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The International Drinking Water Supply and Sanitation Decade

Review of Decade Progress

(as at December 1988)

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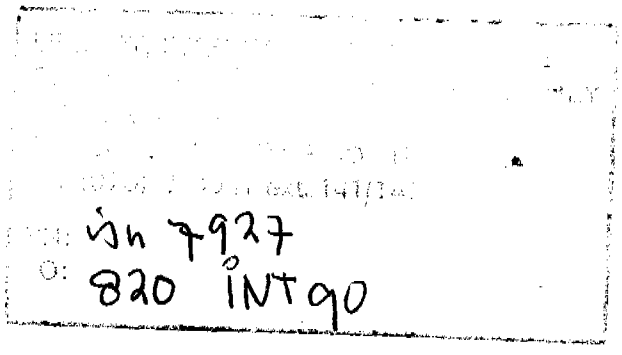
The International Drinking Water Supply and Sanitation Decade

1981-1990



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PREFACE

This document presents data on the status of water supply and sanitation services in developing countries in December 1988. Read alongside WHO Offset Publication No. 85, *International Drinking Water Supply and Sanitation Decade – Review of National Baseline Data (as at December 1980)*, it indicates progress achieved during the eight years since the start of the IDWSSD, and adjustments which have been made to Decade targets in those countries which have reported on both occasions. To facilitate comparison of conditions between 1988 and 1980, this document has been produced in the same format and with similar table numbering to that in Offset Publication No. 85.

As the baseline document pointed out, collection and collation of data on water supply and sanitation services pose many difficulties and often depend on value judgements. Few countries have a single agency controlling water supply and sanitation for urban and rural areas. More frequently, services are managed by a large number of regional, provincial and municipal authorities, which retain records largely for day-to-day operational purposes. Rarely has a water supply and sanitation information system been established at the national level, and consequently records collected are seldom complete or suitable for this type of global analysis.

Definitions also pose problems, since no universal criteria exist dealing with, for example *adequate and safe water supply* and *appropriate sanitation*, or for the categories *urban* and *rural*. In fact it might not be appropriate for standard definitions to be applied, as conditions and perceptions are largely country specific.

This document represents as full a picture as possible of the status of water supply and sanitation nationally, regionally and globally, as well as developments that have taken place during the eight-year period 1981-1988. It has been made possible by the efforts in collecting and collating information by the governments reporting to WHO. The report is the result of a combined effort of WHO staff at country, regional and central levels, with support in many cases from Resident Representatives of the United Nations Development Programme and representatives of United Nations specialized agencies at country level.

GLOBAL REVIEW

1. Socioeconomic and Health Situation

During the eight years since the start of the Decade, population trends have been much as anticipated, with an overall population increase in the world's developing countries of 18% – 32% in urban areas and 12% in rural areas.

By the end of the Decade, the overall population increase during the 10 years is estimated at 23%, 43% urban and 15% rural. This means a total increase during the course of the Decade of 750 million people, of which 53% are urban.

The impact of rapid urban population growth is most acute in the countries of Africa. In the period 1981–90, urban growth rate will have been 78% in Africa, 38% in the Americas, 53% in the Eastern Mediterranean, 49% in South-East Asia and 25% in the Western Pacific Region.

The proportion of countries reporting life expectancy of less than 50 years dropped from 23% to 19%. Waterborne diseases in over 1% of the population was noted by 57% of reporting countries which is higher than the proportion estimated in 1981. This last observation can only be interpreted as meaning that there has been no measurable health improvement during the eight years, largely perhaps due to the inadequacies of reporting.

The proportion of countries reporting infant mortality over 100 for 1000 live births was 31%, the same order of magnitude as reported in 1980 and 1985 (33% and 28% respectively).

Nevertheless, there appears to be continuing improvement in access to water supply and sanitation. The number of developing countries reporting more than half their population without access to safe and adequate water supply was 29%, compared with 45% at the start of the Decade, while 41% of countries reported more than half of their population without access to appropriate sanitation compared with 47% at the start of the Decade.

2. Targets and Planning

Progress in expanding water supply and sanitation services has continued since mid-Decade. Of countries reporting in 1988, 98% indicated that they had prepared formal Decade plans compared with 67% at the start of the Decade. So, by the end of the 1980s, almost all countries will have established national water supply and sanitation plans and the basis will exist for further developing and accelerating water supply and sanitation programmes in the 1990s.

Despite Decade experiences and the fact that only two years remain until its end, many countries are still clinging to 100% service coverage targets for urban service. In most cases, such targets are clearly unattainable. Plans for 100% coverage of rural water and sanitation remained similar to those at the start of the Decade: 20% of countries aiming for 100% coverage with water supplies, while 17% were still hoping to attain 100% with rural sanitation.

3. 1988 Service Levels

The most encouraging sign continues to be the relatively rapid expansion in the number of rural dwellers with access to safe and adequate water supplies. Raising the proportion of rural residents served from 32% in 1980 to 58% has required almost 515 million people to be served in three years. If China is included in the compilation, the current level of rural water supply service coverage is 61%. In urban areas the figures are less spectacular, with the proportion of population served only having risen by 10 percentage points from 73% at the start of the Decade to 83% at the end of 1988. To have attained such progress however in the face of rapid urbanization, a total of almost 300 million people had to be served.

By the end of 1988, an estimated 67% of the urban population of the world's developing countries excluding China are estimated to have access to an appropriate means of excreta disposal compared with 59% estimated at mid-Decade and 50% at the start of the Decade. Progress in expanding rural sanitation services has been less encouraging. The additional 84 million people served have raised coverage from 16% at the end of 1985 to 19% at the end of 1988. Table A.3 shows average levels for urban and rural water supply and sanitation in the WHO regions.

4. Closing the Gap

Tables A.4.1.1, A.4.1.2, A.4.2.1 and A.4.2.2, which exclude China[1], present levels of service coverage and targets for urban water supply and sanitation and for rural water supply and sanitation based on results from countries which reported both 1988 levels of service coverage and targets for 1990. These tables clearly indicate the tasks ahead if targets are to be met.

At the end of 1988, urban water supply coverage for these countries was 84% and the target aimed at for the end of the Decade is 91%. To achieve this goal, a total of 104 million additional people will have to be served. In global terms, this corresponds to providing services for 124 million.

Corresponding figures for urban sanitation place current levels of service coverage at 61% with a target of 69%. This requires 87 million people to be served in the reporting countries, which translates into 134 million globally.

After eight years of Decade efforts, only 16% of the rural population of the world's developing countries has access to an appropriate means of excreta disposal compared with 12% in 1980. It would seem improbable that the Decade target of 32% coverage will be reached. To do this, an additional 201 million people would have to be served in the reporting countries in two years compared with only 64 million served during the first eight years of the Decade.

Although rural water supply has witnessed notable progress since the start of the Decade with coverage having risen from 32% to 60%, a great deal remains to be done if the

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1 Note: China has been excluded from this comparison since no mid-Decade statistics for that country were available.

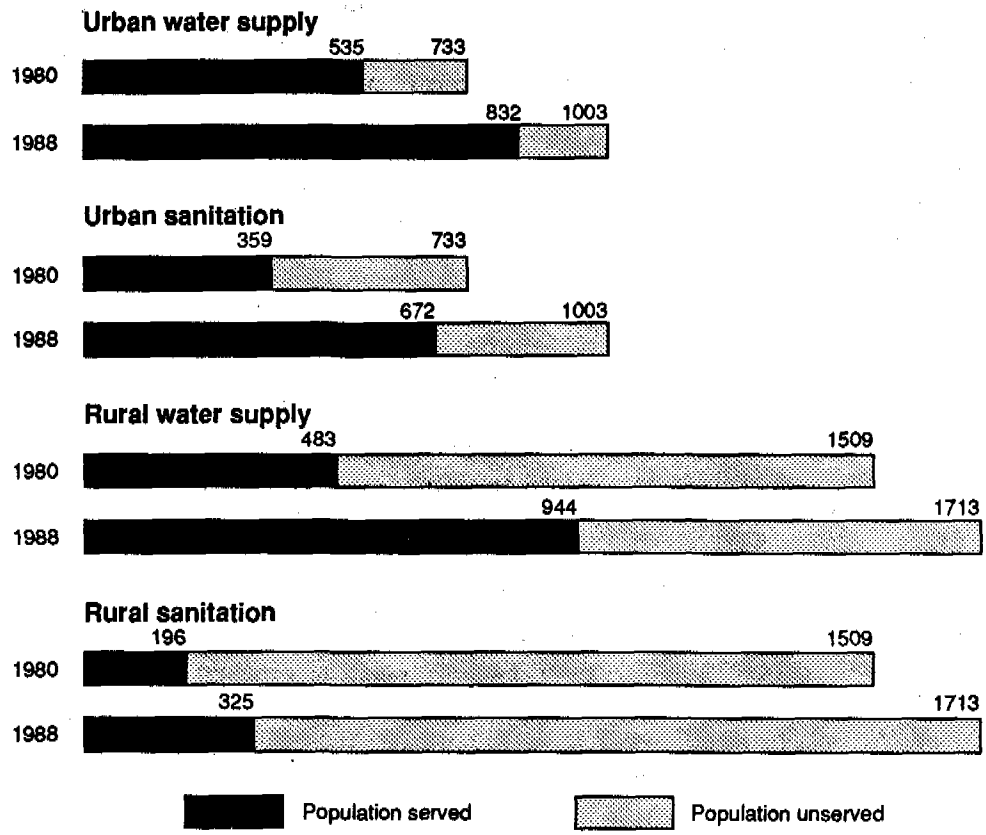
target of 73% coverage is to be reached. This will require 213 million to be served in the countries which provide information on targets, which corresponds to approximately 250 million in global terms. To extend services to 250 million people in two years would appear unlikely in the light of the fact that during the first eight years of the Decade services were only provided to about 500 million i.e. a need to serve 125 million per year compared with 55 million per year previously.

Targets in each subsector for the rest of the Decade show regional variations which are most pronounced for rural and urban sanitation. The Eastern Mediterranean Region has the highest ambitions for urban water with a target of 99% coverage, 4% more than the American Region and 6% more than the Western Pacific (table A.4.1.1). Rural water supply targets range from 82% in South-East Asia to 54% in Africa, while targets for rural sanitation vary from 63% in the Western Pacific to only 24% in South-East Asia (table 4.2.2).

Urban sanitation targets range from 92% in the Americas (2% higher than assessed at mid-Decade) to 49% in the Western Pacific. In this latter Region there would appear to have been a scaling down of targets since mid-Decade.

It is clear from figure 1 that there has been a closing of the gap between the levels of urban and rural water supply service coverage. Most progress in this direction has been

Figure 1: Levels of service coverage in developing countries 1980-1988 (populations in millions)



made in the South-East Asia Region, though the other regions have also made notable progress.

Progress has differed significantly from region to region and among the four subsectors; urban water supply, urban sanitation, rural water supply and rural sanitation.

Despite urban population growth of over 70% since the start of the Decade, countries of Africa have raised urban water supply coverage from 66 to 83%. To do this, an additional 55 million people had to be served. Similar progress was made by other regions, but in these cases a the urban population growth rate was not as severe.

With regard to urban sanitation, reporting has been less consistent and trends are more difficult to identify, particularly in Africa. The region with most noticeable progress has been the Eastern Mediterranean with coverage having risen from 57% to 82% in 8 years through the provision of services to 77 million people.

The most outstanding programme with regard to rural water supply has been in South-East Asia, where reported coverage has risen from a mere 31% at the start of the Decade to 68% at present, bringing services to 378 million people. A large part of this achievement is attributable to progress in India, the Region's most populous Member State.

Rural sanitation has seen the most disappointing progress in all regions since the start of the Decade. Progress in Africa has been particularly disappointing with service coverage rising by just one percentage point to 21%. Other regions report more progress, with the Eastern Mediterranean in the lead, having raised coverage by 13 percentage points.

In all cases, targets for service coverage by the end of 1990 have dropped, clearly due to governments reassessing the situation and modifying aspirations with a more realistic planning approach. The table below presents a comparison of targets calculated from 1980 and 1988 information.

Global targets for the year 2000, as reported in 1980 and 1988

Sub-sector	*1980*	*1988*
Urban water supply	93	91
Urban sanitation	76	69
Rural water supply	86	73
Rural sanitation	36	32

Even with these reduced targets, on the basis of current levels of service coverage and progress, success seems likely to be achieved only in the urban subsector.

5. Staff and Training

From table A.5 it can be seen that there are still wide differences among regions in levels of staffing for sector operations. The Western Pacific Region reports approximately 1240 personnel required to serve 1 million people, almost the same as the figure compiled at mid-Decade. At the other end of the scale, South-East Asia countries employed only around 110 staff to serve every million people.

Only two regions, Africa and the Western Pacific, provided information on projected personnel needs for 1990. These suggest no need to increase the work force in the case of the Western Pacific, but an increase of 60% required in Africa.

Financial Resources

Analyses of costs of providing water and sanitation services of various types in rural and urban settings linked to government sector plans up to 1990 (Table 6.1) suggest that about US$52.4 million of new investments will be required during 1989 and 1990.

Table 6.1 Estimated Capital Investment Cost of Attaining National Decade Targets by the End of 1990 (Costs in US$'000)

Region	*Urban water supply*	*Urban sanitation*	*Rural water supply*	*Rural sanitation*	*Total*
Africa	1689.56	5048.15	3418.77	3111.44	13267.92
America	6397.53	3046.80	643.50	539.26	10627.09
South-East Asia	2056.74	1883.55	2275.65	1145.43	7361.37
Eastern Mediterranean	3235.10	6019.80	4393.75	2586.00	16234.65
Western Pacific	2186.60	784.60	1762.40	139.80	4873.40
Totals	**15565.53**	**16782.90**	**12494.07**	**7521.93**	**52364.43**

In general, per capital unit costs have tended to rise in the African and Eastern Mediterranean Regions, remained steady in the Americas, varied little in South-East Asia and fluctuated among subsectors in the Western Pacific since the mid-Decade (end 1985).

The different regions have in the past relied to varying degrees on external sources of funding for sector development. The proportion of external funding presented for each region has been calculated from the latest, using weighted averages. Based on this distribution between external and internal funding, the amounts needed from external sources to attain Decade targets are:

	External requirements to 1990 US$ (Millions)
Africa	9312
America	3560
South-East Asia	2760
Eastern Mediterranean	3942
Western Pacific	2495
Total	**22069**

Of the amount from external funding, it is important to note that almost half is required for the African continent, despite the fact that this only contains 12% of the population of the world's developing countries.

7. Constraints

Funding limitation continues to be cited as the most serious Decade constraint globally (Table A.8), though Western Pacific countries consider it second in order of importance, behind inadequate cost recovery, a closely related problem. The next most serious constraint globally is poor operation and maintenance, closely followed by inadequate cost recovery and insufficiency of both professional and technical personnel.

The four least serious constraints from the list of 17 were inappropriate technology, lack of government policy for the sector, lack of planning and design criteria, and import restrictions.

Table 7.1: Comparison of Most Serious and Least Serious Constraints to Sector Programme Implementation

Order of seriousness of constraint	*1980*	*1988*
1	Funding limitations	Funding limitations
2	Lack of trained professional personnel	Inadequate operation and maintenance
3	Lack of trained sub-professional personnel	Inadequate cost recovery
4	Inadequate operation and maintenance	Lack of trained professional personnel
5	Poor logistic support	Lack of trained sub-professional personnel
13	Inappropriate technology	Import restrictions
14	Insufficient knowledge of water resources	Lack of planning and design criteria
15	Inadequate water resources	Lack of government policy
16	Lack of government policy	Inappropriate technology
17	Import restrictions	

8. Decade Approaches

Table A.9 presents information on the number of countries applying Decade approaches – i.e. focussing on the urban poor, community participation, health education, promotion of women and the integration of water supply and sanitation activities with primary health care programmes in rural areas.

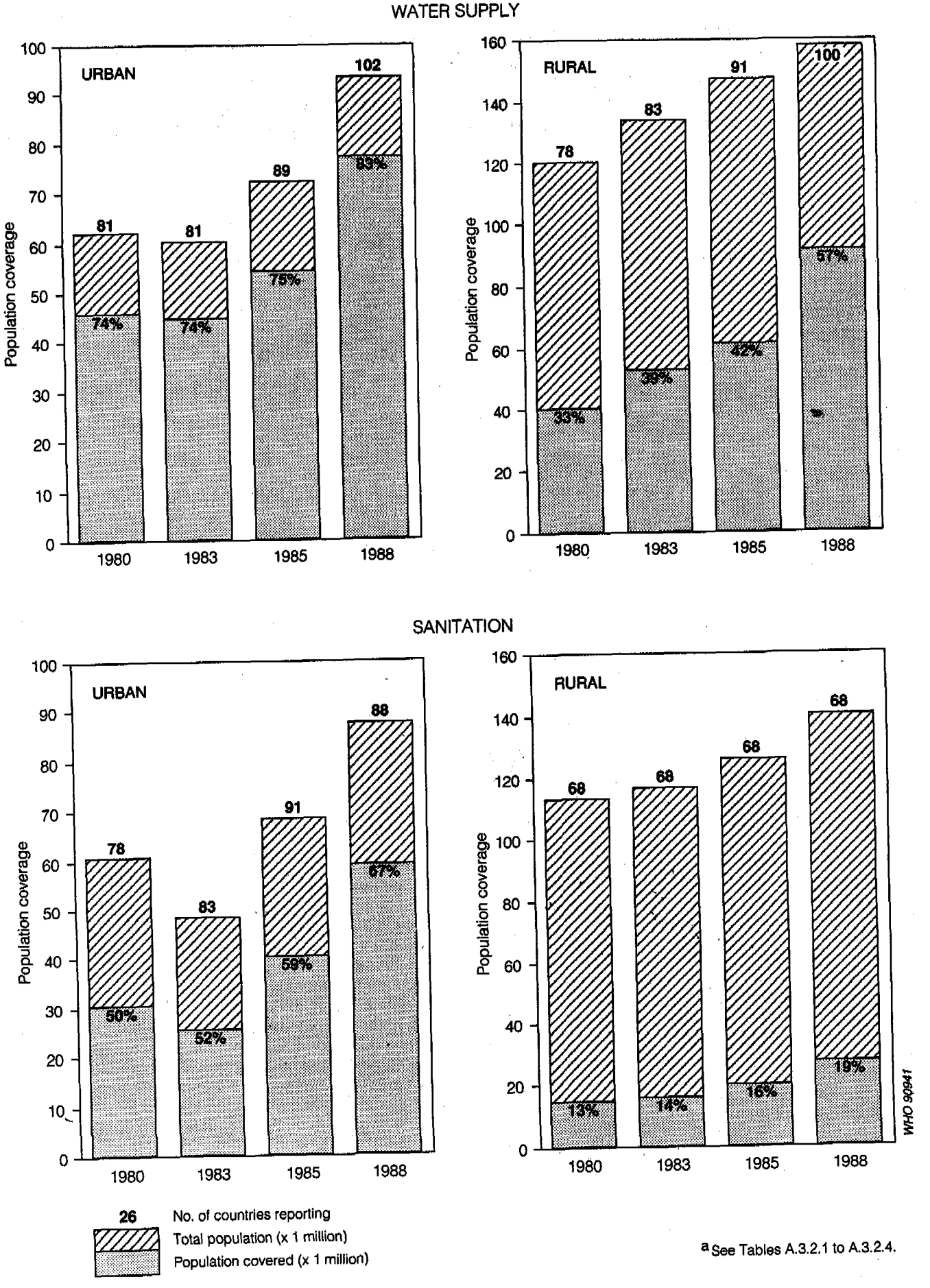
Seventeen per cent of reporting developing countries indicated programmes catering for the urban poor, while 42% reported health education as a component of primary school education. This is a higher proportion than reported in 1980 and 1985.

Fifty-three per cent of countries reported the use of community participation in the operation of rural water supply and sanitation systems. Also, between 1985 and 1988 there was a growth from 37% to 45% of countries reporting community participation in rural water and sanitation programme planning. Promotion of community participation in the planning phases of a project is one of the objectives of the Decade.

There has also been an increase in the proportion of countries reporting programmes with the specific aim of promoting women's participation – a rise from 43% at mid-Decade to 62%, while 60% of countries reported programmes in rural areas implemented as integral components of primary health care schemes.

Overall indications are that as the Decade has advanced, the emphasis of Decade approaches to sector planning and programme implementation have been reinforced.

Fig. A.1. Global
Population coverage in 1980, 1983, 1985 & 1988[a]



[a] See Tables A.3.2.1 to A.3.2.4.

TABLE A.1 - GLOBAL 1988
BASIC INDICATORS: DEMOGRAPHIC, ECONOMIC, HEALTH

Region	Number of countries/ territories reporting	Est. population increase 1985-1988			Number of LDCs	Number of countries with						
		Total (%)	Urban (%)	Rural (%)		Fresh water resources: Very limited	Fresh water resources: Not well known	Life expectancy under 50 years	Infant mortality over 100 per 1000 live births	Waterborne diseases in over 1% of the population	50% or more of population lacking safe water	50% or more of population lacking sanitation
Africa	34	10	19	6	22	5	11	15	20	7	16	23
Americas	24	6	8	0	1	5	3	0	2	5	4	2
South-East Asia	9	6	13	4	4	3	1	0	1	3	3	4
Eastern Mediterranean	17	10	14	7	3	9	3	3	3	3	2	5
Western Pacific	19	5	8	4	5	3	5	1	1	7	3	4
Total	103	6	11	4	35	25	23	19	27	25	28	38
%	88				83	24	22	19	31	57	29	41

TABLE A.2 - GLOBAL 1988
COVERAGE TARGETS AND DECADE PLANS

Region	No. of countries with total coverage targets(a)				No. of countries with low (50% or less) targets in rural areas		No. of countries that have prepared or are preparing formal decade plans
	Urban water supply	Urban sanitation	Rural water supply	Rural sanitation	Water	Sanitation	
Africa	12	3	5	3	9	9	30
Americas	6	5	0	1	8	6	20
South-East Asia	2	3	0	0	2	6	7
Eastern Mediterranean	13	8	4	2	3	6	15
Western Pacific	10	8	7	5	4	3	18
Total	43	27	16	11	26	30	90
%	57	47	20	17	33	46	98

(a) Countries reporting 95% coverage target or over.

TABLE A.3 - GLOBAL 1988
1988 LEVELS OF SERVICE (populations in thousands; with percentages shown in brackets)

Region	No. of countries reporting	Population			Population with drinking-water				Population with sanitation			
					Urban			Rural	Urban			Rural
		Total	Urban	Rural	Total	By H.C.[a]	By P.S.[b]		Total	By S.C.[c]	By other	
Africa	34	370 214	100 198 (27)	270 016 (73)	83 243 (83)	26 812 (42)	20 280 (32)	84 706 (31)	29 900 (54)	7 099 (13)	23 961 (41)	37 448 (21)
Americas	24	413 020	288 655 (70)	124 365 (30)	255 358 (88)	213 734 (74)	41 385 (14)	70 682 (57)	256 757 (90)	147 351 (51)	110 914 (39)	37 867 (31)
South-East Asia	9	1 238 636	339 876 (27)	898 760 (73)	240 615 (71)	6 169 (16)	10 179 (27)	609 925 (68)	137 124 (41)	2 825 (7)	13 322 (35)	88 443 (11)
Eastern Mediterranean	17	289 058	118 800 (41)	170 258 (59)	115 902 (98)	88 820 (75)	27 082 (23)	83 498 (49)	96 847 (82)	34 865 (38)	50 902 (56)	29 738 (20)
Western Pacific	19	1 303 586	318 699 (24)	984 887 (76)	277 773 (87)	51 721 (81)	8 877 (26)	637 451 (65)	300 994 (97)	20 545 (33)	44 566 (61)	905 973 (92)
Western Pacific (Excl. China)	18	199 165	85 507 (43)	113 658 (57)	74 896 (88)	51 721 (81)	8 877 (26)	62 440 (55)	67 802 (90)	20 545 (28)	44 566 (61)	78 305 (69)
Total	103	3 614 514	1 166 228 (33)	2 448 286 (67)	972 891 (83)	387 256 (68)	107 803 (20)	1 486 262 (61)	821 622 (74)	212 685 (40)	243 665 (45)	1 099 469 (48)
Total (Excl. China)	102	2 510 093	933 036 (37)	1 577 057 (63)	770 014 (83)	387 256 (68)	107 803 (20)	911 251 (58)	588 430 (67)	212 685 (40)	243 665 (45)	271 801 (19)

(a) H.C. = House connection. (b) P.S. = Public standpost. (c) S.C. = Sewer connection.

TABLE A.3.1 - GLOBAL 1988
TOTAL POPULATION INCLUDED IN REPLIES TO EACH SUB-SECTOR BY REGION AND GLOBALLY

	Population with drinking-water				Population with sanitation			
	Urban			Rural	Urban			Rural
Region	Total	By H.C.[a]	By P.S.[b]		Total	by S.C.[c]	By other	
Africa	100 198	63 975	63 975	269 087	55 559	56 524	58 005	176 950
Americas	288 655	288 364	288 364	124 365	283 725	287 074	285 306	121 740
South-East Asia	339 877	37 820	37 820	898 760	338 367	39 330	37 820	841 529
Eastern Mediterranean	118 800	118 800	118 800	170 258	118 800	91 100	91 100	147 684
Western Pacific	318 411	63 619	33 995	984 887	308 832	63 029	72 896	984 887
Western Pacific (excl. China)	85 219	63 619	33 995	113 658	75 640	63 029	72 896	113 658
Total	1 165 941	572 578	542 954	2 447 357	1 105 283	537 057	545 127	2 272 790
Total (excl. China)	932 749	572 578	542 954	1 576 128	872 091	537 057	545 127	1 401 561

(a) H.C. = House connection. (b) P.S. = Public standpost. (c) S.C. = Sewer connection.

Note: For calculating percentage coverage it is not possible to use the total urban and rural population figures for the countries responding to the questionnaire since all countries did not provide information on all sectors and sub-sectors. Percentage coverage has to be calculated therefore individually for each sub-sector using the appropriate population totals.

TABLE A.3.2. - GLOBAL 1988
PERCENTAGE COVERAGE IN 1970, 1975, 1980, 1983, 1985 AND 1988

Region	Year	Urban water supply		Urban sanitation		Urban sanitation as percentage of urban water supply	Rural water supply	Rural sanitation	Rural sanitation as percentage of rural water supply
		House connection	Stand-post	Sewer connection	Others				
Africa	1970	33	33	8	39	71	13	23	177
	1975	37	31	15	60	110	21	28	133
	1980	29	31	11	43	85	22	20	91
	1983	33	28	17	40	93	26	25	96
	1985	33	33	12	59	108	25	25	100
	1988	42	32	13	41	73	31	21	68
Americas	1970	61	15	36	40	100	24	24	100
	1975	67	14	35	45	99	32	25	78
	1980	71	7	42	14	72	42	20	48
	1983	74	12	42	32	86	40	18	45
	1985	71	13	41	39	95	47	27	57
	1988	74	14	51	39	102	57	31	54
South-East Asia	1970	46a		33a		72	8	4	50
	1975	63a		31a		49	17	4	24
	1980	64a		30a		47	31	6	19
	1983	66a		31a		47	43	7	16
	1985	65a		33a		51	47	10	21
	1988	71a		41a		58	68	11	16
Eastern Mediterranean	1970	56	23	7	55	78	19	12	63
	1975	52	28	10	53	79	16	14	88
	1980	53	30	42	15	69	30	7	23
	1983	68	28	41	47	92	26	7	27
	1985	78	16	49	41	96	28	9	32
	1988	75	23	38	56	96	49	20	41
Western Pacific (excl. China)	1970	65	10	27	54	108	23	19	83
	1975	75	16	24	57	89	30	43	143
	1980	77	4	17	76	115	41	63	154
	1983	54	16	14	67	116	45	57	127
	1985	70	6	12	82	124	48	66	138
	1988	81	26	28	61	83	55	69	142

(a) Most countries did not provide separate data, so combined figures are given.

Source: 1970 and 1975 data from World Health Statistics Report, Vol. 29, No. 10 (1976).
For 1980, International Drinking Water Supply and Sanitation Decade; Review of National Baseline Data (as at December 1980), WHO Offset Publication No. 85, WHO, Geneva 1984
For 1983, International Drinking Water Supply and Sanitation Decade; Review of National Progress (as at December 1983),non-series publication, WHO, Geneva 1986.
For 1985, International Drinking Water Supply and Sanitation Decade; Review of Mid-Decade Progress (as at December 1985), CWS/87.5.

TABLE A.3.2.1 - GLOBAL 1988
COMPARISON OF COVERAGE AS OF 1975, 1980, 1983, 1985 AND 1988 - URBAN WATER SUPPLY

Region	1980			1983			1985			1988			No. of countries reporting			
	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	1980	1983	1985	1988
Africa	20 788	13 723	66	62 191	37 914	61	95 738	74 336	78	100 198	83 243	83	21	24	35	34
Americas	218 109	169 302	78	231 172	182 088	79	195 748	165 086	84	288 655	255 358	88	21	21	23	24
South-East Asia	232 601	148 834	64	252 999	166 521	66	300 929	194 307	65	339 877	240 615	71	9	8	8	9
Eastern Mediterranean	65 498	54 117	83	43 524	37 206	85	63 790	56 838	89	118 800	115 902	98	12	10	12	17
Western Pacific (excl. China)	55 768	45 446	81	34 235	23 947	70	70 739	52 790	75	85 219	74 896	88	18	18	11	18
Total	592 764	431 422	73	624 121	447 676	72	726 944	543 357	75	932 749	770 014	83	81	81	89	102

Source: For 1975, World Health Statistics Report, Vol. 29 No. 10 (1976), except for SEARO countries which provided corrected figures.

For 1980, International Drinking Water Supply and Sanitation Decade: Review of National Baseline Data (as at December 1980), WHO Offset Publication No. 85, WHO, Geneva 1984.

For 1983, International Drinking Water Supply and Sanitation Decade: Review of National Progress (as at December 1983), non-series publication, WHO, Geneva 1986.

For 1985, International Drinking Water Supply and Sanitation Decade: Review of Mid-Decade Progress (as at December 1985), CWS/87/5.

TABLE A.3.2.2 - GLOBAL 1988
COMPARISON OF COVERAGE AS OF 1975, 1980, 1983, 1985 AND 1988 - URBAN SANITATION

Region	1980			1983			1985			1988			No. of countries reporting			
	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	1980	1983	1985	1988
Africa	20 788	11 214	54	23 183	15 755	68	50 927	37 305	73	55 559	29 900	54	20	23	34	26
Americas	218 109	122 822	56	136 938	109 089	80	219 433	172 433	79	283 725	256 757	90	20	22	24	21
South-East Asia	232 601	70 075	30	249 649	77 963	31	300 929	100 205	33	338 367	137 124	41	9	9	9	8
Eastern Mediterranean	63 608	36 052	57	39 605	25 447	64	54 114	36 997	68	118 800	96 847	82	12	9	12	17
Western Pacific (Excl. China)	55 688	51 905	93	29 021	23 355	80	57 991	54 287	94	75 640	67 802	90	17	20	12	17
Total	590 794	292 068	49	478 396	251 609	53	683 394	401 227	59	872 091	588 430	67	78	83	91	89

Source: For 1975, World Health Statistics Report, Vol. 29 No. 10 (1976), except for SEARO countries which provided corrected figures.

For 1980, International Drinking Water Supply and Sanitation Decade: Review of National Baseline Data (as at December 1980), WHO Offset Publication No. 85, WHO, Geneva 1984.

For 1983, International Drinking Water Supply and Sanitation Decade: Review of National Progress (as at December 1983), non-series publication, WHO, Geneva 1986.

For 1985, International Drinking Water Supply and Sanitation Decade: Review of Mid-Decade Progress (as at December 1985), CWS/87/5.

TABLE A.3.2.3 - GLOBAL 1988
COMPARISON OF COVERAGE AS OF 1975, 1980, 1983, 1985 AND 1988 - RURAL WATER SUPPLY

Region	1980			1983			1985			1988			No. of countries reporting			
	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	1980	1983	1985	1988
Africa	82 935	17 981	22	202 190	52 372	26	275 538	68 096	25	269 087	84 706	31	20	23	34	33
Americas	115 289	48 628	42	111 949	44 358	40	117 076	55 437	47	124 365	70 682	57	20	22	24	24
South-East Asia	787 360	241 664	31	822 889	356 721	43	850 751	402 718	47	898 760	609 925	68	9	9	9	9
Eastern Mediterranean	115 109	34 532	30	90 619	23 614	26	117 615	32 550	28	170 258	83 498	49	12	9	12	17
Western Pacific (Excl. China)	98 656	40 075	41	108 671	48 871	45	107 549	51 312	48	113 658	62 440	55	17	20	12	17
Total	1 199 349	382 880	32	1 336 318	525 936	39	1 468 529	610 113	42	1 576 128	911 251	58	78	83	91	100

Source: For 1975, World Health Statistics Report, Vol. 29 No. 10 (1976), except for SEARO countries which provided corrected figures.

For 1980, International Drinking Water Supply and Sanitation Decade: Review of National Baseline Data (as at December 1980), WHO Offset Publication No. 85, WHO, Geneva 1984.

For 1983, International Drinking Water Supply and Sanitation Decade: Review of National Progress (as at December 1983), non-series publication, WHO, Geneva 1986.

For 1985, International Drinking Water Supply and Sanitation Decade: Review of Mid-Decade Progress (as at December 1985), CWS/87/5.

TABLE A.3.2.4 - GLOBAL 1988
COMPARISON OF COVERAGE AS OF 1975, 1980, 1983, 1985 AND 1988 - RURAL SANITATION

Region	1980			1983			1985			1988			No. of countries reporting			
	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	Urban pop. (000)	Urban coverage (000)	%	1980	1983	1985	1988
Africa	74 335	14 787	20	111 021	27 782	25	135 945	33 855	25	176 950	37 448	21	18	18	26	26
Americas	73 268	14 675	20	80 582	14 815	18	115 511	30 808	27	121 740	37 867	31	16	18	20	22
South-East Asia	787 360	49 431	6	809 570	57 834	7	850 751	82 105	10	841 529	88 443	11	8	7	9	7
Eastern Mediterranean	92 412	6 315	7	70 920	5 037	7	95 585	8 571	9	147 684	29 738	20	9	6	10	15
Western Pacific (Excl. China)	98 226	62 221	63	93 490	53 318	57	60 404	39 749	66	113 658	78 305	69	17	17	11	17
Total	1 125 601	147 429	13	1 165 583	158 786	14	1 258 196	195 088	16	1 401 561	271 801	19	68	66	76	87

Source: For 1975, World Health Statistics Report, Vol. 29 No. 10 (1976), except for SEARO countries which provided corrected figures.

For 1980, International Drinking Water Supply and Sanitation Decade; Review of National Baseline Data (as at December 1980), WHO Offset Publication No. 85, WHO, Geneva 1984.

For 1983, International Drinking Water Supply and Sanitation Decade; Review of National Progress (as at December 1983), non-series publication, WHO, Geneva 1986.

For 1985, International Drinking Water Supply and Sanitation Decade; Review of Mid-Decade Progress (as at December 1985), CWS/87/5.

TABLE A.4.1.1 - GLOBAL 1988
PROJECTED NEW POPULATION COVERAGE FOR SELECTED COUNTRIES (1988-1990) - URBAN WATER SUPPLY

Region	No. of countries selected[a]	% of total regional urban population[b]	Urban population (000)a		Urban coverage				Additional beneficiaries (000)	Ratio[c]
					1988		1990			
			1988	1990	No. (000)a	(%)	No. (000)a	(%)		
Africa	30	45	58 856	65 612	43 706	74	57 992	88	14 286	0.24
Americas	22	86	261 195	278 245	235 018	90	264 131	95	29 113	0.11
South-East Asia	7	99	301 679	310 266	222 135	74	257 484	83	35 349	0.12
Eastern Mediterranean	17	75	119 342	133 753	115 386	97	131 775	99	16 389	0.14
Western Pacific	15	97	85 302	90 092	74 779	88	83 448	93	8 669	0.10
Total	91	82	826 374	877 968	691 024	84	794 830	91	103 806	0.13

(a) = For those countries that provided the necessary data for 1988 coverage and 1990 targets.

(b) = Based on the total population of developing countries/territories in the WHO Regions (excluding China)

(c) = Ratio of additional people to be served by 1990 to number served in 1988.

TABLE A.4.1.2 - GLOBAL 1988
PROJECTED NEW POPULATION COVERAGE FOR SELECTED COUNTRIES (1985-1990) - URBAN SANITATION

Region	No. of countries selected[a]	% of total regional urban population[b]	Urban population (000)a		Urban coverage				Additional beneficiaries (000)	Ratio[c]
					1988		1990			
			1988	1990	No. (000)a	(%)	No. (000)a	(%)		
Africa	24	40	52 647	58 947	26 833	51	40 493	69	13 660	0.26
Americas	17	44	132 707	142 666	118 957	90	130 840	92	11 883	0.09
South-East Asia	7	98	301 679	310 266	116 263	39	150 725	49	34 462	0.11
Eastern Mediterranean	16	73	115 164	128 861	94 393	82	111 406	86	17 013	0.15
Western Pacific	15	65	56 128	59 306	42 267	75	52 388	88	10 121	0.18
Total	79	70	658 325	700 046	398 713	61	485 852	69	87 139	0.13

(a) = For those countries that provided the necessary data for 1988 coverage and 1990 targets.

(b) = Based on the total population of developing countries/territories in the WHO Regions (excluding China)

(c) = Ratio of additional people to be served by 1990 to number served in 1988.

TABLE A.4.2.1 - GLOBAL 1988
PROJECTED NEW POPULATION COVERAGE FOR SELECTED COUNTRIES (1988-1990) - RURAL WATER SUPPLY

Region	No. of countries selected[a]	% of total regional rural population[b]	Rural population (000)a		Rural coverage				Additional beneficiaries (000)	Ratio[c]
					1988		1990			
			1988	1990	No. (000)a	(%)	No. (000)a	(%)		
Africa	31	61	198 010	206 682	69 972	35	112 040	54	42 068	0.21
Americas	21	95	118 015	121 447	69 333	59	78 054	64	8 721	0.07
South-East Asia	9	96	898 760	884 054	609 925	68	721 920	82	111 995	0.12
Eastern Mediterranean	16	82	171 881	185 009	84 209	49	117 315	63	33 106	0.19
Western Pacific	13	91	112 866	112 455	61 886	55	79 290	71	17 404	0.15
Total	90	85	1 499 532	1 509 647	895 325	60	1 108 619	73	213 294	0.14

(a) = For those countries that provided the necessary data for 1988 coverage and 1990 targets.

(b) = Based on the total population of developing countries/territories in the WHO Regions (excluding China)

(c) = Ratio of additional people to be served by 1990 to number served in 1988.

TABLE A.4.2.2 - GLOBAL 1988
PROJECTED NEW POPULATION COVERAGE FOR SELECTED COUNTRIES (1985-1990) - RURAL SANITATION

Region	No. of countries selected[a]	% of total regional rural population[b]	Rural population (000)a		Rural coverage				Additional beneficiaries (000)	Ratio[c]
					1988		1990			
			1988	1990	No. (000)[a]	(%)	No. (000)[a]	(%)		
Africa	25	41	133 580	136 413	31 782	24	82 367	60	50 585	0.38
Americas	19	63	78 663	82 167	20 696	26	33 878	41	13 182	0.17
South-East Asia	7	90	841 529	825 962	88 443	11	201 223	24	112 780	0.13
Eastern Mediterranean	12	70	145 508	159 758	29 707	20	49 019	31	19 312	0.13
Western Pacific	11	53	65 922	65 020	36 060	55	40 865	63	4 805	0.07
Total	74	77	1 265 202	1 269 320	206 688	16	407 352	32	200 664	0.16

(a) = For those countries that provided the necessary data for 1988 coverage and 1990 targets.

(b) = Based on the total population of developing countries/territories in the WHO Regions (excluding China)

(c) = Ratio of additional people to be served by 1990 to number served in 1988.

TABLE A.5 - GLOBAL 1988
STAFF AND TRAINING

Region	Total staff employed per million population median of national figures - 1988	Ultimate projected staff per million population median of national figures - 1990
Africa	238	382
Americas	780	-
South-East Asia	106	-
Eastern Mediterranean	1 409	-
Western Pacific	1 240	1 233

TABLE A.6 - GLOBAL 1988
UNIT COSTS OF CONSTRUCTION (US $ PER CAPITA) AND OF WATER PRODUCTION (US $/CUBIC METER)
MEDIAN VALUES OF NATIONAL AVERAGES

Region	Construction						Operation			
	Urban water supply		Urban sanitation		Rural water supply	Rural sanitation	Average cost of water	Average water tariff	% of countries: Where average tariff exceeds average costs	% of countries: With progressive tariff
	House connection	Standpost	Sewer connection	Other means						
Africa	108.5	45	150	167.5	41.5	23	0.43	0.35	35	81
Americas	159	75	160	40	75	43.7	0.195	0.26	50	79
South-East Asia	60	18	87.5	40	15	9	0.45	0.285	50	83
Eastern Mediterranean	223	120	415	250	125	100	0.45	0.25	8	75
Western Pacific	135	30	128	150	80	30	0.215	0.21	62	71

TABLE A.7 - GLOBAL 1988
INCREASE IN INVESTMENT RATE NEEDED TO MEET DECADE TARGETS SET BY COUNTRIES

Region	Multiplication factor		
	Minimum	Median	Maximum
Africa	0	2.3	3.99
Americas	1.1	2.16	9.68
South-East Asia	1.32	5.85	14.22
Eastern Mediterrean	0	0	1.68
Western Pacific	1.43	3.83	225.21

TABLE A.8 - GLOBAL 1988
RANKING AND FREQUENCY OF CONSTRAINTS [a]

Constraints	No. of countries indicating constraint			Ranking index[b]
	Very severe	Severe	Moderate	
Funding limitations	36	39	15	201
Operation and maintenance	26	34	23	169
Inadequate cost-recovery framework	26	35	16	164
Insufficiency of trained personnel (professional)	20	31	36	158
Insufficiency of trained personnel (sub-professional)	17	35	34	155
Logistics	20	35	17	147
Intermittent water service	14	26	27	121
Insufficient health education efforts	11	22	41	118
Inadequate or outmoded legal framework	5	30	37	112
Inadequate water resources	13	12	44	107
Non-involvement of communities	6	21	44	104
Import restrictions	14	13	33	101
Insufficient knowledge of water resources	6	17	48	100
Inappropriate institutional framework	9	18	37	100
Lack of planning and design criteria	4	21	41	95
Lack of definite government policy for sector	7	8	52	89
Inappropriate technology	2	17	46	86
	-	-	-	-
Lack of information system (Myanmar)	-	1	-	-
Divided water resources (Cyprus)	1	-	-	-
Military/political instability (Angola)	1	-	-	-
Water pollution (Botswana)	-	1	-	-
Inflation (Ghana)	1	-	-	-
Lack of intersectoral coordination (Guinea/Togo)	1	1	-	-
Transport (Fiji)	1	-	-	-

(a) Number of reporting countries = 103
(b) Ranking index = (No. very severe x 3) + (No. severe x 2) + (No. moderate x 1)

TABLE A.9 - GLOBAL 1988
GLOBAL APPROACHES DURING 1988

Region	Number of countries						
	Reporting improved services for the urban poor	Where rural communities participated in improvements to water supply and sanitation facilities is reported			Where primary school children received health education is reported	With programmes being implemented to promote the increased participation of women	With rural programmes implemented as integral components of primary health care
		Planning	Building	Operation			
Africa	1	11	12	12	9	16	19
Americas	3	6	8	7	3	7	5
South-East Asia	1	3	4	4	2	3	4
Eastern Mediterrean	3	3	3	4	6	3	2
Western Pacific	5	12	15	14	12	8	8
Total	13	35	42	41	32	37	38
%	17	45	55	53	42	62	60

REGIONAL REVIEWS

1. AFRICAN REGION

1.1 Socioeconomic and Health Situation

Of the Region's 45 developing countries, 34 submitted reports on the status of water supply and sanitation services as at the end of 1988. They represent over 80% of the total regional population.

During the first eight years of the Decade, the regional population overall rose by 28%; the population in the urban areas grew by 59%, while the rural population increased by only 18%.

Health conditions since the start of the Decade have remained relatively unchanged, with the Region continuing to suffer the consequences of poor water supply and sanitation despite progress having been made in expanding levels of service coverage. Over half of the population in 16 out of 33 reporting countries was without an adequate safe water supply, and in 23 out of 28 more than half was without appropriate sanitation. Most countries reported life expectancies similar to those at the start of the Decade i.e. ranging from 40 to 69 years. The median value for infant mortality rate, 127 per 1000 live births, was virtually unchanged from the start of the Decade, and the reported incidence of waterborne disease also remained at about the same level.

The economic situation of the Region has remained poor with the median per capita gross national product having risen to US$375 from US$290 in 1985. With a small reporting sample, the significance of this rise is open to question.

1.2 Targets and Planning

Water Supply

Overall, 103 million people would need to be served with a water supply during the last two years of the Decade to bring levels of service coverage up from 46% to 64%. This would be a considerable achievement, since during the first eight years of the Decade only 95 million were served, implying a need approximately to quadruple programme implementation rates.

Progress in urban areas has been impressive, with the level of water supply service coverage having risen during the first eight years of the Decade from an estimated 66% to 83%, well on the way to the overall regional target of 88%. However, to attain this target a total of 21 million will have to be served during 1989 and 1990, compared with 55 million during the previous eight years.

In rural areas the targets are more ambitious, and in fact higher than indicated by governments at mid-Decade. To reach the goal of 54% coverage by 1990, an extra 82 million people will have to be served in 1989 and 1990, compared with only 40 million during the rest of the Decade. This is clearly an unrealistic target.

Table 1.2.1 Urban Water Supply Service Coverage

	1980	*1988*	*1990 (Target)*
Urban population estimate (millions)	82.70	131.44	147.62
Estimated % service coverage	66	83	88
Estimated population served or to be served (millions)	54.58	109.10	129.91

Table 1.2.2 Rural Water Supply Service Coverage

	1980	*1988*	*1990 (Target)*
Rural population estimate (millions)	275.25	325.46	339.39
Estimated % service coverage	22	31	54
Estimated population served or to be served (millions)	60.56	100.89	183.27

Table 1.2.3 Overall (Urban/Rural) Water Supply Service Coverage

	1980	*1988*	*1990 (Target)*
Total population estimate (millions)	357.95	456.90	487.01
Estimated population served or to be served (millions)	115.14	209.99	313.18
Estimated % service coverage	32	46	64

(Population figures taken from World Population Prospects 1988, United Nations, New York, 1989).

Sanitation

Overall, during the first eight years of the Decade service coverage rose from 28% to 30%. During its final two years it would have to rise by a further 33% to provide sanitation to the targeted 166 million additional people, of which over 80% will be rural inhabitants. This implies an unrealistic increase in programme implementation of more than 16-fold over the rates achieved up to 1988.

Progress in urban areas has not been as good as early reporting had suggested, with coverage remaining constant at 54%. If the targets are to be reached during the remaining two years of the Decade, a 15 percentage point increase in coverage will be required, representing an additional 31 million urban residents to be served compared to only 26 million served during the first eight years of the Decade.

In rural areas, an estimated 13 million people acquired access to appropriate sanitation during the 1981-1988 period. During the remaining two years of the Decade a further 135

million would have to be served to raise coverage from 21 to 60%. Clearly this is not a realistic target to be striving for at this late stage in the Decade. It would have required increased and sustained efforts from the outset.

Table 1.2.4 Urban Sanitation Service Coverage

	1980	*1988*	*1990 (Target)*
Urban population estimate (millions)	82.70	131.44	147.62
Estimated % service coverage	54	54	69
Estimated population served or to be served (millions)	44.66	70.98	101.86

Table 1.2.5 Rural Sanitation Service Coverage

	1980	*1988*	*1990 (Target)*
Rural population estimate (millions)	275.25	325.46	339.39
Estimated % service coverage	20	21	60
Estimated population served or to be served (millions)	55.01	68.35	203.63

Table 1.2.6 Overall (Urban/Rural) Sanitation Service Coverage

	1980	*1988*	*1990 (Target)*
Total population estimate (millions)	357.95	456.90	487.01
Estimated population served or to be served (millions)	99.67	139.33	305.49
Estimated % service coverage	28	30	63

1.3 Staff and Training

The importance attached to lack of adequately trained professional and sub-professional staff as a constraint to the implementation of Decade programmes has remained relatively constant over the years. Lack of sub-professional staff is considered the fourth most serious constraint while lack of professional personnel is considered to be the fifth. At the start of the Decade, their respective positions were fifth and second, a reversal of order.

Information provided by countries on sector staff was seldom complete. The number of employees per million population ranging from 10 in the case of Rwanda to 6776 in the case of Seychelles; the median value was 238 comparable to the value of 224 recorded in 1985. As in 1985, this value does not include community-based workers in rural areas.

Of the 29 reporting countries, 24 reported the employment of community-based workers; however, the number employed was not indicated.

Sixteen countries reported having established manpower development plans as recommended in the Mar del Plata Action Plan. However, 13 indicated that no such plans existed. Fourteen countries indicated that a special budget had been established for sector training and although twelve of these indicated that the budget had been increased during the course of the Decade, only in two cases was the provision considered to be sufficient.

1.4 Financial Resources

Funding limitation has persisted throughout the Decade and was the most serious constraint to Decade progress identified by governments. Cost recovery which was perceived as the second most important constraint at mid-Decade has now dropped to sixth position, behind insufficient trained personnel and inadequate operation and maintenance.

Table 1.4.1 Unit Costs of Water Supply & Sanitation Facilities (US$ per capita)

	1980	*1985*	*1988*
(a) Urban water supply by house connection	100	106	108.5
(b) Urban water supply by standpost	46	55	45.0
(c) Rural water supply	32	40	41.5
(d) Urban sanitation by sewer connection	150	150	150.0
(e) Urban sanitation by other means	53	116	167.5
(f) Rural sanitation	15	25	23.0

Eighteen countries provided information on the annual rate of sector investment and the proportion of this coming from external sources. The median value for the proportion of funds from external sources was 70%. This is close to the corresponding value for 1985, i.e. 75%.

Table 1.4.2 Breakdown of Population To Be Served by 1990 to Attain Regional Targets

	Number Served 1988 (million)	*Number Served 1990 (million)*	*Number to be served (million)*
Urban Water Supply	109.10	129.91	= 20.81
Urban Sanitation	70.98	101.86	= 30.88
Rural Water Supply	100.89	183.27	= 82.38
Rural Sanitation	68.35	203.63	= 135.28

Based on the number of people to be served to attain national targets and the breakdown in classes of service, the estimated investment required during the last two years of the Decade is presented in table 1.4.3.

Of those to be served with water supply in urban areas an expected 57% will be through house connections (HC) and 43% by stand post (SP) and of those to be provided with sanitation 23% will be by sewer connection (SC) and 77% by other means (OM).

Table 1.4.3 Estimated Investments 1989-1990 To Attain Regional Targets

Sub sector	*Number to be served (millions)*	*Unit cost US$*	*Total cost US$ (million)*
Urban Water (HC)	11.86	108.5	1286.81
Urban Water (SP)	8.95	45.0	402.75
Urban Sanitation (SC)	7.10	150.0	1065.00
Urban Sanitation (OM)	23.78	167.5	3983.15
Rural Water	82.38	41.5	3418.77
Rural Sanitation	135.28	23.0	3111.44
Total			**13267.92**

According to current sector investment patterns, of the US$13,268 million required, US$9,288 million will be from external sources. Based on the ability to attract funding to the sector in the past, it is clear that this objective will not be realised.

1.5 Decade Approaches

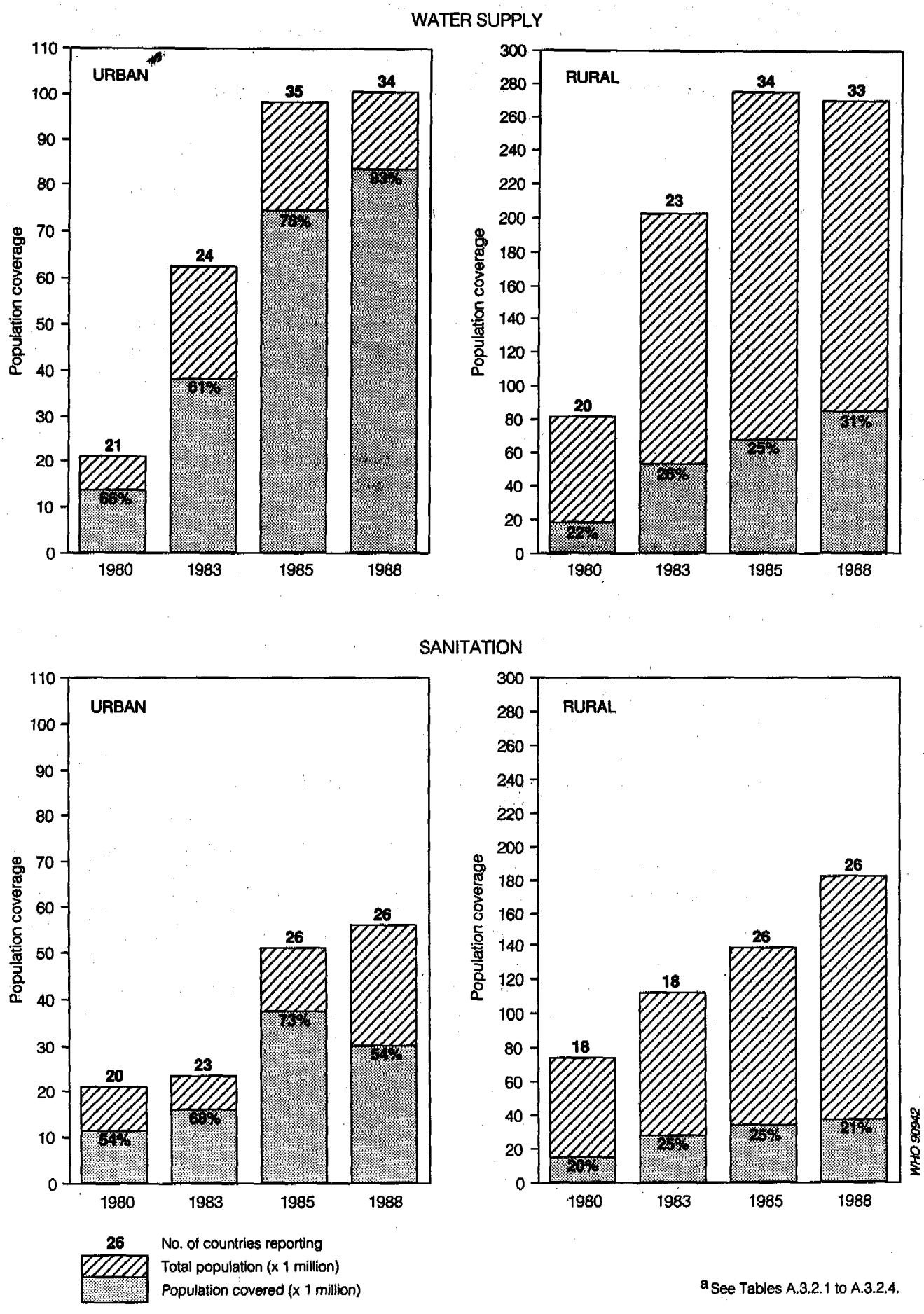
Decade approaches refer to programme orientation towards rural and urban poor, support to investment programmes through health education, integration of water supply and sanitation with other elements of primary health care, and the further involvement of women. Information was unfortunately limited but that provided is contained in tables 1.5 and 1.9.

Community-based workers were reported to be employed in the provision of water supply and sanitation in 24 of the 29 reporting countries; however, only one country reported programmes specifically addressing the question of the urban poor.

Interest in community participation varied considerably among the twelve reporting countries with involvement in project planning ranging from 100% in four cases down to zero in one case. Between 100% and 4% of communities were employed in building their systems, while between 100% and 11% were involved in their operation and maintenance.

Seventy-three percent of reporting countries indicated that they were implementing programmes specifically aimed at the promotion of women's participation, while 76% reported water supply and sanitation programmes in rural areas being implemented as integral components of the primary health care approach.

Fig. 1.1 African Region
Population coverage in 1980, 1983, 1985 & 1988 [a]



[a] See Tables A.3.2.1 to A.3.2.4.

TABLE 1.1 AFRICAN REGION (1988)

BASIC INDICATORS: DEMOGRAPHIC, ECONOMIC, HEALTH

Country/territory	Population (000)	Population growth rate (%)	GNP per capita (US$)	Life expectancy (years)	Infant mortality per 1000 live births	Waterborne diseases cases per 100 000	Population without safe water (%)	Population without sanitation (%)
Angola	9 483	2.8	389	44	160	3 536	62.4	78.3
Benin*	4 465	3.1	369	49	137	-	49.1	86.9
Botswana*	1 212	3.7	848	58	68	3 875	51.2	62.3
Burkina Faso*	8 713	2.9	-	49	175	-	32.7	89.7
Burundi*	5 222	2.9	243	45	75	-	62.0	90.4
Cameroon	10 820	3.1	421	52	94	-	63.3	95.5
Cape Verde*	344	1.6	570	63	67	12 401	25.9	85.4
Central African Repub.*	2 879	2.5	-	48	-	-	88.1	-
Chad*	5 400	2.2	68	44	210	-	-	-
Comores*	435	3.3	380	58	115	-	-	-
Congo	2 248	3.5	900	48	75	-	67.5	-
Côte d'Ivoire	13 520	3.6	794	-	-	-	17.2	64.5
Ethiopia*	47 305	2.9	140	47	144	-	82.5	83.4
Gabon	1 285	-	-	-	-	-	28.0	-
Gambia*	787	3.4	-	42	167	-	23.3	-
Ghana	13 519	2.6	334	54	95	-	44.3	69.6
Guinea*	6 541	2.8	-	46	146	-	67.2	81.9
Guinea Bissau*	939	2.1	160	42	140	3 500	75.1	79.0
Lesotho*	1 578	2.6	390	51	110	30	53.6	78.2
Liberia	2 406	3.4	-	53	127	21 966	49.5	93.4
Madagascar	10 635	2.7	182	50	130	-	78.1	-
Mali*	8 474	2.5	222	40	150	80 000	51.2	77.2
Mauritania*	1 829	2.5	440	46	135	-	34.2	84.7
Mauritius	1 072	1.1	1 360	69	22	-	1.1	2.1
Mozambique*	15 454	2.6	-	-	-	-	78.4	80.7
Niger*	7 251	3.1	-	44	132	-	40.6	91.5
Rwanda*	6 823	3.7	294	52	115	777	28.6	39.7
Sao Tome & Principe*	117	2.5	422	64	70	9 000	67.7	88.5
Seychelles	67	-	3 911	-	170	-	1.5	34.9
Sierra Leone*	3 984	2.5	150	47	150	-	62.4	62.1
Tanzania*	22 534	2.8	159	52	135	654	47.9	27.8
Togo*	3 294	2.9	-	50	90	-	29.3	77.5
Zaire	33 508	3.1	150	52	118	-	65.8	85.9
Zambia	7 406	3.3	250	53	90	-	41.1	45.5
Zimbabwe	9 369	2.8	580	60	71	-	16.5	60.2

* Least developed country (LDC)

TABLE 1.2 AFRICAN REGION 1988
COVERAGE TARGETS (% of population) (1990) AND DECADE PLANS

Country/territory	Urban water supply		Urban sanitation		Rural Water supply	Rural sanitation	Status of decade plan preparation	Year for full coverage
	House connection	Stand-post	Sewer connection	By other means				
Angola	30	70	15	51	30	30	-/Partial targets	-
Benin *	-	-	-	-	59	-	1998/RW	-
Botswana *	31	54	-	-	75	19	-/Partial targets	-
Burkina Faso *	49	51	46	39	65	60	1983 updated 1985	-
Burundi *	37	63	-	-	49	8	1982 updated 1985	2000
Cameroon	90	-	-	-	50	-	1987	2000
Cape Verde *	-	-	-	-	-	-	None	-
Central African Repub. *	60		-	-	50	50	Under preparation	2000
Chad*	-	-	-	-	-	-	-	2010/2020
Comores*	-	-	-	-	-	-	Partial/reviewed 1989	-
Congo	100		-	-	6	4	Prepared 1982/revised 1986	-
Côte d'Ivoire	54	46	36	63	80	-	1978/updated continuously	-
Gabon	80	10	-	-	90	-	-	1990/1997
Gambia	-	-	-	-	-	-	Yes	-
Ghana	100		-	-	100	-	1982	Sanitation 2000
Guinea Bissau *	16	40	-	28	35	24	Yes/reviewed 1986	-
Guinea *	66	9	-	-	50	-	Yes/reviewed 1987	1995-2000
Lesotho *	88		34		-	26	Yes/reviewed 1989	2000-2020
Liberia	-	-	-	-	-	100	Yes 1986/reviewed 1989	1997
Madagascar	23	58	-	-	25	-	Yes	-
Mali *	-	-	-	-	-	-	Yes	1995
Mauritania *	100		-	-	100	-	Yes/reviewed 1983	-
Mauritius	100	0	100		100	100	Yes	1990
Mozambique	50	25	50	30	75	70	1981	1992-2000
Niger *	60	40	-	-	52	-	Yes	-
Rwanda *	-	-	-	-	-	-	No	1993
Sao Tome & Principe *	45	34	-	-	53	-	Partial	-
Seychelles	75	-	-	-	-	-	Partial	1991
Sierra Leone *	28	64	2	26	75	56	1980	2025
Tanzania *	73	24	-	-	100	100	Water/1971	2000
Togo *	15	85	3	37	99	80	1983	-
Zaire	70		40		35	50	1982	2010
Zambia	56	33	48	41	63	58	1985	2000
Zimbabwe	57	38	75	20	80	22	Partial/1987	2000

* LDCs

TABLE 1.3 AFRICAN REGION (1988)
1988 LEVELS OF SERVICE

Country/territory	Population (000)			POPULATION WITH SERVICES							
				Drinking water				Sanitation			
				Urban			Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.	by P.S.		Total	by S.C.	by other	
Angola	9 483	3 209	6 274	2 407	481	1 926	1 161	802	320	482	1 255
		(34)	(66)	(75)	(15)	(60)	(19)	(25)	(10)	(15)	(20)
Benin *	4 465	1 161	3 304	768	646	122	1 506	482	0	482	1 018
		(26)	(74)	(66)	(56)	(10)	(46)	(42)	(0)	(42)	(31)
Botswana *	1 212	282	930	197	78	119	-	275	169	106	182
		(23)	(77)	(70)	(28)	(42)	-	(98)	(60)	(38)	(20)
Burkina Faso *	8 713	1 425	7 288	625	325	300	5 237	500	0	500	400
		(16)	(84)	(44)	(23)	(21)	(72)	(35)	(0)	(35)	(5)
Burundi *	5 222	313	4 909	313	93	220	1 664	250	24	226	250
		(6)	(94)	(100)	(30)	(70)	(34)	(80)	(8)	(72)	(5)
Cape Verde	344	144	200	125	45	80	130	50	18	32	-
		(42)	(58)	(87)	(31)	(56)	(65)	(35)	(13)	(22)	-
Central African Repub.*	2 879	1 054	1 825	142	64	78	200	-	-	-	200
		(37)	(63)	(13)	(6)	(7)	(11)	-	-	-	(11)
Congo	2 248	759	1 489	700	-	-	30	-	-	-	30
		(34)	(66)	(92)	-	-	(2)	-	-	-	(2)
Côte d'Ivoire	13 520	4 190	9 330	4 190	3 200	990	7 000	2 900	1 300	1 600	1 900
		(31)	(69)	(100)	(76)	(24)	(75)	(69)	(31)	(38)	(20)
Ethiopia *	47 305	5 052	42 253	3 536	505	3 031	4 731	4 901	354	4 547	2 958
		(11)	(89)	(70)	(10)	(60)	(11)	(97)	(7)	(90)	(7)
Gabon	1 285	705	580	635	565	70	290	-	-	-	-
		(55)	(45)	(90)	(80)	(10)	(50)	-	-	-	-
Gambia *	787	167	620	154	-	-	450	-	-	-	-
		(21)	(79)	(92)	-	-	(73)	-	-	-	-
Ghana	13 519	4 191	9 328	3 898	1 748	2 150	3 638	2 666	160	2 506	1 445
		(31)	(69)	(93)	(42)	(51)	(39)	(64)	(4)	(60)	(15)
Guinea *	6 541	1 766	4 775	980	286	694	1 168	1 146	164	982	-
		(27)	(73)	(55)	(16)	(39)	(24)	(65)	(9)	(56)	-
Guinea Bissau *	939	211	728	37	27	10	197	64	2	62	133
		(22)	(78)	(18)	(13)	(5)	(27)	(30)	(1)	(29)	(18)
Lesotho *	1 747	219	1 528	130	70	60	680	30	25	5	350
		(13)	(87)	(59)	(32)	(27)	(45)	(14)	(11)	(2)	(23)
Liberia	2 405	965	1 440	900	431	469	315	-	40	-	118
		(40)	(60)	(93)	(45)	(49)	(22)	-	(4)	-	(8)
Madagascar	10 635	2 446	8 189	1 520	501	1 019	806	-	-	1 121	-
		(23)	(77)	(62)	(20)	(42)	(10)	-	-	(46)	-
Mali *	8 474	1 695	6 779	1 695	831	864	2 440	1 593	17	1 576	339
		(20)	(80)	(100)	(49)	(51)	(36)	(94)	(1)	(93)	(5)
Mauritania *	1 829	826	1 003	550	150	400	654	280	30	250	-
		(45)	(55)	(67)	(18)	(48)	(65)	(34)	(4)	(30)	-
Mauritius	1 112	490	622	490	490	0	570	450	265	185	600
		(44)	(56)	(100)	(100)	(0)	(92)	(92)	(54)	(38)	(96)
Mozambique *	15 454	2 600	12 854	1 145	495	650	2 200	1 580	280	1 300	1 400
		(17)	(83)	(44)	(19)	(25)	(17)	(61)	(11)	(50)	(11)
Niger *	7 251	1 114	6 137	1 114	669	445	3 192	436	82	354	180
		(15)	(85)	(100)	(60)	(40)	(52)	(39)	(7)	(32)	(3)

Nigeria	105 423	35 297	70 126	35 297	-	-	14 025	-	-	-	-
		(33)	(67)	(100)	-	-	(20)	-	-	-	-
Rep. of Cameroon	10 820	3 246	7 574	3 246	3 000	246	7 300	-	-	-	-
		(30)	(70)	(100)	(92)	(8)	(96)	-	-	-	-
Republic of Tanzania *	22 534	4 452	18 082	3 339	2 063	1 276	8 394	3 365	435	2 930	13 900
		(20)	(80)	(75)	(46)	(29)	(46)	(76)	(10)	(66)	(77)
Rwanda *	6 823	512	6 311	235	152	83	4 039	228	0	228	3 887
		(8)	(92)	(46)	(30)	(16)	(64)	(45)	(0)	(45)	(62)
Sao Tome & Principe *	117	43	74	14	11	3	24	4	2	2	10
		(36)	(64)	(33)	(25)	(8)	(32)	(8)	(5)	(4)	(13)
Seychelles	67	27	40	27	22	5	39	5	2	3	39
		(40)	(60)	(100)	(81)	(19)	(98)	(19)	(8)	(11)	(97)
Sierra Leone *	3 484	1 195	2 289	997	305	692	500	710	10	700	800
		(34)	(66)	(83)	(26)	(58)	(22)	(59)	(1)	(59)	(35)
Togo *	3 294	830	2 464	830	180	650	1 500	348	0	348	394
		(25)	(75)	(100)	(22)	(78)	(61)	(42)	(0)	(42)	(16)
Zambia	7 406	3 574	3 832	2 722	1 571	1 151	1 641	2 749	926	1 823	1 285
		(48)	(52)	(76)	(44)	(32)	(43)	(77)	(26)	(51)	(34)
Zaire	33 508	13 738	19 770	8 100	6 497	1 603	3 347	1 901	748	1 153	2 833
		(41)	(59)	(59)	(47)	(12)	(17)	(14)	(5)	(8)	(14)
Zimbabwe	9 369	2 300	7 069	2 185	1 311	874	5 639	2 185	1 726	459	1 542
		(25)	(75)	(31)	(60)	(67)	(80)	(95)	(75)	(20)	(22)
TOTAL	370 214	100 198	270 016	83 243	26 812	20 280	84 706	29 900	7 099	23 961	37 448
		(27)	(73)	(83)	(42)	(32)	(31)	(54)	(13)	(41)	(21)

* LDCs

TABLE 1.4 AFRICAN REGION 1988
PRESENT (1988-top line) AND PROJECTED (1990-bottom line) POPULATION COVERAGE (in thousands)

Country/territory	Urban Population	Water supply: House connection	Water supply: Stand-post	Sanitation: Sewer connection	Sanitation: By other means	Rural Population	Safe water	Adequate sanitation
Angola	3 209	481	1 926	320	482	6 274	1 161	1 255
	3 704	1 111	2 593	556	926	6 296	1 889	1 889
Benin*	1 161	646	122	0	482	3 304	1 506	102
	1 161	-	-	-	-	3 304	-	-
Botswana*	282	78	119	169	106	930	395	182
	319	100	171	-	-	980	732	186
Burkina Faso*	1 425	325	300	0	500	7 288	5 237	400
	1 680	830	850	0	766	9 550	6 162	9 550
Burundi*	313	93	228	24	226	4 909	1 664	250
	360	132	228	-	-	5 094	2 500	400
Cameroon	3 246	3 000	246	-	-	7 574	7 300	-
	4 940	4 446	-	-	-	7 303	3 652	-
Cape Verde*	144	80	130	18	323	200	130	-
	-	-	-	-	-	-	-	-
Central African Rep.*	1 054	64	78	-	-	1 825	200	200
	1 165	699		-	-	1 876	938	938
Congo	1 489	700		-	-	759	30	30
	1 590	1 590		-	-	797	56	32
Côte d'Ivoire	4 190	3 200	990	1 300	1 600	9 330	7 000	1 900
	4 190	2 263	1 927	1 508	2 622	9 326	7 498	-
Ethiopia*	5 052	505	3 031	354	4 547	42 253	4 731	2 958
	-	-	-	-	-	-	-	-
Gabon	705	565	70	-	-	580	290	-
	755	604	76	-	-	620	558	-
Gambia*	167	154		-	-	620	450	-
	-	-	-	-	-	-	-	-
Ghana	4 191	1 748	2 150	160	2 506	9 328	3 638	1 445
	4 621	4 621	0	-	-	7 481	7 481	-
Guinea*	1 766	286	694	164	982	4 775	1 168	-
	1 766	1 161	167	-	-	4 775	2 400	-
Guinea Bissau*	211	27	10	2	62	728	197	133
	229	36	92	-	65	752	260	180
Lesotho*	219	70	60	25	5	1 528	680	350
	225	198		77		1 528	-	400
Liberia	965	431	469	40	-	1 440	315	118
	-	-	-	-	-	1 537	1 537	1 537
Madagascar	2 446	501	1 019	-	1 121	8 189	806	-
	2 575	600	1 500	-	-	8 621	2 167	-
Mali*	1 695	831	864	17	1 576	6 779	2 440	339
	1 766	-	-	-	-	7 082	-	-
Mauritania*	826	150	400	30	250	1 003	654	-
	852	617		-	-	1 173	1 000	-
Mauritius	490	490	0	265	185	622	570	600
	506	506	0	-	-	-	-	-
Mozambique*	2 600	495	650	280	1 300	12 854	2 200	1 400
	2 421	1 211	605	1 211	727	13 304	9 978	9 313

Niger*	1 114	669	445	82	354	6 137	3 192	180
	1 114	669	445	-	-	6 137	3 192	-
Rwanda*	512	152	83	0	228	6 311	4 039	3 887
	-	-	-	-	-	-	-	-
Sao Tome & Principe*	43	11	3	2	2	74	24	10
	44	20	15	-	-	75	40	-
Seychelles	27	22	5	2	3	40	39	39
	67	50	-	12	55	-	-	-
Sierra Leone*	1 195	305	692	10	700	2 289	500	800
	1 250	355	804	19	765	2 930	2 211	1 634
Tanzania*	4 452	2 063	1 276	435	2 930	18 082	8 394	13 900
	4 700	3 450	1 150	-	-	19 200	19 200	19 200
Togo*	830	180	650	0	348	2 464	1 500	3 942
	1 046	156	886	33	383	2 568	2 552	2 054
Zaire	13 738	6 497	1 603	748	1 153	19 770	3 347	2 833
	15 300	10 710		6 120		20 300	7 105	10 150
Zambia	3 574	1 571	1 151	926	1 823	3 832	1 641	1 285
	4 050	2 252	1 352	1 948	1 656	3 450	2 171	2 000
Zimbabwe	2 300	1 311	874	1 726	459	7 069	5 639	1 542
	2 300	1 311	874	1 726	459	7 069	5 639	1 542

*LDCs

TABLE 1.4.1.1. AFRICAN REGION 1988
DECADE TARGETS FOR URBAN WATER SUPPLY

Country/territory	Urban Population (000)		Water supply -- Population covered			
			1988		1990	
	1988	1990	No.(000)	(%)	No.(000)	(%)
Angola	3 209	3 704	2 407	75	3 704	100
Benin*	1 161	2 118	768	66	2 118	100
Botswana*	282	319	197	70	271	85
Burkina Faso*	1 425	1 680	625	44	1 680	100
Burundi*	313	360	313	100	360	100
Cameroon	3 246	4 940	3 246	100	4 940	100
Cape Verde*	144	156	125	87	156	100
Central African Rep.*	1 054	1 165	142	13	699	60
Congo	759	797	700	92	746	94
Côte d'Ivoire	4 190	4 190	4 190	100	4 190	100
Gabon	705	755	635	90	755	100
Ghana	4 191	4 621	3 898	93	4 621	100
Guinea	1 766	1 766	980	55	1 328	75
Guinea Bissau*	211	229	37	18	128	56
Lesotho*	219	225	130	59	198	88
Liberia	965	1 030	900	93	1 030	100
Madagascar	2 446	2 575	1 520	62	2 100	82
Mali*	1 695	1 766	1 695	100	1 766	100
Mauritius	490	566	490	100	566	100
Mozambique*	2 600	2 421	1 145	44	1 816	75
Niger*	1 114	1 114	1 114	100	1 114	100
Rwanda*	512	575	235	46	518	90
Sao Tome & Principe*	43	44	14	33	35	80
Seychelles	27	67	27	100	67	100
Sierra Leone*	1 195	1 250	997	83	1 159	93
Tanzania*	4 452	4 700	3 339	75	4 600	98
Togo*	830	830	830	100	830	100
Zaire	13 738	15 300	8 100	59	10 710	70
Zambia	3 574	4 050	2 722	76	3 604	89
Zimbabwe	2 300	2 300	2 185	95	2 185	95
TOTAL	58 856	65 612	43 706	74	57 992	88

*LDCs

TABLE 1.4.1.2. AFRICAN REGION 1988
DECADE TARGETS FOR URBAN SANITATION

COUNTRY/TERRITORY	Urban Population (000)		Sanitation -- population covered			
			1988		1990	
	1988	1990	No.(000)	(%)	No.(000)	(%)
Angola	3 209	3 704	802	25	1 482	40
Benin*	1 161	2 118	768	66	1 694	80
Botswana*	282	319	275	98	319	100
Burkina Faso*	1 425	1 680	500	35	773	46
Burundi*	313	360	250	80	360	100
Cameroon	3 246	4 940	3 246	100	4 940	100
Cape Verde*	144	153	50	35	92	60
Central African Rep.*	1 054	1 165	142	13	699	60
Côte d'Ivoire	4 190	4 190	2 900	69	4 130	99
Ghana	4 191	4 621	2 666	64	3 697	80
Guinea Bissau*	211	229	64	30	67	29
Lesotho*	219	225	30	14	77	34
Liberia	965	1 030	40	4	40	4
Mali*	1 695	1 766	1 593	94	1 660	94
Mozambique*	2 600	2 421	1 580	61	1 937	80
Niger*	1 114	1 114	436	39	1 002	90
Rwanda*	512	411	228	45	349	85
Seychelles	27	67	5	19	67	100
Sierra Leone*	1 195	1 255	710	59	784	62
Tanzania*	4 452	4 700	3 365	76	4 000	85
Togo*	830	830	348	42	416	50
Zaire	13 738	15 300	1 901	14	6 120	40
Zambia	3 574	4 050	2 749	77	3 604	89
Zimbabwe	2 300	2 300	2 185	95	2 185	95
TOTAL	52 647	58 947	26 833	51	40 493	69

*LDCs

TABLE 1.4.2.1. AFRICAN REGION 1988
DECADE TARGETS FOR RURAL WATER SUPPLY

Country/territory	Rural population (000)		Water supply -- population covered			
			1988		1990	
	1988	1990	No.(000)	(%)	No.(000)	(%)
Angola	6 274	6 296	1 161	19	1 889	30
Benin*	3 304	3 304	1 506	46	2 644	80
Botswana*	930	980	395	42	732	75
Burkina Faso*	7 288	9 550	5 237	72	6 208	65
Burundi*	4 909	5 094	1 664	34	2 500	49
Cameroon	7 574	7 304	7 300	96	7 304	100
Cape Verde*	200	254	130	65	150	59
Central African Rep.*	1 825	1 876	200	11	938	50
Congo	1 489	1 590	30	2	111	7
Côte d'Ivoire	9 330	9 326	7 000	75	7 498	80
Ethiopia*	42 253	46 315	4 731	11	7 410	16
Gabon	580	620	290	50	558	90
Ghana	9 328	7 481	3 638	39	7 481	100
Guinea	4 775	4 775	1 168	24	2 400	50
Guinea Bissau*	728	752	197	27	260	35
Lesotho*	1 528	1 528	680	45	917	60
Liberia	1 440	1 537	315	22	400	26
Madagascar	8 189	8 621	806	10	2 167	25
Mali*	6 779	7 082	2 440	36	3 116	44
Mauritius	622	575	570	92	558	97
Mozambique*	12 854	13 304	2 200	17	9 978	75
Niger*	6 137	6 137	3 192	52	3 192	52
Rwanda*	6 311	6 852	4 039	64	4 796	70
Sao Tome & Principe*	74	75	24	32	40	53
Seychelles	40	41	39	98	41	100
Sierra Leone*	2 289	2 930	500	22	2 211	75
Tanzania*	18 082	19 200	8 394	46	19 200	100
Togo*	2 464	2 464	1 500	61	2 439	99
Zaire	19 770	20 300	3 347	17	7 105	35
Zambia	3 574	3 450	1 641	46	2 171	63
Zimbabwe	7 069	7 069	5 639	80	5 626	80
TOTAL	198 010	206 682	69 972	35	112 040	54

*LDCs

TABLE 1.4.2.2. AFRICAN REGION 1988
DECADE TARGETS FOR RURAL SANITATION

Country/territory	Rural population (000)		Sanitation -- population covered			
			1988		1990	
	1988	1990	No.(000)	(%)	No.(000)	(%)
Angola	6 274	6 296	1 255	20	1 889	30
Benin*	3 304	3 304	102	3	384	12
Botswana*	1 212	980	182	15	186	19
Burkina Faso*	7 288	9 550	400	5	8 118	85
Burundi*	4 909	5 094	250	5	400	8
Cameroon	7 574	7 304	100	1	7 304	100
Cape Verde*	200	254	18	9	152	60
Central African Rep.*	1 825	1 876	200	11	938	50
Congo	1 489	1 590	30	2	32	2
Ghana	9 328	7 481	1 445	15	2 244	30
Guinea Bissau*	728	752	133	18	180	24
Lesotho*	1 528	1 528	350	23	400	26
Liberia	1 440	1 537	118	8	1 537	100
Mali*	6 779	7 082	339	5	2 125	30
Mauritius	622	575	600	96	575	100
Mozambique*	12 854	13 304	1 400	11	9 313	70
Niger*	6 137	6 137	180	3	4 909	80
Rwanda*	6 542	6 311	3 887	59	5 139	81
Seychelles	40	45	39	97	45	100
Sierra Leone*	2 289	2 930	800	35	1 634	56
Tanzania*	18 082	19 200	13 900	77	19 200	100
Togo*	2 464	2 464	394	16	1 971	80
Zaire	19 770	20 300	2 833	14	10 150	50
Zambia	3 832	3 450	1 285	34	2 000	58
Zimbabwe	7 069	7 069	1 542	22	1 542	22
TOTAL	133 580	136 413	31 782	24	82 367	60

*LDCs

TABLE 1.5 AFRICAN REGION 1988
STAFF RESOURCES 1988 (top line) AND PROJECTED REQUIREMENTS FOR 1990 (bottom line)

Country/ territory	Planning and management	Technical	Craftsmen artisanal	Administration clerical	Unskilled workers	Total B-F	Total per million population	Community based (Yes/No)	HRD master plan (Yes/No)	Increase in training budget since 1980 (Yes/No)	Established training budget and is it sufficient (Yes/No)
Angola	20	123	677	126	859	1 805	190	Yes	No	No	No
	-	-	-	-	-	0	-				
Benin*	4	12	50	2	0	68	15	Yes	No	-	Yes/Yes
	7	12	42	3	0	64	14				
Botswana*	2	20	140	60	250	472	389	Yes	Yes	Yes	Yes/-
	-	-	-	-	-	0	-				
Burkina Faso*	5	131	7	353	492	988	113	-	Yes	Yes	Yes/No
	12	347	637	140	683	1 819	162				
Burundi*	19	222	448	114	231	1 034	198	Yes	Yes	Yes	Yes/No
	-	-	-	-	-	0	-				
Cameroon	-	-	-	-	-	0	-	Yes	No	No	Yes/No
	-	-	-	-	-	0	-				
C.a.f.	4	-	-	-	-	-	-	Yes	No	No	No
	10	-	-	-	-	-	-				
Chad*	-	-	-	-	-	0	-	Yes	-	-	Yes/No
	-	-	-	-	-	0	-				
Comores*	-	-	-	-	-	0	-	No	No	No	No
	-	-	-	-	-	0	-				
Congo	-	-	-	-	-	-	-	Yes	No	-	No
	-	-	-	-	-	-	-				
Côte d'Ivoire	11	250	20	30	40	351	34	Yes	Yes	No	No
	-	-	-	-	-	0	-				
Gabon	-	-	-	-	-	0	-	Yes	Yes	-	Yes/Yes
	-	-	-	-	-	0	-				
Gambia*	6	10	150	5	200	371	471	No	Yes	No	No
	-	-	-	-	-	0	-				
Ghana	20	1 356	1 244	1 671	2 540	6 831	481	Yes	No	Yes	Yes/No
	25	1 471	1 000	950	1 385	4 831	399				
Guinea	37	137	436	123	570	1 303	199	-	Yes	No	No
	122	304	373	-	454	1 253	-				
Guinea Bissau*	8	261	344	62	187	862	918	Yes	No	No	No
	12	280	350	80	200	922	940				
Lesotho*	31	84	150	71	40	376	238	Yes	Yes	Yes	No
	20	48	140	70	40	318	-				
Liberia	-	315	-	-	-	-	-	Yes	Yes	Yes	Yes/No
	-	474	-	-	-	-	-				
Madagascar	54	208	432	220	117	1 031	97	Yes	No	-	No
	-	-	-	-	-	0	-				
Mali*	-	-	-	-	-	0	-	Yes	No	-	No
	-	-	-	-	-	0	-				
Mauritania*	19	49	170	64	-	302	165	Yes	Yes	No	No
	-	-	-	-	-	0	-				
Mauritius	6	84	50	564	1 070	1 774	1 739	No	-	No	Yes/No
	6	90	60	590	1 100	1 846	1 717				
Mozambique*	10	800	1 700	200	1 600	4 310	289	Yes	Yes	Yes	Yes/No
	15	1 200	2 500	300	2 000	6 015	383				

	-	-	-	-	-	0	-	Yes	Yes	No	No
Niger*	-	-	-	-	-	0	-				
	3	29	7	11	15	65	10	-	No	Yes	No
Rwanda*	-	-	-	-	-	0	-				
	3	4	15	59	14	95	813	No	No		No
Sao Tome & Principe*	-	-	-	-	-	-	-				
	4	30	20	300	100	454	6 776	No	Yes	No	No
Seychelles	-	-	-	-	-	0	-				
	10	100	-	500	-	610	153	Yes	Yes	Yes	No
Sierra Leone*	25	200	-	800	-	1 025	245				
	100	2 828	6 300	1 100	2 000	12 328	532	Yes	Yes	Yes	Yes/No
Tanzania*	-	-	-	-	-	-	-				
	-	-	-	-	-	-	-	Yes	No	-	No
Togo*	-	-	-	-	-	-	-				
	118	1 709	1 656	441	1 011	4 935	147	Yes	Yes	Yes	Yes/No
Zaire	128	1 800	1 704	520	1 273	5 425	152				
	150	850	120	100	8 500	9 720	1 037	Yes	-	Yes	Yes/No
Zimbabwe	-	-	-	-	-	-	-				

*LDCs

TABLE 1.6 AFRICAN REGION 1988
UNIT COSTS OF CONSTRUCTION (US$ PER CAPITA) AND OF WATER PRODUCTION (US$/m3)

Country/territory	CONSTRUCTION						OPERATION		
	Urban water supply		Urban sanitation		Rural water supply	Rural sanitation	Average cost of water production	Average water tariff	Progressive water tariff
	House connection	Stand-post	Sewer connection	By other means					
Angola	150	50	150	50	50.0	20.0	1.00	0.50	No
Benin*	-	-	-	34	-	23.0	-	-	-
Botswana*	-	-	-	230	-	60.0	-	-	Yes
Burkina Faso*	195	81	-	-	49.0	-	0.80	0.50	Yes
Burundi*	200	35	1 670	200	20.0	10.0	0.34	0.26	Yes
Cameroon	-	-	-	-	-	-	-	-	Yes
Cape Verde*	30	35	20	-	46.0	-	0.43	0.89	Yes
Central African Rep.*	-	-	-	-	43.0	-	-	-	-
Chad*	-	-	-	-	-	-	0.39	-	Some areas
Congo	307	-	-	-	43.4	3.8	-	0.43	Yes
Côte d'Ivoire	-	-	-	-	-	-	-	-	Yes
Ethiopia*	-	-	88	175	37.5	-	-	-	-
Gabon	370	20	-	-	250.0	-	1.37	1.30	-
Gambia*	-	-	110	59	1.4	-	-	-	-
Ghana	80	60	-	-	35.0	-	0.13	0.21	Yes
Guinea*	-	-	-	-	-	-	0.80	0.35	No
Guinea Bissau*	-	160	-	300	110.0	60.0	-	0.03	No
Lesotho*	280	130	315	60	25.0	25.0	0.75	0.68	Some areas
Liberia	100	-	125	40	15.0	10.0	0.30	0.55	-
Madagascar	100	40	-	-	35.0	-	0.08	0.11	Some areas
Mali*	117	20	130	160	58.0	21.0	-	0.27	Some areas
Mauritania*	74	66	-	55	100.0	-	-	0.50	Yes
Mauritius	75	-	300	180	80.0	40.0	0.35	0.25	Yes
Mozambique*	-	18	-	-	9.0	-	0.27	0.22	Yes
Niger*	-	-	-	-	27.0	-	0.40	0.30	Yes
Rwanda*	486	88	-	-	-	-	1.00	0.50	Yes
Sao Tome & Principe*	-	40	-	190	-	-	-	0.02	No
Seychelles	250	-	250	400	-	-	1.00	-	Yes
Sierra Leone*	100	55	100	100	30.0	30.0	-	-	No
Tanzania*	60	40	820	450	40.0	32.0	1.04	0.22	Yes
Togo*	-	-	-	-	-	-	-	0.65	Yes
Zaire	80	40	264	26	9.0	5.9	1.00	1.39	Yes
Zambia	424	99	395	180	99.0	45.0	-	-	-
Zimbabwe	51	-	71	-	46.0	10.0	0.16	0.17	Yes

*LDCs

TABLE 1.7 AFRICAN REGION 1988
COST PROJECTIONS COMPARED WITH 1981-85 SECTOR INVESTMENTS

Country/territory	Estimated cost to reach country decade targets US$ millions	SECTOR INVESTMENTS PER ANNUM			Investment acceleration needed (fold)	
		Total US$ millions	Percentage of total development investment	External US$ millions (%)		
Angola	239.38	5.99	-	1.61 (26.9)	3.99	-
Burkina Faso*	-	44.75	-	28.78 (64.3)	-	-
Côte d'Ivoire*	54.31	1.74	-	1.16 (66.4)	3.12	-
Gabon	127.00	13.00	-	- -	0.98	-
Gambia*	-	3.50	-	3.50 (100)	-	Rural water
Ghana	466.14	16.50	-	12.30 (74.6)	2.83	Water supply only
Guinea*	223.30	10.94	-	- -	2.04	Urban water only
Guinea Bissau*	41.80	-	-	- -	-	-
Lesotho*	114.00	4.56	-	4.01 (87.8)	2.50	-
Liberia*	273.14	14.64	-	2.45 (16.7)	1.87	-
Madagascar	-	9 961.00	-	6 073.00 (61.0)	-	Water suply only
Mauritania*	256.00	15.00	-	11.00 (73.3)	1.71	-
Mozambique*	130.80	2.86	-	2.40 (83.9)	-	Rural water only
Niger*	5.00	4.60	-	4.18 (91.0)	-	Urban san. only
Sao Tome & Principe*	-	0.60	-	0.20 (33.3)	-	Urban water only
Seychelles	95.30	4.56	-	3.99 (87.5)	2.09	Urban sector only
Sierra Leone*	-	33.00	-	10.00 (30.3)	-	Water supply only
Tanzania*	-	24.37	5.70	12.19 (50.0)	-	-
Togo*	-	13.08	-	11.19 (85.6)	-	-
Zaire	981.00	38.20	-	25.40 (66.5)	2.57	-
Zimbabwe	-	21.40	-	16.17 (75.6)	-	Rural water only

*LDCs

TABLE 1.8 AFRICAN REGION 1988
RANKING AND FREQUENCY OF CONSTRAINTS [a]

Constraint	No. of countries Indicating constraint			Ranking index [b]
	Very severe	Severe	Moderate	
Funding limitations	12	13	6	68
Logistics	10	11	8	60
Operation and maintenance	9	10	9	56
Insufficiency of trained personnel (sub-professional)	5	15	9	54
Insufficiency of trained personnel (professional)	6	12	11	53
Inadequate cost-recovery framework	9	10	3	50
Intermittent water service	7	5	10	41
Inadequate or outmoded legal framework	4	11	7	41
Insufficient health education efforts	3	11	9	40
Insufficient knowledge of water resources	3	8	14	39
Non-involvement of communities	2	6	18	36
Inappropriate institutional framework	3	5	13	32
Lack of definite government policy for sector	2	3	19	31
Inappropriate technology	-	7	15	29
Inadequate water resources	3	2	16	29
Lack of planning and design criteria	-	6	14	26
Import restrictions	3	3	11	26
Military/political instability (Angola)	1	-	-	
Water pollution (Botswana)	-	1	-	
Inflation (Ghana)	1	-	-	
Lack of intersectoral coordination (Guinea)	-	1	-	
Lack of intersectoral coordination (Togo)	1	-	-	

a Number of reporting countries
b Ranking index = (No. very severe x 3) + (No. severe x 2) + (No. moderate x 1)

TABLE 1.9 AFRICAN REGION 1988
DECADE APPROACHES DURING 1981-1988

Country/ territory	Improved services for the urban poor			Percent of rural communities participating in improvements			primary school children receiving health education (%)	Promotion of women's participation (Yes/No)	Water supply and sanitation in rural areas as part of PHC (Yes/No)
	Total urban poor population (000)	Population affected by improvements (%)	Urban water development fund used (%)	Planning (%)	Building (%)	Operation (%)			
Angola	-	-	-	-	-	-	-	Yes	Yes
Benin*	-	-	-	-	-	-	-	No	Yes
Botswana*	-	-	-	-	-	-	-	Yes	Yes
Burkina Faso*	-	-	-	100	30	100	-	Yes	Yes
Burundi*	129	-	-	10	80	30	-	-	No
Cameroon	-	-	-	-	-	-	-	No	Yes
Chad*	-	-	-	-	-	-	5	No	No
Côte d'Ivoire	-	-	-	-	-	-	-	No	No
Gabon	-	-	-	-	-	-	-	No	No
Gambia*	-	-	-	100	100	100	100	Yes	-
Guinea*	565	-	-	-	-	-	-	-	Yes
Guinea Bissau*	-	-	-	60	4	20	0	-	Yes
Lesotho*	-	-	-	100	100	-	30	Yes	Yes
Liberia	-	-	-	84	84	100	-	Yes	Yes
Madagascar	-	-	-	0	97	97	100	Yes	Yes
Mali*	-	-	-	-	95	95	-	Yes	Yes
Mauritania*	-	-	-	-	-	-	-	No	No
Mozambique	-	-	-	60	70	90	60	Yes	Yes
Niger*	-	-	-	5	95	80	-	-	-
Sao Tome & Principe*	-	-	-	-	-	-	40	Yes	Yes
Seychelles	-	-	-	-	-	-	100	-	Yes
Sierra Leone*	239	10	21	80	70	70	90	Yes	Yes
Tanzania*	-	-	-	15	50	20	80	Yes	Yes
Togo*	-	-	-	-	-	-	-	Yes	Yes
Zaire	-	-	-	100	-	11	67	Yes	No
Zambia	-	-	-	-	-	-	-	Yes	Yes
Zimbabwe	-	-	-	-	-	-	-	Yes	Yes

* LDCs

2. AMERICAN REGION

2.1 Socioeconomic and Health Situation

Of the Region's 32 Member States, excluding Canada and the United States, 24 submitted reports on the status of water supply and sanitation at the end of 1988. They represent 95% of the regional population. Of the countries which reported coverage figures in 1985, only Barbados, the Bahamas and the Cayman Islands did not report. One additional country, Uruguay, did report. Table 2.1 presents information on the socioeconomic and health conditions in the Region.

Health conditions have remained much as in 1980, with unsatisfactory water supply and sanitation contributing to the poor health existing in many of the region's countries. Over half of the population in four out of 23 reporting countries was without access to adequate and safe water, while another 10 reported more than 25% of their population inadequately served. Two countries out of 21 reported more than half of their population without access to adequate sanitation. These figures represent a considerable improvement since the start of the Decade, when five out of 21 countries reported more than half of their population inadequately supplied with water, and nine out of 19 reported over half of their population without access to an appropriate means of sanitation.

As in past years, all countries reported a life expectancy of over 50 years, and only three countries in fact reported it to be less than 60 years. Infant mortality was less than 100 per 1000 live births in all but two reporting countries (Bolivia and Haiti were the exceptions), and was 20 or less in five. The median value for infant mortality, excluding Bolivia and Haiti, was 36.5 per 1000 live births, almost the same as that estimated in 1985. Three countries out of 11 reported over 5% of their populations affected by waterborne diseases, almost the same as at the start of the Decade.

Currency devaluation continued to reduce international purchasing power of most national currencies. Per capita gross national product ranged from US$300 in Haiti (less than in 1985) to US$2745 in Suriname, with a median value of US$885, somewhat less than the US$1143 indicated in 1985.

2.2 Targets and Planning

Water Supply

For urban water supply, service coverage has risen from 78% at the start of the Decade to 88% at the end of 1988, a total of 81.3 million people have been provided with services. If this rate of programme implementation continues, the level of service coverage by the end of 1990 will be 88%, the same as at present. This levelling off in the increase in proportional coverage is the consequence of population increase. It is clear that there is little chance, if any, of the regional Decade target of 95% coverage being attained.

In rural areas, 57% of the population are reported as having access to an adequate and safe water supply. This compares with an estimated 42% at the start of the Decade. To have achieved this significant increase, a total of 18.2 million people had to be provided with

services. If this rate of programme implementation continues until the end of 1990, the level of service coverage will have risen to 61%. The regional target of 64% coverage could be reached if programme implementation could be expanded to reach an extra 8.6 million people, which is a clear possibility.

Table 2.2.1 Urban Water Supply Service Coverage

	1980	*1988*	*1990 (Target)*
Urban population estimate (millions)	236.72	302.21	326.20
Estimated % service coverage	78	88	95
Estimated population served or to be served (millions)	184.64	265.94	309.89

Table 2.2.2 Rural Water Supply Service Coverage

	1980	*1988*	*1990 (Target)*
Rural population estimate (millions)	124.91	124.01	123.86
Estimated % service coverage	42	57	64
Estimated population served or to be served (millions)	52.46	70.69	79.27

Table 2.2.3 Overall (Urban/Rural) Water Supply Service Coverage

	1980	*1988*	*1990 (Target)*
Total population (millions)	361.63	426.22	450.06
Estimated population served or to be served (millions)	237.10	336.63	389.16
Estimated % service coverage	66	79	86

(Population figures taken from World Population Prospects 1988, United Nations, New York, 1989)

Sanitation

Overall, during the first eight years of the Decade service coverage rose from 48% to 73% and during the remaining two years of the Decade it is expected to rise by a further 5% to 78%. This means that during the course of the Decade approximately 177 million people will have been provided with access to appropriate sanitation.

Prospects for urban areas in Latin America and the Caribbean seem good, since projections suggest that by the end of the Decade 94% of the population of cities and towns will have a service, two percentage points above the computed regional target of 92%. Having already provided a service to an additional 139.4 million people during the first eight years of the Decade, it should be possible to extend services to an additional 28.1

million during the last two years to attain the target. In the light of Decade experience, it appears that countries have raised their targets since the start of the Decade; the computed regional target rose from 90% in 1980 to 92% in 1988.

In rural areas an estimated 13.5 million people acquired sanitation in the first eight years of the Decade. This leaves a further 12.3 million to be served if the target of 41% coverage is to be reached from the current level of 31%. This would require programme implementation rates to be increased by a factor of 3.7.

Table 2.2.4 Urban Sanitation Service Coverage

	1980	*1988*	*1990 (Target)*
Urban population (millions)	236.72	302.21	326.20
Estimated % service coverage	56	90	92
Estimated population served or to be served (millions)	132.56	271.99	300.10

Table 2.2.5 Rural Sanitation Service Coverage

	1980	*1988*	*1990 (Target)*
Rural population (millions)	124.91	124.01	123.86
Estimated % service coverage	20	31	41
Estimated population served or to be served (millions)	24.98	38.44	50.78

Table 2.2.6 Overall (Urban/Rural) Sanitation Service Coverage

	1980	*1988*	*1990 (Target)*
Total population (millions)	361.63	426.22	450.06
Estimated population served or to be served (millions)	174.11	310.43	350.88
Estimated % service coverage	48	73	78

(Population figures taken from World Population Prospects 1988, United Nations, New York 1989)

2.3 Staff and Training

Insufficiency of trained professional and sub-professional staff ranked fifth and third as Decade constraints, though only a minority of countries considered these to be very severe (table 2.8).

Staffing levels varied from 116 per million people served in Ecuador to 4014 per million in Trinidad and Tobago. This wide range clearly indicates a wide diversity of systems, approaches and conditions. The median value was 780 which is 21% higher than

the number estimated in 1983. Nine countries projected staffing levels up to 1990, but no significant increase in personnel needs was foreseen. This would indicate that the manpower constraint to sector development is related to quality and lack of training rather than shortage of people (table 2.5). Out of 19 countries, 12 (63%) reported having developed human resources development master plans.

Of the 13 countries reporting special budgets for training in the water and sanitation sector, only one considered that the funds allocated were sufficient. On the other hand, a total of seven countries reported lack of any training budget.

2.4 Financial Resources

Financial limitation has remained the single most serious constraint to Decade programme implementation cited by governments, closely followed by lack of adequate cost-recovery mechanisms causing lack of cash-flow within the sector.

Table 2.4.1 Unit Costs of Water Supply and Sanitation Facilities (US$ per capita)

	1980	1985	1988
(a) Urban water supply by house connection	125	160	159
(b) Urban water supply by standpost	88	83	75
(c) Rural water supply	62	81	75
(d) Urban sanitation by sewer connection	165	150	160
(e) Urban sanitation by other means	62	80	40
(f) Rural sanitation	18	25	43.7

Fifteen countries provided information on the annual rate of sector investment and the proportion of this coming from external sources. The median value for the proportion of funds from external sources was 53%; this value is probably too high and the value of 33.5% estimated on the basis of information gathered in 1985 is more realistic.

Table 2.4.2 Breakdown of Population To Be Served by 1990 to Attain Regional Targets

	Number served 1988 (millions)	*Number served 1990 (millions)*	*Number to be served (millions)*
Urban water supply	265.94	309.89	= 43.95
Urban sanitation	271.99	300.10	= 28.11
Rural water supply	70.69	79.27	= 8.58
Rural sanitation	38.44	50.78	= 12.34

Of those to be served with water supply in urban areas, an estimated 84% will be through house connection (HC) and 16% by standpost (SP), and of those to be provided with sanitation, 57% will be by sewer connection (SC) and 43% by other means (OM).

Table 2.4.3 Estimated Investments 1989-1990 to Attain Regional Targets

	Number to be served (millions)	*Unit Costs US$*	*Total costs US$ (millions)*
Urban water (HC)	36.92	159.0	5870.28
Urban water (SP)	7.03	75.0	527.25
Urban sanitation (SC)	16.02	160.0	2563.20
Urban sanitation (OM)	12.09	40.0	483.60
Rural water	8.58	75.0	643.50
Rural sanitation	12.34	43.7	539.26
Total			**10627.09**

Based on present sector investment patterns, of the US$10,627 million required, US$3,560 million will be from external sources.

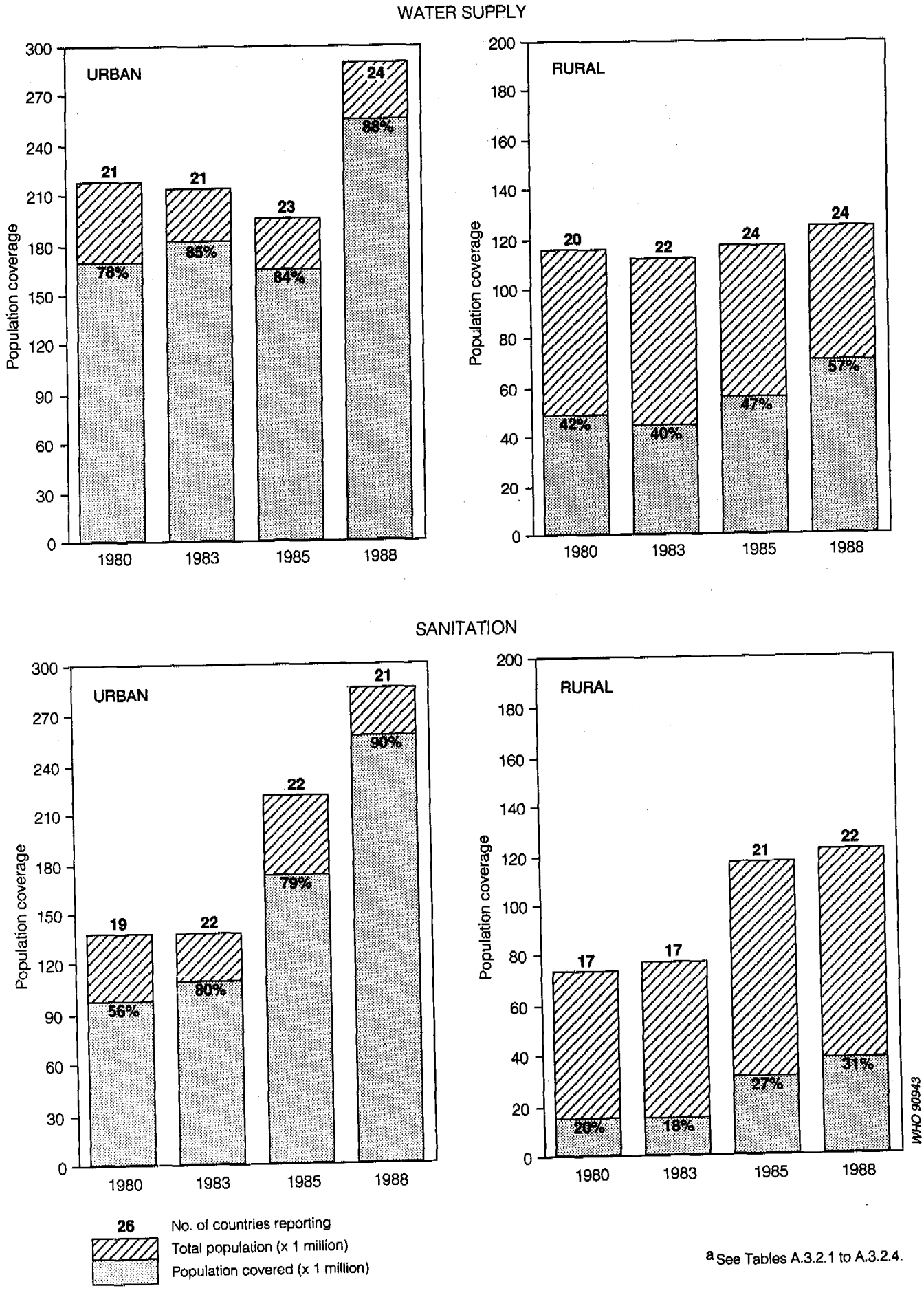
2.5 Decade Approaches

The orientation of national water supply and sanitation programmes towards health education, integration with primary health care, the involvement of women, etc. is reflected in the information contained in tables 2.5 and 2.9.

Community-based workers were employed to support water supply and sanitation developments in 15 of the 20 reporting countries; however, only three countries reported programme activities which specifically addressed the question of the urban poor.

Interest in community participation ranged from one country, Guatemala, where rural populations were involved totally in all levels of project planning through construction to operation, to another, Uruguay, where communities were not involved in any of the stages of project development. In total, eight countries indicated some level of community involvement.

Fig. 2.1. American Region
Population coverage in 1980, 1983, 1985 & 1988 [a]



[a] See Tables A.3.2.1 to A.3.2.4.

TABLE 2.1 AMERICAN REGION 1988
BASIC INDICATORS: DEMOGRAPHIC, ECONOMIC, HEALTH

Country/territory	Population (000)	Population growth rate (%)	GNP per capita (US$)	Life expectancy (years)	Infant mortality per 1000 live births	Waterborne diseases cases per 100 000	Population without safe water (%)	Populatio without sanitatio (%)
Argentina	31 074	0.5	-	-	-	-	-	-
Belize	180	2.5	1 204	-	21	-	0.3	38.9
Bolivia	6 928	2.2	708	53	125	7 000	53.7	66.0
Brazil	144 428	2.4	2 192	65	65	-	3.9	21.7
Chile	12 748	1.7	1 584	71	19	330	14.0	16.6
Colombia	31 200	2.4	1 581	64	55	1 827	12.5	34.9
Costa Rica	2 866	2.5	1 567	76	15	8	6.4	2.8
Dominican Republic	6 867	2.7	514	66	38	-	37.7	40.3
Ecuador	10 203	2.1	648	65	48	290	42.4	43.6
El Salvador	5 032	2.2	903	62	57	-	59.3	39.5
Guatemala	8 681	2.9	867	62	71	1 362	39.8	43.1
Guyana	756	-	484	63	47	670	19.4	14.3
Haiti *	5 774	1.4	300	54	124	50 000	59.7	78.7
Honduras	4 625	-	546	63	62	-	27.6	37.6
Jamaica	2 352	0.1	360	-	4	747	28.1	-
Mexico	85 100	3.0	1 297	76	31	5 054	30.0	26.4
Nicaragua	3 622	3.7	-	-	-	-	46.8	-
Panama	2 282	2.1	-	71	26	-	17.4	16.3
Paraguay	3 900	2.9	805	67	51	-	67.0	42.4
Peru	21 256	2.5	-	59	98	-	41.6	47.9
Surinam	395	0.6	2 745	66	35	-	27.1	44.1
Trinidad & Tobago	1 230	1.6	-	67	19	-	4.1	0.8
Uruguay	2 990	0.6	2 550	72	20	-	25.1	39.6
Venezuela	18 757	3.1	-	72	27	12	10.2	7.6

* Least Develeped Country (LDC)

TABLE 2.2 AMERICAN REGION 1988
COVERAGE TARGETS (% of population) (1990) AND DECADE PLANS

Country/territory	Urban water supply		Urban sanitation		Rural Water supply	Rural sanitation	Status of decade plan preparation
	House connection	Stand-post	Sewer connection	By other means			
Belize	100	0	67	33	44	28	Under preparation
Bolivia	90		80		40	40	Yes/1981
Brazil	90	10	45	-	-	-	Yes/revised yearly
Chile	83	-	71	-	24	6	Yes
Colombia	66	23	57	30	84	17	Yes/1988
Costa Rica	98	2	75	25	85	95	Target yes/under prep.
Dominican Republic	70		35		26		1981
Ecuador	45	2	39	8	51	51	Yes/1984
El Salvador	74	4	60	28	10	37	Yes/1982
Guatemala	83	17	64	36	61	61	Yes/1983
Guyana	91	9	17	80	59	60	Yes/-
Haiti *	37	43	15	65	60	60	Yes/1982
Honduras	90	0	75	3	90	80	Yes/1982
Jamaica	-	-	-	-	-	-	Yes/-
Nicaragua	64	12	35	-	18	-	Yes/-
Panama	90	10	85	-	85	80	Yes/1986
Paraguay	67	2	34	62	10	80	Yes/1983
Peru	63	20	59	22	49	45	Yes/1986
Uruguay	87	-	34	-	-	-	Yes/-
Venezuela	77	8	69	-	91	77	1979

* LDC

TABLE 2.3 AMERICAN REGION 1988
1988 LEVELS OF SERVICE
POPULATIONS PROVIDED BY GOVERNMENTS.

Country/territory	Population (000)			POPULATION WITH SERVICES							
				Drinking water				Sanitation			
				Urban			Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.	by P.S.		Total	by S.C.	by other	
Argentina	31 074	26 219	4 855	19 152	18 208	944	819	26 227	10 261	15 966	1 421
		(84)	(16)	(73)	(69)	(4)	(17)	(100)	(39)	(61)	(29)
Belize	180	90	90	85	80	5	40	85	25	60	25
		(50)	(50)	(94)	(89)	(6)	(44)	(94)	(28)	(67)	(28)
Bolivia	6 928	3 471	3 457	2 685	2 311	374	524	1 914	1 394	520	440
		(50)	(50)	(77)	(67)	(11)	(15)	(55)	(40)	(15)	(13)
Brazil	144 426	106 587	37 839	106 409	96 577	9 832	32 420	94 896	45 000	49 896	15 500
		(74)	(26)	(100)	(91)	(9)	(86)	(89)	(42)	(47)	(41)
Chile	12 748	10 497	2 251	10 497	10 287	210	462	10 497	8 654	1 843	140
		(82)	(18)	(100)	(98)	(2)	(21)	(100)	(82)	(18)	(6)
Colombia	31 200	22 100	9 100	19 400	14 500	4 900	7 900	18 700	12 000	6 700	1 600
		(71)	(29)	(88)	(66)	(22)	(87)	(85)	(54)	(30)	(18)
Costa Rica	2 866	1 719	1 146	1 719	1 685	34	963	1 719	722	997	1 066
		(60)	(40)	(100)	(98)	(2)	(84)	(100)	(42)	(58)	(93)
Dominican Republic	6 866	4 038	2 828	3 477	2 657	820	804	3 091	882	2 209	1 011
		(59)	(41)	(86)	(66)	(20)	(28)	(77)	(22)	(55)	(36)
El Salvador	5 032	2 349	2 683	1 782	1 672	110	269	2 011	1 340	671	1 035
		(47)	(53)	(76)	(71)	(5)	(10)	(86)	(57)	(29)	(39)
Ecuador	10 203	5 529	4 674	4 153	3 963	190	1 728	4 160	3 441	719	1 598
		(54)	(46)	(75)	(72)	(3)	(37)	(75)	(62)	(13)	(34)
Guatemala	8 681	3 287	5 394	3 001	2 393	608	2 222	2 358	1 617	741	2 584
		(38)	(62)	(91)	(73)	(18)	(41)	(72)	(49)	(23)	(48)
Guyana	756	246	510	230	196	34	379	208	70	138	439
		(33)	(67)	(94)	(80)	(14)	(74)	(85)	(29)	(56)	(86)
Haiti *	5 562	1 581	3 981	877	474	403	1 448	-	-	650	578
		(28)	(72)	(55)	(30)	(25)	(36)	-	-	(41)	(15)
Honduras	4 625	1 947	2 678	1 740	1 600	140	1 607	1 717	1 178	539	1 170
		(42)	(58)	(89)	(82)	(7)	(60)	(88)	(61)	(28)	(44)
Jamaica	2 352	1 240	1 112	1 180	344	836	510	-	173	-	-
		(53)	(47)	(95)	(28)	(67)	(46)	-	(14)	-	-
Mexico	85 100	59 570	25 530	47 060	29 785	17 275	12 510	59 570	38 721	20 849	3 064
		(70)	(30)	(79)	(50)	(29)	(49)	(100)	(65)	(35)	(12)
Nicaragua	3 622	2 109	1 513	1 642	1 436	206	286	-	685	-	-
		(58)	(42)	(78)	(68)	(10)	(19)	-	(32)	-	-
Panama	2 282	1 111	1 171	1 111	1 063	48	775	1 110	805	305	799
		(49)	(51)	(100)	(96)	(4)	(66)	(100)	(72)	(27)	(68)
Paraguay	3 900	1 733	2 167	1 126	866	260	160	947	437	510	1 300
		(44)	(56)	(65)	(50)	(15)	(7)	(55)	(25)	(29)	(60)
Peru	21 256	13 890	7 366	10 779	8 679	2 100	1 643	9 845	7 640	2 205	1 223
		(65)	(35)	(78)	(62)	(15)	(22)	(71)	(55)	(16)	(17)
Surinam	385	291	94	239	-	-	53	187	9	178	34
		(76)	(24)	(82)	-	-	(56)	(64)	(3)	(61)	(36)
Trinidad & Tobago	1 230	840	390	840	730	110	340	840	250	590	380
		(68)	(32)	(100)	(87)	(13)	(87)	(100)	(30)	(70)	(97)
Uruguay	2 991	2 607	384	2 219	2 087	132	20	1 555	1 436	119	251
		(87)	(13)	(85)	(80)	(5)	(5)	(60)	(55)	(5)	(65)
Venezuela	18 757	15 604	3 153	13 956	12 142	1 814	2 800	15 120	10 611	4 509	2 210
		(83)	(17)	(89)	(78)	(12)	(89)	(97)	(68)	(29)	(70)
TOTAL	413 020	288 655	124 365	255 358	213 734	41 385	70 682	256 757	147 351	110 914	37 867
		(70)	(30)	(88)	(74)	(14)	(57)	(90)	(51)	(39)	(31)

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TABLE 2.4 AMERICAN REGION 1988
PRESENT (1988-top line) AND PROJECTED (1990-bottom line) POPULATION COVERAGE (in thousands)

Country/territory	Urban Population	Water supply: House connection	Water supply: Stand-post	Sanitation: Sewer connection	Sanitation: By other means	Rural Population	Safe water	Adequate sanitation
Belize	90	80	5	25	60	90	40	25
	90	85	5	60	30	90	40	25
Bolivia	3 471	2 311	374	1 394	520	3 457	524	440
	3 665	3 077	222	2 352	580	3 649	1 460	1 460
Brazil	106 587	96 577	9 832	45 000	49 896	37 839	32 420	15 500
	112 744	101 469	11 276	50 735	-	37 624	-	-
Chile	10 497	10 287	210	8 654	1 843	2 251	462	140
	12 960	10 748	2 212	9 174	2 321	2 305	560	133
Columbia	22 100	14 500	4 900	12 000	6 700	9 100	7 900	1 600
	23 000	15 200	5 200	13 200	7 000	9 500	8 000	1 650
Costa Rica	1 719	1 685	34	722	997	1 146	963	1 066
	1 762	1 727	35	1 322	440	1 175	999	1 116
Dominican Republic	4 038	2 657	820	882	2 209	2 828	804	1 011
	4 216	2 951	1 232	1 476	496	2 953	768	1 115
El Salvador	2 349	1 672	110	1 340	671	2 683	269	1 035
	2 453	1 804	110	1 460	675	2 799	280	1 040
Ecuador	5 529	3 963	190	3 441	719	4 674	1 728	1 598
	5 843	4 889	191	4 178	903	4 939	2 402	2 402
Guatemala	3 287	2 393	608	1 617	741	5 394	2 222	2 584
	3 287	2 741	546	2 108	1 179	5 394	3 313	3 313
Guyana	246	196	34	70	138	510	379	439
	410	374	36	70	330	680	400	407
Haiti *	1 581	474	403	0	650	3 981	1 448	578
	1 713	639	731	250	1 120	4 061	2 450	2 450
Honduras	1 947	1 600	140	1 178	539	2 678	1 607	1 170
	2 137	1 923	0	1 603	64	2 742	2 468	2 194
Mexico	59 570	29 785	17 275	38 721	20 849	25 530	12 510	3 064
	63 962	55 007	3 400	44 773	19 189	26 319	13 300	6 857
Nicaragua	2 109	1 436	206	685	-	1 513	286	-
	2 310	1 486	270	809	-	1 656	298	-
Panama	1 111	1 063	48	805	303	1 171	775	799
	1 157	1 041	116	983	176	1 220	1 037	976
Paraguay	1 733	866	260	437	510	2 167	160	1 300
	1 651	1 110	38	565	1 029	2 426	241	1 945
Peru	13 890	8 679	2 100	7 640	2 205	7 366	1 643	1 223
	14 865	9 365	2 928	8 696	3 270	7 467	3 659	3 338
Surinam	290	228	2	9	178	94	53	34
	300	300	0	30	200	250	240	200
Trinidad & Tobago	840	730	110	250	590	390	340	380
	908	763	145	240	668	881	839	837
Uruguay	2 607	2 087	132	1 436	119	384	20	251
	2 666	2 322	-	896	41	384	-	-
Venezuela	15 604	12 142	1 814	10 611	4 509	3 153	2 800	2 210
	16 418	15 230	1 188	13 710	-	3 317	2 880	2 420

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TABLE 2.4.1.1. AMERICAN REGION 1988
DECADE TARGETS FOR URBAN WATER SUPPLY

Country/territory	Urban Population (000)		Water supply -- Population covered			
			1988		1990	
	1988	1990	No.(000)	(%)	No.(000)	(%)
Belize	90	90	85	94	90	100
Bolivia	3 471	3 665	2 685	77	3 299	90
Brazil	106 587	112 744	106 409	100	112 744	100
Chile	10 497	12 960	10 497	100	12 960	100
Colombia	22 100	23 000	19 400	88	20 400	89
Costa Rica	1 719	1 762	1 719	100	1 762	100
Dominican Republic	4 038	4 216	3 477	86	4 183	99
Ecuador	5 529	5 843	4 153	75	5 080	87
El Salvador	2 349	2 453	1 782	76	1 914	78
Guatemala	3 287	3 287	3 001	91	3 287	100
Guyana	246	410	230	93	410	100
Hiati *	1 581	1 713	877	55	1 370	80
Honduras	1 947	2 137	1 740	89	1 923	90
Mexico	59 570	63 962	47 060	79	58 407	91
Nicaragua	2 109	2 310	1 642	78	1 756	76
Panama	1 111	1 157	1 111	100	1 157	100
Paraguay	1 733	1 651	1 126	65	1 148	70
Peru	13 890	14 593	10 779	78	12 293	84
Surinam	290	300	230	79	300	100
Trinidad & Tobago	840	908	840	100	908	100
Uruguay	2 607	2 666	2 219	85	2 322	87
Venezuela	15 604	16 418	13 956	89	16 418	100
TOTAL	261 195	278 245	235 018	90	264 131	95

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TABLE 2.4.1.2. AMERICAN REGION 1988
DECADE TARGETS FOR URBAN SANITATION

COUNTRY/TERRITORY	Urban Population (000)		Sanitation -- population covered			
			1988		1990	
	1988	1990	No.(000)	(%)	No.(000)	(%)
Belize	90	90	85	94	90	100
Bolivia	3 471	3 665	1 914	55	2 932	80
Chile	10 497	12 960	10 497	100	11 495	89
Colombia	22 100	23 000	18 700	85	20 200	88
Costa Rica	1 719	1 762	1 719	100	1 762	100
Dominican Republic	4 038	4 216	3 091	77	1 972	47
Ecuador	5 529	5 843	4 160	75	5 081	87
El Salvador	2 349	2 453	2 011	86	2 135	87
Guatemala	3 287	3 287	2 358	72	3 287	100
Guyana	246	410	208	85	400	98
Honduras	1 947	2 137	1 717	88	1 667	78
Mexico	59 570	63 962	59 570	100	63 962	100
Panama	1 111	1 157	1 108	100	1 159	100
Paraguay	1 733	1 651	947	55	1 594	97
Peru	13 890	14 865	9 845	71	11 966	80
Surinam	290	300	187	64	230	77
Trinidad & Tobago	840	908	840	100	908	100
TOTAL	132 707	142 666	118 957	90	130 840	92

TABLE 2.4.2.1. AMERICAN REGION 1988
DECADE TARGETS FOR RURAL WATER SUPPLY

Country/territory	Rural population (000)		Water supply -- population covered			
			1988		1990	
	1988	1990	No.(000)	(%)	No.(000)	(%)
Belize	90	90	40	44	40	44
Bolivia	3 457	3 649	524	15	1 460	40
Brazil	37 839	37 624	32 420	86	32 420	86
Chile	2 251	2 305	462	21	560	24
Colombia	9 100	9 500	7 900	87	8 000	84
Costa Rica	1 146	1 175	963	84	999	85
Dominican Republic	2 828	2 953	804	28	768	26
Ecuador	4 674	4 939	1 728	37	2 402	49
El Salvador	2 683	2 799	269	10	280	10
Guatemala	5 394	5 394	2 222	41	3 313	61
Guyana	510	680	379	74	400	59
Haiti *	3 981	4 061	1 448	36	2 450	60
Honduras	2 678	2 742	1 607	60	2 468	90
Mexico	25 530	26 319	12 510	49	13 300	51
Nicaragua	1 513	1 656	286	19	298	18
Panama	1 171	1 220	775	66	1 037	85
Paraguay	2 167	2 426	160	7	241	10
Peru	7 366	7 467	1 643	22	3 659	49
Surinam	94	250	53	56	240	96
Trinidad & Tobago	390	881	340	87	839	95
Venezuela	3 153	3 317	2 800	89	2 880	87
TOTAL	118 015	121 447	69 333	59	78 054	64

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TABLE 2.4.2.2. AMERICAN REGION 1988
DECADE TARGETS FOR RURAL SANITATION

Country/territory	Rural population (000)		Sanitation -- population covered			
			1988		1990	
	1988	1990	No.(000)	(%)	No.(000)	(%)
Belize	90	90	25	28	25	28
Bolivia	3 457	3 649	440	13	1 460	40
Chile	2 251	2 305	140	6	133	6
Colombia	9 100	9 500	1 600	18	1 650	17
Costa Rica	1 146	1 175	1 066	93	1 116	95
Dominican Republic	2 828	2 953	1 011	36	1 115	38
Ecuador	4 674	4 939	1 598	34	2 402	49
El Salvador	2 683	2 799	1 035	39	1 040	37
Guatemala	5 394	5 394	2 584	48	3 313	61
Guyana	510	680	439	86	407	60
Haiti *	3 981	4 061	578	15	2 450	60
Honduras	2 678	2 742	1 170	44	2 194	80
Mexico	25 530	26 319	3 064	12	6 857	26
Panama	1 171	1 220	799	68	976	80
Paraguay	2 167	2 426	1 300	60	1 945	80
Peru	7 366	7 467	1 223	17	3 338	45
Surinam	94	250	34	36	200	80
Trinidad & Tobago	390	881	380	97	837	95
Venezuela	3 153	3 317	2 210	70	2 420	73
TOTAL	78 663	82 167	20 696	26	33 878	41

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TABLE 2.5 AMERICAN REGION 1988
STAFF RESOURCES 1988 (top line) AND PROJECTED REQUIREMENTS FOR 1990 (bottom line)

Country/territory	Planning and management	Technical	Craftsmen artisanal	Administration clerical	Unskilled workers	Total per million population	Community based workers (Yes/No)	HRD master plan (Yes/No)	Established training budget and is it sufficient (Yes/No)
Belize	4	22	8	4	22	333	Yes	No	Yes/No
	4	22	8	4	22	333			
Bolivia	155	331	389	277	705	268	Yes	No	No
	200	400	400	350	800	294			
Brazil	3 683	34 845	22 035	11 745	20 297	641	No	Yes	Yes/No
	-	-	-	-	-	-			
Chile	196	1 174	3 301	1 608	6 279	985	Yes	Yes	Yes/Yes
	-	-	-	-	-	-			
Colombia	566	948	13 173	-	9 645	780	Yes	Yes	Yes/No
	590	990	13 700	-	10 040	779			
Costa Rica	23	440	1 061	413	1 068	1 049	Yes	Yes	Yes/No
	-	-	-	-	-	-			
Dominican Republic	-	-	-	-	-	-	Yes	Yes	Yes/No
	-	-	-	-	-	-			
El Salvador	26	234	1 664	1 270	308	696	No	Yes	Yes/No
	35	300	1 680	1 200	300	669			
Ecuador	35	486	25	77	563	116	Yes	Yes	Yes/No
	41	559	31	246	607	138			
Guatemala	181	756	592	1 925	1 401	559	Yes	No	No
	-	-	-	-	-	-			
Guyana	13	50	751	71	300	1 568	-	-	-
	19	53	776	91	330	1 164			
Haiti *	195	460	142	296	794	327	-	-	-
	214	560	270	296	794	370			
Honduras	10	543	322	154	586	349	Yes	No	No
	12	687	301	148	576	353			
Jamaica	111	80	1 200	2 482	-	1 647	Yes	-	Yes/No
	-	-	-	-	-	-			
Mexico	-	-	-	-	-	-	No	No	No
	-	-	-	-	-	-			
Nicaragua	365	612	457	1 065	345	785	Yes	Yes	Yes/No
	-	-	-	-	-	-			
Panama	209	573	536	1 006	784	1 362	Yes	Yes	No
	-	-	-	-	-	-			
Paraguay	25	480	360	580	750	563	Yes	Yes	No
	-	-	-	-	-	-			
Peru	629	3 454	1 510	3 527	-	657(a)	Yes	Yes	Yes/No
	-	-	-	-	-	-			
Surinam	13	333	232	72	181	2 104	-	-	-
	22	354	234	82	188	2 200			
Trinidad & Tobago	20	1 575	1 492	936	914	4 014	No	No	Yes/No
	20	1 560	1 190	600	600	-	-	-	
Uruguay	-	-	-	-	-	-	No	No	No
	53	851	3 872	-	1 883	3 280			
Venezuela	-	-	-	-	-	-	Yes	Yes	Yes/No
	-	-	-	-	-	-			

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TABLE 2.6 AMERICAN REGION 1988
UNIT COSTS OF CONSTRUCTION (US$ PER CAPITA) AND OF WATER PRODUCTION (US$/m3)

	CONSTRUCTION						OPERATION		
	Urban water supply		Urban sanitation						
Country/territory	House connection	Stand-post	Sewer connection	By other means	Rural water supply	Rural sani-tation	Average cost of water production	Average water tariff	Progressive water tariff
Argentina	-	70	200	40	200.0	-	-	-	-
Belize	300	175	500	200	50.0	60.0	0.70	1.40	Yes
Bolivia	120	80	145	40	60.0	40.0	-	0.40	No
Brazil	100	25	120	30	45.0	15.0	0.17	0.26	Yes
Chile	195	-	145	50	150.0	-	0.06	0.09	Yes
Colombia	130	40	80	40	60.0	51.0	0.05	0.06	Yes
Costa Rica	177	-	55	14	45.0	-	0.19	0.20	Yes
Dominican Republic	102	20	508	103	68.0	30.0	-	-	Yes
Ecuador	103	92	90	14	86.0	78.0	0.07	0.05	Yes
Guatemala	168	100	150	-	70.0	7.5	0.18	0.09	No
Guyana	177	100	600	250	167.0	70.0	0.45	0.27	No
Haiti*	180	62	270	35	45.0	22.0	0.24	.28-1.00	Yes
Honduras	270	-	-	-	-	-	-	-	-
Jamaica	9	-	-	-	-	-	-	-	Yes
Mexico	186	-	141	-	94.5	47.3	0.35	0.09	Yes
Panama	125	-	235	-	80.0	18.0	0.07	0.29	Yes
Paraguay	150	-	170	200	130.0	60.0	0.60	0.49	Yes
Peru	85	25	90	20	35.0	27.0	0.10	0.07	Yes
Surinam	204	-	-	-	51.0	-	0.69	0.81	No
Trinidad & Tobago	395	345	925	475	470.0	110.0	0.20	0.14	Yes
Uruguay	95	-	400	95-270	500.0	-	0.36	0.34	Yes
Venezuela	-	-	-	-	180.0	-	-	-	-

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TABLE 2.7 AMERICAN REGION 1988
COST PROJECTIONS COMPARED WITH 1981-88 SECTOR INVESTMENTS

Country/territory	Estimated cost to reach country decade targets US$ millions	SECTOR INVESTMENTS PER ANNUM			Investment acceleration needed (fold)
		Total US$ millions	Percentage of total development investment	External US$ millions (%)	
Belize	43.50	9.40	-	9.40 (100)	3.70
Bolivia	218.00	115.00	-	63.00 (54.8)	1.52
Brazil	8 093.09	5 888.10	-	743.33 (12.6)	1.10
Chile	401.25	267.77	-	114.71 (42.8)	1.20
Colombia	2 373.00	796.40	-	178.90 (22.5)	2.38
Costa Rica	-	73.31	-	48.35 (66.0)	-
El Salvador	275.50	95.57	-	93.29 (97.6)	2.31
Ecuador	-	46.57	-	7.98 (17.1)	-
Guatemala	563.93	88.43	-	37.78 (42.7)	5.10
Guyana	21.20	8.48	-	5.96 (70.3)	2.00
Haiti *	143.00	11.82	-	10.52 (89.0)	9.68
Honduras	315.10	-	-	- -	-
Jamaica	9.77	-	-	- -	-
Mexico	-	2 886.67	-	698.67 (24.2)	-
Panama	161.10	106.50	-	56.00 (52.6)	1.21
Trinidad & Tobago	-	131.40	-	2.65 (2.0)	-
Uruguay	204.43	192.00	-	118.56 (61.8)	-

* LDC

TABLE 2.8 AMERICAN REGION 1988
RANKING AND FREQUENCY OF CONSTRAINTS[a]

Constraint	No. of countries Indicating constraint			Ranking index [b]
	Very severe	Severe	Moderate	
Funding limitations	8	12	3	51
Inadequate cost-recovery framework	9	9	4	49
Insufficiency of trained personnel (sub-professional)	5	10	6	41
Import restrictions	8	5	7	41
Insufficiency of trained personnel (professional)	4	8	10	38
Logistics	5	10	3	38
Operation and maintenance	5	9	5	38
Intermittent water service	4	9	6	36
Insufficient health education efforts	4	5	11	33
Inappropriate institutional framework	3	7	4	27
Inadequate or outmoded legal framework	-	9	9	27
Non-involvement of communities	1	7	10	27
Lack of planning and design criteria	2	6	8	26
Lack of definite government policy for sector	3	3	10	25
Inadequate water resources	1	4	13	24
Insufficient knowledge of water resources	1	2	14	21
Inappropriate technology	-	5	11	21

a Number of reporting countries

b Ranking index - (No. very severe x 3) + (No. severe x 2) + (No. moderate x 1)

TABLE 2.9 AMERICAN REGION 1988
DECADE APPROACHES DURING 1981-1988

Country/ territory	Improved services for the urban poor			Percent of rural communities participating in improvements			primary school children receiving health education (%)	Promotion of women's participation (Yes/No)	Water supply and sanitation in rural areas as part of PHC (Yes/No)
	Total urban poor population (000)	Population affected by improvements (%)	Urban water development fund used (%)	Planning (%)	Building (%)	Operation (%)			
Bolivia	2 700	9	-	-	-	-	-	Yes	No
Brazil	107	-	-	-	-	-	-	No	No
Costa Rica	-	-	-	-	93	100	-	Yes	Yes
Dominican Republic	3 028	-	-	10	48	48	-	-	-
Ecuador	-	-	-	0	39	39	-	Yes	Yes
Guatemala	-	-	-	100	100	100	-	No	-
Guyana	-	-	-	-	-	-	-	Yes	No
Haiti *	1 028	40	2	57	80	65	34	Yes	Yes
Honduras	-	-	-	100	100	30	-	Yes	Yes
Jamaica	-	-	-	-	-	-	-	-	No
Panama	-	-	-	-	-	-	-	No	No
Paraguay	247	3	1	4	22	56	90	Yes	Yes
Trinidad & Tobago	-	-	-	10	20	-	-	No	No
Uruguay	485	-	-	0	0	0	8	No	No
Venezuela	-	-	-	-	-	-	-	No	-

* LDC