.7	0	..	0	73	83	300	1	19
Philippines	5,789	(1.4)	5,036	(2.1)	753	5.1	15	..	15	0	0	0	0	0
Singapore	2	..	..	..	..	..	0	..	0	0	0	0	0	0
Sri Lanka	1,940	(1.6)	1,625	(2.2)	316	1.5	5	..	13	2	24	1	0	0
Tajikistan	400	0.5	390	..	10	..	0	..	0	6	40	50	1	18
Thailand	14,762	(0.7)	9,842	(2.9)	4,920	6.1	0	..	0	3	7	12	33	0
Turkmenistan	3,755	..	3,743	..	12	..	0	..	0	47	100	259	0	35
Uzbekistan	1,969	0.2	1,669	..	300	..	0	..	0	44	99	187	0	22
Viet Nam	9,819	0.5	8,108	(0.3)	1,711	6.3	0	..	0	0	0	15	7	2
EUROPE {c}	**1,035,344**	**0.0**	**1,007,236**	**0.1**	**32,015**	**0.0**	**16,255**	**31.6**	**46,703**	**488**	**..**	**3,650**	**686**	**715**
Albania	991	(0.8)	889	..	102	..	0	..	0	0	0	0	1	0
Austria	3,886	0.2	..	..	..	..	0	..	550	0	0	3	0	1
Belarus	9,402	3.2	9,207	..	195	..	0	..	0	..	..	0	0	0
Belgium {d}	728	(0.2)	..	..	..	..	4	..	..	0	0	0	0	0
Bosnia and Herzegovina	2,273	..	2,216	..	57	..	0	..	0	0	0	0	0	0
Bulgaria	3,690	0.6	2,722	..	969	..	0	..	0	6	53	0	0	0
Croatia	1,783	0.1	1,736	..	47	..	373	..	167	0	0	0	1	0
Czech Rep	2,632	..	..	..	..	..	10	..	10	1	13	0	0	0
Denmark	455	0.2	114	..	341	..	0	..	..	0	0	0	0	0
Estonia	2,060	0.6	1,755	..	305	..	0	..	0	0	0	0	0	0
Finland	21,935	..	..	..	..	..	0	..	21,900	0	0	15	0	3
France	15,341	0.4	14,380	..	961	..	15	..	1	0	0	6	5	2
Germany	10,740	..	..	..	..	..	418	55.2	3,242	2	5	0	0	1
Greece	3,599	0.9	3,479	..	120	..	0	..	0	6	45	15	8	1
Hungary	1,840	0.4	1,704	..	136	..	0	..	0	4	46	0	0	0
Iceland	31	2.2	19	..	12	..	0	..	0	..	..	23	0	2
Ireland	659	3.0	69	..	590	..	0	..	0	0	0	0	0	0
Italy	10,003	0.3	9,870	..	133	..	11	0.0	11	6	21	47	2	3
Latvia	2,923	0.4	2,780	..	143	..	0	..	0	0	0	0	0	0
Lithuania	1,994	0.2	1,710	..	284	..	0	..	0	0	0	0	0	0
Macedonia, FYR	906	..	876	..	30	..	0	..	0	1	37	0	0	0
Moldova, Rep	325	0.2	324	..	1	..	0	..	0	3	100	0	0	0
Netherlands	375	0.3	275	..	100	..	103	..	69	0	0	0	0	0
Norway	8,868	0.4	8,568	..	300	..	0	..	5,600	0	0	76	1	17
Poland	9,047	0.2	9,008	..	39	..	3,592	16.1	2,743	6	19	0	0	0
Portugal	3,666	1.7	2,832	..	834	..	0	..	0	3	29	18	5	0
Romania	6,448	0.2	6,357	..	91	..	0	..	0	9	38	0	0	2
Russian Federation	851,392	..	834,052	..	17,340	..	216	..	33	367	22	3,323	638	667
Serbia and Montenegro	2,887	(0.1)	2,848	..	39	..	0	..	0	..	..	0	0	0
Slovakia	2,177	0.9	2,162	..	15	..	0	..	0	0	0	0	0	0
Slovenia	1,107	0.2	1,106	..	1	..	0	..	0	0	0	0	0	0
Spain	14,370	0.6	12,466	..	1,904	..	0	..	0	35	69	85	23	2
Sweden	27,134	..	26,565	..	569	..	10,130	35.8	11,167	0	0	34	0	4
Switzerland	1,199	0.4	1,195	..	4	..	84	73.6	49	0	0	5	0	2
Ukraine	9,584	0.3	5,159	..	4,425	..	238	..	203	39	65	0	0	6
United Kingdom	2,794	0.6	866	1.5	1,928	0.3	1,061	93.4	958	0	0	0	0	0
MIDDLE EAST & N. AFRICA	**29,104**	**0.2**	**20,448**	**..**	**6,533**	**..**	**0**	**..**	**..**	**553**	**..**	**2,476**	**76**	**596**
Afghanistan	1,351	..	..	..	..	..	0	..	0	60	94	310	0	161
Algeria	2,145	1.3	1,427	(0.2)	718	5.3	0	..	0	49	21	192	2	10
Egypt	72	3.3	0	0.0	72	3.3	0	..	0	8	8	6	3	4
Iran, Islamic Rep	7,299	..	5,015	(1.2)	2,284	3.2	0	..	0	147	90	567	10	225
Iraq	799	..	789	(0.0)	10	2.7	0	..	0	44	100	166	4	4
Israel	132	4.9	41	..	91	..	0	..	0	1	69	7	0	0
Jordan	86	..	41	(1.5)	45	1.6	0	..	0	6	72	46	0	0
Kuwait	5	3.5	0	..	5	3.4	0	..	0	2	92	4	0	0
Lebanon	36	(0.4)	34	..	2	..	0	..	0	1	59	2	0	2
Libyan Arab Jamahiriya	358	1.4	190	0.0	168	3.3	0	..	0	37	23	34	0	2
Morocco	3,025	..	2,491	(0.4)	534	2.0	0	..	0	37	92	155	1	15
Oman	1	5.3	0	(17.3)	1	5.1	0	..	0	4	14	43	0	0
Saudi Arabia	1,504	..	1,500	0.0	4	4.8	0	..	0	46	24	532	0	0
Syrian Arab Rep	461	..	232	(6.9)	229	..	0	..	0	18	98	99	0	2
Tunisia	510	0.2	308	(3.5)	202	11.7	0	..	0	15	94	38	1	9
Turkey	10,225	0.2	8,371	..	1,854	..	0	..	0	60	77	46	55	160
United Arab Emirates	321	2.8	7	..	314	0.0	0	..	0	0	0	6	0	0
Yemen	449	(1.9)	..	..	..	..	0	..	0	13	30	216	0	2

Data Table 10 continued

More Forests, Grasslands, and Drylands data tables are available. Log on to http://earthtrends.wri.org/datatables/forests or send an e-mail to enviro_info@wri.org with "Instructions" in the message body.

	Forest Area						Certified Forest Area			Drylands {a}		Grassland Area		
	Total Forest		Natural Forest		Plantations		FSC {b} Certified		All Certification Schemes					
	Area (1000 ha) 2000	Annual % Change 1990-2000	Area (1000 ha) 2000	Annual % Change 1990-2000	Area (1000 ha) 2000	Annual % Change 1998-2002	Area (1000 ha) 2002	Annual % Change 1990-2000	(1000 ha) 2000	Average Area (1000 ha) 1950-1981	Percent of Total Land Area	Shrublands	Savannas	Herbaceous Grasslands
												(1000 km^2)		
												1992-93	1992-93	1992-93
SUB-SAHARAN AFRICA	**486,571**	**(0.9)**	**478,576**	**..**	**6,210**	**..**	**1,070**	**30.5**	**974**	**1,121**	**..**	**2,513**	**7,749**	**1,830**
Angola	69,756	(0.2)	69,615	(0.2)	141	0.1	0	..	0	24	19	43	537	35
Benin	2,650	(2.3)	2,538	(2.5)	112	1.0	0	..	0	10	88	0	109	0
Botswana	12,427	(0.9)	12,426	(0.9)	1	4.1	0	..	0	58	100	127	97	226
Burkina Faso	7,089	(0.2)	7,023	(0.3)	67	11.3	0	..	0	27	100	2	199	31
Burundi	94	(9.0)	21	(21.9)	73	3.4	0	..	0	0	0	1	4	0
Cameroon	23,858	(0.9)	23,778	(0.9)	80	0.3	0	..	0	6	13	0	202	2
Central African Rep	22,907	(0.1)	22,903	..	4	..	0	..	0	12	20	0	473	0
Chad	12,692	(0.6)	12,678	(0.6)	14	2.5	0	..	0	87	68	68	445	120
Congo	22,060	(0.1)	21,977	(0.1)	83	11.5	0	..	0	0	0	0	91	2
Congo, Dem Rep	135,207	(0.4)	135,110	(0.4)	97	0.1	0	..	0	1	0	7	493	4
Côte d'Ivoire	7,117	(3.1)	6,933	(3.3)	184	2.9	0	..	0	..	..	0	201	0
Equatorial Guinea	1,752	(0.6)	..	..	..	..	0	..	0	0	0	0	3	0
Eritrea	1,585	(0.3)	1,563	(0.5)	22	..	0	..	0	10	83	25	29	15
Ethiopia	4,593	(0.8)	4,377	(0.9)	216	1.0	0	..	0	65	58	410	347	57
Gabon	21,826	..	21,790	..	36	..	0	..	..	0	0	1	48	2
Gambia	481	1.0	479	..	2	..	0	..	0	1	97	0	5	0
Ghana	6,335	(1.7)	6,259	(1.8)	76	2.5	0	..	0	16	66	0	154	0
Guinea	6,929	(0.5)	6,904	(0.5)	25	7.4	0	..	0	3	14	0	205	0
Guinea-Bissau	2,187	(0.9)	2,186	..	2	..	0	..	0	0	6	1	24	0
Kenya	17,096	(0.5)	16,865	(0.5)	232	0.9	0	..	0	40	68	221	152	19
Lesotho	14	..	0	..	14	..	0	..	0	0	0	0	13	9
Liberia	3,481	(2.0)	3,363	(2.0)	119	0.1	0	..	0	0	0	0	24	1
Madagascar	11,727	(0.9)	11,378	(1.0)	350	1.7	0	..	0	14	23	1	333	43
Malawi	2,562	(2.4)	2,450	(2.6)	112	1.5	0	..	0	0	0	1	43	0
Mali	13,186	(0.7)	13,172	(0.7)	15	6.6	0	..	0	101	80	138	304	126
Mauritania	317	(2.7)	293	(3.5)	25	..	0	..	0	47	46	56	10	71
Mozambique	30,601	(0.2)	30,551	(0.2)	50	1.5	0	..	0	30	38	4	283	3
Namibia	8,040	(0.9)	8,040	..	0	..	61	..	54	75	91	356	86	168
Niger	1,328	(3.7)	1,256	(4.1)	73	4.2	0	..	0	74	62	149	42	253
Nigeria	13,517	(2.6)	12,824	(2.8)	693	4.0	0	..	0	53	58	1	662	17
Rwanda	307	(3.9)	46	(15.2)	261	0.6	0	..	0	0	0	4	4	0
Senegal	6,205	(0.7)	5,942	(0.9)	263	5.3	0	..	0	19	94	17	97	31
Sierra Leone	1,055	(2.9)	1,049	..	6	..	0	..	0	0	0	0	27	0
Somalia	7,515	(1.0)	7,512	..	3	..	0	..	0	51	80	504	50	5
South Africa	8,917	(0.1)	7,363	(0.3)	1,554	0.8	898	29.2	828	81	66	240	138	290
Sudan	61,627	(1.4)	60,986	(1.5)	641	6.3	0	..	0	168	67	84	1,029	178
Tanzania, United Rep	38,811	(0.2)	38,676	..	135	..	0	..	0	..	..	26	168	65
Togo	510	(3.4)	472	(3.8)	38	1.7	0	..	0	2	34	0	50	0
Uganda	4,190	(2.0)	4,147	(2.0)	43	3.6	0	..	0	4	16	11	92	3
Zambia	31,246	(2.4)	31,171	(2.4)	75	2.9	0	..	0	12	16	3	355	9
Zimbabwe	19,040	(1.5)	18,899	(1.6)	141	1.7	111	29.9	92	26	67	3	122	41
NORTH AMERICA	**470,564**	**0.1**	**209,755**	**0.1**	**16,238**	**0.8**	**5,860**	**27.4**	**30,489**	**547**	**..**	**4,531**	**415**	**1,334**
Canada	244,571	..	..	..	..	..	1,972	76.1	4,360	157	16	2,385	8	55
United States	225,993	0.2	209,755	0.1	16,238	0.8	3,888	19.8	26,129	390	41	2,132	407	1,279
C. AMERICA & CARIBBEAN	**78,737**	**(1.1)**	**76,556**	**(1.2)**	**1,295**	**(0.5)**	**1,033**	**31.7**	**427**	**138**	**..**	**437**	**348**	**333**
Belize	1,348	(2.3)	1,345	(2.4)	3	3.6	96	0.0	96	0	0	0	0	1
Costa Rica	1,968	(0.8)	1,790	(1.4)	178	9.6	86	38.8	41	0	0	0	3	0
Cuba	2,348	1.3	1,867	0.1	482	7.6	0	..	0	1	11	0	19	8
Dominican Rep	1,376	..	1,346	(0.3)	30	..	0	..	0	0	5	0	6	6
El Salvador	121	(4.6)	107	(6.1)	14	..	0	..	0	0	0	0	0	0
Guatemala	2,850	(1.7)	2,717	(2.2)	133	..	312	64.8	100	0	0	0	3	6
Haiti	88	(5.7)	68	(7.6)	20	5.1	0	..	0	0	3	0	3	5
Honduras	5,383	(1.0)	5,335	(1.1)	48	..	14	11.1	20	0	0	0	5	2
Jamaica	325	(1.5)	317	..	9	..	0	..	0	0	31	0	1	1
Mexico	55,205	(1.1)	54,938	(1.1)	267	..	516	36.6	169	136	69	436	293	301
Nicaragua	3,278	(3.0)	3,232	(3.2)	46	14.3	0	..	0	0	0	0	4	0
Panama	2,876	(1.6)	2,836	(1.8)	40	17.3	8	87.2	1	0	0	0	6	1
Trinidad and Tobago	259	(0.8)	244	..	15	..	0	..	0	0	4	0	0	0
SOUTH AMERICA {c}	**885,618**	**(0.4)**	**875,163**	**(0.5)**	**10,455**	**6.7**	**2,110**	**30.3**	**1,551**	**444**	**..**	**1,674**	**3,168**	**1,101**
Argentina	34,648	(0.8)	33,722	(1.1)	926	..	0	..	0	147	53	746	324	541
Bolivia	53,068	(0.3)	53,022	(0.3)	46	3.7	927	35.7	885	..	..	219	279	66
Brazil	543,905	(0.4)	538,924	(0.4)	4,982	3.2	1,183	26.9	666	131	15	251	1,751	116
Chile	15,536	(0.1)	13,519	(0.8)	2,017	5.5	0	..	0	16	21	105	23	87
Colombia	49,601	(0.4)	49,460	(0.4)	141	6.2	0	..	0	20	17	47	182	45
Ecuador	10,557	(1.2)	10,390	(1.3)	167	2.4	0	..	0	16	63	43	29	17
Guyana	16,879	(0.3)	16,867	..	12	..	0	..	0	0	0	2	13	2
Paraguay	23,372	(0.5)	23,345	(0.5)	27	11.3	0	..	0	22	55	0	247	11
Peru	65,215	(0.4)	64,575	(0.5)	640	15.2	0	..	0	48	37	240	44	134
Suriname	14,113	..	14,100	0.0	13	0.8	0	..	0	0	0	0	2	0
Uruguay	1,292	5.0	670	0.0	622	16.3	0	..	0	0	0	0	4	66
Venezuela	49,506	(0.4)	48,643	(0.5)	863	8.7	0	..	0	45	49	21	267	18
OCEANIA	**201,271**	**(0.2)**	**194,718**	**(0.2)**	**2,848**	**0.6**	**654**	**91.9**	**410**	**661**	**..**	**4,023**	**2,505**	**567**
Australia	154,539	(0.2)	153,496	..	1,043	..	0	..	0	661	86	4,007	2,397	411
Fiji	815	(0.2)	718	(1.4)	97	29.3	..	..	0	0	0	0	0	0
New Zealand	7,946	0.5	6,404	..	1,542	..	610	111.6	363	0	0	0	44	122
Papua New Guinea	30,601	(0.4)	30,511	(0.4)	90	5.9	4	0.0	4	0	1	13	56	32
Solomon Islands	2,536	(0.2)	2,486	(0.2)	50	2.2	39	..	43	0	0	2	5	0
DEVELOPED	**1,725,231**	**0.1**	**1,377,765**	**..**	**63,695**	**..**	**23,630**	**30.9**	**78,386**	**2,168**	**..**	**13,483**	**3,745**	**4,190**
DEVELOPING	**1,962,481**	**(0.5)**	**1,817,491**	**(0.2)**	**122,764**	**4.4**	**3,597**	**31.1**	**2,326**	**2,862**	**..**	**9,825**	**12,263**	**6,341**

a. Drylands area is determined using aridity zones; arid, semi-arid and dry sub-humid zones are included. Hyper-arid (bare sand deserts) are excluded. **b**. Forest Stewardship Council.
c. Regional totals are from the original source and are not calculated by WRI. **d**. Belgium includes Luxembourg.

VARIABLE DEFINITIONS AND METHODOLOGY

FAO Total Forest Area includes both natural forests and plantations, which are determined by the presence of trees and the absence of other predominant land uses, such as agroforestry. Data are presented in thousands of hectares. **Total Forests** are areas where tree crowns cover over 10 percent of the ground, and cover areas greater than 0.5 hectares. Tree height at maturity should exceed 5 meters. **Natural Forests** are forests composed primarily of indigenous (native) tree species. **Plantations** are forest stands established artificially by afforestation and reforestation, and can include either non native or indigenous (native) trees. Reforestation does not include regeneration of old tree crops.

The Food and Agriculture Organization (FAO) published the Global Forest Resources Assessment 2000 (FRA 2000) in response to international interest in a global forest assessment with a single definition of forest cover. FAO compiles country information to create one internationally comparable database, and national data gathering methodologies can be found at http://www.fao.org/forestry/fo/fra/index.jsp.

Forest statistics are based primarily on forest inventory information provided by national governments. FAO harmonized these national assessments with the 10-percent forest definition mentioned above. In tropical regions, national inventories are supplemented by a remote sensing survey. FAO analyzed 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.

World Resources Institute (WRI) staff used data from the FRA 2000 to estimate natural forest and plantation area for 1990 and to calculate the rate of change from 1990 to 2000. FAO, assuming a fixed rate of tree planting for each country, compiled country data from various years and extrapolated forward to the year 2000. WRI reversed this approach and extrapolated backward from 2000 to 1990 by subtracting tree planting rates. Plantations area was then subtracted from total forest area to calculate natural forest area. Countries where this methodology resulted in a negative plantations area in 1990 were assigned a value of ".." (no data available). Rates of change for the decade were calculated using an exponential growth rate equation.

Certified Forest Area, expressed in thousands of hectares, includes forests certified by major forest certification schemes. **Forest Stewardship Council (FSC) Certified Forests** include all natural forests, plantations, and mixed and semi-natural forests certified as managed in accordance with the ten FSC principles and criteria. The FSC certifies forests as natural forests when most of the principal characteristics and key elements of the native ecosystems, such as complexity, structure, and diversity are still present. Forests are certified as plantations when they are the result of human activities and lack most of the principal characteristics and key elements of native ecosystems. According to FSC, certified plantations should decrease the pressures on natural forests; represent diverse species and age classes; preferentially choose native over exotic species; improve soil function, fertility and structure; and have a portion of their area managed for the restoration of natural forest cover. Semi-natural and mixed forest area includes mixed areas of natural forest and plantations. Full FSC certification involves two steps. First, the site is assessed for sustainability. Second, a chain of custody is traced from forest, to processor, to distributors, to the final consumer to ensure that only wood from the certified forests are being sold and delivered as FSC-certified.

For a complete list of the Principles and Criteria, please refer to Document 1.2 at http://www.fscoax.org/principal.htm.

Forest Area Certified by All Certification Schemes aggregates the total area of forests certified by international, regional, and national forest certification schemes, and is reported in thousands of hectares. Certifications by ISO 14000 are not included. The only, or primary, certifier in most countries with active certification programs is the Forest Stewardship Council (FSC). Other certification bodies include the American Tree Farm Program (ATFP), Canadian Standards Association (CSA), Green Tag (GT), Pan-European Forest Certification (PEFC), and the Sustainable Forestry Initiative (SFI) of the American Forest and Paper Association (AFPA). Data are compiled by FAO.

Drylands Area is the terrestrial area, in thousands of hectares, that falls within three of the world's six aridity zones—the arid, semi-arid, and dry sub-humid zones—as a percent of Earth's total terrestrial area. This definition of drylands has been adopted by the United Nations Convention to Combat Desertification (UNCCD) to identify areas where efforts combating land degradation should be focused and where 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 CCD include those lands with an aridity index between .05 and .65 (excluding polar and sub-polar regions). Ratios of less than .05 indicate hyperarid zones, or true deserts. Ratios of 0.65 or greater identify humid zones. The areas with an aridity index between .05 and .65 encompasses 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. The amount of land within each aridity zone for individual countries was calculated by WRI.

Grasslands Area includes five categories under the International Geosphere- Biosphere Programme (IGBP) as classified by the Global Land Cover Classification Database (GLCCD). Data are reported in thousands of square kilometers. **Shrublands** is the combination of IGBP's closed and open shrublands categories; **Savannas** is IGBP's savannas and woody savannas; **Herbaceous Grasslands** is the IGBP grassland classification.

The Global Land Cover Classification team describes the method used to classify vegetation types as a "multitemporal unsupervised classification of NDVI data with post-classification refinement using multi-source earth science data." NDVI data are a measure of "greenness" derived from satellite data. The satellite data in this study were from the Advanced Very High Resolution Radiometer (AVHRR), and have a resolution of 1 X 1 km. Other data sets used were a digital elevation model to help define ecological factors that govern natural vegetation distribution, ecoregions data, and maps of soils, vegetation, and land cover. For a description of the five-step classification process, please see technical notes available at http://earthtrends.wri.org/searchable_db/variablenotes_static.cfm?varid=750&themeid=9.

FREQUENCY OF UPDATE BY DATA PROVIDERS

FAO forestry data is compiled each decade; data in this table are from the 2000 assessment. FRA 2000 uses different definitions for total forest area than FRA 1990; the data from these two volumes cannot be directly compared. **Certified Forest Area** data are updated periodically. WRI has compiled data

from these periodic updates to cover a five-year time span. The most recent data are up-to-date as of June 30, 2002. Data from 1998 were captured on December 31 of that year. **Drylands** data were prepared in 1991. Raw data for **Grassland area** estimates were recorded from April 1992 to March 1993. Data were classified, refined, and released in a database version 2.0 in 2001.

DATA RELIABILITY AND CAUTIONARY NOTES

FAO's FRA 2000 Forest Extent and Change Data: FAO acknowledges that the quality of primary data available on tropical forest resources remains very poor. The accuracy of national estimates provided to FAO is affected by two major sources of error. First, 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 scenes appear to have been the prime source of new information for some countries with very poor inventory data. Second, estimates of open woodland areas are far less accurate than those of closed forest because it is difficult to monitor woodlands by remote sensing techniques, and government forestry agencies tend not to survey them as part of normal forest inventories. Differences in definitions used among countries further complicate this issue. The quality of data from developed countries is generally better than from developing countries, but 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, and the additional forest that should be counted under the new (globally harmonized) 10-percent crown cover threshold proved difficult to quantify. Non-production forests are classified as "other wooded land" in FRA 2000, even though many of them appear to meet the FAO definition of forests. This results in significant underreporting in some countries. For a more complete discussion of some data reliability issues associated with the FRA 2000, please see: http://www.wri.org/wri/forests/fra2000.html.

WRI-calculated natural and plantation forest area: These data are based on the FRA 2000 and are subject to all the concerns those data raise. Moreover, the calculations are based on assumptions of linear change that are not supported by field research. WRI chose to make this calculation and present the data despite FAO's decision not to include them in the FRA 2000. These data represent the only available indicators of forest change based on consistent definitions. However, the data should be used as very rough approximations.

Certified Forest Area: The certification schemes are either performance-based or systems-based. Performance-based certification requires that landowners meet performance criteria set by the certification body. Systems-based schemes require that landowners manage the forest within broad system components. While there is some disagreement about which scheme best guarantees sustainable forestry, many groups feel that those using performance-based criteria carry the most weight. More information on certification is available at: http://eesc.orst.edu/agcomwebfile/edmat/EC1518.pdf. While the numbers reported are reliable, it is worth noting that certified forests do not represent the total area of well-managed forests. Many uncertified forests are under sound management. Increasing trends in forest certification indicate the importance that consumers attach to forest management issues rather than the total area of well-managed forests.

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.

Grasslands area: Following publication of the GLCC database version 1, a number of scientific teams assessed its accuracy by comparing the results with higher-resolution satellite imagery. These teams found that the accuracy of the GLCC's approach was in a range from 60 to nearly 80 percent—meaning that the assessment teams' classification of a given area agreed with the GLCC's classification between 60 and 80 percent of the time. Given the relatively high level of potential for misclassification, the area of land in each classification should be treated as estimated rather than an exact interpretation of the earth's surface.

SOURCES

FAO Forest Area Variables and **All Certification Schemes**: Food and Agriculture Organization of the United Nations (FAO). 2001. Global Forest Resources Assessment 2000—Main Report. FAO Forestry Paper No. 140. Rome: FAO. Data can also be obtained electronically at: http://www.fao.org/forestry/fo/fra/index.jsp. **FSC-certified Forests:** Forest Stewardship Council (FSC). 1998, 2002. Forests Certified by FSC-Accredited Certification Bodies. Document 5.3.3. Oaxaca, Mexico, FSC. Available on-line at: http://www.fscoax.org/principal.htm. **Drylands:** U. Deichmann and L. Eklundh. 1991. Global digital data sets for land degradation studies: a GIS approach. United Nations Environment Program/Global Resource Information Database (UNEP/GRID) GRID Case Study Series No. 4., Nairobi, Kenya. **Grasslands area:** T.R. Loveland, B.C. Reed, J.F. Brown, D.O. Ohlen, Z. Zhu, L. Yang, J. Merchant. 2000. Global Land Cover Characteristics Database (GLCCD) Version 2.0. Available on-line at: http://edcdaac.usgs.gov/glcc/globdoc2_0.html. Loveland, T.R., B.C. Reed, J.F. Brown, D.O. Ohlen, Z. Zhu, L. Yang, and J.W. Merchant. 2000. "Development of a global land cover characteristics database and IGBP DISCover from 1-km AVHRR data." International Journal of Remote Sensing 21: 1303–1330.

Freshwater Resources

Sources: AQUASTAT Information System on Water and Agriculture, The Blue Plan: Environment and Development in Mediterranean Countries

	Renewable Water Resources (annual) {a}						Water Withdrawals (annual)							
	Internal Renewable Water Resources (IRWR)				Natural Renewable Water Resources {b}						Sectoral Share (percent) {c}			
	Ground-water Recharge (km^3) {e}	Sur-face Water (km^3) {e}	Over-lap (km^3)	Total {d} (km^3)	Total (km^3)	Per Capita (m^3 per person) {f}	Year	Total (million m^3)	Per Capita (m^3 per person)	as a % of Renew-able Water Resources	Agri-culture	Dom-estic	Indus-try	Desalinated Water Production (million m^3) {g}
WORLD	**11,358**	**40,594**	**10,067**	**43,219**	**..**	**..**	**1990**	**3,414,000**	**650**	**..**	**71**	**9**	**20**	**..**
ASIA (EXCL. MIDDLE EAST)	**2,472**	**10,985**	**2,136**	**11,321**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Armenia	4.2	6.3	1.4	9.1	11	2,778	1994	2,925	784	28	66	30	4	0
Azerbaijan	6.5	6.0	4.4	8.1	30	3,716	1995	16,533	2,151	58	70	5	25	0
Bangladesh	21	84	0	105	1,211	8,444	1990	14,636	133	2	86	12	2	0
Bhutan	..	95	..	95	95	43,214	1987	20	13	0	54	36	10	0
Cambodia	18	116	13	121	476	34,561	1987	520	60	0	94	5	1	0
China	829	2,712	728	2,812	2,830	2,186	1993	525,489	439	20	78	5	18	0
Georgia	17	57	16	58	63	12,149	1990	3,468	635	5	59	21	20	0
India	419	1,222	380	1,261	1,897 h	1,822 h	1990	500,000	592	32	92	5	3	0
Indonesia	455	2,793	410	2,838	2,838	13,046	1990	74,346	407	3	93	6	1	0
Japan	27	420	17	430	430	3,372	1992	91,400	735	22	64	19	17	0
Kazakhstan	6.1	69	0	75	110	6,839	1993	33,674	2,010	29	81	2	17	1,328
Korea, Dem People's Rep	13	66	12	67	77	3,415	1987	14,160	742	22	73	11	16	0
Korea, Rep	13	62	11	65	70	1,471	1994	23,668	531	36	63	26	11	0
Kyrgyzstan	14	44	11	46	21 h	4,078 h	1994	10,086	2,231	55	94	3	3	0
Lao People's Dem Rep	38	190	38	190	334	60,318	1987	990	259	0	82	8	10	0
Malaysia	64	566	50	580	580	25,178	1995	12,733	636	3	77	11	13	0
Mongolia	6.1	33	4.0	35	35	13,451	1993	428	182	1	53	20	27	0
Myanmar	156	875	150	881	1,046	21,358	1987	3,960	103	0	90	7	3	0
Nepal	20	198	20	198	210	8,703	1994	28,953	1,451	17	99	1	0	0
Pakistan	55	47	50	52	223 h	2,812 h	1991	155,600	1,382	100	97	2	2	0
Philippines	180	444	145	479	479	6,093	1995	55,422	811	13	88	8	4	0
Singapore	..	..	..	..	..	..	1975	..	..	..	4	45	51	..
Sri Lanka	7.8	49	7.0	50	50	2,592	1990	9,770	574	22	96	2	2	0
Tajikistan	6.0	63	3.0	66	16 h	2,587 h	1994	11,874	2,096	81	92	3	4	0
Thailand	42	199	31	210	410	6,371	1990	33,132	605	10	91	5	4	0
Turkmenistan	0.4	1.0	0	1.4	25 h	5,015 h	1994	23,779	5,801	116	98	1	1	0
Uzbekistan	8.8	9.5	2	16	50 h	1,968 h	1994	58,051	2,598	132	94	4	2	0
Viet Nam	48	354	35	367	891	11,109	1990	54,330	822	7	87	4	10	0
EUROPE	**1,318**	**6,223**	**986**	**6,590**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Albania	6.2	23	2.4	27	42	13,178	1995	1,400	440	3	71	29	0	..
Austria	6.0	55	6.0	55	78	9,629	1991	2,360	303	3	9	33	58	..
Belarus	18	37	18	37	58	5,739	1990	2,734	266	5	35	22	43	0
Belgium	0.9	12	0.9	12	18	1,781	..	..	..	..	..	..	..	..
Bosnia and Herzegovina	..	..	..	36	38	9,088	1995	1,000	292	3	60	30	10	..
Bulgaria	6.4	20	5.5	21	21	2,734	1988	13,900	1,573	58	22	3	75	..
Croatia	11	27	0.5	38	106	22,654	1996	764	164	1	0	50	50	..
Czech Rep	1.4	13	1.4	13	13	1,283	1991	2,740	266	21	2	41	57	..
Denmark	4.3	3.7	2.0	6.0	6	1,123.0	1990	1,200	233	21	43	30	27	..
Estonia	4.0	12	3.0	13	13	9,413	1995	158	106	1	5	56	39	0
Finland	2.2	107	2.0	107	110	21,223	1991	2,200	439	2	3	12	85	..
France	100	177	98	179	204	3,414	1999	32,300	547	16	10	18	72	..
Germany	46	106	45	107	154	1,878	1991	46,270	579	31	20	11	69	..
Greece	10	56	7.8	58	74	6,984	1997	8,700	826	12	87	10	3	..
Hungary	6.0	6.0	6.0	6.0	104	10,541	1991	6,810	659	6	36	9	55	..
Iceland	24	166	20	170	170	599,944	1991	160	622	0	6	31	63	..
Ireland	11	48	10	49	52	13,408	1980	790	232	2	10	16	74	..
Italy	43	171	31	183	191	3,330	1998	42,000	730	22	48	19	34	..
Latvia	2.2	17	2.0	17	35	14,820	1994	285	112	1	13	55	32	0
Lithuania	1.2	15	1.0	16	25	6,763	1995	254	68	1	3	81	16	0
Macedonia, FYR	..	5.4	..	5.4	6	3,120.6	1996	1,850	936	30	74	12	15	..
Moldova, Rep	0.4	1.0	0.4	1.0	12	2,726	1992	2,963	678	25	26	9	65	0
Netherlands	4.5	11	4.5	11	91	5,691	1991	7,810	519	9	34	5	61	..
Norway	96	376	90	382	382	84,787	1985	2,030	489	1	8	20	72	..
Poland	13	53	12	54	62	1,598	1991	12,280	321	20	11	13	76	..
Portugal	4.0	38	4.0	38	69 h	6,837 h	1990	7,290	736	11	48	15	37	..
Romania	8.3	42	8.0	42	212	9,486	1994	26,000	1,141	12	59	8	33	..
Russian Federation	788	4,037 i	512	4,313 i	4,507 i	31,354 i	1994	77,100	519	2	20	19	62	0
Serbia and Montenegro	3.0	42	1.4	44	209	19,815	1995	13,000	1,233	6	8	6	86	..
Slovakia	1.7	13	1.7	13	50	9,265	1991	1,780	337	4	..	..	..	..
Slovenia	14	19	13	19	32	16,070	1996	1,280	642	4	1	20	80	..
Spain	30	110	28	111	112	2,793	1997	35,210	884	32	68	13	19	..
Sweden	20	170	19	171	174	19,721	1991	2,930	340	2	9	36	55	..
Switzerland	2.5	40	2.5	40	54	7,464	1991	1,190	172	2	4	23	73	..
Ukraine	20	50	17	53	140	2,868	1992	25,991	500	17	30	18	52	0
United Kingdom	9.8	144	9.0	145	147	2,464	1991	11,790	204	8	3	20	77	..
MIDDLE EAST & N. AFRICA	**149**	**374**	**60**	**518**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**
Afghanistan	..	..	..	55	65	2,790	1987	26,110	2,007	72	99	1	0	0
Algeria	1.7	13	1.0	14	14	460	1995	5,000	181	39	52	34	14	64
Egypt	1.3	0.5	0	1.8	58 h	830 h	1996	66,000	1,055	127	82	7	11	25
Iran, Islamic Rep	49	97	18	129	138	1,900	1993	70,034	1,122	59	92	6	2	2.9
Iraq	1.2	34	0	35	75 h	3,111 h	1990	42,800	2,478	80	92	3	5	0
Israel	0.5	0.3	0	0.8	2	265.0	1997	1,620	287	108	54	39	7	..
Jordan	0.5	0.4	0.2	0.7	1	169.4	1993	984	255	151	75	22	3	2.0
Kuwait	0	0	0	0	0.02	9.9	1994	538	306	3,097	60	37	2	231
Lebanon	3.2	4.1	2.5	4.8	4 h	1,219.5 h	1996	1,300	400	33	68	27	6	0
Libyan Arab Jamahiriya	0.5	0.2	0.1	0.6	1	108.5	1999	4,500	870	801	84	13	3	70
Morocco	10	22	3.0	29	29	936	1998	11,480	399	43	89	10	2	3.4
Oman	1.0	0.9	0.9	1.0	1	363.6	1991	1,223	658	181	94	5	2	34
Saudi Arabia	2.2	2.2	2.0	2.4	2	110.6	1992	17,018	1,056	955	90	9	1	714
Syrian Arab Rep	4.2	4.8	2.0	7.0	26 h	1,541 h	1995	12,000	844	55	90	8	2	0
Tunisia	1.5	3.1	0.4	4.2	5	576.5	1996	2,830	312	54	86	13	1	8.3
Turkey	69	186	28	227	229 h	3,344 h	1997	35,500	558	17	73	16	12	0.5
United Arab Emirates	0.1	0.2	0.1	0.2	0	55.5	1995	2,108	896	1,614	67	24	9	385
Yemen	1.5	4.0	1.4	4.1	4	205.9	1990	2,932	253	123	92	7	1	10

	Renewable Water Resources (annual) {a}						Water Withdrawals (annual)							
	Internal Renewable Water Resources (IRWR)				Natural Renewable Water Resources {b}									
	Groundwater Recharge (km^3) {e}	Surface Water (km^3) {e}	Overlap (km^3)	Total {d} (km^3)	Total (km^3)	Per Capita (m^3 per person) {f}	Year	Total (million m^3)	Per Capita (m^3 per person)	as a % of Renewable Water Resources	Sectoral Share (percent) {c} Agriculture	Domestic	Industry	Desalinated Water Production (million m^3) {g}
SUB-SAHARAN AFRICA	**1,549**	**3,812**	**1,468**	**3,901**	..	..	..	..	..	..	..	..	..	..
Angola	72	182	70	184	184	13,203	1987	480	54	0	76	14	10	0
Benin	1.8	10	1.5	10	25	3,741	1994	145	27	1	67	23	10	0
Botswana	1.7	1.7	0.5	2.9	14	9,209	1992	113	86	1	48	32	20	0
Burkina Faso	9.5	8.0	5.0	13	13	1,024	1992	376	40	4	81	19	0	0
Burundi	2.1	3.5	2.0	3.6	4	538.3	1987	100	19	4	64	36	0	0
Cameroon	100	268	95	273	286	18,378	1987	400	38	0	35	46	19	0
Central African Rep	56	141	56	141	144	37,565	1987	70	25	0	74	21	5	0
Chad	12	14	10	15	43	5,125	1987	180	34	1	82	16	2	0
Congo	198	222	198	222	832	259,547	1987	40	20	0	11	62	27	0
Congo, Dem Rep	421	899	420	900	1,283	23,639	1990	357	10	0	23	61	16	0
Côte d'Ivoire	38	74	35	77	81	4,853	1987	709	62	1	67	22	11	0
Equatorial Guinea	10	25	9.0	26	26	53,841	1987	10	30	0	6	81	13	0
Eritrea	..	..	..	2.8	6	1,577.7	..	..	..	..	..	..	..	0
Ethiopia	40	110	40	110	110	1,666	1987	2,200	51	3	86	11	3	0
Gabon	62	162	60	164	164	126,789	1987	60	70	0	6	72	22	0
Gambia	0.5	3.0	0.5	3.0	8	5,836.0	1982	20	29	1	91	7	2	0
Ghana	26	29	25	30	53	2,637	1970	300	35	1	52	35	13	0
Guinea	38	226	38	226	226	26,964	1987	740	132	0	87	10	3	0
Guinea-Bissau	14	12	10	16	31	24,670	1991	17	17	0	36	60	4	0
Kenya	3.0	17	0	20	30	947	1990	2,050	87	9	76	20	4	0
Lesotho	0.5	5.2	0.5	5.2	3 h	1,455.6 h	1987	50	32	2	56	22	22	0
Liberia	60	200	60	200	232	70,348	1987	130	59	0	60	27	13	0
Madagascar	55	332	50	337	337	19,925	1984	16,300	1,611	8	99	1	..	0
Malawi	1.4	16	1.4	16	17	1,461	1994	936	95	6	86	10	3	0
Mali	20	50	10	60	100	8,320	1987	1,360	167	2	97	2	1	0
Mauritania	0.3	0.1	0	0.4	11	4,029	1985	1,630	923	23	92	6	2	1.7
Mozambique	17	97	15	99	216	11,382	1992	605	42	0	89	9	2	0
Namibia	2.1	4.1	0.04	6.2	18 h	9,865 h	1991	249	175	2	68	29	3	0
Niger	2.5	1.0	0	3.5	34	2,891	1988	500	69	2	82	16	2	0
Nigeria	87	214	80	221	286	2,384	1987	3,630	46	2	54	31	15	0
Rwanda	3.6	5.2	3.6	5.2	5	638.2	1993	768	141	22	94	5	2	0
Senegal	7.6	24	5.0	26	39	3,977	1987	1,360	202	5	92	5	3	0
Sierra Leone	50	150	40	160	160	33,237	1987	370	98	0	89	7	4	0
Somalia	3.3	5.7	3.0	6.0	14	1,413	1987	810	119	8	97	3	0	0.1
South Africa	4.8	43	3.0	45	50	1,131	1990	13,309	366	32	72	17	11	0
Sudan	7.0	28	5.0	30	65 h	1,981 h	1995	17,800	637	32	94	4	1	0.4
Tanzania, United Rep	30	80	28	82	91	2,472	1994	1,165	39	2	89	9	2	0
Togo	5.7	11	5.0	12	15	3,076	1987	91	29	1	25	62	13	0
Uganda	29	39	29	39	66	2,663	1970	200	21	1	60	32	8	0
Zambia	47	80	47	80	105	9,676	1994	1,706	190	2	77	16	7	0
Zimbabwe	5.0	13	4.0	14	20	1,530	1987	1,220	131	9	79	14	7	0
NORTH AMERICA	**1,670**	**4,702**	**1,522**	**4,850**	..	..	..	..	..	..	..	..	..	..
Canada	370	2,840	360	2,850	2,902	92,810	1991	45,100	1,607	2	12	18	70	..
United States	1,300 j	1,862 j	1,162 j	2,800	3,051	10,574	1990	467,340	1,834	26	42	13	45	..
C. AMERICA & CARIBBEAN	**359**	**1,050**	**231**	**1,186**	..	..	..	..	..	..	..	..	..	..
Belize	..	..	..	16	19	78,763	1993	95	485	1	0	12	88	0
Costa Rica	37	75	0	112	112	26,764	1997	5,772	1,540	6	80	13	7	0
Cuba	6.5	32	0	38	38	3,382	1995	5,211	475	14	51	49	0	0
Dominican Rep	12	21	12	21	21	2,430	1994	8,339	1,102	45	89	11	0	0
El Salvador	6.2	18	6	18	25	3,872	1992	729	137	4	46	34	20	0
Guatemala	34	101	25	109	111	9,277	1992	1,158	126	1	74	9	17	0
Haiti	2.2	11	..	13	14	1,670	1991	980	139	8	94	5	1	0
Honduras	39	87	30	96	96	14,250	1992	1,520	294	2	91	4	5	0
Jamaica	3.9	5.5	0	9.4	9	3,587.5	1993	900	371	10	77	15	7	0
Mexico	139	361	91	409	457	4,490	1998	77,812	812	18	78	17	5	0
Nicaragua	59	186	55	190	197	36,784	1998	1,285	267	1	84	14	2	0
Panama	21	144	18	147	148	50,299	1990	1,643	685	1	70	28	2	0
Trinidad and Tobago	..	..	..	3.8	4	2,940.4	1997	297	233	8	6	68	26	0
SOUTH AMERICA	**3,693**	**12,198**	**3,645**	**12,246**	..	..	..	..	..	..	..	..	..	..
Argentina	128	276	128	276	814	21,453	1995	28,583	822	4	75	16	9	0
Bolivia	130	277	104	304	623	71,511	1987	1,210	197	0	87	10	3	0
Brazil	1,874	5,418	1,874	5,418	8,233	47,125	1992	54,870	359	1	61	21	18	0
Chile	140	884	140	884	922	59,143	1987	20,289	1,629	3	84	5	11	0
Colombia	510	2,112	510	2,112	2,132	49,017	1996	8,938	228	0	37	59	4	0
Ecuador	134	432	134	432	432	32,948	1997	16,985	1,423	4	82	12	6	0
Guyana	103	241	103	241	241	314,963	1992	1,460	1,993	1	99	1	1	0
Paraguay	41	94	41	94	336	58,148	1987	430	112	0	78	15	7	0
Peru	303	1,616	303	1,616	1,913	72,127	1992	18,973	849	1	86	7	7	0
Suriname	80	88	80	88	122	289,848	1987	460	1,171	0	89	6	5	0
Uruguay	23	59	23	59	139	41,065	1965	650	..	..	91	6	3	0
Venezuela	227	700	205	722	1,233	49,144	1970	4,100	382	1	46	44	10	0
OCEANIA	**..**	**1,241**	**20**	**1,693**	..	..	..	..	..	..	..	..	..	..
Australia	72	440	20	492	492	25,185	1985	14,600	933	4	33	65	2	..
Fiji	..	..	..	29	29	34,330	1987	30	42	0	60	20	20	..
New Zealand	..	..	..	327	327	85,221	1991	2,000	588	1	44	46	10	..
Papua New Guinea	..	801	..	801	801	159,171	1987	100	29	0	49	29	22	0
Solomon Islands	..	..	..	45	45	93,405	1987	..	..	..	40	40	20	..
DEVELOPED	**3,153**	**12,084**	**2,584**	**13,016**	..	..	..	..	..	..	..	..	..	..
DEVELOPING	**8,128**	**28,500**	**7,483**	**29,289**	..	..	..	..	..	..	..	..	..	..

a. Although data were obtained from FAO in 2002, 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.stm. **b**. Natural Renewable Water Resources include Internal Renewable Water Resources plus or minus the flows of surface and groundwater entering or leaving the country. **c**. Sectoral withdrawal data may not add up to 100 because of rounding. **d**. At the country level, Total Internal Renewable Water Resources = Surface water + Groundwater - Overlap. Regional and global totals represent a sum of available country-level data. **e**. Groundwater and surface water cannot be added together to calculate total available water resources because of overlap--water that is counted in both the groundwater and surface water totals. **f**. Calculation is based on withdrawals from various years, and population data from 2002. **g**. Data on desalinated water originate from FAO country surveys conducted in various regions between 1992 and 2000. **h**. Data account for the portion of flow secured through treaties or agreements to other countries. **i.** River discharges in Siberia are not well documented and highly uncertain. **j.** Data are for the continental United States.

VARIABLE DEFINITIONS AND METHODOLOGY

Internal Renewable Water Resources (IRWR) include the average annual flow of rivers and the recharge of groundwater (aquifers) generated from endogenous precipitation—precipitation occurring within a country's borders. IRWR are measured in cubic kilometers per year (km^3/year).

Groundwater Recharge is the total volume of water entering aquifers within a country's borders from endogenous precipitation and surface water flow. Groundwater resources are estimated by measuring rainfall in arid areas where rainfall is assumed to infiltrate into aquifers. Where data are available, groundwater resources in humid areas have been considered as equivalent to the base flow of rivers.

Surface Water produced internally includes the average annual flow of rivers generated from endogenous precipitation and base flow generated by aquifers. Surface water resources are usually computed by measuring or assessing total river flow occurring in a country on a yearly basis.

Overlap is the volume of water resources common to both surface and groundwater. It is subtracted when calculating IRWR to avoid double counting. Two types of exchanges create overlap: contribution of aquifers to surface flow, and recharge of aquifers by surface run-off. In humid temperate or tropical regions, the entire volume of groundwater recharge typically contributes to surface water flow. In karstic domains (regions with porous limestone rock formations), a portion of groundwater resources are assumed to contribute to surface water flow. In arid and semi-arid countries, surface water flows recharge groundwater by infiltrating through the soil during floods. This recharge is either directly measured or inferred by characteristics of the aquifers and piezometric levels.

Total Internal Renewable Water Resources is the sum of surface and groundwater resources minus overlap; in other words, IRWR = Surface Water Resources + Groundwater Recharge – Overlap.

Natural Renewable Water Resources, measured in cubic kilometers per year (km^3/year), is the sum of internal renewable water resources and natural flow originating outside of the country. Natural Renewable Water Resources are computed by adding together both internal renewable water resources (IRWR—see above) and natural flows (flow to and from other countries). Natural incoming flow is the average amount of water which would flow into the country without human influence. In some arid and semi-arid countries, actual water resources are presented instead of natural renewable water resources. These actual totals, labeled with a footnote in the freshwater data table, include the quantity of flows reserved to upstream and downstream countries through formal and informal agreements or treaties. The actual flows are often much lower than natural flow due to water scarcity in arid and semi-arid regions.

Per Capita Natural Renewable Water Resources are measured in cubic meters per person per year (m^3/person/year). Per capita values were calculated by using national population data for 2002. For more information about the collection methodology and reliability of the UN data, please refer to the technical notes in the population data table.

Water Withdrawals (annual), measured in million cubic meters, refers to total water removed for human uses in a single year, not counting evaporative losses from storage basins. Water withdrawals also include water from nonrenewable groundwater sources, river flows from other countries, and desalination plants.

Per Capita Annual Withdrawals were calculated using national population data for the year the withdrawal data were collected.

Water Withdrawals as a Percent of Renewable Water Resources is the proportion of renewable water resources withdrawn on a per capita basis, expressed in cubic meters per person per year (m^3/person/year). The value is calculated by dividing water withdrawals per capita by actual renewable water resources per capita.

Sectoral Share of water withdrawals, expressed as a percentage, refers to the proportion of water used for one of three purposes: agriculture, industry, and 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 maintenance.

Domestic uses include drinking water plus water withdrawn for homes, municipalities, commercial establishments, and public services (e.g. hospitals).

Industrial uses include cooling machinery and equipment, producing energy, cleaning and washing goods produced as ingredients in manufactured items, and as a solvent.

Desalinated Water Production, expressed in million cubic meters, refers to the amount of water produced by the removal of salt from saline waters—usually seawater—using a variety of techniques including reverse osmosis. Most desalinated water is used for domestic purposes.

Most 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; FAO reports and project documents; international surveys; and, results from surveys done by national or international research centers. In most cases, a critical analysis of the information was necessary to ensure consistency among the different data collected for a given country.

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

For more information on the methodology used to collect these data, please refer to the original source or: Food and Agriculture Organization of the United Nations (FAO): Water Resources, Development and Management Service. October, 2001. Statistics on Water Resources by Country in FAO's AQUASTAT Programme (available on-line at **http://www.fao.org/ag/agl/aglw/aquastat/water_res/index.stm**). Rome: FAO.

FREQUENCY OF UPDATE BY DATA PROVIDERS

AQUASTAT was developed by the Food and Agriculture Organization of the United Nations in 1993; data have been available on-line since 2001. Most freshwater data are not available in a time series, and the global data set contains data collected over a time span of up to 30 years. AQUASTAT updates their website as new data become available, or when FAO conducts

special regional studies. Studies were conducted in Africa in 1994, the Near East in 1995–96, the former Soviet republics in 1997, selected Asian countries in 1998–99, and Latin America & the Caribbean in 2000. Data from the Blue Plan on Mediterranean water withdrawals were last updated in 2002. Most data updates include revisions of past data.

DATA RELIABILITY AND CAUTIONARY NOTES

While AQUASTAT represents the most complete and careful compilation of country-level water resources statistics to date, freshwater data are generally of poor quality. Information sources are various 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. As a result, no consistency can be ensured among countries on the duration and dates of the period of reference. All data should be considered order-of-magnitude estimates.

Groundwater Recharge tends to be overestimated in arid areas and underestimated in humid areas.

Natural Renewable Water Resources vary with time. 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.

Renewable Water Resources Per Capita contains water resources data 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 2002 population data.

Water Withdrawals as a Percentage of Actual Water Resources are also calculated using per capita data from two different years. While this ratio can indicate that some countries are depleting their water resources, it does not accurately reflect localized over-extraction from aquifers and streams. In addition, the calculation does not distinguish between ground and surface water.

Sectoral Withdrawal Data may not add to 100 because of rounding. Evaporative losses from storage basins are not considered; users should keep in mind, however, that in some parts of the world up to 25 percent of water that is withdrawn and placed in reservoirs evaporates before it is used by any sector.

Desalinated Water Production may exist in some countries where the volume of production is indicated to be zero, since AQUASTAT assumes that production is zero if no value has been given for those countries where information on water use is available.

SOURCES

Renewable Water Resources: Food and Agriculture Organization of the United Nations (FAO): Water Resources, Development and Management Service. 2002. AQUASTAT Information System on Water in Agriculture: Review of Water Resource Statistics by Country. Rome: FAO. Available on-line at **http://www.fao.org/waicent/faoinfo/agricult/agl/aglw/aquastat/water_res/index.htm**.

Water Withdrawals: Food and Agriculture Organization of the United Nations (FAO): Water Resources, Development and Management Service. 2002. AQUASTAT Information System on Water in Agriculture. Rome: FAO. Available on-line at **http://www.fao.org/waicent/faoinfo/agricult/agl/aglw/aquastat/dbase/index.htm**. Data for Mediterranean countries were provided directly to WRI from: J. Margat, 2002. Present Water Withdrawals in Mediterranean Countries. Paris: Blue Plan.

Population Data (for per capita calculations): Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. 2002. World Population Prospects: The 2000 Revision. New York: United Nations. Data set on CD-ROM.

Population, Health, and Human Well-Being

Sources: United Nations Population Division, United Nations Children's Fund, World Health Organization, Joint United Nations Program on HIV/AIDS, United Nations Educational, Scientific, and Cultural Organization.

	Total Population (thousands) {a}		Percent of Population in Specific Age Groups 2002		Total Fertility Rate {a} (children per woman)	Mortality Under Age 5 (per 1000 live births)	Life Expectancy at Birth (years)	Health-Adjusted Life Expectancy {b} (years)	Adults Ages 15-49 Living HIV or AIDS (percent)	Access to Improved Sanitation (percent of population) 2000		Net School Enrollment Ratio 1998-1999		Adult Literacy Rate (percent) {c} 2002	
	2002	2025	Under 15	65 & Over	2000-2005	2000	2000-2005	2000	2001	Urban	Rural	Primary	Secondary	Women	Men
WORLD	**6,211,082**	**7,936,741**	**29**	**7**	**2.7**	**83**	**66.0**	**57.0**	**1.2**	**85**	**40**	**..**	**..**	**75**	**86 d**
ASIA (EXCL. MIDDLE EAST)	**3,493,424**	**4,345,549**	**29**	**6**	**2.5**	**..**	**67.9**	**57.4**	**0.4**	**70**	**31**	**..**	**..**	**68**	**83**
Armenia	3,790	3,736	21	9	1.1	30	73.4	59.0	0.2	..	..	..	..	98	99
Azerbaijan	8,147	9,076	27	7	1.5	105	72.2	55.4	<0.1	90	70	96	82	..	..
Bangladesh	143,364	210,823	38	3	3.6	82	60.7	49.3	<0.1	71	41	104 e	..	31	50
Bhutan	2,198	3,843	42	4	5.1	100	63.2	49.2	<0.1	65	70	16	5	..	..
Cambodia	13,776	22,310	43	3	4.8	135	56.2	47.1	2.7	56	10	103 e	20	59	81
China	1,294,377	1,470,787	24	7	1.8 f	40	71.2 f	62.1	0.1	69	27	91	50	80	93
Georgia	5,213	4,377	19	14	1.4	29	73.6	58.2	<0.1	100	99	..	78	..	..
India	1,041,144	1,351,801	33	5	3.0	96	64.2	52.0	0.8	61	15	..	39	47	70
Indonesia	217,534	272,911	30	5	2.3	48	67.3	57.4	0.1	69	46	..	..	83	93
Japan	127,538	123,798	14	18	1.3	4	81.5	73.8	<0.1	..	..	102 e	..	..	..
Kazakhstan	16,027	16,090	26	7	2.0	75	65.0	54.3	0.1	100	98	..	74	99	100
Korea, Dem People's Rep	22,586	25,872	26	6	2.1	30	65.1	55.4	..	99	100	..	..	..	..
Korea, Rep	47,389	52,065	20	8	1.5	5	75.5	66.0	<0.1	76	4	97	..	97	99
Kyrgyzstan	5,047	6,460	32	6	2.3	63	68.6	52.6	<0.1	100	100	85	..	..	..
Lao People's Dem Rep	5,530	8,721	42	4	4.8	105	54.5	44.7	<0.1	67	19	76	27	56	77
Malaysia	23,036	31,326	34	4	2.9	9	73.0	61.6	0.4	..	98	98	93	85	92
Mongolia	2,587	3,478	33	4	2.3	78	63.9	52.4	<0.1	46	2	85	53	98	99
Myanmar	48,956	60,243	32	5	2.8	110	56.2	49.1	..	84	57	..	..	81	89
Nepal	24,153	38,706	41	4	4.5	100	59.8	45.8	0.5	73	22	..	..	26	62
Pakistan	148,721	250,981	41	4	5.1	110	61.0	48.1 g	0.1	95	43	..	..	30	59
Philippines	78,611	107,073	37	4	3.2	40	70.0	59.0	<0.1	93	69	..	..	95	96
Singapore	4,188	4,998	21	8	1.5	4	78.1	67.8	0.2	100	..	..	..	89	97
Sri Lanka	19,287	22,529	25	6	2.1	19	72.6	61.1	<0.1	97	93	102 e	..	90	95
Tajikistan	6,177	8,066	37	5	2.9	73	68.0	50.8	<0.1	97	88	..	..	99	100
Thailand	64,344	77,480	26	6	2.0	29	70.8	59.7	1.8	96	96	77	55	94	97
Turkmenistan	4,930	6,844	36	4	3.2	70	67.1	52.1	<0.1	..	..	..	..	..	..
Uzbekistan	25,618	34,203	34	5	2.3	67	69.7	54.3	<0.1	97	85	..	..	99	100
Viet Nam	80,226	105,488	32	5	2.3	39	69.2	58.9	0.3	82	38	97	49	91	95
EUROPE	**725,124**	**683,532**	**17**	**15**	**1.3**	**..**	**74.1**	**64.7**	**0.4**	**..**	**..**	**..**	**..**	**99**	**99 d**
Albania	3,164	3,676	29	6	2.3	31	73.7	59.4	..	99	85	..	..	79	93
Austria	8,069	7,605	16	16	1.2	5	78.5	70.3	0.2	100	100	88	..	..	..
Belarus	10,106	9,335	17	14	1.2	20	68.5	60.1	0.3	..	..	..	..	100	100
Belgium	10,276	10,205	17	17	1.5	6	78.8	69.4	0.2	..	..	..	..	..	..
Bosnia and Herzegovina	4,126	4,165	18	11	1.3	18	74.0	63.7	<0.1 h	..	..	..	..	..	..
Bulgaria	7,790	6,125	15	16	1.1	16	70.9	63.4	<0.1 h	100	100	93	81	98	99
Croatia	4,657	4,519	18	15	1.7	9	74.2	64.0	<0.1	..	..	..	..	98	99
Czech Rep	10,250	9,727	16	14	1.2	5	75.4	65.6	<0.1	..	..	90	79	..	..
Denmark	5,343	5,359	18	15	1.7	5	76.6	69.5	0.2	..	..	101 e	89	..	..
Estonia	1,361	1,062	16	15	1.2	21	71.2	60.8	1.0	93	..	96	77	100	100
Finland	5,183	5,138	18	15	1.6	5	78.0	68.8	<0.1	100	100	99	95	..	..
France	59,670	62,753	18	16	1.8	5	79.0	70.7	0.3	..	..	100	94	..	..
Germany	81,990	78,897	15	17	1.3	5	78.2	69.4	0.1	..	..	87	88	..	..
Greece	10,631	10,149	15	18	1.2	6	78.5	71.0	0.2	..	..	95	86	96	99
Hungary	9,867	8,783	16	15	1.2	9	72.0	59.9	0.1	100	98	82	85	99	100
Iceland	283	319	23	12	1.9	4	79.4	71.2	0.2	..	..	99	85	..	..
Ireland	3,878	4,745	21	11	2.0	6	77.0	69.3	0.1	..	..	104 e	77	..	..
Italy	57,449	52,364	14	19	1.2	6	78.7	71.2	0.4	..	..	101 e	88	98	99
Latvia	2,392	2,090	16	15	1.1	21	71.2	57.7	0.4	..	..	94	83	100	100
Lithuania	3,682	3,418	18	14	1.2	21	72.7	58.4	0.1	..	..	94	85	100	100
Macedonia, FYR	2,051	2,067	22	10	1.5	26	73.6	64.9	<0.1	..	..	96	79	..	..
Moldova, Rep	4,273	4,052	21	10	1.4	33	66.6	58.4	0.2	100	98	..	..	99	100
Netherlands	15,990	16,571	18	14	1.5	5	78.3	69.7 g	0.2	100	100	100	93	..	..
Norway	4,505	4,800	20	15	1.7	4	78.9	70.5	0.1	..	..	102 e	96	..	..
Poland	38,542	37,254	18	13	1.3	10	73.9	61.8	0.1 h	..	..	..	..	100	100
Portugal	10,049	9,831	17	16	1.5	6	76.2	66.3	0.5	..	..	108 e	88	91	95
Romania	22,332	20,585	17	14	1.3	22	69.8	61.7	<0.1	86	10	94	76	98	99
Russian Federation	143,752	125,687	16	13	1.1	22	66.0	55.5	0.9	..	..	..	..	100	100
Serbia and Montenegro	10,522	10,044	19	14	1.6	20	73.2	64.3	0.2	100	99	..	..	100	..
Slovakia	5,408	5,317	18	12	1.3	9	73.7	62.4	<0.1	100	100	..	..	..	..
Slovenia	1,983	1,847	15	15	1.1	5	76.1	66.9	<0.1	..	..	94	89	100	100
Spain	39,924	37,395	14	17	1.1	5	78.8	70.6	0.5	..	..	105 e	92	97	99
Sweden	8,823	8,518	17	18	1.3	4	80.1	71.4	0.1	100	100	103 e	100	..	..
Switzerland	7,167	6,729	16	16	1.4	4	79.1	72.1	0.5	100	100	94	83	..	..
Ukraine	48,652	39,569	17	15	1.1	21	68.1	56.8	1.0	100	98	..	..	100	100
United Kingdom	59,657	61,243	19	16	1.6	6	78.2	69.9	0.1	100	100	102 e	94	..	..
MIDDLE EAST & N. AFRICA	**423,296**	**631,320**	**35**	**4**	**3.5**	**64 i**	**68.0**	**56.4**	**..**	**91**	**70**	**..**	**..**	**62**	**81**
Afghanistan	23,294	45,193	43	3	6.8	257	43.2	33.8	..	25	8	..	..	..	..
Algeria	31,403	42,738	34	4	2.8	65	70.3	58.4	0.1 h	99	81	94	58	60	78
Egypt	70,278	94,777	34	4	2.9	43	68.3	57.1	<0.1	100	96	92	..	46	68
Iran, Islamic Rep	72,376	99,343	35	3	2.8	44	69.7	58.8	<0.1	86	79	..	..	71	85
Iraq	24,246	40,298	41	3	4.8	130	64.9	52.6	<0.1	93	31	80	31	..	..
Israel	6,303	8,486	28	10	2.7	6	79.2	69.9	0.1	..	..	95	85	93	97
Jordan	5,196	8,666	40	3	4.3	34	71.0	58.5	<0.1	100	98	64	60	86	96
Kuwait	2,023	3,219	28	3	2.7	10	76.5	64.7	..	..	..	67	57	81	85
Lebanon	3,614	4,581	30	6	2.2	32	73.5	60.7	..	100	87	78	76	82	93
Libyan Arab Jamahiriya	5,529	7,972	33	4	3.3	20	70.9	58.5	0.2	97	96	..	71	71	92
Morocco	30,988	42,002	34	4	3.0	46	68.7	54.9	0.1	86	44	79	..	38	63
Oman	2,709	5,411	43	3	5.5	14	71.5	59.7	0.1	98	61	66	58	65	82
Saudi Arabia	21,701	40,473	42	3	5.5	29	72.2	59.5	..	100	100	59	..	70	84
Syrian Arab Rep	17,040	27,410	39	3	3.7	29	71.8	59.6	..	98	81	93	38	63	89
Tunisia	9,670	12,343	28	6	2.1	28	70.9	61.4	..	96	62	98	55	63	83
Turkey	68,569	86,611	30	6	2.3	45	70.5	58.7	<0.1 h	97	70	100	..	78	94
United Arab Emirates	2,701	3,468	25	3	2.9	9	75.4	63.1	..	..	..	83	70	81	76
Yemen	19,912	48,206	51	2	7.6	117	61.9	49.1	0.1	89	21	61	35	29	70

	Total Population (thousands) {a}		Percent of Population in Specific Age Groups 2002		Total Fertility Rate {a} (children per woman)	Mortality Under Age 5 (per 1000 live births)	Life Expectancy at Birth (years)	Health-Adjusted Life Expectancy {b} (years)	Adults Ages 15-49 Living HIV or AIDS (percent)	Access to Improved Sanitation (percent of population) 2000		Net School Enrollment Ratio 1998-1999		Adult Literacy Rate (percent) {c} 2002	
	2002	2025	Under 15	65 & Over	2000-2005	2000	2000-2005	2000	2001	Urban	Rural	Primary	Secondary	Women	Men
SUB-SAHARAN AFRICA	**683,782**	**1,157,847**	**44**	**3**	**5.6**	**175** i	**49.1**	**38.8**	**9.0** j	**72**	**44**	**..**	**..**	**56**	**71**
Angola	13,936	28,213	48	3	7.2	295	45.8	36.9	5.5	70	30	57	..	..	..
Benin	6,629	11,992	46	3	5.7	154	54.0	42.5	3.6	46	6	..	16	26	55
Botswana	1,564	1,826	42	3	3.9	101	36.1	37.3	38.8	88	43	81	57	82	76
Burkina Faso	12,207	25,227	49	3	6.8	198	48.1	34.8	6.5	39	27	34	9	16	36
Burundi	6,688	12,390	47	3	6.8	190	40.6	33.4	8.3	68	90	38	..	44	58
Cameroon	15,535	23,986	43	4	4.7	154	50.0	40.4	11.8	92	66	..	..	67	81
Central African Rep	3,844	5,886	43	4	4.9	180	44.3	34.1	12.9	38	16	53	..	38	62
Chad	8,390	16,383	47	3	6.7	198	46.3	39.3	3.6	81	13	55	7	38	55
Congo	3,206	6,284	47	3	6.3	108	51.6	42.6	7.2	14	..	..	..	77	89
Congo, Dem Rep	54,275	114,876	49	3	6.7	207	52.1	34.4	4.9	54	6	32	12	54	75
Côte d'Ivoire	16,691	25,024	41	3	4.6	173	47.9	39.0	9.7	71	35	59	..	40	61
Equatorial Guinea	483	889	44	4	5.9	156	52.0	44.8	3.4	60	46	83	26	77	93
Eritrea	3,993	7,063	44	3	5.3	114	52.4	41.0	2.8	66	1	34	19	47	69
Ethiopia	66,040	113,418	45	3	6.8	174	43.3	35.4	6.4	33	7	35	16	34	49
Gabon	1,293	2,178	41	6	5.4	90	52.9	46.6	..	55	43	..	..	..	..
Gambia	1,371	2,077	40	3	4.8	128	47.1	46.9	1.6	41	35	61	23	32	46
Ghana	20,176	30,936	40	3	4.2	102	57.2	46.7	3.0	74	70	..	..	66	82
Guinea	8,381	14,120	44	3	5.8	175	48.5	40.3	..	94	41	46	13	..	..
Guinea-Bissau	1,257	2,170	44	4	6.0	215	45.4	36.6	2.8	95	44	..	..	26	57
Kenya	31,904	44,897	42	3	4.2	120	49.3	40.7	15.0	96	82	..	..	79	90
Lesotho	2,076	2,225	39	4	4.5	133	40.2	35.3	31.0	72	40	60	14	94	74
Liberia	3,298	7,638	43	3	6.8	235	55.6	37.8	..	..	..	41	..	39	72
Madagascar	16,913	30,759	45	3	5.7	139	53.6	42.9	0.3	70	30	63	13	62	75
Malawi	11,828	19,544	46	3	6.3	188	39.3	30.9	15.0	96	70	..	7	49	76
Mali	12,019	23,461	46	4	7.0	233	52.1	34.5	1.7	93	58	42	..	17	38
Mauritania	2,830	5,351	44	3	6.0	183	52.5	41.5	..	44	19	60	..	31	52
Mozambique	18,986	28,012	44	3	5.9	200	38.0	31.3	13.0	68	26	41	7	31	62
Namibia	1,819	2,776	43	4	4.9	69	44.3	35.6	22.5	96	17	86	31	83	84
Niger	11,641	25,725	50	2	8.0	270	46.2	33.1	..	79	5	26	6	9	25
Nigeria	120,047	202,957	45	3	5.4	184	52.1	41.6	5.8	66	45	..	..	59	74
Rwanda	8,148	12,883	44	3	5.8	187	40.9	31.9	8.9	12	8	91	..	63	75
Senegal	9,908	16,511	44	3	5.1	139	54.3	44.9	0.5	94	48	59	..	30	49
Sierra Leone	4,814	9,052	45	3	6.5	316	40.5	29.5	7.0	88	53	..	..	..	..
Somalia	9,557	21,192	48	2	7.3	225	48.9	35.1	1.0	..	..	..	..	..	..
South Africa	44,203	43,772	33	4	2.9	70	47.4	43.2	20.1	93	80	..	..	85	87
Sudan	32,559	49,556	40	4	4.5	108	57.0	45.1	2.6	87	48	46	..	49	71
Tanzania, United Rep	36,820	60,395	44	3	5.0	165	51.1	38.1	7.8	99	86	48	4	69	85
Togo	4,779	8,219	44	3	5.4	142	52.2	42.7	6.0	69	17	88	23	45	74
Uganda	24,780	53,765	49	2	7.1	127	46.0	35.7	5.0	93	77	..	9	59	79
Zambia	10,872	19,026	47	3	5.7	202	42.2	33.0	21.5	99	64	73	22	74	86
Zimbabwe	13,076	18,672	45	3	4.5	117	42.9	38.8	33.7	71	57	..	..	86	94
NORTH AMERICA	**319,925**	**383,678**	**21**	**12**	**1.9**	**8**	**77.7**	**67.5**	**0.6**	**100**	**100**	**..**	**..**	**..**	**..**
Canada	31,268	36,717	19	13	1.6	6	79.0	70.0	0.3	100	99	96	94	..	..
United States	288,530	346,822	21	12	1.9	8	77.5	67.2	0.6	100	100	95	90	..	..
C. AMERICA & CARIBBEAN	**178,512**	**233,965**	**33**	**5**	**2.7**	**37** k	**71.2**	**61.4**	**0.8**	**86**	**49**	**..**	**..**	**86**	**89**
Belize	236	324	37	4	2.9	41	74.4	59.2	2.0	71	25	99	39	94	94
Costa Rica	4,200	5,929	31	5	2.7	12	76.7	65.3	0.6	89	97	..	..	96	96
Cuba	11,273	11,733	20	10	1.6	9	76.4	65.9	<0.1	99	95	97	75	97	97
Dominican Rep	8,639	10,924	32	4	2.7	48	66.9	56.2	2.5	70	60	87	53	84	84
El Salvador	6,520	8,975	35	5	2.9	40	70.3	57.3	0.6	89	76	81	37	77	82
Guatemala	11,995	19,624	43	4	4.4	59	65.6	54.7	1.0	83	79	83	..	63	77
Haiti	8,400	11,549	39	4	4.0	125	53.3	43.1	6.1	50	16	80	..	50	54
Honduras	6,732	10,106	41	3	3.7	40	65.8	56.8	1.6	93	55	..	..	76	76
Jamaica	2,621	3,264	31	7	2.4	20	75.7	64.0	1.2	99	99	92	79	91	84
Mexico	101,842	130,194	32	5	2.5	30	73.0	64.2	0.3	88	34	102 e	56	90	94
Nicaragua	5,347	8,606	42	3	3.8	45	69.1	56.9	0.2	95	72	..	..	67	67
Panama	2,942	3,779	30	6	2.4	26	74.5	63.9	1.5	99	83	..	..	92	93
Trinidad and Tobago	1,306	1,437	23	7	1.5	20	74.8	61.7	2.5	..	..	93	72	98	99
SOUTH AMERICA	**355,695**	**460,770**	**30**	**6**	**2.4**	**37** k	**70.2**	**59.2**	**0.6**	**86**	**51**	**..**	**..**	**90**	**91**
Argentina	37,944	47,160	27	10	2.4	21	73.8	63.9	0.7	..	..	107 e	74	97	97
Bolivia	8,705	13,131	39	4	3.9	80	63.5	51.4	0.1	86	42	97	..	81	93
Brazil	174,706	218,980	28	5	2.2	38	68.3	57.1 g	0.7	84	43	98	..	88	88
Chile	15,589	19,548	28	7	2.4	12	75.6	65.5	0.3	96	97	88	70	96	96
Colombia	43,495	59,161	32	5	2.6	30	71.9	60.9	0.4	96	56	87	..	92	92
Ecuador	13,112	17,796	33	5	2.8	32	70.5	60.3	0.3	92	74	97	46	91	94
Guyana	765	703	30	5	2.3	74	62.4	52.1	2.7	97	81	85	..	98	99
Paraguay	5,778	9,355	39	4	3.8	31	70.7	60.9	..	94	93	92	42	93	95
Peru	26,523	35,518	32	5	2.6	50	69.5	58.8	0.4	79	49	103 e	61	86	95
Suriname	421	442	29	6	2.1	33	71.1	60.6	1.2	99	75	..	..	..	..
Uruguay	3,385	3,871	25	13	2.3	17	75.0	64.1	0.3	95	85	92	66	98	97
Venezuela	25,093	34,775	33	5	2.7	23	73.3	62.3	0.5 h	71	48	..	..	93	94
OCEANIA	**31,281**	**40,020**	**24**	**10**	**2.3**	**25**	**74.8**	**66.3**	**0.2**	**97**	**92**	**..**	**..**	**98**	**99 d**
Australia	19,536	23,523	20	12	1.8 l	6	79.2 l	71.5	0.1	100	100	..	..	..	..
Fiji	832	954	33	4	3.0	22	69.8	59.6	0.1	75	12	101 e	76	92	95
New Zealand	3,837	4,302	23	12	2.0	6	78.0	70.8	0.1	..	..	..	..	..	..
Papua New Guinea	5,032	8,023	40	2	4.3	112	57.7	46.8	0.7	92	80	85	22	59	72
Solomon Islands	479	943	45	3	5.3	25	69.2	59.0	..	98	18	..	..	..	..
DEVELOPED	**1,321,286**	**1,359,805**	**19**	**14**	**1.6**	**..**	**74.6**	**65.1**	**1.1**	**..**	**..**	**..**	**..**	**99**	**99 d**
DEVELOPING	**4,889,753**	**6,576,876**	**32**	**5**	**3.0**	**91**	**65.3**	**54.8**	**1.2**	**73**	**37**	**..**	**..**	**68**	**82**

a. Medium variant population projections. **b**. Health-Adjusted Life Expectancy (HALE) is number of years that a newborn can expect to live in full health based on current rates of ill-health and mortality. **c**. Includes all adults aged 15 years and over. **d**. Regional values were interpolated by WRI from UNESCO's literacy data for 2000 and 2005. **e**. Inconsistencies with enrollment or population numbers can skew enrollment ratios, erroneously reporting them to be greater than 100% (see the technical notes for more information). **f**. Data for China do not include Hong Kong and Macao. **g**. Figure not yet endorsed by Member States as official statistics. **h**. Data are from 1999. **i**. Regional totals were calculated by UNICEF; the countries included may be slightly different from those in WRI's regional definitions. **j**. Regional estimate calculated by UNAIDS. **k**. Regional totals were calculated by UNICEF and combine South America, Central America, and the Caribbean. **l**. Including Christmas Island, Cocos (Keeling) Islands, and Norfolk Island.

VARIABLE DEFINITIONS AND METHODOLOGY

Total Population is the mid-year population projected for a specific country, area or region, measured in thousands of people. The values are estimated using models based on various demographic parameters: a country's population size, age and sex distribution, fertility and mortality rates by age and sex groups, growth rates of urban and rural populations, and levels of internal and international migration.

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.

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.

For the variables defined above, the U.N. Population Division evaluates census and survey results from all countries. These data are adjusted for over-enumeration and under-enumeration of certain age and sex groups (e.g., infants, female children, and young males), misreporting of age and sex distributions, and changes in definitions, when necessary. These adjustments incorporate data from civil registrations; population surveys; earlier censuses; and, when necessary, population models based on information from economically similar countries. After the figures for population size and age/sex composition have been adjusted, these data are scaled to 1990. Historical data are used when deemed accurate, also with adjustments and scaling. However, accurate historical data do not exist for many developing countries. In such cases, the U.N. Population Division uses available information and demographic models to estimate the main demographic parameters. Projections are based on estimates of the 1990 base-year population. Age- and sex-specific mortality rates are applied to the base-year population to determine the number of survivors at the end of each 5-year period. Births are projected by applying age-specific fertility rates to the projected female population. Births are distributed by an assumed sex ratio, and the appropriate age- and sex-specific survival rates are applied. Future migration rates are also estimated on an age- and sex-specific basis. Combining future fertility, mortality, and migration rates yields the projected population size. Assumptions about future mortality, fertility, and migration rates are made on a country-by-country basis and, when possible, are based on historical trends. The U.N. Population Division publishes projections for high-, medium- and low-fertility scenarios; all projections in this table are for the medium-case fertility scenario.

Mortality Under Age 5 is the probability of a child dying between birth and age five expressed per 1,000 live births. The data on mortality of children after infancy 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 this data using a weighted least-squares regression model. The basic model assumes that the rate of change of mortality is linear with respect to time.

Health-Adjusted Life Expectancy (HALE) is defined as the number of years that a newborn can expect to live in full health based on current rates of ill health and mortality. Healthy life expectancy combines information on mortality and disability, making it a valuable policy tool for assessing health burdens internationally. These data are the product of more than 15 years of work by WHO to measure severity-weighted incidences of ill health. To determine healthy life expectancies, regular life expectancy is first calculated for each age group in a population according to standard methodologies. Next, the frequency of different states of health is measured along with the severity of these disabilities. Finally, the length of time that a population is affected by disabilities compared to full health is valued and reported in years.

Adults Ages 15–49 Living With HIV or AIDS is the estimated percentage of people aged 15–49 living with HIV/AIDS. 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 adults ages 15 to 49 captures those in their most sexually active years. While the risk of HIV infection continues beyond the age of 50, the vast majority of people with substantial risk behavior are likely to have become infected by this age. Measuring infection within this age range also makes populations with different age structures more comparable. In order to estimate prevalence rates of HIV, prevalence 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. Prevalence data were collected in developing countries with generalized epidemics using surveillance data from antenatal clinics; in other cases, epidemiologists examined high risk populations (sex workers, intravenous drug users, homosexual males).

Access to Improved Sanitation measures the percentage of the population with access to 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. A poor water supply and sanitation system can lead to a number of diseases, including diarrhoea, intestinal worms, and cholera. Examples of an unimproved sanitation system include: open pit latrines, public or shared latrines, and service or bucket latrines (where excreta are manually removed). WHO emphasizes that these data measure access to an improved excreta disposal system—access to a sanitary system cannot be adequately measured on a global scale. 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 1990 and 2000). A trend line was drawn and reviewed by a panel of experts to determine the level of sanitation available in 1990 and 2000. Particular care was taken with the 40 most populous developing countries.

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%. A high NER denotes a high degree of participation of the official school-age population. If the NER is below 100%, users should not assume that the remaining school-aged 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. Programs may be vocational or technical in nature, and students achieve a full implementation of basic skills. 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.

Adult Literacy Rate is the proportion of adults aged 15 years and over who can both read and write with understanding a short, simple statement on their everyday life. 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 this data to graph a logistic regression model. Male and female literacy rates are modeled separately. When census and survey data are not available, literacy rates for a specific country are estimated based on neighboring countries with similar characteristics.

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. Other data sets in this table are updated irregularly—educational statistics are updated as new country-level data are sent to UNESCO, and healthy life expectancy was calculated for the first time in 2001. Most updates include revisions of past data.

DATA RELIABILITY AND CAUTIONARY NOTES

Total Population, Fertility, and Life Expectancy: Although projections cannot factor in unforeseen events (e.g. famine), U.N. demographic models are based on surveys and censuses with well-understood qualities, which make these data fairly reliable.

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 on-line at http://www.childinfo.org/cmr/kh98meth.html.

Health-Adjusted Life Expectancy: Some estimates have not yet been endorsed by Member States as official statistics. The data will improve as national governments become involved in providing data and survey results. WHO has estimated the uncertainty in HALE for each country; these results are published in the World Health Report 2001 (available on-line at http://www.who.int/whr2001/2001/).

Adults Ages 15–49 Living with HIV or AIDS: While the HIV surveillance systems are generally more extensive than those for other diseases, problems do remain with the data. Data are often very weak for marginalized risk groups such as intravenous drug users or homosexual males. Infection rates in the general population are calculated based on infection rates in childbearing women; other women and men are then assumed to have the same rate of infection. Prevalence of HIV is assumed to be uniform in periurban and urban areas. The original source material captures some of these uncertainties with estimates of low and high values for the total number of HIV/AIDS infections. For a detailed description of the collection methodology and limitations of this data, please see: B. Schwartlander et al. 1999. "Country-specific estimates and models of HIV and AIDS: methods and limitations." AIDS, 13: 2445–2458.

Access to Improved 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. Definitions of urban and rural are not consistent across countries. In addition, regions with higher overall levels of service tend to implement a stricter definition of "adequate" sanitation.

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%, 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%. 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.

Adult Literacy Rate: The availability and quality of national statistics on literacy vary widely, particularly for developing countries. 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. Practices for identifying literates and illiterates during actual census enumeration may also vary, and errors in literacy self-declaration can affect data reliability.

SOURCES

Population, Total Fertility and Life Expectancy: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. 2002. World Population Prospects: The 2000 Revision. New York: United Nations. Data set on CD-ROM. **Mortality under Age 5 and Access to Improved Sanitation:** United Nation's Children's Fund (UNICEF). 2001. State of the World's Children 2002. New York: UNICEF. Data available on-line at http://www.unicef.org/sowc02/. Improved Sanitation data were collected under the UNICEF-World Health Organization (WHO) Joint Monitoring Programme. **Health-Adjusted Life Expectancy:** World Health Organization (WHO). 2001. World Health Report 2001: Annex Table 4. Geneva: WHO. Data available on-line at http://www.who.int/whr/2001/main/en/annex/annex4.htm. **Adults Living with HIV or AIDS:** Joint United Nations Programme on HIV/AIDS. July 2002. UNAIDS Barcelona Report on the Global HIV/AIDS Epidemic. Geneva: UNAIDS. Data available on-line at http://www.unaids.org/barcelona/presskit/barcelona%20report/contents.html. **Net School Enrollment:** United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics. 2002. Unpublished data. UNESCO: Montreal. **Adult Literacy Rate:** United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics, Literacy and Non Formal Education Sector. 2002. Adult illiteracy for population aged 15 years and above, by country and by gender 1970–2015. Paris: UNESCO. Data available on-line at http://www.uis.unesco.org/en/stats/stats0.htm.

Regional Groupings of Countries

Countries are listed according to their primary regional classification, assigned by the World Resources Institute.

World Bank income designations follow the country names: "H" represents high-income countries, "M" middle-income countries, and "L" low-income countries.

Developed countries are labeled with a "D"; developing countries are not labeled. WRI uses the Food and Agriculture Organization of the United Nations' definitions of developed and developing countries.

ASIA (EXCLUDING THE MIDDLE EAST)
Armenia L D
Azerbaijan L D
Bangladesh L
Bhutan L
Brunei Darussalam H
Cambodia L
China M
East Timor L
Georgia M D
Hong Kong H
India L
Indonesia M
Japan H D
Kazakhstan M D
Korea, Dem People's Rep M
Korea, Rep H
Kyrgyzstan L D
Lao People's Dem Rep L
Macau H
Malaysia M
Maldives M
Mongolia L
Myanmar L
Nepal L
Pakistan L
Philippines M
Singapore H
Sri Lanka M
Taiwan, Province of China
Tajikistan L D
Thailand M
Turkmenistan L D
Uzbekistan M D
Viet Nam L

EUROPE
Albania L D
Andorra H D
Austria H D
Belarus M D
Belgium H D
Bosnia and Herzegovina L D
Bulgaria M D
Channel Islands H D
Croatia M D
Czech Rep M D
Denmark H D
Estonia M D
Faeroe Islands H D
Finland H D
France H D
Germany H D
Gibraltar D
Greece H D
Hungary M D
Iceland H D
Ireland H D
Isle of Man M D
Italy H D
Latvia M D
Liechtenstein H D
Lithuania M D
Luxembourg H D
Macedonia, FYR M D
Malta M D
Moldova, Rep L D
Monaco H D
Netherlands H D
Norway H D
Poland M D
Portugal H D
Romania M D
Russian Federation M D
San Marino H D
Serbia and Montenegro M D
Slovakia M D
Slovenia H D
Spain H D
Sweden H D
Switzerland H D
Ukraine M D
United Kingdom H D

MIDDLE EAST AND NORTH AFRICA
Afghanistan L
Algeria M
Bahrain M
Cyprus H
Egypt M
Iran, Islamic Rep M
Iraq M
Israel H D
Jordan M
Kuwait H
Lebanon M
Libyan Arab Jamahiriya M
Morocco M
Oman M
Qatar H
Saudi Arabia M
Syrian Arab Rep M
Tunisia M
Turkey M
United Arab Emirates H
West Bank M
Western Sahara M
Yemen L

SUB-SAHARAN AFRICA
Angola L
Benin L
Botswana M
Burkina Faso L
Burundi L
Cameroon L
Cape Verde M
Central African Rep L
Chad L
Comoros L
Congo L
Congo, Dem Rep L
Côte d'Ivoire L
Djibouti M
Equatorial Guinea M
Eritrea L
Ethiopia L
Gabon M

Gambia L
Ghana L
Guinea L
Guinea-Bissau L
Kenya L
Lesotho L
Liberia L
Madagascar L
Malawi L
Mali L
Mauritania L
Mauritius M
Mozambique L
Namibia M
Niger L
Nigeria L
Réunion H
Rwanda L
Saint Helena
Sao Tome & Principe L
Senegal L
Seychelles M
Sierra Leone L
Somalia L
South Africa M D
Sudan L
Swaziland M
Tanzania L
Togo L
Uganda L
Zambia L
Zimbabwe L

NORTH AMERICA

Bermuda H
Canada H D
Greenland H
Saint Pierre and Miquelon
United States H D

CENTRAL AMERICA AND THE CARIBBEAN

Antigua and Barbuda M
Aruba H
Bahamas H
Barbados M
Belize M
British Virgin Islands
Cayman Islands H
Costa Rica M
Cuba M
Dominica M
Dominican Rep M
El Salvador M
Grenada M
Guadeloupe M
Guatemala M
Haiti L
Honduras L
Jamaica M
Martinique H
Mexico M
Netherlands Antilles H
Nicaragua L
Panama M
Puerto Rico M
Saint Kitts and Nevis M
St. Lucia M
St. Vincent & Grenadines M
Trinidad and Tobago M
Turks and Caicos Islands
Virgin Islands H

SOUTH AMERICA

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

OCEANIA

Australia H D
Cook Islands
Fiji M
French Polynesia H
Guam H
Kiribati M
Marshall Islands M
Micronesia, Fed States M
Nauru
New Caledonia H
New Zealand H D
Niue
Northern Mariana Islands H
Palau M
Papua New Guinea M
Samoa M
Solomon Islands M
Tonga M
Vanuatu M