

	Renewable internal freshwater resources ^a		Annual freshwater withdrawals ^b					Access to improved water source			
	Flows billion cu. m 2003	per capita cu. m 2003	billion cu. m 1987–2003	% of internal resources 1987–2003	% for agriculture 1987–2003	% for industry 1987–2003	% for domestic 1987–2003	% of urban population		% of rural population	
								1990	2002	1990	2002
Afghanistan	55	1,912	26.1	47.5	99	0	1	..	19	..	11
Albania	27	8,520	1.4	5.2	71	0	29	99	99	95	95
Algeria	14	440	5.0	35.7	52	14	34	99	92	92	80
Angola	184	13,607	0.5	0.3	76	10	14	11	70	40	40
Argentina	276	7,506	28.6	10.4	75	9	16	97	97	73	..
Armenia	9	2,945	2.9	32.2	66	4	30	99	99	..	80
Australia	492	24,747	14.6	3.0	33	2	65	100	100	100	100
Austria	55	6,799	2.4	4.4	9	58	33	100	100	100	100
Azerbaijan	8	972	16.5	206.3	70	25	5	80	95	49	59
Bangladesh	105	761	14.6	13.9	86	2	12	83	82	68	72
Belarus	37	3,745	2.7	7.3	35	43	22	100	100	100	100
Belgium	12	1,157	..	..	..	..	..	100	100	..	..
Benin	10	1,488	0.1	1.0	67	10	23	71	79	54	60
Bolivia	304	34,490	1.2	0.4	87	3	10	91	95	48	68
Bosnia and Herzegovina	36	8,696	1.0	2.8	60	10	30	100	100	96	96
Botswana	3	1,742	0.1	3.3	48	20	32	100	100	88	90
Brazil	5,418	30,680	54.9	1.0	61	18	21	93	96	55	58
Bulgaria	21	2,684	13.9	66.2	22	75	3	100	100	100	100
Burkina Faso	13	1,074	0.4	3.1	81	0	19	63	82	35	44
Burundi	4	555	0.1	2.5	64	0	36	96	90	67	78
Cambodia	121	9,027	0.5	0.4	94	1	5	..	58	..	29
Cameroon	273	16,970	0.4	0.1	35	19	46	77	84	32	41
Canada	2,850	90,104	45.1	1.6	12	70	18	100	100	99	99
Central African Republic	141	36,332	0.1	0.1	74	5	21	70	93	35	61
Chad	15	1,748	0.2	1.3	82	2	16	45	40	13	32
Chile	884	56,042	20.3	2.3	84	11	5	98	100	49	59
China	2,812	2,183	525.5	18.7	78	18	5	100	92	59	68
Hong Kong, China	..	..	..	..	..	..	..	..	..	..	..
Colombia	2,112	47,371	8.9	0.4	37	4	59	98	99	78	71
Congo, Dem. Rep.	900	16,932	0.4	0.0	23	16	61	92	83	24	29
Congo, Rep.	222	59,086	0.0	0.0	11	27	62	..	72	..	17
Costa Rica	112	27,967	5.8	5.2	80	7	13	100	100	..	92
Côte d'Ivoire	77	4,574	0.7	0.9	67	11	22	74	98	66	74
Croatia	38	8,550	0.8	2.1	0	50	50	..	..	..	..
Cuba	38	3,355	5.2	13.7	51	0	49	95	95	..	78
Czech Republic	13	1,274	2.7	20.8	2	57	41	..	..	..	..
Denmark	6	1,114	1.2	20.0	43	27	30	100	100	100	100
Dominican Republic	21	2,403	8.3	39.5	89	0	11	97	98	72	85
Ecuador	432	33,210	17.0	3.9	82	6	12	81	92	54	77
Egypt, Arab Rep.	2	30	66.0	3,300.0	82	11	7	97	100	92	97
El Salvador	18	2,755	0.7	3.9	46	20	34	88	91	47	68
Eritrea	3	683	..	..	..	..	..	60	72	36	54
Estonia	13	9,608	0.2	1.5	5	39	56	..	..	..	..
Ethiopia	110	1,603	2.2	2.0	86	3	11	80	81	16	11
Finland	107	20,530	2.2	2.1	3	85	12	100	100	100	100
France	179	2,995	32.3	18.0	10	72	18	100	100	..	..
Gabon	164	121,984	0.1	0.1	6	22	72	95	95	..	47
Gambia, The	3	2,111	0.0	0.0	91	2	7	95	95	..	77
Georgia	58	11,315	3.5	6.0	59	20	21	..	90	..	61
Germany	107	1,296	46.3	43.3	20	69	11	100	100	100	100
Ghana	30	1,451	0.3	1.0	52	13	35	85	93	36	68
Greece	58	5,257	8.7	15.0	87	3	10	..	..	..	..
Guatemala	109	8,857	1.2	1.1	74	17	9	88	99	69	92
Guinea	226	28,575	0.7	0.3	87	3	10	70	78	32	38
Guinea-Bissau	16	10,744	0.0	0.0	36	4	60	..	79	..	49
Haiti	13	1,540	1.0	7.7	94	1	5	77	91	43	59

	Renewable internal freshwater resources ^a		Annual freshwater withdrawals ^b					Access to improved water source			
	Flows billion cu. m 2003	per capita cu. m 2003	billion cu. m 1987–2003	% of internal resources 1987–2003	% for agriculture 1987–2003	% for industry 1987–2003	% for domestic 1987–2003	% of urban population		% of rural population	
								1990	2002	1990	2002
Honduras	96	13,776	1.5	1.6	91	5	4	89	99	78	82
Hungary	6	592	6.8	113.3	36	55	9	100	100	98	98
India	1,261	1,185	500.0	39.7	92	3	5	88	96	61	82
Indonesia	2,838	13,220	74.3	2.6	93	1	6	92	89	62	69
Iran, Islamic Rep.	129	1,943	70.0	54.3	92	2	6	98	98	83	83
Iraq	35	1,417	42.8	122.3	92	5	3	97	97	50	50
Ireland	49	12,268	0.8	1.6	10	74	16	100	100	..	..
Israel	1	150	1.6	160.0	54	7	39	100	100	100	100
Italy	183	3,175	42.0	23.0	48	34	19	100	100	..	..
Jamaica	9	3,406	0.9	10.0	77	7	15	97	98	86	87
Japan	430	3,371	91.4	21.3	64	17	19	100	100	100	100
Jordan	1	188	1.0	100.0	75	3	22	100	91	91	91
Kazakhstan	75	5,041	33.7	44.9	81	17	2	96	96	72	72
Kenya	20	627	2.0	10.0	76	4	20	91	89	30	46
Korea, Dem. Rep.	67	2,963	14.2	21.2	73	16	11	100	100	100	100
Korea, Rep.	65	1,357	23.7	36.5	63	11	26	97	97	..	71
Kuwait	0	0	0.5	..	60	2	37	..	..	..	..
Kyrgyz Republic	46	9,105	10.1	22.0	94	3	3	98	98	..	66
Lao PDR	190	33,570	1.0	0.5	82	10	8	..	66	..	38
Latvia	17	7,324	0.3	1.8	13	32	55	..	..	..	..
Lebanon	5	1,112	1.3	26.0	68	6	27	100	100	100	100
Lesotho	5	2,789	0.1	2.0	56	22	22	..	88	..	74
Liberia	200	59,285	0.1	0.1	60	13	27	85	72	34	52
Libya	1	180	4.5	450.0	84	3	13	72	72	68	68
Lithuania	16	4,632	0.3	1.9	3	16	81	..	..	..	..
Macedonia, FYR	5	2,440	1.9	38.0	74	15	12	..	..	..	..
Madagascar	337	19,948	16.3	4.8	99	..	1	82	75	27	34
Malawi	16	1,460	0.9	5.6	86	3	10	90	96	34	62
Malaysia	580	23,411	12.7	2.2	77	13	11	96	96	..	94
Mali	60	5,150	1.4	2.3	97	1	2	50	76	29	35
Mauritania	0	0	1.6	..	92	2	6	19	63	57	45
Mauritius	..	..	..	..	..	..	..	100	100	100	100
Mexico	409	3,998	77.8	19.0	78	5	17	90	97	54	72
Moldova	1	236	3.0	300.0	26	65	9	97	97	..	88
Mongolia	35	14,115	0.4	1.1	53	27	20	87	87	30	30
Morocco	29	963	11.5	39.7	89	2	10	94	99	58	56
Mozambique	99	5,268	0.6	0.6	89	2	9	..	76	..	24
Myanmar	881	17,848	4.0	0.5	90	3	7	73	95	40	74
Namibia	6	2,978	0.2	3.3	68	3	29	99	98	43	72
Nepal	198	8,029	29.0	14.6	99	0	1	94	93	67	82
Netherlands	11	678	7.8	70.9	34	61	5	100	100	99	99
New Zealand	327	81,562	2.0	0.6	44	10	46	100	100	82	..
Nicaragua	190	34,672	1.3	0.7	84	2	14	92	93	42	65
Niger	4	340	0.5	12.5	82	2	16	62	80	35	36
Nigeria	221	1,620	3.6	1.6	54	15	31	78	72	33	49
Norway	382	83,735	2.0	0.5	8	72	20	100	100	100	100
Oman	1	385	1.2	120.0	94	2	5	81	81	72	72
Pakistan	52	350	155.6	299.2	97	2	2	95	95	78	87
Panama	147	49,262	1.6	1.1	70	2	28	99	99	..	79
Papua New Guinea	801	145,587	0.1	0.0	49	22	29	88	88	32	32
Paraguay	94	16,658	0.4	0.4	78	7	15	80	100	46	62
Peru	1,616	59,526	19.0	1.2	86	7	7	88	87	42	66
Philippines	479	5,877	55.4	11.6	88	4	8	93	90	82	77
Poland	54	1,414	12.3	22.8	11	76	13	100	100	..	..
Portugal	38	3,638	7.3	19.2	48	37	15	..	..	..	..
Puerto Rico	..	..	..	..	..	..	..	..	..	..	..



	Renewable internal freshwater resources ^a		Annual freshwater withdrawals ^b					Access to improved water source			
	Flows billion cu. m 2003	per capita cu. m 2003	billion cu. m 1987–2003	% of internal resources 1987–2003	% for agriculture 1987–2003	% for industry 1987–2003	% for domestic 1987–2003	% of urban population		% of rural population	
								1990	2002	1990	2002
Romania	42	1,932	26.0	61.9	59	33	8	..	91	..	16
Russian Federation	4,313	30,071	77.1	1.8	20	62	19	97	99	86	88
Rwanda	5	596	0.8	16.0	94	2	5	88	92	57	69
Saudi Arabia	2	89	17.0	850.0	90	1	9	97	97	63	..
Senegal	26	2,539	1.4	5.4	92	3	5	90	90	50	54
Serbia and Montenegro	44	5,429	13.0	29.5	8	86	6	99	99	86	86
Sierra Leone	160	29,982	0.4	0.3	89	4	7	..	75	..	46
Singapore	..	..	..	..	4	51	45	100	100	..	..
Slovak Republic	13	2,412	1.8	13.8	..	..	..	100	100	100	100
Slovenia	19	9,524	1.3	6.8	1	80	20	..	..	..	..
Somalia	6	623	0.8	13.3	97	0	3	..	32	..	27
South Africa	45	982	13.3	29.6	72	11	17	99	98	67	73
Spain	111	2,701	35.2	31.7	68	19	13	..	..	..	..
Sri Lanka	50	2,600	9.8	19.6	96	2	2	91	99	62	72
Sudan	30	894	17.8	59.3	94	1	4	85	78	57	64
Swaziland	..	..	..	..	..	..	..	..	87	..	42
Sweden	171	19,093	2.9	1.7	9	55	36	100	100	100	100
Switzerland	40	5,442	1.2	3.0	4	73	23	100	100	100	100
Syrian Arab Republic	7	403	12.0	171.4	90	2	8	94	94	64	64
Tajikistan	66	10,468	11.9	18.0	92	4	3	..	93	..	47
Tanzania	82	2,285	1.2	1.5	89	2	9	79	92	27	62
Thailand	210	3,386	33.1	15.8	91	4	5	87	95	78	80
Togo	12	2,468	0.1	0.8	25	13	62	81	80	37	36
Trinidad and Tobago	4	3,047	0.3	7.5	6	26	68	93	92	89	88
Tunisia	4	404	2.8	70.0	86	1	13	93	94	57	60
Turkey	227	3,210	35.5	15.6	73	12	16	92	96	65	87
Turkmenistan	1	206	23.8	2,380.0	98	1	1	..	93	..	54
Uganda	39	1,543	0.2	0.5	60	8	32	79	87	40	52
Ukraine	53	1,096	26.0	49.1	30	52	18	100	100	..	94
United Arab Emirates	0	49	2.1	1,050.0	67	9	24	..	..	..	..
United Kingdom	145	2,444	11.8	8.1	3	77	20	100	100	..	..
United States	2,800	9,628	467.3	16.7	42	45	13	100	100	100	100
Uruguay	59	17,455	0.7	1.2	91	3	6	98	98	..	93
Uzbekistan	16	625	58.1	363.1	94	2	4	97	97	84	84
Venezuela, RB	722	28,122	4.1	0.6	46	10	44	..	85	..	70
Vietnam	367	4,513	54.3	14.8	87	10	4	93	93	67	67
West Bank and Gaza	..	..	..	..	..	..	..	..	..	..	..
Yemen, Rep.	4	209	2.9	72.5	92	1	7	74	74	68	68
Zambia	80	7,690	1.7	2.1	77	7	16	86	90	27	36
Zimbabwe	14	1,069	1.2	8.6	79	7	14	99	100	69	74
World	42,883 s	6,895 w	3,325 s	8 w	71 w	20 w	10 w	95 w	94 w	62	72 w
Low income	8,278	3,583	947	11	92	3	5	86	89	56	70
Middle income	25,797	8,657	1,524	6	74	17	9	96	94	64	71
Lower middle income	22,242	8,397	1,323	6	74	18	8	97	94	63	71
Upper middle income	3,555	10,741	201	6	71	14	15	95	96	..	..
Low & middle income	34,075	6,441	2,471	7	81	12	7	93	93	60	70
East Asia & Pacific	9,455	5,103	776	8	81	14	5	97	92	61	69
Europe & Central Asia	5,255	11,128	387	7	57	33	10	97	98	..	80
Latin America & Carib.	13,428	25,245	263	2	74	9	18	93	96	58	69
Middle East & N. Africa	234	761	238	102	88	5	7	96	96	78	78
South Asia	1,816	1,275	735	40	94	3	4	89	93	63	80
Sub-Saharan Africa	3,887	5,546	73	2	85	6	10	81	82	37	46
High income	8,808	9,479	854	10	42	42	16	100	100	..	98
Europe EMU	910	2,970	185	21	38	47	15	100	100	..	..

a. River flows from other countries are not included because of data unreliability. b. Data are for most recent year available for 1987–2003 (see Primary data documentation).

About the data

The data on freshwater resources are based on estimates of runoff into rivers and recharge of groundwater. These estimates are based on different sources and refer to different years, so cross-country comparisons should be made with caution. Because the data are collected intermittently, they may hide significant variations in total renewable water resources from one year to the next. The data also fail to distinguish between seasonal and geographic variations in water availability within countries. Data for small countries and countries in arid and semiarid zones are less reliable than those for larger countries and countries with greater rainfall.

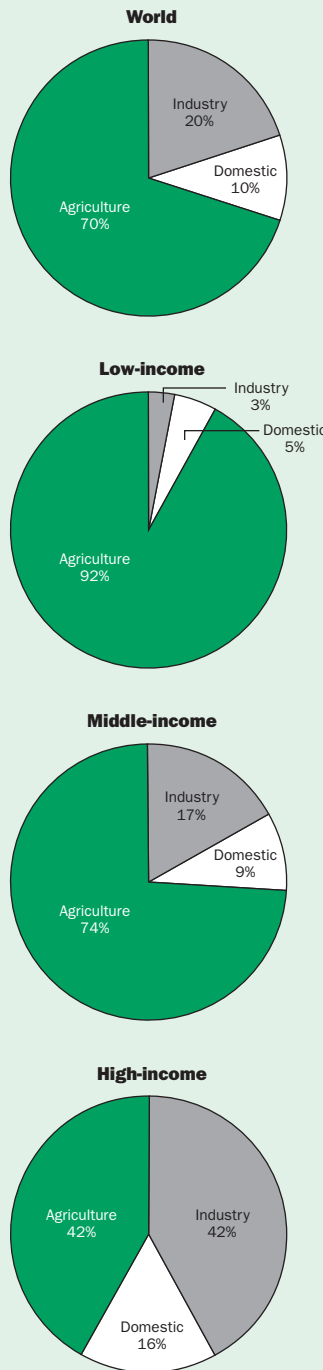
Caution is also needed in comparing data on annual freshwater withdrawals, which are subject to variations in collection and estimation methods. In addition, inflows and outflows are estimated at different times and at different levels of quality and precision, requiring caution in interpreting the data, particularly for water-short countries, notably in the Middle East.

The data on access to an improved water source measure the share of the population with reasonable and ready access to an adequate amount of safe water for domestic purposes. An improved source can be any form of collection or piping used to make water regularly available. While information on access to an improved water source is widely used, it is extremely subjective, and such terms as safe, improved, adequate, and reasonable may have very different meanings in different countries despite official World Health Organization (WHO) definitions (see Definitions). Even in high-income countries treated water may not always be safe to drink. While access to an improved water source is equated with connection to a public supply system, this does not take into account variations in the quality and cost (broadly defined) of the service once connected. Changes over time within countries may reflect changes in definitions or measurements. Thus cross-country comparisons must be made cautiously. The definition in this table and in table 2.15 differs from that used for the city-level data shown in table 3.11, which is more stringent.

3.5a

Agriculture uses more than 71 percent of freshwater globally

Share of annual freshwater withdrawals, most recent year available



Source: Table 3.5.

Definitions

- Renewable internal freshwater resources refer to internal renewable resources (internal river flows and groundwater from rainfall) in the country.
- Internal freshwater resources per capita are calculated using the World Bank's population estimates (see table 2.1).
- Annual freshwater withdrawals refer to total water withdrawals, not counting evaporation losses from storage basins. Withdrawals also include water from desalination plants in countries where they are a significant source. Withdrawals can exceed 100 percent of total renewable resources where extraction from nonrenewable aquifers or desalination plants is considerable or where there is significant water reuse. Withdrawals for agriculture and industry are total withdrawals for irrigation and livestock production and for direct industrial use (including withdrawals for cooling thermoelectric plants). Withdrawals for domestic uses include drinking water, municipal use or supply, and use for public services, commercial establishments, and homes.
- Access to an improved water source refers to the percentage of the population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, or rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 20 liters a person a day from a source within 1 kilometer of the dwelling.

Data sources

The data on freshwater resources and withdrawals are compiled by the World Resources Institute from various sources and published in World Resources 2002–03 (produced in collaboration with the United Nations Environment Programme, United Nations Development Programme, and World Bank). These are supplemented by the Food and Agriculture Organization's AQUASTAT data. The data on access to an improved water source come from the WHO.