

# Access to Safe Drinking Water by Country, 1970–2008

## Description

Safe drinking water is one of the most basic human requirements. One of the Millennium Development Goals (MDGs) by 2015 is to reduce by half the proportion of people unable to reach or afford safe drinking water. As a result, estimates of access to safe drinking water are a cornerstone of most international assessments of progress, or lack thereof, toward solving global and regional water problems.

Data are given here for the percent of urban, rural, and total populations, by country, with access to safe drinking water for 1970, 1975, 1980, 1985, 1990, 1994, 2000, 2002, 2004, 2005, and 2008, the most recent year for which data are available. The World Health Organization (WHO) collected the data presented here over various periods. Most of the data presented were drawn from responses by national governments to WHO questionnaires. Participants in data collection include the Joint Monitoring Programme (JMP) of WHO, the United Nations Children's Fund, and the Water Supply and Sanitation Collaborative Council, which has continued sector monitoring and aims to support and strengthen the monitoring efforts of individual countries. The 40 largest countries in the developing world account for 90 percent of population in these regions. As a result, WHO spent extra effort to collect comprehensive data for these countries.

Data for 2000 and later reflect a significant change in definition. Data are now reported for populations without access to “improved” water supply. According to WHO, the following technologies were included in the assessment as representing “improved” water supply:

- Household connection
- Public standpipe
- Borehole
- Protected dug well
- Protected spring
- Rainwater collection

In comparison, “unimproved” drinking water sources refers to

- Unprotected well
- Unprotected spring

Rivers or ponds  
Vendor-provided water  
Bottled water  
Tanker truck water

## Limitations

A review of water and sanitation coverage data from the 1980s and 1990s shows that the definition of safe, or improved, water supply and sanitation facilities differs from one country to another and for a given country over time. Indeed, some of the data from individual countries often showed rapid and implausible changes in the level of coverage from one assessment to the next. This indicates that some of the data are also unreliable, irrespective of the definition used. Countries used their own definitions of “rural” and “urban.”

For the 1996 data, two-thirds of the countries reporting indicated how they defined “access.” At the time, the definition most commonly centered on walking distance or time from household to water source, such as a public standpipe, which varied from 50 to 2,000 meters and 5 to 30 minutes. Definitions sometimes included considerations of quantity, with the acceptable limit ranging from 15 to 50 liters per capita per day. The WHO considers safe drinking water to be treated surface water or untreated water from protected springs, boreholes, and wells.

WHO assessments since 2000 have attempted to shift from gathering information from water providers to only including consumer-based information. The current approach uses household surveys in an effort to assess the actual use of facilities. “Reasonable access” was broadly defined as the availability of at least 20 liters per person per day from a source within one kilometer of the user’s dwelling. A drawback of this approach is that household surveys are not conducted regularly in many countries. Thus, direct comparisons between countries, and across time within the same country, are difficult. Direct comparisons are additionally complicated by the fact that these data hide disparities between regions and socioeconomic classes.

Access to water, as reported by WHO, does not imply that the level of service or quality of water is “adequate” or “safe.” The assessment questionnaire did not include any methodology for discounting coverage figures to allow for intermittence of supply or poor quality of the water supplies. However, the instructions stated that piped systems should not be considered “functioning” unless they were operating at over 50 percent capacity on a daily basis; and that hand pumps should not be considered functioning unless they were operating for at least 70 percent of the time with a lag between breakdown and repair not exceeding two weeks. These aspects were taken into consideration when estimating coverage for countries for which national surveys had not been conducted. More details of the methods used, and their limitations, can be found at [http://www.who.int/docstore/water\\_sanitation\\_health/Globassessment/GlobalTOC.htm](http://www.who.int/docstore/water_sanitation_health/Globassessment/GlobalTOC.htm).

## SOURCES

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**DATA TABLE 3** Access to Safe Drinking Water by Country, 1970–2008

Region and Country	Fraction of Population with Access to Improved Drinking Water																								
	URBAN												RURAL												TOTAL
	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008			
AFRICA	66	68	69	77																					
Algeria	84	100		85				88	92	88	85			61	55		94	80	80	81	79				
Angola			85	87	73			69	34	70	54	60			10	15	20	15	40	40	39	38			
Benin	83	100	26	80	73	41	74	79	78	82	84	20	20	15	34	43	53	55	60	57	65	69			
Botswana	71	95		84	100		100	100	100	99	99	26	39	46	88			90	90	90	90	29			
Burkina Faso	35	50	27	43			84	82	94	91	95	10	23	31	69	70		44	54	65	72	12			
Burundi	77		90	98	92		92	96	90	92	85	83		20	21	43	49	78	77	71	71				
Cameroon	77			43	42		82	84	86	90	92	21		24	50			42	41	44	48	51			
Cape Verde		100	83				70	64	86	86	85			21	50		34	89	73	73	82	82			
Central African Republic			13	19	18	80	93	93	89	92					26	18	43	61	61	50	51				
Chad	47	43					48	31	40	41	66	67	24	23			17	26	32	43	43	44			
Comoros							98	90	92	91	91							95	96	82	96	97			
Congo	63	81	42				71	72	84	95	95	6	9	7			17	17	27	34	34	27			
Congo, Democratic Rep.	33	38		52	68		37	89	83	82	82	80	4	12	21	24	23	26	29	29	28	28			
Cote D'Ivoire	98			57	59	90	98	97	92	93	93	29				80	81	65	74	74	67	68			
Djibouti			50	50			77	100	82	76	95	98		20	20		100	100	67	59	55	52			
Egypt	94		88				95	82	96	100	99	100	93	64		86	50	94	97	97	96	98			
Equatorial Guinea			47				65	88	45	45	45				18	100	42	42	42	42	42				
Eritrea							63	72	74	74	74						42	54	57	57	57				
Ethiopia	61	58		69			77	81	81	95	98			1	9		13	11	11	24	26	6			
Gabon							73	95	95	95	95						55	47	47	47	43	41			

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DATA TABLE 3 continued

Region and Country	Fraction of Population with Access to Improved Drinking Water																																
	URBAN													RURAL													TOTAL						
	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008
Gambia	97	85	97	100		80	95	95	94	96	3				50	48	53	77	77	83	86	12				59	60	76	62	82	82	89	92
Ghana	86	86	72	93	63	70	87	93	88	89	90		14	33	39		49	49	68	64	68	74	35	35	45	56	21	56	64	79	75	78	82
Guinea	68	69	69	41	100	61	72	78	78	89	89			2	12	37	62	36	38	35	57	61		14	15	18	53	62	48	51	50	68	71
Guinea-Bissau		18	17			38	29	79	79	82	83			8	22		57	55	49	49	48	51			10	21	53	49	59	59	58	60	
Kenya	100	100	85			67	87	89	83	85	83	2	4	15		49	31	46	46	48	52	15	17	26		53	49	62	61	56	59		
Lesotho	100	65	37	65		14	98	88	92	96	97	1	14	11	30	64	88	74	76	79	81	3	17	15	36	52	91	76	79	83	85		
Liberia	100		100			58		72	72	80	79	6			23	8	52	52	48	51	15				53	30	62	61	67	68			
Libya	100	100	100			72	72					42	82	90		68	68					58	87	96			72	72					
Madagascar	67	76	80	81		83	85	75	77	71	71	1	14	7	17	10	31	34	35	27	29	11	25	21	31	29	47	45	50	40	41		
Malawi		77	97			52	95	96	98	94	95			37	50	44	44	62	68	70	77			41	56	45	57	67	73	74	80		
Mali	29	37	46	41		36	74	76	78	77	81				10	4	38	61	35	36	40	44			16	13	37	65	48	50	51	56	
Mauritania	98	80	73			84	34	63	59	49	52	10	85			69	40	45	44	43	47	17		84		76	37	56	53	45	49		
Mauritius	100	100	100	100	100	95	100	100	100	100	100	29	22	98	100	100	100	100	100	100		61	60	99	100	100	98	100	100	100	100	100	
Morocco	92	100	100	100	100	98	100	99	99	97	98	28			25	18	14	58	56	60	60	51			59	56	52	82	80	81	80	81	
Mozambique			38			17	86	76	72	76	77				9	40	43	24	26	29	29				15		32	60	42	43	45	47	
Namibia						90	87	100	98	98	99	99				37	42	67	72	81	82	88				52	57	77	80	87	88	92	
Niger	37	36	41	35	98	46	70	80	80	89	96	19	26	32	49	45	55	56	36	37	39	20	27	33	47	56	53	59	46	46	45	48	
Nigeria			100	100	63	81	72	67	76	75					20	22	26	39	49	31	40	42			38	49	39	57	60	48	57	58	
Reunion																																	
Rwanda	81	84	48	79	84	60	92	92	80	77	66	68	55	48	67	40	69	69	63	62	67	68	55	50	68	41	73	74	66	65			
Sao Tome and Principe								89	89	88	89				45		73	73	81	89					45		79	79	85	89			
Senegal	87	56	77	79	65	82	92	90	92	91	92			25	38	26	28	65	54	60	51	52		43	53	42	50	78	72	76	68	69	
Seychelles								100	100	94	100				95			75	75						95			87	88				
Sierra Leone	75		50	68	80	58	23	75	75	82	86	1		2	7	20	21	31	46	46	33	26	12	14	24	39	34	28	57	57	51	49	
Somalia	17	77	58					32	32	58	67	14	22		22		27	27	11	9	15	38			34		29	29	28	30			

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DATA TABLE 3 *continued*

Region and Country	Fraction of Population with Access to Improved Drinking Water																																	
	URBAN												RURAL												TOTAL									
	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008	
Martinique										100	100																							
Mexico	71	70	90	99	94	91	94	97	100	96	96	29	49	40	47		62	63	72	87	83	87	54	62	73	83	69	83	86	91	97	93	94	
Montserrat								100	100	100	100								100	100	100	100								100	100	100	100	
Netherlands Antilles																																		
Nicaragua	58	100	67	76		81	95	93	90	97	98	16	14	6	11		27	59	65	63	66	68	35	56	39	48		61	79	81	79	83	85	
Panama	100	100	100	100			88	99	99	97	97	41	54	62	64			86	79	79	83	83	69	77	81	82		83	87	91	90	93	93	
Puerto Rico																																		
Saint Kitts								99	99	100	100								99	99	99	100								99	100	100	100	
Saint Lucia								98	98	99	97								98	98	98	98								98	98	98	98	
Saint Vincent																					93													
Trinidad/Tobago	100	79	100	100	100			92	92	97	98	95	100	93	95	88		88	88	93	93	96	93	97	98	96		86	91	91	93	94		
Turks/Caicos Islands				87				100	100	97	98				68			100	100	100	98					77				100	100	98	98	
United States of America							100	100	100	100	100						100	100	100	94	94							100	100	100	99	99		
United States Virgin Islands											100											100											100	
SOUTH AMERICA																																		
Argentina	69	76	61	63			85	97	98	98	98	12	26	17	17			30		80	80	80	56	66	54	56			79		96	96	97	
Bolivia	92	81	69	75	76	78	93	95	95	95	96	2	6	10	13	30	22	55	68	68	63	67	33	34	36	43	53	55	79	85	85	84	86	
Brazil	78	87	83	85	95	85	95	96	96	98	99	28		51	56	61	31	54	58	57	81	84	55		72	77	87	72	87	89	90	95	97	
Chile	67	78	100	98		94	99	100	100	99	99	13	28	17	29		37	66	59	58	75	75	56	70	84	87		85	94	95	95	96	96	
Colombia	88	86	93	100	87	88	98	99	99	99	99	28	33	73	76	82	48	73	71	71	73	73	63	64	86		86	76	91	92	93	92	92	
Ecuador	76	67	79	81	63	82	81	92	97	96	97	7	8	20	31	44	55	51	77	89	86	88	34	36	50	57	55	70	71	86	94	92	94	
French Guiana							88	88	88									71	71	71									84	84	84			
Guyana	100	100	100	100	100	90	98	83	83	96	98	63	75	60	65	71	45	91	83	83	90	93	75	84	72	76	81	61	94	83	83	92	94	
Paraguay	22	25	39	53	61		95	100	99	98	99	5	5	9	8	9		58	62	68	93	66	11	13	21	28	34		79	83	86	83	86	

Peru	58	72	68	73	68	74	87	87	89	90	90	8	15	18	17	24	24	51	66	65	58	61	35	47	50	55	55	60	77	81	83	81	82
Suriname			100	71			94	98	98	97	97			79	94			96	73	73	78	81			88	83			95	92	92	92	93
Uruguay	100	100	96	95	100		98	98	100	100	100	59	87	2	27			93	93	100	95	100	92	98	81	85	89		98	98	100	100	100
Venezuela	92		93	93		80	88	85	85	94		38		53	65	36	75	58	70	70	75		75		86	89		79	84	83	83	93	
ASIA																																	
Afghanistan	18	40	28	38	40	39	19	19	63	66	78	1	5	8	17	19	5	11	11	31	33	39	3	9	8	17	23	12	13	13	39	41	48
Armenia								99	99	99	98								80	80	89	93							92	92	95	96	
Azerbaijan								95	95	88	88								59	59	66	71							77	77	77	80	
Bahrain	100	100		100	100			100	100	100	100	94	100		100	0							99	100		100							
Bangladesh	13	22	26	24	39	100	99	82	82	85	85	47	61	40	49	89	97	97	72	72	78	78	45	56	39	46	81	97	97	75	74	80	80
Bhutan			50		60	75	86	86	86	99	99			5	19	30	54	60	60	60	88	88			7		32	64	62	62	62	91	92
Brunei Darus			100											95																			
Cambodia							53	58	64	75	81							25	29	35	51	56						30	34	41	56	61	
China					87	93	94	92	93	98	98				68	89	66	68	67	78	82				73	90	75	77	77	86	89		
Cyprus	100	94		100	100		100	100	100	100	100							100	100	100	100	100						100	100	100	100	100	
East Timor								73	77	80	86								51	56	57	63							52	58	63	69	
Gaza Strip									94	91	91									88	91	91								92	91	91	
Georgia							90	96	99	100									61	67	92	96							76	82	96	98	
Hong Kong			100		100									95		96										100							
India	60	80	77	76	86	85	92	96	95	95	96	6	18	31	50	69	79	86	82	83	81	84	17	31	42	56	73	81	88	86	86	85	88
Indonesia	10	41	35	43	35	78	91	89	87	90	89	1	4	19	36	33	54	65	69	69	70	71	3	11	23	38	34	62	76	78	77	80	80
Iran	68	76	82		100	89	99	98	99	98	98	11	30	50		75	77	89	83	84			35	51	66		89	83	95	93	94		
Iraq	83	100		100	93		96	97	97	93	91	7	11	54	54	41		48	50	50	53	55	51	66		86	78	44	85	81	81	80	79
Israel								100	100	100	100							100	100	100	100	100						100	100	100	100	100	
Japan								100	100	100	100								100	100	100	100							100	100	100	100	
Jordan	98		100	100	100		100	91	99	98	98	59		65	88	97		84	91	91	91	91	77		86	96	99	89	96	91	97	96	96
Kazakhstan							98	96	97	99	99								82	72	73	91	90					91	86	86	96	95	
Korea							100	100	100	100	100							100	100	100	100	100						100	100	100	100	100	
Democratic People's Republic																																	
Korea Republic	84	95	86	90	100		97	97	97	99	100	38	33	61	48	76		71	71	71	83	88	58	66	75	75	93		92	92	92	96	98
Kuwait	60	100	86	97						99	99			100						100	100		51	89	87						99	99	
Kyrgyzstan							98	98	98	99	99							66	66	66	80	85						77	76	77	87	90	

*Data Section*

*continues*



DATA TABLE 3 continued

Region and Country	Fraction of Population with Access to Improved Drinking Water																																	
	URBAN														RURAL														TOTAL					
	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008	1970	1975	1980	1985	1990	1994	2000	2002	2004	2005	2008	
Laos	97	100	28		47	40	59	66	79	74	72	39	32	20		25	39	100	38	43	47	51	48	41	21	29	39	90	43	51	54	57		
Lebanon						100	100	100	100	100	100						100	100	100	100	100	100							100	100	100	100	100	
Macau																																		
Malaysia	100	100	90	96	96			96	100	100	100	1	6	49	76	66	94	94	96	99	99	99	29	34	63	84	79			95	99	100	100	
Maldives			11	58	77	98	100	99	98	99	99			3	12	68	86	100	78	76	86	86			2	21	89	100	84	83	90	91		
Mongolia					100		77	87	87	94	97					58	30	30	30	30	45	49					82		60	62	62	73	76	
Myanmar (Burma)	35	31	38	36	79	36	88	95	80	75	75	13	14	15	24	72	39	60	74	77	69	69	18	17	21	27	74	38	68	80	78	71	71	
Nepal	53	85	83	70	66	66	85	93	96	93	93		5	7	25	34	41	80	82	89	85	87	2	8	11	28	38	44	81	84	90	86	88	
Oman	100			90			41	81		90	92		48		49		30	72		76	77			52	53		63	39	79		86	88		
Pakistan	77	75	72	83	82	77	96	95	96	95	95	4	5	20	27	42	52	84	87	89	86	87	21	25	35	44	55	60	88	90	91	89	90	
Philippines	67	82	49	49	93	93	92	90	87	93	93	20	31	43	54	72	77	80	77	82	85	87	36	50	45	52	81	85	87	85	85	90	91	
Qatar	100	100	76	100				100	100	100	100	75	83	43					100	100	100	99	95	97	71				100	100	100	100	100	
Saudi Arabia	100	97	92	100			100	97	97	97	97	37	56	87	88		64						49	64	90	94			95					
Singapore					100	100	100	100	100	100	100														100	100	100			100	100	100	100	
Sri Lanka	46	36	65	82	80	43	91	99	98	97	98	14	13	18	29	55	47	80	72	74	84	88	21	19	28	40	60	46	83	78	79	86	90	
Syria	98		98			92	94	94	98	95	94	50		54			78	64	64	87	82	84	71		74			85	80	79	93	89	89	
Tajikistan								93	92	93	94								47	48	57	61								58	59	67	70	
Thailand	60	69	65	56			89	95	98	99	99	10	16	63	66	85		77	80	100	97	98	17	25	63	64			80	85	99	98	98	
Turkey			95				82	96	98	99	100			62				84	87	93	92	96			76			83	93	96	97	99		
Turkmenistan								93	93	97	97								54	54	72									71	72	84		
United Arab Emirates			95						100	100	100							100	100	100	100	100						100	100	100	100	100	100	
Uzbekistan							96	97		98	98							78	84		82	81						85	89		88	87		
Vietnam				70	47	53	81	93	99	97	99			32	39	33	32	50	67	80	85	92				45	36	56	73	85	88	94		
Yemen A R	45		100	100			85	74	71	75	72	2		18	25			64	68	65	58	57	4			31	40		69	69	67	63	62	
Yemen Dem	88		85				85					43		25				64					57			52			69					

[illegible]

*continues*

