

7. Asia

This chapter presents water supply and sanitation coverage data for Asia. Urban and rural water supply and sanitation coverage figures are shown by country, area or territory for both 1990 and 2000. Maps of current coverage are also presented. Graphs illustrate regional changes in coverage over time, as well as coverage targets associated with projected changes in population.

7.1 Overview

Data representing 94% of the Asian population suggest that only 48% of the population has sanitation coverage, by far the lowest of any region of the world (Table 5.1). The situation is even worse in rural areas, where only 31% of the population has improved sanitation, compared with 78% coverage in urban areas. Total water coverage in Asia is also the second lowest, after Africa, at 81%. But again, water supply coverage is lower in rural areas (75%) compared with that in urban areas (93%).

Because of the population sizes of China and India, along with other large nations in the region, Asia accounts for the vast majority of people in the world without access to improved services. Eighty percent of the global population without access to improved sanitation, and almost two-thirds without access to improved water supply, live in Asia.

At present, approximately one-third of the Asian population is urban

and two-thirds live in rural areas. But this balance is predicted to shift over the coming decades. By the year 2015, the urban population is projected to be 45% of the region's total, and grow to just over one-half of the total Asian population by 2025. This population growth will place enormous strain on already over-burdened services, especially in urban centres. To meet the international development target of halving the proportion of people without access to improved services by 2015, an additional 1.5 billion people in Asia will need access to sanitation facilities, while an additional 980 million will need access to water supply.

7.2 Water supply and sanitation coverage

Table 7.1 provides water supply and sanitation data for 1990 and 2000, by country, area or territory. Composite coverage data are presented in Maps 7.1 and 7.2, and in Figures 7.1 and 7.2.

TABLE 7.1 ASIA: WATER SUPPLY AND SANITATION COVERAGE BY COUNTRY, AREA OR TERRITORY, 1990 AND 2000

	Year	Total population ¹ (thousands)	Urban population (thousands)	Rural population (thousands)	% urban water supply coverage	% rural water supply coverage	% total water supply coverage	% urban sanitation coverage	% rural sanitation coverage	% total sanitation coverage
Afghanistan	1990	14 755	2 692	12 063						
	2000	22 720	4 971	17 749	19	11	13	25	8	12
Armenia	1990	3 544	2 391	1 153						
	2000	3 519	2 462	1 057						
Azerbaijan	1990	7 159	3 897	3 262						
	2000	7 734	4 429	3 305						
Bahrain	1990	490	429	61						
	2000	617	569	48						
Bangladesh	1990	109 466	21 090	88 376	98	89	91	78	27	37
	2000	129 155	31 665	97 490	99	97	97	82	44	53
Bhutan	1990	1 696	87	1 609						
	2000	2 124	152	1 972	86	60	62	65	70	69
Brunei Darussalam	1990	257	169	88						
	2000	328	237	91						
Cambodia	1990	8 652	1 090	7 562						
	2000	11 168	1 778	9 390	53	25	30	58	10	18
China	1990	1 155 306	316 563	838 743	99	60	71	57	18	29
	2000	1 277 558	409 965	867 593	94	66	75	68	24	38
China, Hong Kong SAR	1990	5 704	5 701	3						
	2000	6 927	6 927	0						
China, Macao SAR	1990	372	367	5						
	2000	473	468	5						
Cyprus	1990	681	350	331	100	100	100	100	100	100
	2000	786	446	340	100	100	100	100	100	100
Democratic People's Republic of Korea	1990	20 461	11 946	8 515						
	2000	24 039	14 481	9 558	100	100	100	99	100	99
East Timor	1990	740	58	682						
	2000	884	66	818						
Gaza Strip	1990	643	601	42						
	2000	1 121	1 060	61						
Georgia	1990	5 460	3 060	2 400						
	2000	4 967	3 015	1 952						

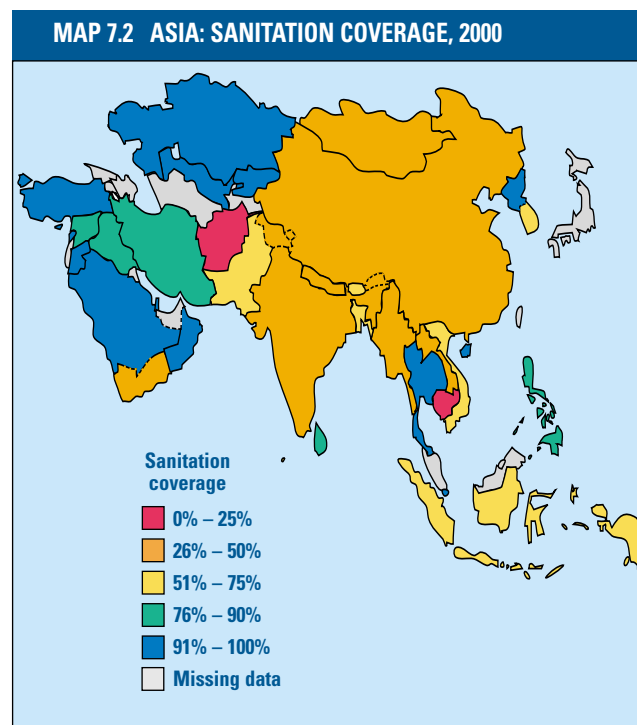
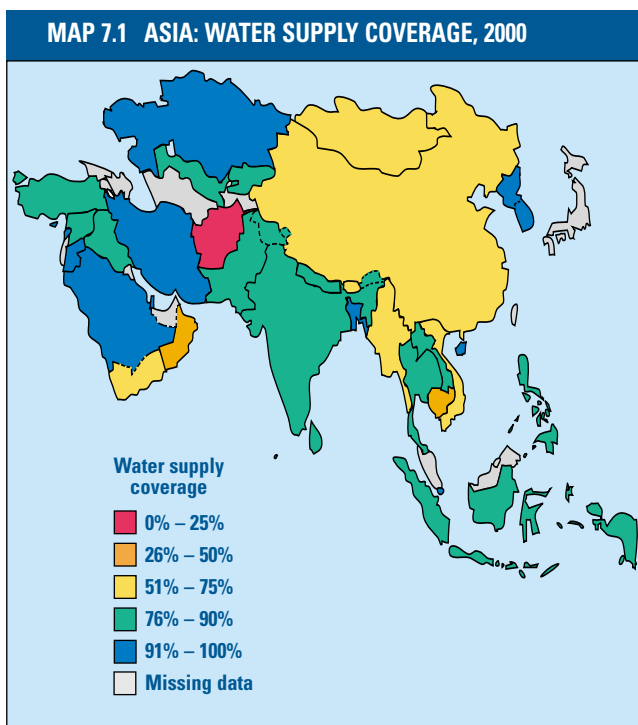
TABLE 7.1 ASIA: WATER SUPPLY AND SANITATION COVERAGE BY COUNTRY, AREA OR TERRITORY, 1990 AND 2000 (CONT.)

India	1990	850 785	217 254	633 531	92	73	78	58	8	21
	2000	1 013 662	288 283	725 379	92	86	88	73	14	31
Indonesia	1990	182 812	55 923	126 889	90	60	69	76	44	54
	2000	212 108	86 833	125 275	91	65	76	87	52	66
Iran (Islamic Republic of)	1990	56 309	31 720	24 589	95	75	86	86	74	81
	2000	67 702	41 709	25 993	99	89	95	86	74	81
Iraq	1990	18 078	12 987	5 091						
	2000	23 115	17 756	5 359	96	48	85	93	31	79
Israel	1990	4 660	4 206	454						
	2000	6 217	5 668	549						
Japan	1990	123 537	95 575	27 962						
	2000	126 714	99 788	26 926						
Jordan	1990	4 619	3 140	1 479	99	92	97	100	95	98
	2000	6 669	4 948	1 721	100	84	96	100	98	99
Kazakhstan	1990	16 742	9 546	7 196						
	2000	16 223	9 157	7 066	98	82	91	100	98	99
Kuwait	1990	2 143	2 054	89						
	2000	1 971	1 924	47						
Kyrgyzstan	1990	4 395	1 645	2 750						
	2000	4 699	1 563	3 136	98	66	77	100	100	100
Lao People's Democratic Republic	1990	4 152	750	3 402						
	2000	5 433	1 275	4 158	59	100	90	84	34	46
Lebanon	1990	2 555	2 151	404						
	2000	3 282	2 945	337	100	100	100	100	87	99
Malaysia	1990	17 845	8 891	8 954						
	2000	22 244	12 772	9 472		94			98	
Maldives	1990	216	56	160						
	2000	286	75	211	100	100	100	100	41	56
Mongolia	1990	2 217	1 285	932						
	2000	2 663	1 691	972	77	30	60	46	2	30
Myanmar	1990	40 520	9 984	30 536	88	56	64	65	38	45
	2000	45 611	12 628	32 983	88	60	68	65	39	46
Nepal	1990	18 772	1 680	17 092	96	63	66	68	16	21
	2000	23 931	2 844	21 087	85	80	81	75	20	27
Oman	1990	1 785	1 109	676	41	30	37	98	61	84
	2000	2 542	2 135	407	41	30	39	98	61	92
Pakistan	1990	119 155	37 987	81 168	96	79	84	78	13	34
	2000	156 483	57 968	98 515	96	84	88	94	42	61
Philippines	1990	60 687	29 612	31 075	94	81	87	85	64	74
	2000	75 967	44 530	31 437	92	80	87	92	71	83
Qatar	1990	485	436	49						
	2000	599	554	45						
Republic of Korea	1990	42 870	31 658	11 212						
	2000	46 844	38 354	8 490	97	71	92	76	4	63
Saudi Arabia	1990	16 045	12 600	3 445						
	2000	21 607	18 526	3 081	100	64	95	100	100	100
Singapore	1990	3 016	3 016	0	100		100	100		100
	2000	3 567	3 567	0	100		100	100		100
Sri Lanka	1990	17 046	3 625	13 421	90	59	66	93	79	82
	2000	18 827	4 435	14 392	91	80	83	91	80	83
Syrian Arab Republic	1990	12 386	6 218	6 168						
	2000	16 125	8 783	7 342	94	64	80	98	81	90
Tajikistan	1990	5 303	1 679	3 624						
	2000	6 188	1 704	4 484						
Thailand	1990	55 595	10 410	45 185	83	68	71	97	83	86
	2000	61 399	13 252	48 147	89	77	80	97	96	96
Turkey	1990	56 098	34 324	21 774	82	76	80	98	70	87
	2000	66 591	50 164	16 427	82	84	83	98	70	91
Turkmenistan	1990	3 668	1 652	2 016						
	2000	4 459	1 997	2 462						
United Arab Emirates	1990	1 921	1 554	367						
	2000	2 441	2 097	344						
Uzbekistan	1990	20 515	8 230	12 285						
	2000	24 318	8 968	15 350	96	78	85	100	100	100
Viet Nam	1990	66 689	13 157	53 532	81	40	48	86	70	73
	2000	79 832	15 749	64 083	81	50	56	86	70	73
Yemen	1990	11 590	2 648	8 942	85	60	66	80	27	39
	2000	18 112	4 476	13 636	85	64	69	87	31	45

¹Source: (10)

Maps 7.1 and 7.2, which are based on the data in Table 7.1, show that in nearly every country, area or territory, water supply coverage is higher than sanitation coverage in 2000. Kazakhstan, Kyrgyzstan, Oman, the Syrian Arab Republic, Thailand, Turkey and Uzbekistan appear to be exceptions. In general, the countries of western Asia have higher coverage levels than those to the east and south of the region. The Islamic Republic of Iran, Jordan, Lebanon and Saudi Arabia are among the countries with the highest service coverage levels. The Assessment 2000 also found

relatively high levels of service coverage in the central Asian countries of Kazakhstan, Kyrgyzstan and Uzbekistan. These countries are, however, in a process of transition and their experience of water supply and sanitation services may be more changeable than that of many other countries in the region. The coverage estimates for these three countries are based on data for the years 1995–1997 and it may be that they are not representative of the present status of services. The example of Tajikistan may be interesting in this context (see Box 7.1).



BOX 7.1 TAJIKISTAN: DECREASING WATER SUPPLY

Historically, the communities of Khatlon province in southern Tajikistan used the waters of the Vakhsh and Pyandj rivers originating in the Pamir glaciers, and most permanent settlements were located along these rivers. In Soviet times, arid terraces in the river valleys were irrigated to allow for agriculture. Towns and villages relied on a centralized piped supply of drinking-water from groundwater sources. Despite significant wastage of water, most of the population had access to safe water as defined by international standards.

By the mid-1980s, growing demand had outstripped groundwater capacity and it was discovered that the source had been contaminated by the Vakhsh chemical plant. Work started on a new water pipeline, but was left unfinished because of economic and political disruption.

In 1995, it was estimated that less than 10% of the rural population of Khatlon province had access to safe drinking-water and less than 5% to sewerage systems. For example, in Gozimalik district, just 5% of the population had access to safe water and only 2% to safe sanitation. In Jillikul district the situation was even worse, with 4% of the population having access to safe water and no one with access to safe sanitation.

The absence of clean water has had a devastating impact on hygiene, especially in rural schools and hospitals. Health education, although obligatory under the Soviet regime, has increasingly been neglected. The results are evident in deteriorating child health. The infant mortality rate, which increased in 1993–1994, remains one of the highest among former Soviet countries.

Source: (29)

Some of the countries with the largest populations in the region also have the lowest coverage levels, especially for sanitation; China and India are the principal examples. Afghanistan, Cambodia, Mongolia, Myanmar, Nepal and Yemen also have extremely low levels of sanitation coverage. There is evidently a need to accord priority to improving sanitation coverage. Box 7.2 gives an indication of the obstacles to be overcome in the case of Nepal, while Box 7.3 describes an example of social mobilization to construct latrines in Myanmar.

BOX 7.2 NEPAL: THE NEED TO PRIORITIZE SANITATION

The lack of access to sanitation in Nepal is striking. A total of 73% of the population is without access to sanitation, one of the highest proportions in Asia. By comparison, the average proportion of the population without access for all Asian countries is 52%. In Nepal, the economic loss associated with inadequate sanitation was estimated to be US\$ 153 million in 1996, equivalent to 4.1% of the GDP.

The reasons for the low priority accorded to sanitation by politicians and the general public may be related to perceptions and beliefs. A survey carried out in 1997 indicated that 67% of the people surveyed had not felt a need for sanitation. Another recent survey showed that 54% of the general public, and only 11% of local leaders, thought that the local development budget should be used to implement water and sanitation programmes.

A successful sanitation project in Kerabari, in the Morang district of Nepal, underlines the importance of involving the community and local politicians in planning and implementation. This can be done through appropriate sanitation campaigns, orientation, training, transfer of technology and the establishment of a revolving fund. The marketing of sanitation should draw on commercial techniques, based on product, price, place and promotion. Sanitation should be treated as a priority in its own right, and not simply as an add-on to more attractive water supply programmes.

Source: (30)

In only three Asian countries, Afghanistan, Cambodia and Oman, is the water supply coverage less than 50%. In contrast, the sanitation coverage is less than 50% in approximately one-third of Asian countries, and in Afghanistan and Cambodia both water supply and sanitation coverage is less than 50%.

BOX 7.3 MYANMAR: SOCIAL MOBILIZATION TO INCREASE LATRINE CONSTRUCTION

The goal of Myanmar's National Sanitation Week in 1995 was to motivate one million families (12% of households throughout the country) to construct their own sanitary latrines. This meant motivating about 15 families in each of Myanmar's 66 000 villages and wards – a manageable task. National television broadcast educational and advocacy messages, and newspapers printed articles promoting the National Sanitation Week.

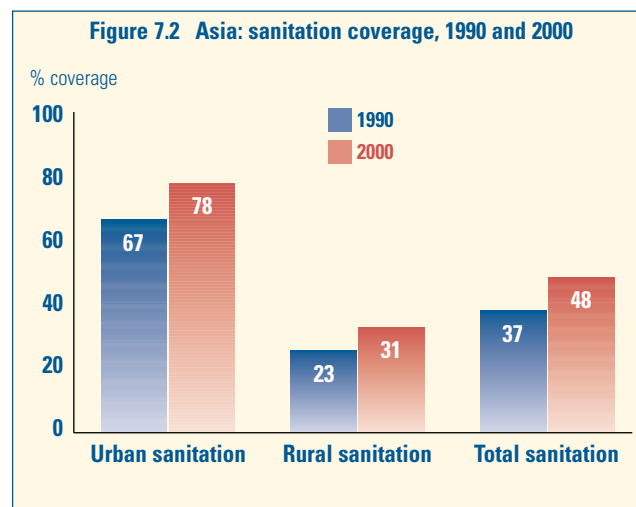
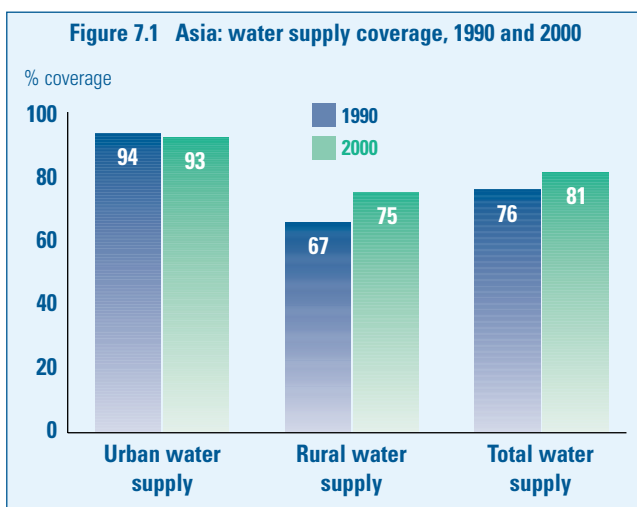
When township authorities and health staff were committed to achieving the national goal, the National Sanitation Week was successful. Social mobilization, with the active participation of health workers, nongovernmental organizations, teachers and household heads, created a sense of community ownership of the strategy. To reduce costs so as to bring sanitary latrines within the reach of all families, some village leaders organized the bulk purchase of bamboo. Many families contributed labour and locally available materials were widely used. Nearly 800 000 new sanitary latrines were constructed, representing additional sanitary facilities for almost 10% of the population.

The strategy was more successful than an earlier effort to promote community participation by providing families with free latrine pans, which proved too costly and had to be phased out. In 1999, National Sanitation Week for the second time promoted the goal of another one million latrines.

Source: (28)

7.3 Changes during the 1990s

During the 1990s coverage with both water supply and sanitation increased in Asia (Figures 7.1 and 7.2). It should be remembered that the figures for China and India strongly influence the total figures for Asia, and apart from urban water supply, each of the services has increased in these two countries. However, excluding India and China from the regional figures does not greatly change the picture: the increases in both rural and total water supply and sanitation coverage between 1990 and 2000 look very similar. The main difference when the data for China and India are excluded is that sanitation coverage for the remainder of the region becomes higher, higher in fact than that of Africa.



7.4 Trends and future needs

Figures 7.3–7.8 show the numbers of people with and without water supply and sanitation coverage in Asia, for 1990 and 2000. The projected population growth and target coverage for 2015 and 2025 are also shown. Over the 1990s, an enormous number of people in the region gained access to services (Figures 7.3 and 7.6). For example, although percentage coverage has actually dropped slightly for urban water supply, an additional 282 million people gained access (Figure 7.4). At the same time, 303 million people gained access to water supply in rural areas (Figure 7.5). The numbers of additional people who gained access to sanitation are almost as high: the Assessment 2000 findings suggest that

365 million urban dwellers and 216 million rural dwellers gained access to sanitation facilities over the same period (Figures 7.7 and 7.8).

It is predicted that population growth in the region will continue to increase. To achieve the target of halving the proportion of people without access to improved services by the year 2015, enormous effort will be required. For urban water supply, an additional 619 million people will need to gain access to services over the next 15 years (Figure 7.4). For rural water supply, the figure is 361 million people (Figure 7.5). Therefore, to meet the target for water supply, almost one billion additional people will require access in Asia alone. As an example of activities already under way, Box 7.4 describes an attempt to increase access to water supply in Viet Nam.

BOX 7.4 VIET NAM: INCREASING ACCESS TO WATER SUPPLY

Saltwater intrusion and increased agricultural activity have polluted surface water throughout the Mekong Delta. To find fresh water, more than 43 000 tubewells up to 400 metres deep were drilled to tap into fresh-water aquifers. Furthermore, surveys carried out in 1996 and 1997 indicated that thousands of wells in the area were only being used at about 5% of their capacity. The challenge was to find ways of increasing access to clean water by more effectively exploiting existing wells, rather than drilling new wells.

A project began in the commune of Luong Hoa. Extensive discussions with community members led to an agreement to construct and maintain a piping system to bring water directly to their homes. Virtually every

household agreed to contribute financial support. The funds collected for each cubic metre of water are enough to cover electricity and operational costs, as well as to maintain a contingency fund for the future repair or expansion of the system.

The project has expanded to cover new piping systems in 49 communes in the provinces of Vinh Long and Tien Giang, benefiting an estimated 22 000 people. The experience shows that relatively small amounts of capital can act as a catalyst in helping people to help themselves. Community support for small piping systems can be a low-cost method of increasing rural water supplies.

Source: (28)

To meet the 2015 target for sanitation, an additional 675 million people in urban areas and 857 million people in rural areas will need to gain access to facilities (Figures 7.7 and 7.8). In total, around 1.5 billion people in Asia will need to gain access to improved services. The incredibly

large number of people requiring access to rural sanitation in the region is a reflection of both the size of the rural population and the very low current level of coverage. Halving the population without service means meeting the needs of a huge number of people.

