1981-1990

The International Drinking Water Supply and Sanitation Decade Directory

Review of National Progress

(as at December 1983)

Published July 1986 in the CWS Series of Cooperative Action for the Decade.

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PREFACE

This document presents data on the status of water supply and sanitation services in developing countries in December 1983. 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 the progress achieved during the first three years of the IDWSSD, and adjustments which have been made to the Decade targets in those countries which have made changes.

As the Baseline document pointed out, collection and collation of data on water supply and sanitation services poses many difficulties and often depends on value judgements. Few countries have a single agency controlling water supply and sanitation for urban and rural areas. More frequently, the services are managed by a large number of regional and municipal authorities which retain records largely for day-to-day operations. Rarely are such records collected in a form suitable for this type of global analysis, and in many cases the information is incomplete.

So, it is a considerable achievement on the part of the developing countries that so many have been able to furnish WHO with the statistics needed for this analysis. When questions arise concerning the accuracy of the information or the conclusions drawn from it, critics must take account of the data collection problems.

Difficulty arises too with the question of definitions, particularly in relation to the judgement of an adequate and safe water supply or an appropriate means of sanitation. One country may report a high level of service coverage, based on relatively low standards, while another, applying higher standards, will assess its coverage level correspondingly lower.

Accepting these constraints, this report presents as full a picture as possible of the status of water supply and sanitation services country-by-country, regionally, and globally. It has been made possible by commendable efforts on the part of those governments which provided information, in collecting statistics from so many individual agencies. Alongside the inputs from government officials, there have been collaborative efforts on the part of staff members of the United Nations and its specialized agencies, particularly WHO country and Regional Offices' staff and the Resident Representatives of the UN Development Programme. In their role as country Decade coordinators, the UNDP Res. Reps. have contributed to the collection and routing of information and their collaboration is acknowledged and greatly appreciated.

INTRODUCTION

Data collected during 1981 established the status of water supply and sanitation services on 31 December 1980, i.e at the beginning of the International Drinking Water Supply and Sanitation Decade. Analysis of the data resulted in WHO Offset Publication No. 85 as the "Baseline" from which Decade progress could be assessed.

The World Health Organization has been asked by the IDWSSD Steering Committee for Cooperative Action to report on Decade progress, and guidelines for the collection and presentation of data were published in 1982, based on procedures adopted in 1981. (IDWSSD Publication No. 2: National and Global Monitoring of Water Supply and Sanitation, October 1982). The Sector Digest Forms which are the basis of these guidelines are included here as Annex II.

Three years was chosen as the interval between the first and second surveys and accordingly another data collection exercise was undertaken in 1984, recording the situation on 31 December 1983. Comparisons between the two sets of data were intended to provide an assessment of progress during the first three years of the Decade, and, as monitoring of the status of water supply and sanitation services is not a new activity for WHO, an attempt has also been made to compare this progress with sector achievements indicated by surveys undertaken in 1970 and 1975. In this way, it is hoped to assess the impact of the political commitments made by countries at the United Nations Water Conference in 1977 and at the official launch of the IDWSSD at the UN General Assembly on 10 November 1980.

Past efforts to collect information on water supply and sanitation services on a country-by-country basis have demonstrated weaknesses in national information systems. Dispersed responsibility for services among ministries and central agencies and among provinces, regions and municipalities makes data collection difficult. Available information has usually been collected for operational purposes rather than for long-term planning or management and so does not include many of the statistics needed for evaluating progress. Water and sanitation statistics do not feature on many national census forms.

This latest survey has again highlighted the need for improved information collection, storage and processing. National Decade programmes need to promote data collection and management as a vital requirement for planning and implementation of future projects. Nor is the problem restricted to the developing countries. WHO's attempt to obtain meaningful national statistics from some of the world's most industrialized and economically developed countries have encountered similar constraints.

WHO's Regional Offices initiated efforts to collect the figures for the 1983 up-date towards the end of 1983. By mid-1984, over 60 countries had responded and replies continued to come in until the end of January 1985, at which time the tables contained in this report were closed and finalized. By then, 94 countries or territories out of a possible total of about 140 had provided some information. These countries represent 87% of the population of the developing world excluding China. In the WHO regions, representation is:

Africa - 26 countries (57%) representing 69% of the population
Americas - 25 countries (78%) representing 97% of the population
E. Mediterranean - 12 countries (52%) representing 50% of the population
S.E. Asia - 9 countries (82%) representing 98% of the population
W. Pacific - 22 countries (92%) representing 96% of the population

Quality of responses received varied greatly from country to country. In the best cases, questionnaires were complete and consistent with information provided in the previous survey. At the other end of the scale, very few questions were completed, or information was inconsistent - e.g. population served greater than total population. By no means all of the reporting countries provided data for all four sub-sectors (urban water supply, urban sanitation, rural water supply, rural sanitation). In the African region, for example, though overall reporting covered 69% of the regional population, the figure dropped to 22% when considering countries reporting on urban sanitation and was only 39% for rural sanitation.

Summary Table 1

Coverage of global monitoring system by region, 1980 and 1983

a. by number of countries/territories reporting[1] (Percentages in brackets)

Region	All developing countries				Least developed countries (LDC)			
	Total Number	Number reporting 1980	1983	1980 & 1983	Total Number	Number reporting 1980	1983	1980 & 1983
Africa	44	22 (50)	26 (59)	16 (36)	23	15 (65)	15 (65)	11 (48)
Americas	34	21 (62)	25 (74)	20 (59)	1	-	1 (100)	-
South East Asia	11	9 (82)	9 (82)	9 (82)	4	4 (100)	4 (100)	4 (100)
Eastern Medit.	22	12 (55)	11 (50)	7 (32)	6	4 (67)	5 (83)	3 (50)
Western Pacific	24	20 (83)	22 (92)	18 (75)	2	7 (50)	2 (100)	1 (50)
TOTAL	135	84 (62)	94 (70)	70 (52)	36	24 (67)	27 (75)	19 (53)

Summary Table 2

Coverage of global monitoring system by subsector and region, 1983

Region	All developing countries Population			Developing countries reporting 1983 data																	
				All reporting countries			Countries reporting on specified subsectors:														
				Population			Urban Water Supply				Rural Water Supply				Urban Sanitation				Rural Sanitation			
	No.	Urban	Rural	No.	Urban Pop.	Rural Pop.	No.	Urban Pop.	% a	% b	No.	Rural Pop.	% a	% b	No.	Urban Pop.	% a	% b	No.	Rural Pop.	% a	% b
Africa	44	103 389	287 035	26	65 481	205 484	25	63 661	62	97	23	202 190	70	98	17	23 184	22	35	18	111 021	39	54
Americas	34	253 778	126 528	24	246 098	121 574	22	231 275	91	94	22	117 629	93	97	19	136 938	54	56	18	80 582	64	66
South East Asia	11	265 274	831 722	9	253 160	822 989	8	252 999	95	100	9	822 889	99	100	7	249 649	99	99	7	809 570	97	98
Eastern Medit.	22	114 1821	164 437	11	45 196	94 016	10	43 524	38	96	9	90 618	55	96	8	39 792	35	88	6	70 920	43	75
Western Pacific	24	73 454	114 791	21	72 127	108 820	18	34 235	47	47	20	108 670	95	100	16	29 021	40	40	17	93 490	81	86
TOTAL	135	810 077	1 524 513	94	682 061	1 352 883	83	625 694	77	92	83	1 341 996	88	99	67	478 584	59	70	66	1 165 583	76	86

* Excluding China
a Coverage in percent of population of all developing countries
b Coverage in percent of population of reporting countries

Scope and limitations of the data

Summary tables 1 and 2 show the extent of reporting across the regions and by sub-sector. Three regions - the Americas, South-East Asia, and Western Pacific - attained almost complete reporting (though not in all sub-sectors). For the other two regions - Africa and Eastern Mediterranean - the question arises as to how representative the resulting data are of the regions as a whole.

One indicator is the proportion of the population in the sample from Least Developed Countries (LDCs) compared with the regional proportions. As Table 1 shows, the African sample slightly under-represents the LDCs (28.7% instead of 34.7%), while in the Eastern Mediterranean region LDCs are over-represented in the sample (23.2% compared with 17.8% in the region as a whole). The differences are small and unlikely to affect any general conclusions drawn about regional trends.

Another encouraging sign comes from re-analysis of the 1980 baseline using additional data supplied during the 1984 monitoring. Information received from countries which had not reported in 1980 enabled the baseline to be expanded, doubling the sample population in the case of Africa. Yet the revised coverage figures are little different from those calculated on the original data (see Summary Table 3).

Summary Table 3:
1980 REGIONAL COVERAGES CALCULATED FROM ORIGINAL (1981) DATA (TOP LINE) AND EXPANDED (1981 + 1984) DATA (BOTTOM LINE)

REGION	Rural Population in sample ('000)	Urban Population in sample ('000)	Urban water supply coverage %	Urban sanitation coverage %	Rural water supply %	Rural sanitation coverage %
AFRICA	82 935	20 788	66	54	22	20
	169 036	45 156	62	55	24	19
AMERICA	115 289	218 109	78	56	42	20
	119 510	219 774	77	56	41	20
EASTERN MEDITERRANEAN	115 109	65 498	83	57	30	7
	132 618	71 134	83	56	30	5
SOUTH-EAST ASIA	787 360	232 601	64	30	31	6
	787 360	232 601	64	30	31	6
WESTERN PACIFIC	98 687	66 397	81	93	41	63
	103 356	66 979	81	92	41	61
TOTALS	1 199 371	603 393	74	50	33	13
	1 311 880	635 644	75	50	33	12

So there are some grounds for confidence that the coverage percentages calculated on the basis of 1981 and 1984 data do reflect the regional picture with a reasonable degree of accuracy.

The total population of the countries providing information in 1981 was 1 867 million and in 1984 was 2 033 million. Though the sample countries varied, a total of 71 countries were common to both samples, giving a good statistical basis for comparison and the identification of trends since the start of the IDWSSD.

Presentation of data

Global data is presented in the same format as was used in the Baseline report, so as to make comparisons easy. Wherever possible, data has been taken

from forms and reports submitted by the countries through the WHO standard system for national and global monitoring of water supply and sanitation. Only where there were gaps in the reported data has recourse been made to other information sources. In particular, population distribution and forecasts have been supplemented using values taken from the United Nations Demographic Indicators of Countries, New York 1982, but only where no data were provided by the country concerned.

One effect of this policy is that there may be differences between data provided by governments and included in this document and corresponding values in other official WHO, United Nations or World Bank publications. Values for per capita gross national product, life expectancy, infant mortality and incidence of water-related diseases are examples of data where the figures provided through the global monitoring exercise are not always the same as those collected by other agencies for their monitoring purposes.

Two distinct methods have been used to compare data for different years:

(a) For each region, comparisons have been made of the 1983 situation with that obtained in 1980, 1975 and 1970 in each sub-sector. The results are presented in the A.3.2 series of tables in the global summary, and in histogram form as the first illustration in each regional analysis. In compiling these tables and histograms, all the data available for each monitoring year has been used. For regions such as Africa and the Eastern Mediterranean, where reporting is incomplete and variable, there may be significant differences in the countries included for different monitoring years and judgements as to regional trends must be qualified accordingly.

(b) In comparing service levels attained in 1983 with the levels projected for 1990 (targets set in 1984), the analytical approach is different. Information included in the four tables A.4.1.1 to A.4.2.2 and figure A.2 is restricted to those countries which provided comparable data for both years. The tables therefore give a true reflection of the aims of the countries concerned, comparing like with like, though the sample size is clearly reduced by the selection of countries.

No information has been included for the European Region this time. Only two countries in WHO's European Region - Morocco and Turkey - have a level of development comparable with countries from other regions involved in the IDWSSD effort. No 1983 data on water supply and sanitation services were available from either country. The statistics are therefore presented here in six sections - one global summary, in which all figures and tables are prefixed with the letter A; and five regional summaries in which the prefixes are: 1 - Africa; 2 - Americas; 3 - South-East Asia; 4 - Eastern Mediterranean; 5 - Western Pacific.

Graphic representation of service coverage, globally and by Region follows the same pattern as the Baseline document. Histograms indicate the changes in each sub-sector in the four monitoring years for all the reporting countries (fig A.1 and figs 1.1, 2.1, 3.1, 4.1 and 5.1). Targetted progress between 1983 and 1990 is also shown by sub-sector for countries which provided full information for both years (in fig A.2 and regional figs 1.2, 2.2, 3.2, 4.2 and 5.2 this planned progress is also compared with the Baseline coverage in each sub-sector).

Tables breakdown the global data by region and the regional data by country and again the format duplicates that of the Baseline report, to allow easy comparison. Thus, the data for fig A.1 is detailed in Tables A.3.2.1 to A.3.2.4, while regional figures 1.1 to 5.1 are supported by Tables 1.3 to 5.3 respectively. Figure A.2 is based on Tables A.4.1.1, A.4.1.2, A.4.2.1 and A.4.2.2, while the regional figures 1.2 to 5.2 represent data in Tables 1.4.1 and 1.4.2 (figure 1.2) to 5.4.1 and 5.4.2 (figure 5.2).

- Table A.1 summarizes the basic indicators of national needs and capacities for improving water supply and sanitation. The shortfall in services was calculated from 1983 coverage figures, and information on water resources came from data on constraints identified by governments. Most of the data comes from

Form 1 of the Sector Digest Forms (Annex II) with extra information from Forms 3 and 8. Corresponding tables in the regional sections are Tables 1.1 to 5.1.

- Table A.2 presents a global summary of coverage targets and plans for the Decade and the same information is broken down by region in Tables 1.2 to 5.2. Data for these tables come from Sector Digest Form 2.

- Tables A.3 and 1.3 to 5.3 give the 1983 situation in the four sub-sectors, dividing urban services also into two categories. It is important to recognize that the population sample is different for each category, because of partial reporting by many countries. So, for example, the total number of people listed as having satisfactory urban sanitation services in a particular region will not be the sum of those with sewer connections and those with other means of sanitation, as some countries report sewer connections only, some report non-sewered services only, some report totals only, and some give full information (if that has added to the confusion, read this sentence again referring to Table 1.3 and note the effect of the Nigeria data). Table A.3.1 has been compiled to show the sample size for each of the categories in Table A.3, region by region and Table A.3.2 enables comparisons to be made with statistics collected for the earlier monitoring exercises. More details of the earlier surveys are given in Tables A.3.2.1 to A.3.2.4 one sub-sector at a time.

- The series of tables A.4.1.1 to A.4.2.2 translate the Decade targets of individual countries into regional totals of projected new beneficiaries between 1983 and 1990 for each sub-sector. An indication of the task facing each region is given by the final column in these tables, which shows the ratio of the additional people to be served during the remaining seven years to the total number with services in 1983 (i.e. a ratio of 1.0 would mean that the number of people with services would double in the seven years). The country data on which these global tables are based comes from Sector Digest Forms 2 and 3 and is shown in summary form in the regional Tables 1.4 to 5.4 and in fuller detail in the sub-sector tables which follow them in each regional section.

- Table A.5 shows regional median staffing figures per million population in 1983 and planned training of extra staff during the remainder of the Decade. A separate calculation has been made for the Least Developed Countries (LDCs) which provided information. The regional Tables 1.5 to 5.5, based on information from Sector Digest Form 5, show the breakdown of present and projected new staff in each of five categories ranging from planning and managerial personnel to community-based workers.

- Table A.6 and regional Tables 1.6 to 5.6 summarize financial data reported via Sector Digest Form 6. They include per capita costs (medians in the global table) for different forms of water supply and sanitation services in urban and rural areas and comparisons between tariffs and water production costs. Again data for LDCs has been presented separately in the global table.

- Table A.7 compares the annual rate of investment during the first three years of the Decade with the rate that would be required over the next seven years if countries were to reach their programme investment targets. Results are expressed as a minimum, a median and a maximum value for each region and a separate listing is provided for the LDCs. In the regional Tables 1.7 to 5.7, individual country data includes the proportion of investment expected to be derived from external sources. The information comes from Sector Digest Form 7.

- Table A.8 and regional Tables 1.8 to 5.8 show the constraints facing governments attempting to accelerate sector development. Information collected on Sector Digest Form 8 has been classified under 17 headings and ranked according to priorities assigned by the governments. The ranking system is explained as a footnote to each table.

- Table A.9 and regional Tables 1.9 to 5.9 present information on the extent to which the recommended IDWSSD approaches have been adopted in the countries during 1981-1983. Particular emphasis is laid on the degree of community participation and the role of basic health education.

Expanded Baseline

The 1984 monitoring produced additional information on the 1980 situation from 17 countries which were not included in the original Baseline document. Summary Table 3 showed the effects of this extra information on the population samples for Baseline coverage calculations in each sub-sector. In the final section of this document, each of the regional coverage Tables 1.3 to 6.3 from the original Baseline document (which included the European Region), has been recalculated using the expanded data. The new Tables B.1.3 to B.6.3 are presented alongside the original Baseline Tables, and the apparent changes in regional levels of coverage are summarized in a final table D.1.1.

Interpretation of Tables

In all the regional tables, countries are listed in descending order of 1983 population.

To prevent results from becoming highly skewed where the country figures were unevenly distributed and particularly where extremely high or low atypical results were reported, median values have been used instead of arithmetic means when presenting some regional and global figures. Examples include unit costs, tariff levels and staffing ratios.

For many developing countries, and for LDCs in particular, infant mortality rates (Tables A.1 and 1.1 to 5.1) listed should be treated with some caution. Serious underestimates can occur because of very incomplete reporting of infant deaths and particularly of neo-natal deaths. Life expectancy data tend to be more reliable since they include a wider age range and usually are produced using special analytical methods.

The large number of cases of water-borne diseases shown in Tables 1.1 to 5.1 for many countries suggests that reporting has not been restricted to acute notifiable diseases (incidence data), but includes chronic infectious diseases (prevalence data). The relatively large differences in this indicator between 1980 and 1983 for some countries could imply that definitions may have varied.

In Tables A.9 and 1.9 to 5.9, the proportion of primary school children receiving health education needs careful interpretation, as it depends not only on the percentage of schools with health education programmes, but also on the proportion of children attending primary school (not 100% in many countries).

A. GLOBAL REVIEW

1. Socioeconomic and health situation

Population trends during the first three years of the IDWSSD have been very much in line with projections made at the start of the Decade, with the biggest growth taking place in the urban areas. This rapid urbanization, which is reported in all regions, is one of the main challenges facing countries attempting to increase the percentage of the population provided with safe and adequate water and appropriate sanitation.

Africa has the highest projected growth in urban population - a 51% increase is expected between 1983 and 1990, largely due to rural migration. It is also the region with the lowest level of coverage for urban water supplies (61% of the urban population served at the end of 1983). In the other four regions, projected urban population increases from 1983 to 1990 range from 27% to 34%. Anticipated rural population increases are considerably smaller, ranging from 10% (Americas) to 19% (Eastern Mediterranean).

Table A.1 shows little change from the worrying health profile indicated by the Baseline statistics. Still about one third of the developing countries have an average life expectancy of less than 50 years, infant moratlity over 100 per 1000 live births and water-borne diseases affecting more than 1% of the population. There is a very small improvement in the percentage of countries in which water supply and sanitation services are available to more than half of the population, but still 43% of the reporting countries record that less than half of their people have access to safe water and the same percentage are below 50% coverage with adequate sanitation.

Not surprisingly perhaps, the health picture was worst in the "Least Developed Countries" (LDCs). In Africa for example, 16 out of 26 countries had a life expectancy at birth of 50 or less and of the 16, 12 were LDCs. At the other end of the health spectrum, none of the countries from the American Region report life expectancies of less than 50, though 10 of the 20 reporting countries record a high prevalence of water-borne diseases. In total, 27 LDCs provided data, of which 20 had life expectancies of less than 50 years and 22 had an infant mortality exceeding 100 per 1000 live births.

2. Targets and planning

Of the 94 countries responding to the request for data, 76 (81%) said that they had Decade plans or that such plans were under preparation. In most cases these plans covered all four sub-sectors: urban water supply; urban sanitation; rural water supply; and rural sanitation, but in some countries national Decade priority was given to particular sub-sectors. Of the 27 LDCs reporting, 22 had established Decade plans - again 81%.

It is noticeable that a significant number of countries have reduced their Decade targets from those reported in 1981, recognizing from experiences during the first three years of implementation that the original goals were over-ambitious. Even with the reductions, many countries still have Decade targets which appear very optimistic, and which would call for considerable acceleration in the pace of project implementation to bring them to fruition.

Measured against the actual progress recorded during the first three years, the global targets represent an acceleration factor of about 2.7 for the rest of the Decade - an impossible task. Individual programmes vary enormously. For the ten countries of Africa which provided data on both 1980-1983 progress and 1990 targets, the acceleration required varies from a peak of 20.6 right down to unity (no acceleration needed), with most countries needing to speed up by a factor of about 3. In the Americas, the range was narrower - 1.1 to 7.9 with a median value of about 4. The range in South-East Asia was from 1.1 to 3.4, while in the Western Pacific, some countries were already achieving implementation rates higher than the Decade targets demanded whereas others needed to accelerate factors up to 21.4.

3. 1983 Service levels

Table A.3 shows the service situation at the end of 1983 as reported by 92 countries/territories (two reporting countries did not provide data on 1983 coverage levels). Bearing in mind the reservations already expressed about partial reporting and the reliability of some of the data, it is possible to draw a number of general conclusions:

- Three urban residents out of four had access to safe water and about 80% of these received their water through a house connection. Overall urban water supply coverage has remained about the same as in 1980, though there is a significant increase in the proportion of the population reportedly served through house connections.

- A little over half of the urban residents have access to adequate sanitation. There has been a slight improvement in the urban sanitation coverage level in the first three years of the IDWSSD (50% in 1980 up to 52% in 1983) and again there is a marked improvement recorded in the level of service provided. In 1983, one in five of the urban population judged to have adequate sanitation were served by sewer connections; the equivalent figure for 1983 is one in three.

- The greatest advance in the first three years of the Decade seems to have been made in rural water supplies. From one in three rural people reported to have access to safe and adequate water supplies in 1980, coverage has risen to two people in five. In relation to the IDWSSD philosophy, which calls for concentration of efforts on the unserved poor, these figures are very significant.

- Just one rural dweller in seven (14%) was judged to have access to appropriate sanitation at the end of 1983. Though this is a slight improvement (1%) over the situation at the beginning of the Decade, this is the sub-sector where least progress have been made and most has to be done in the future.

As pointed out in the introduction, Table A.3 needs careful interpretation, to allow for the fact that the reporting countries vary not just from sub-sector to sub-sector, but also within the urban water and urban sanitation groups for different standards of service. Table A.3.1 was compiled to illustrate the different sample sizes for each sub-sector.

The different levels of service based on data collected in earlier monitoring exercises are shown in Table A.3.1 for 1970, 1975, 1980 and 1983. The Baseline report noted that apparently large variations in coverage between one reporting period and the next could result in part from different reporting standards and incomplete reporting from country to country. To some extent, the standardized monitoring methodology adopted for the 1980 and 1983 statistics appears to have led to more consistent figures, and there is hope that future data may continue this trend of increased reliability.

4. Closing the gap

As we have seen, the national targets frequently imply impossibly high accelerations in the rate of implementation of water supply and sanitation programmes. This was also the case in 1980, but programme slippage during the first three years has not been fully accounted for in the revised targets, so that even greater efforts are now being called for than was the case at the start of the Decade. Figure A.2 and the four Tables A.4.1.1 to A.4.2.2 illustrate the scale of effort facing the countries sub-sector by sub-sector.

For the 55 selected countries which provided information on urban water supply coverage in 1983 and targets for 1990 (they represent 58% of the global urban population[a]), the 1990 target coverage is 89%, compared with the 93% target set in 1980. To achieve the new target would mean that an extra 184 million urban residents would have to be supplied with safe water in these countries during the remainder of the Decade. This has to be compared with the

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[a] The global population referred to throughout this section is the total population of developing countries/territories in the WHO Regions, but excluding China.

total 333 million people who actually have access to safe water in the same 55 countries at the end of 1983 (72% coverage). Africa has the greatest task, in seeking to raise coverage from 54% (1983) to 83% (1990), particularly as 1980 coverage was recorded as 60%. In the Americas on the other hand, the aim is to hold coverage steady at 86% for the remainder of the Decade, having raised it from the 1980 level of 83% (the countries of the Americas have scaled down their original targets, which represented a 1990 coverage of 97%, and appear to be diverting resources towards rural progress for the remainder of the Decade).

The urban sanitation picture is similar and includes data from 47 selected countries, representing 55% of the global urban population[a]. In this case, if targets are to be reached, an additional 200 million urban residents will have to be provided with adequate sanitation facilities in these countries alone. That would lift coverage from 50% (1983) to 75% (1990 target), while almost doubling the total number fo people served. The 1980 coverage quoted in the Baseline document was 41% and the 1990 target set then was 76%, though there have been more marked changes in the targets region by region. Africa is the only region in which the 1990 target for urban sanitation (85% coverage) is higher than that for urban water supply (83%).

In the rural water supply sub-sector, 1983 and 1990 data are available from a total of 60 countries representing 75% of the global rural population[a]. To achieve the increase in coverage from 40% in 1983 to 85% targeted for 1990 would mean new services for some 646 million additional rural residents, of which 468 million would be in South-East Asia. The Western Pacific Region is aiming for 100% coverage in this sub-sector by 1990 and would have to more than double the present number of people served to reach the goal. In percentage terms, Africa's target may seem more modest - raising coverage to 59% by 1990, but with a 1983 coverage of just 22%, the target in effect means that more than three times as many rural Africans would have to have access to safe water in 1990 than was the case in 1983. Clearly there are wide differences from region to region, both in the present coverage levels and in the aspirations for the Decade. If the rural water supply sample is taken as a fair representation of the full global picture, extrapolation of the targets produces a figure of 860 million rural people to receive new supplies between 1983 and 1990.

For rural sanitation, 43 countries produced the necessary data for 1983 coverage and 1990 targets. They represent 67% of the global rural population[a]. This is the sub-sector which has been most neglected in the past, as indicated by the present overall coverage level of just 10% (it was 12% in 1980), and the overall target of 33% coverage by 1990 shows that efforts will have to continue long after the end of the IDWSSD. Though the 1990 target coverage may seem low, it in fact means that some 287 more rural dwellers would need to be provided with adequate sanitation facilities in the remaining seven years of the Decade in the selected countries. So, more people would have to be reached with rural sanitation services than with urban water or urban sanitation where the targets are 89% and 75% respectively.

In summary, the countries providing data on 1983 coverage and 1990 targets in the different sub-sectors, contain between 55% and 75% of the global population[a], so that the data should be reasonably representative. If the trends identified are correct, there has been a small move in each region to reduce the 1990 targets in all sub-sectors, with the biggest reduction in rural sanitation, where there was a tendency at the start of the Decade to aim for too high a level of coverage. This analysis also shows in global terms that, since the start of the Decade, the number of people targeted to be served as a proportion of those currently served has reduced in all sub-sectors except rural sanitation. This can be interpreted as an indication of progress towards Decade goals in the three other sub-sectors, even though in part it is attributable to reduced targets.

5. Staff and training

The present level of staffing of the agencies responsible for providing water supply and sanitation services varies greatly from country to country within regions, and there are marked variations between regions, as Table A.5 shows. South-East Asia reports the lowest staffing level - a median value of

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[a] Excluding China.

147 staff per million population - while, at the other end of the scale, Western Pacific, probably because of the need to provide services to so many small and remote island communities, records a value of 1696 staff per million population. For the other regions the corresponding values are: Africa - 259; Eastern Mediterranean - 446; and Americas - 685.

The two regions with the lowest staffing ratios - South-East Asia and African - plan similar increases during the remainder of the Decade, amounting to an extra 120 staff per million population. There are plans for an extra 38 staff per million population in the Americas (a 6% increase), and this is accompanied by an improvement in the technical calibre of the staff (indicated in the regional analysis by greater concentration in the more highly qualified categories). Though the Western Pacific region does not plan any increase in staffing levels during the rest of the Decade, here again it is generally reported that improved levels of training, education and skills are needed.

In global terms, the figures imply a total requirement of about one quarter of a million extra staff, without allowing for attrition, plus the need to improve staff performance through appropriate training - a very big challenge. Some 70% of the extra staff are needed in South-East Asia.

6. Financial resources

Table A.6 presents a summary of the median values for unit capital costs of providing new water supply and sanitation systems in each region along with median values for the average cost of water production and for tariffs. The data are based on regional Tables 1.6 to 5.6, in which there are big variations from country to country. Hence the choice of median rather than average values. Regional variations are not quite so extreme, though still substantial. The cost of providing urban water supplies through house connections for example varies from $61 per person served in South-East Asia to $275 per capita in the Eastern Mediterranean.

The figures offer a very crude means of estimating the total cost of meeting Decade targets on a global basis. Using median values for the per capita costs of providing new services in each sub-sector (averaging the costs of different service levels in urban water and urban sanitation) and based on the estimates of new people requiring services if Decade goals are to be met, the total construction cost of Decade success would be about US$ 200 billion, of which 66% would have to be spent in the urban areas. Of course, as new systems are commissioned, extra financial resources are needed for operation and maintenance and this recurrent cost burden has to be faced urgently if the benefits of new systems are to have any lasting impact.

Financial self reliance is an important requirement both for improving operational efficiency and for increasing the flow of funds to the sector. An indicator of the degree of self reliance in individual countries is the comparison of water tariffs with water production costs. Unless the tariff is greater than costs of production there cannot be any funds generated internally to take care of operation and maintenance. There has been marginal improvement in the proportion of LDCs reporting tariffs higher than costs, though the fact that only 33% have yet reached that position shows the extent of the problem. Progressive tariffs, by which bigger consumers pay at a higher rate for the extra water that they use, are also increasing in numbers - 63% of the reporting LDCs made use of progressive tariffs in 1983 compared with 56% in 1980.

Because of the timescale over which sector investments are spread, there is a danger in drawing too many conclusions when comparing spending from one year to the next. However, it is clear from the investment figures quoted by reporting countries that considerably more money will have to be spent each year if Decade goals are to be achieved. Table A.7 gives minimum, median and maximum accelerations needed in each region, comparing investments during the first three years of the Decade with the countries' own assessments of the total costs of their Decade programmes. Significantly perhaps, only one country reported an investment level from 1981 to 1983 which would, if continued, allow the Decade targets to be reached by 1990 without any acceleration. For the LDCs, the median value for future spending was 2.7 times the current level.

The proportion of spending derived from external sources varies greatly from country to country, and is clearly correlated with other indicators of the level of development. In Africa, for example, the proportion of external funding ranges from 10% to 92%, with most of the LDCs relying on external sources for 80% or more of their total spending. Region by region, the proportion of external funding (medial value) for 1981-1983 was: Africa - 84%; the Americas - 40%; South-East Asia - 47%; Eastern Mediterranean - 42%; and Western Pacific - 66%. In the case of the Western Pacific, three of the small island communities indicated a 100% dependence on external funding. What this analysis shows is that the success of Decade programmes is more dependent on the commitment of the external community in the lesser developed countries, while national funding is increasingly the key to success as the scale of development progresses.

7. Constraints

Globally, the highest ranked constraint was funding limitations and this was seen as the first or second most serious obstacle to accelerated programme implementation in every region. In the Western Pacific region, a shortage of sub-professional trained personnel topped the list, while inadequate cost-recovery was ranked highest in the Americas.

Shortages of skilled staff, both professional and sub-professional, followed funding limitations in the global ranking table, an almost identical situation to that in the Baseline document, and again the linked issue of operation and maintenance was fourth in the list. Of the 17 constraints contained on the Sector Digest Form, those rated least serious globally were lack of appropriate technologies, lack of planning and design criteria, and lack of definite government policy for the sector - perhaps an indication that the Decade has generated action in fields where finance is not so crucial.

8. Decade approaches[b]

Though this remains a difficult indicator to monitor, the available data reinforces the view expressed in the Baseline document that Decade-oriented activities have been initiated in a third or more of the responding countries. Still only 20% of countries indicated a definite policy of providing services to the urban poor (23% in 1980), but there has been a marked increase in the percentage of countries reporting participation of the communities in the planning, construction and operation of rural systems. Health education continues to be a set component of primary school education in about 35-36% of the responding countries.

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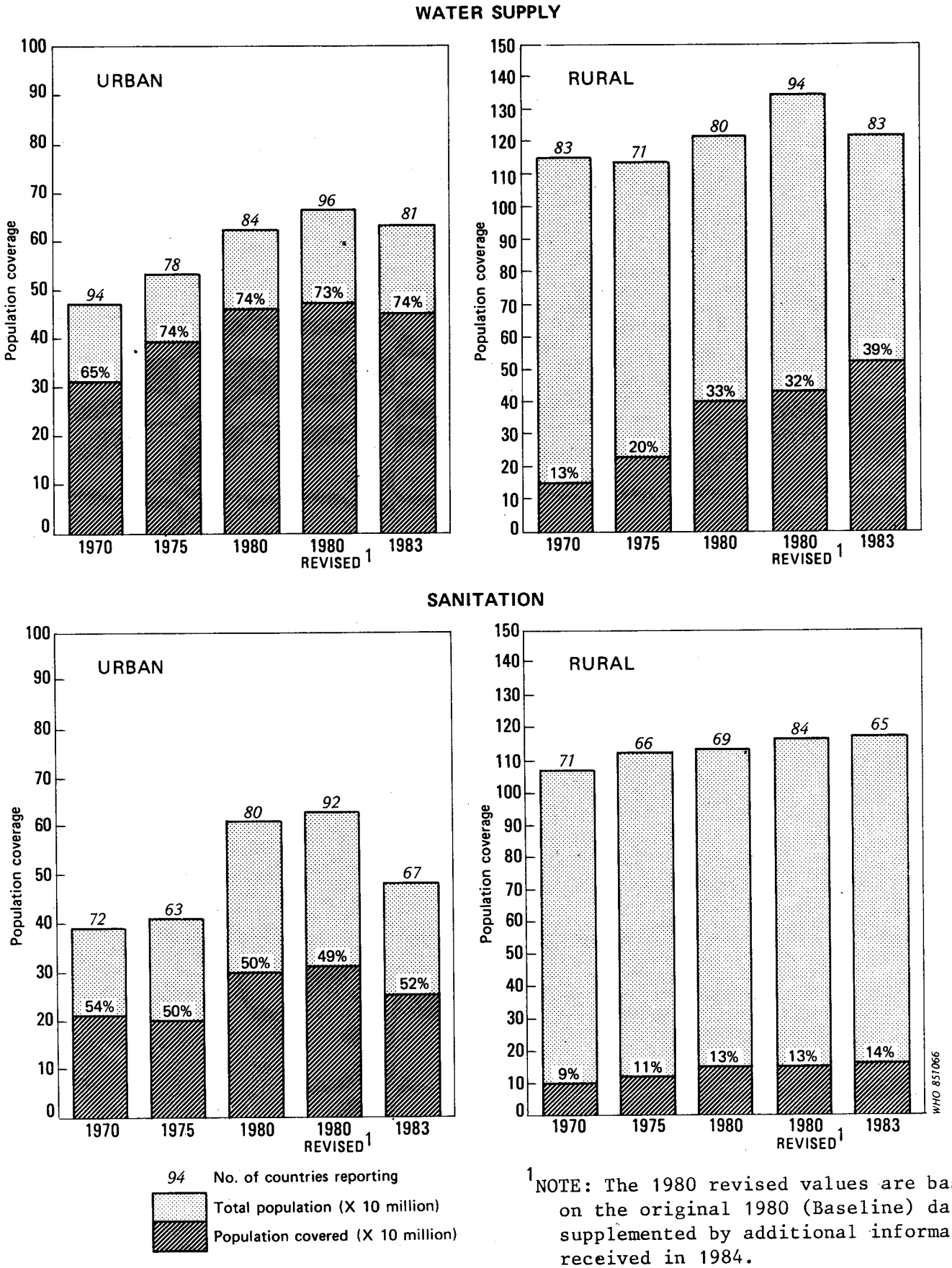
[b] In this document, Decade approaches refers to implementation of national programmes in accordance with the recommendations of the Mar del Plata Plan of Action, i.e. priority to the rural and urban underserved, application of self-reliant and self-sustaining programmes, use of socially relevant systems, association of the community in all stages of development, complementarity of sanitation with water supply and the association of water supply and sanitation with health and other sector programmes.

FIG. A.1 GLOBAL

POPULATION COVERAGE IN 1970, 1975, 1980 AND 1983[a]

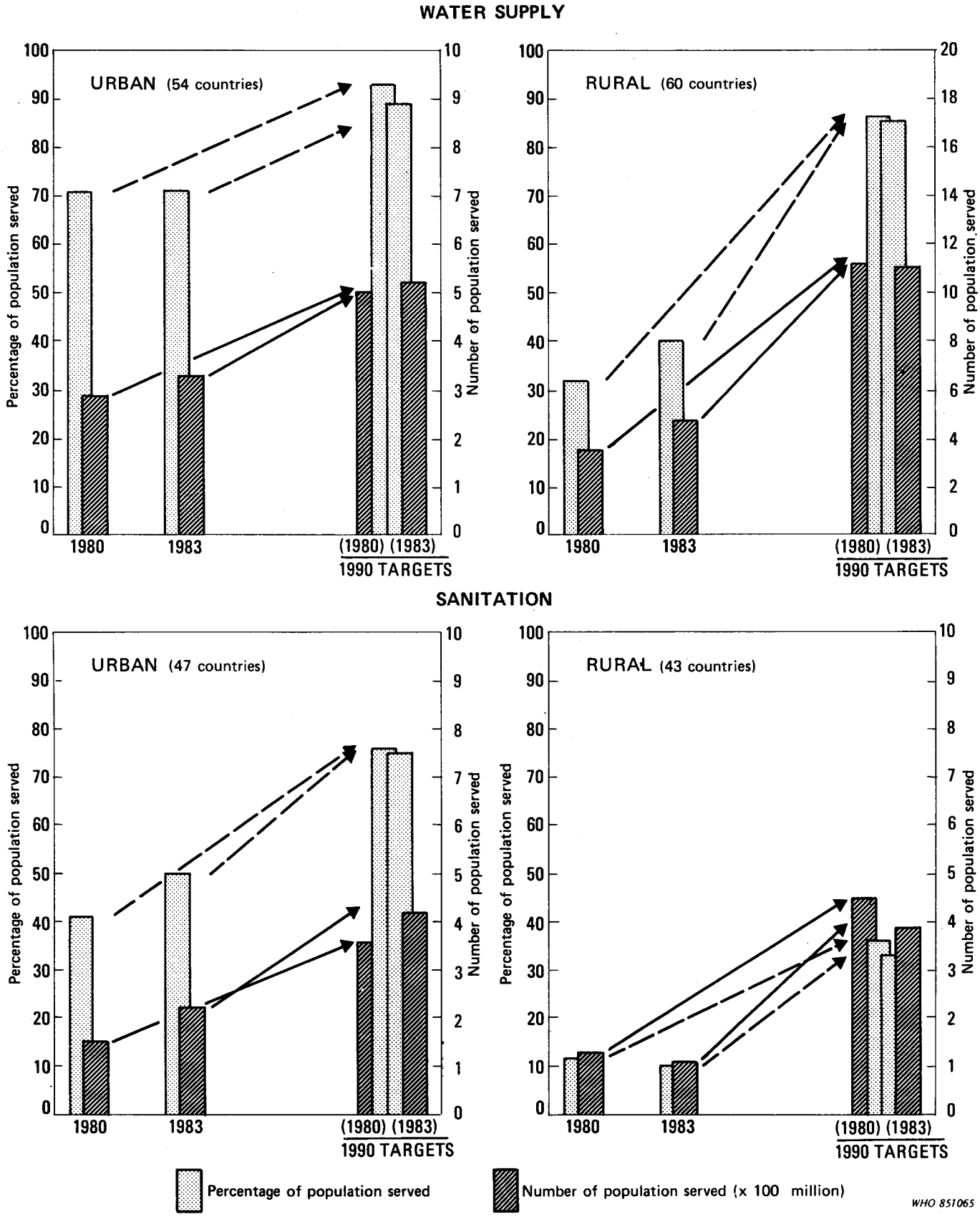


[1] NOTE: The 1980 revised values are based on the original 1980 (Baseline) data supplemented by additional information received in 1984.

[a] See Tables A.3.2.1 to A.3.2.4 and Section A.2

FIG. A.2 GLOBAL

DECADE TARGETS FOR URBAN AND RURAL WATER SUPPLY AND SANITATION IN SELECTED COUNTRIES COMPARED WITH 1980 AND 1983[a] LEVELS OF COVERAGE



[a] See Tables A.4.1.1, A.4.1.2, A.4.2.1 and A.4.2.2 and Section 4 of text.

TABLE A.1 - GLOBAL

BASIC INDICATORS: DEMOGRAPHIC, ECONOMIC, HEALTH

Region/ grouping	No. of reporting countries/ territories	Estimated population increase 1983-1990:			No. of LDC countries	Number of countries with						
		Total (%)	Urban (%)	Rural (%)	LDC[a]	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 population	50% or more population lacking safe water	50% or more population lacking adequate sanitation
Africa	26	22	51	18	15	0	5	16	20	10*	19	14
Americas	25	20	25	10	1	6	6	0	2	10*	4	7
South East Asia	9	14	22	12	4	1	0	2	4	2*	6	7
Eastern Mediterranean	12	22	28	19	5	5	3	6	6	3*	5	5
Western Pacific	22	14	18	11	2	4	0	1	1	7*	6	7
TOTALS	94				27	16	14	25	33	32	40	40
%						17	15	27	35	34	43	43

[a] LDC = Least Developed Country

* Only 13 countries in AFRO responded.
Only 20 countries in AMRO responded.
Only 6 countries in EMRO responded.
Only 2 countries in SEARO responded.
Only 12 countries in WPRO responded.

TABLE A.2 - GLOBAL

COVERAGE TARGETS AND DECADE PLANS

Region/ grouping	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	7	3	2	1	3	3	22
Americas	9	6	3	2	7	9	21
South East Asia	4	2	2	2	1	5	9
Eastern Mediterranean	7	3	3	2	3	4	8
Western Pacific	4	3	3	2	1	2	16
TOTALS	31	17	13	9	15	23	76
%	33	18	14	10	16	24	81
LDCs	9	5	2	3	5	9	22
%	33	19	7	11	19	33	81

[a] Coverage over 95% considered total coverage.

TABLE A.3 - GLOBAL

1983 LEVELS OF SERVICE (populations in thousands; percentages shown in brackets)

Region	No. of reporting countries/ territories	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	26	270 965	65 481 (24)	205 484 (76)	37 914 (61)	21 152 (33)	17 424 (28)	52 372 (26)	15 755 (68)	4 877 (17)	18 535 (40)	27 782 (25)
Americas	24	367 525	246 098 (67)	121 427 (33)	182 088 (85)	170 397 (74)	25 680 (12)	44 358 (40)	109 089 (80)	96 671 (42)	43 183 (32)	14 815 (18)
South East Asia	9	1 076 049	253 160 (24)	822 889 (76)	166 521 (66)	4 525 (22)	2 610 (13)	356 721 (43)	77 963 (31)	854 (4)	4 509 (22)	57 834 (7)
Eastern Mediterranean	12	139 813	45 396 (32)	94 417 (68)	37 206 (86)	12 350 (68)	5 044 (28)	23 614 (26)	25 447 (64)	5 281 (41)	6 616 (47)	5 037 (7)
Western Pacific	21	180 804	72 127 (40)	108 677 (60)	23 947 (70)	18 503 (54)	5 422 (16)	48 871 (45)	23 355 (80)	3 968 (14)	19 457 (67)	53 318 (57)
TOTALS	92	2 035 156	682 262 (34)	1 352 894 (66)	447 676 (74)	226 927 (62)	56 180 (16)	525 936 (39)	251 609 (52)	111 651 (35)	92 300 (38)	158 786 (14)

a H.C. = house connection.
b P.S. = public standpost.
c S.C. = sewer connection.
d Coverage for urban water through H.C. and by P.S. do not necessarily add up to the value for total coverage since all countries did not report for total through H.C. and by P.S. (The sample countries were not always the same). Same comment for urban sanitation.

TABLE A.3.1

TOTAL POPULATION INCLUDED IN REPLIES TO EACH SUBSECTOR BY REGION AND GLOBALLY

Region	Population with drinking-water				Population with sanitation			
	Urban			Rural	Urban			Rural
	Total	by H.C.	by P.S.		Total	by S.C.	by other	
Africa	62 191	63 661	62 191	202 190	23 183	27 902	46 383	111 021
Americas	213 172	231 275	213 172	111 949	136 938	229 957	135 826	80 582
South East Asia	252 999	20 753	20 592	822 889	249 649	20 592	20 592	809 570
Eastern Mediterranean	43 524	18 124	18 124	90 619	39 605	12 984	14 205	70 920
Western Pacific	34 235	34 213	34 176	108 671	29 021	29 242	28 996	93 490
TOTAL	602 121	368 026	348 255	1 336 318	480 514	320 677	246 002	1 165 583

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 subsectors. Percentage coverage has to be calculated therefore individually for each subsector using the appropriate population totals.

TABLE A.3.2 - GLOBAL

PERCENTAGE COVERAGE IN 1970, 1975, 1980 and 1983

WHO 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
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
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
South East Asia[a]	1970	46[a]		33[a]		72	8	4	50
	1975	63[a]		31[a]		49	17	4	24
	1980	64[a]		30[a]		47	31	6	19
	1983	66[a]		31[a]		47	43	7	16
Western Pacific	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

Sources 1970 and 1975 data from World Health Statistics report, Vol. 29, No. 10 (1976). 1980, The IDWSSD Review of National Baseline Data, WHO, Geneva.
For 1980, International Drinking Water Supply and Sanitation Decade; Review of National Baseline Data (as at 31 December 1980), WHO Offset Publication No. 85, WHO, Geneva 1984.

[a] Most countries did not provide separate data so combined figures were given.
[b] Data from only one country.

TABLE A.3.2.1 - GLOBAL

COMPARISON OF COVERAGE AS OF 1970, 1975, 1980 AND 1983 - URBAN WATER SUPPLY

WHO Region	1970			1975			1980			1983			Number 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)	%	1970	1975	1980	1983
Africa	20 823	13 743	66	21 971	14 940	68	20 788	13 723	66	62 191	37 914	61	28	20	21	24
Americas	157 261	119 518	76	181 130	146 715	81	218 109	169 302	78	213 172	182 088	85	25	25	21	21
South East Asia	165 400	76 800	46	201 500	127 600	63	232 601	148 834	64	252 999	166 521	66	7	7	9	8
Eastern Mediterranean	67 039	52 961	79	57 840	46 272	80	65 498	54 117	83	43 524	37 206	86	20	15	12	10
Western Pacific	37 177	27 883	75	40 040	36 036	90	55 768	45 446	81	34 235	23 947	70	11	9	18	18
TOTAL	473 924	308 737	65	527 148	391 543	74	621 067	458 680	74	606 121	447 676	74	94	78	84	81

Source: For 1970 and 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 31 December 1980), WHO Offset Publication No. 85, WHO, Geneva 1984: Tables 1.3, 2.3, 3.3, 4.3, 5.3, and 6.3.

TABLE A.3.2.2 - GLOBAL

COMPARISON OF COVERAGE AS OF 1970, 1975, 1980 AND 1983 - URBAN SANITATION

WHO Region	1970			1975			1980			1983			Number 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)	%	1970	1975	1980	1983
Africa	19 021	8 940	47	20 179	15 134	75	20 788	11 214	54	23 183	15 755	68	22	16	20	17
Americas	115 854	88 049	76	59 929	47 943	80	218 109	122 822	56	136 938	109 089	80	19	17	21	19
South East Asia	165 400	54 100	33	201 500	62 500	31	232 601	70 075	30	249 649	77 963	31	7	7	8	7
Eastern Mediterranean	44 642	27 678	62	54 451	34 304	63	63 608	36 052	57	39 605	25 447	64	12	12	11	8
Western Pacific	36 878	29 871	81	39 838	32 269	81	55 688	51 905	93	29 021	23 355	80	9	8	18	16
TOTAL	394 393	214 055	54	400 842	201 629	50	610 678	303 307	50	478 396	251 609	53	72	63	80	67

Source: For 1970 and 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 31 December 1980), WHO Offset Publication No. 85, WHO, Geneva 1984: Tables 1.3, 2.3, 3.3, 4.3, 5.3, and 6.3.

TABLE A.3.2.3 - GLOBAL

COMPARISON OF COVERAGE AS OF 1970, 1975, 1980 AND 1983 - RURAL WATER SUPPLY

WHO Region	1970			1975			1980			1983			Number of countries reporting			
	Rural pop. (000)	Rural coverage (000)	%	Rural pop. (000)	Rural coverage (000)	%	Rural pop. (000)	Rural coverage (000)	%	Rural pop. (000)	Rural coverage (000)	%	1970	1975	1980	1983
Africa	97 731	12 705	13	97 890	20 557	21	82 935	17 981	22	202 190	52 372	26	24	19	20	23
Americas	119 521	28 685	24	74 131	23 722	32	115 289	48 628	42	111 949	44 358	40	25	23	20	22
South East Asia	653 000	49 400	8	727 000	123 900	17	787 360	241 664	31	822 889	356 721	43	7	7	9	9
Eastern Mediterranean	168 432	32 002	19	149 781	23 965	16	115 109	34 532	30	90 619	23 614	26	18	13	12	9
Western Pacific	76 970	17 703	23	60 153	18 046	30	98 656	40 075	41	108 671	48 871	45	7	7	17	20
TOTAL	1 147 698	154 915	13	1 140 987	230 370	20	1 224 521	398 460	33	1 336 318	525 936	39	83	71	80	83

Source: For 1970 and 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 31 December 1980), WHO Offset Publication No. 85, WHO, Geneva 1984: Tables 1.3, 2.3, 3.3, 4.3, 5.3, and 6.3.

TABLE A.3.2.4 - GLOBAL

COMPARISON OF COVERAGE AS OF 1970, 1975, 1980 AND 1983 - RURAL SANITATION

WHO Region	1970			1975			1980			1983			Number of countries reporting			
	Rural pop. (000)	Rural coverage (000)	%	Rural pop. (000)	Rural coverage (000)	%	Rural pop. (000)	Rural coverage (000)	%	Rural pop. (000)	Rural coverage (000)	%	1970	1975	1980	1983
Africa	80 417	18 496	23	94 604	26 498	28	74 335	14 787	20	111 021	27 782	25	20	17	18	18
Americas	112 596	27 023	24	63 592	15 898	25	73 268	14 675	20	80 582	14 815	18	24	21	16	18
South East Asia	653 000	23 100	4	727 000	27 800	4	787 360	49 431	6	809 570	57 834	7	7	7	8	7
Eastern Mediterranean	130 150	15 618	12	146 536	20 515	14	92 412	6 315	7	70 920	5 037	7	10	11	9	6
Western Pacific	74 816	14 215	19	60 672	26 089	43	98 226	62 221	63	93 490	53 318	57	7	7	17	17
TOTAL	1 069 139	99 360	9	1 124 198	122 523	11	1 225 681	147 496	13	1 165 583	158 786	14	71	66	69	66

Source: For 1970 and 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 31 December 1980), WHO Offset Publication No. 85, WHO, Geneva 1984: Tables 1.3, 2.3, 3.3, 4.3, 5.3, and 6.3.

TABLE A.4.1.1 - GLOBAL

PROJECTED NEW POPULATION COVERAGE FOR SELECTED COUNTRIES (1983-1990)[a] - URBAN WATER SUPPLY

WHO Region	No. of selected countries[a]	% of total Regional urban population[b]	Urban population (millions)[a]		Urban coverage				Additional beneficiaries (millions)	Ratio[c]
			1983	1990	1983		1990 target			
					No. (millions)[a]	(%)	No. (millions)[a]	(%)		
Africa	13	28	29	43	15.5	54	35.5	83	20	1.30
Americas	15	46	116	143	100	86	124	86	24	0.24
South East Asia	8	99	253	309	167	66	276	89	109	0.65
Eastern Mediterranean	9	35	43	56	37	86	55	99	18	0.49
Western Pacific	10	36	24	31	14	58	27	87	13	0.93
TOTAL	55	58	465	582	333	72	517	89	184	0.55

[a] For those countries that provided the necessary data for 1983 coverage and 1990 targets.

[b] Based on total 1983 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 1983.

TABLE A.4.1.2 - GLOBAL

PROJECTED NEW POPULATION COVERAGE FOR SELECTED COUNTRIES (1984 - 1990)[a] - URBAN SANITATION

WHO Region	No. of selected countries[a]	% of total Regional urban population[b]	Urban population (millions)a		Urban coverage				Additional beneficiaries (millions)	Ratio[c]
			1983	1990	1983		1990 target			
					No. (millions)[a]	(%)	No. (millions)[a]	(%)		
Africa	10	17	17	24	12	70	21	86	09	0.75
Amercias	14	42	106	139	82	77	110	80	28	0.34
South East Asia	7	99	250	305	78	31	224	73	146	1.87
Eastern Mediterranean	7	32	39	50	25	64	36	72	11	0.44
Western Pacific	9	44	29	37	23	80	28	77	5	0.22
TOTAL	47	55	441	555	220	50	419	75	199	0.90

[a] For those countries that provided the necessary data for 1983 coverage and 1990 targets.
[b] Based on 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 1983.

TABLE A.4.2.1 - GLOBAL

PROJECTED NEW POPULATION COVERAGE FOR SELECTED COUNTRIES (1984 -1990)[a] - RURAL WATER SUPPLY

WHO Region	No. of selected countries[a]	% of total Regional rural population[b]	Rural population (millions)[a]		Rural coverage				Additional beneficiaries (millions)	Ratio[c]
			1983	1990	1983		1990 target			
					No. (millions)[a]	(%)	No. (millions)[a]	(%)		
Africa	13	31	86	101	19	22	60	59	41	2.16
Americas	15	51	64	70	22	34	38	54	16	0.73
South East Asia	9	95	823	921	357	43	825	90	468	1.31
Eastern Mediterranean	7	51	86	103	23	26	73	70	50	2.17
Western Pacific	16	90	108	120	49	45	120	100	71	1.45
TOTAL	60	75	1 167	1 315	470	40	1 116	85	646	1.37

[a] For those countries that provided the necessary data for 1983 coverage and 1990 targets.
[b] Based on 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 1983.

TABLE A.4.2.2 - GLOBAL

PROJECTED NEW POPULATION COVERAGE FOR SELECTED COUNTRIES (1984 -1990)[a] - RURAL SANITATION

WHO Region	No. of selected countries[a]	% of total Regional rural population[b]	Rural population (millions)[a]		Rural coverage				Additional beneficiaries (millions)	Ratio[c]
			1983	1990	1983		1990 target			
					No. (millions)[a]	(%)	No. (millions)[a]	(%)		
Africa	10	22	62	75	16	26	44	58	28	1.75
Americas	12	55	70	77	11	16	30	39	19	1.73
South East Asia	7	94	810	906	58	7	270	30	212	3.66
Eastern Mediterranean	5	41	69	84	5	7	14	16	9	1.80
Western Pacific	9	24	38	42	15	40	34	81	19	1.27
TOTAL	43	67	1 049	1 184	105	10	392	33	287	2.73

[a] Figures are for reporting countries.
[b] Based on total population of developing countries/territories in the WHO Regions (excluding China).
[c] Ratio of additional people to be served by 1990 to numnber served in 1983.

TABLE A.5 - GLOBAL

STAFF AND TRAINING

Region/ grouping	Total staff employed per million population median of national figures 1983	Total projected trainees per million population median of national figures 1983-1990	Ultimate projected staff per million population 1990
Africa	259	118	377
Americas	685	38	723
South East Asia	147	120	267
Eastern Mediterranean	446	-	409
Western Pacific	1 696	-	1 113
LDCs[a]	250	76	326

[a]LDCs = Least Developed Countries.

TABLE A.6 - GLOBAL

UNIT COSTS OF CONSTRUCTION (US$ PER CAPITA) AND OF WATER PRODUCTION (US$/$m^3$): MEDIAN VALUES OF NATIONAL AVERAGES

Region/Grouping	Construction						Operation			
	Urban water supply		Urban sanitation		Rural Water Supply	Rural Sanitation	Average cost of water	Average water tariff	% of countries	
	House connection	Stand-post	Sewer connection	Other means					Where average tariff exceeds average cost	With progressive tariff
Africa	100	68	160	160	40	30	0.50	0.23	6	64
Americas	120	50	150	40	88	38	0.11	0.19	78	95
South-East Asia	61	59	115	21	14	9	0.16	0.10	17	75
Eastern Mediterranean	275	120	400	275	142	30	0.40	0.33	56	80
Western Pacific	194	100	290	100	49	13	0.32	0.25	46	53
LDCs[a]	137	100	150	200	39	30	0.40	0.28	33	63

[a]LDC = Least Developed Country

TABLE A.7 - GLOBAL

INCREASE IN INVESTMENT RATE NEEDED TO MEET DECADE TARGETS SET BY COUNTRIES

Region/Grouping	Multiplication factor		
	Minimum	Median	Maximum
Africa	1.03	2.8	20.6
Americas	1.1	4.1	7.9
South East Asia	1.1	2.3	3.4
Eastern Mediterranean[b]	0	2.1	9.3
Western Pacific	0	1.8	21.4
LDCs[a]	0	2.7	20.6

[a] LDC = Least Developed Country
[b] Data available for only three countries

TABLE A.8 - GLOBAL

RANKING AND FREQUENCY OF CONSTRAINTS (NUMBER OF REPORTING COUNTRIES: 87)

Constraints	No. of countries indicating constraint			Ranking Index[b]	Order of Seriousness
	Very severe	Severe	Moderate		
Insufficiency of trained personnel (professional)	15	25	28	123	3=
Funding limitations	25	28	19	150	1
Insufficiency of trained personnel (sub. prof.)	14	30	28	130	2
Operation and maintenance	11	33	24	123	3=
Logistics	12	30	24	118	4
Inadequate cost-recovery framework	12	28	18	110	5
Inappropriate institutional framework	7	19	34	93	7
Insufficient health education efforts	7	24	29	98	6
Intermittent water service	4	23	29	87	8
Lack of planning and design criteria	3	15	33	72	14=
Non-involvement of communities	3	21	32	83	9=
Inadequate or outmoded legal framework	6	14	31	77	13
Inappropriate technology	1	15	36	69	15=
Insufficient knowledge of water resources	4	11	45	79	12
Inadequate water resources	6	11	42	82	10=
Lack of definite government policy for sector	4	14	32	72	14=
Import restrictions	11	11	25	80	10=

[a] Number of reporting countries = 73.
[b] Ranking index = (No. very severe x 3) + (No. severe x 2) + (No. moderate x 1)

TABLE A.9 - GLOBAL

DECADE APPROACHES DURING 1983

Region/ grouping	Number of countries				
	Reporting improved services for 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
		Planning	Building	Operating	
Africa	5	7	8	7	7
Americas	7	8	12	11	8
South East Asia	3	3	5	4	6
Eastern Mediterannean	2	3	3	3	3
Western Pacific	2	9	10	9	10
TOTALS	19	30	38	34	34
%	20	34	40	36	36
LDCs[a]	9	12	16	13	14
%	33	44	59	48	52

[a] LDC = Least Developed Country

B. REGIONAL REVIEWS

1. AFRICAN REGION

1.1 Socioeconomic and health situation

Twenty-six of the Region's countries submitted information on the status of water supply and sanitation services at the end of 1983. These countries reflect a variety of geographic, climatic and economic situations. Their combined population at the end of 1983 was 271 million or 71% of the 381 million regional population.

Between 1983 and 1990, the population is expected to increase by a further 25%, consisting of 17% growth in the rural areas and 51% in the urban areas. That will mean that in the course of the Decade the urban population will have grown by a total of 72% and the rural population by 25%, a combined population increase of 36%.

Fifteen of the reporting countries are classified by the United Nations as Least Developed Countries (LDCs). The per capita gross national product varies from US$ 110 to US$ 900. No less than 20 of the 26 countries report an infant mortality rate in excess of 100 per 1000 live births and 19 have a life expenctancy at birth of 50 years or less. Only six countries have safe drinking water available to at least half of their populations and the sanitation picture is similar. The situation has changed little from that reported in the Baseline document for the end of 1980.

Inadequacy of water resources is not seen as a serious problem in any of the countries, though five do say that they have a serious lack of knowledge about their fresh-water resources.

1.2 Targets and planning

Progress during the first three years of the Decade (1981-1983) has been rather uneven, as Table 1.3 and Fig 1.1 show.

For urban water supply, the overall percentage of the population covered remained substantially the same in 1983 (61%) as in 1980 (62% on the expanded Baseline reproduced as Table B.1.3). In urban sanitation, the figures seem to indicate an improvement in percentage coverage from 56% in 1980 (expanded Baseline) to 68% in 1983. As urban sanitation coverage improved by only 7% during the previous ten years, such rapid progress during the first three years of the IDWSSD would be highly encouraging. However, it is important to bear in mind that the reporting countries are different in each case. In particular, the 1983 figures include Tanzania with a high coverage (89%) and representing a comparatively high proportion of the sample, whereas Tanzania was missing from the 1980 data.

Rural water supply coverage rose from 24% (1980 expanded) to 26% (1983), an improvement on the 1% increment during the previous five years, but still leaving a big gap between accomplishment and targets. In the rural sanitation sub-sector, there is an apparent increase of 6% in the 1983 coverage (25%) compared with 1980 (19%). As rural sanitation coverage had been declining over the ten previous years, this can be seen as an important reversal of trends, though it is important to bear in mind that perceptions of "appropriate sanitation" may vary from time to time, with corresponding changes in the data.

The figures from several countries show the influence of rural migration and consequent high increases in the urban population. Though the actual numbers of urban people served has increased substantially, the rise in percentage coverage has been small, zero, or even negative (Ghana, Burundi, Kenya ...). Regional averages are also affected considerably by the inclusion this time of data from Nigeria in some sub-sectors. Nigeria was not included in the 1980 Baseline statistics and its 23 million urban residents represent 35% of the total sample for 1983.

Data for the 1.4 series of tables comparing 1983 coverage and 1990 targets has come from between 10 and 13 countries, depending on the sub-sector concerned. The selected countries contain about 96 million people (1983), 25% of the total regional population, or about 35% of the population of the 26 reporting countries. Tables 1.4.1.1 to 1.4.2.2 show the 1983 status and 1990 targets sub-sector by sub-sector for the selected countries, and Fig 1.2 gives a graphical indication of the scale of the task facing the region. As these tables and histograms are based on data from the same countries for each year, comparisons are fully valid, though the regional sample size is smaller.

As was the case in 1980, the targets set by the countries imply considerable efforts by governments, communities and individuals. In urban water supply, for example, the 13 selected countries would need to provide supplies for an extra 20 million urban residents between 1983 and 1990, to increase the water supply coverage from 54% to the target of 83% by the end of the Decade. Though the 1990 target is lower than the one set by the 12 countries which provided data for the Baseline document (96%), the 1983 coverage of 55% is also down - it was 60% in 1980. The 20 million to be supplied compares with a total of just 15 million reported as actually having access to safe water at the end of 1983, so the number of urban people served has to more than double if the target is to be achieved. Extrapolating these figures to the region as a whole (recognizing the statistical inaccuracies inherent in such an exercise), the number of urban people provided with safe water supplies in the African Region would have to rise from 57 million to 126 million to reach the Decade targets.

The 1990 rural water supply target of 59% set by the 13 selected countries is down from the 81% target calculated in 1980, perhaps reflecting a realistic approach in the light of progress to date. Actual coverage is also down; the 22% 1983 coverage compares with 25% in 1980. For the selected countries, the figures show that the number of rural people having access to safe water must rise from 19 million in 1983 to 60 million in 1990. With the same reservations about statistical accuracy as before, extrapolation over the whole region implies that an extra 123 million rural people would need to gain access to new supplies, lifting the number served from 62 million to 185 million in seven years.

From a smaller population sample, drawn from 11 countries, the Decade targets for urban sanitation imply raising coverage from 70% in 1983 to 89% in 1990. Because of changes in the countries included in the sample, comparisons with 1980 are not really significant, but, for the record, the Baseline document showed a 1980 coverage of 56% and a 1990 target of 84%. To achieve the targets set in 1983, the 11 countries would need to provide new services for an extra 10.5 million urban residents, compared with a little over 12 million actually provided with adequate sanitation at the end of 1983. From such a small sample, extrapolation is highly speculative, but the regional requirement would be to serve an extra 61 million people during the seven years, bringing the total urban people served in 1990 to 133 million.

The rural sanitation target of 10 reporting countries is to lift coverage from 26% in 1983 to 58% in 1990. The equivalent figures in the Baseline document were 22% coverage in 1980 with a target of 62% in 1990. So, some progress has been achieved in the first three years of the Decade, while targets have also been lowered a little. To reach their goals, the 10 countries would need to provide an extra 28 million rural people with adequate sanitation facilities in the seven years, bringing the total number served to 43.5 million by 1990. Extrapolated over the region as a whole, the implied requirement is to serve an extra 125 million people, so that a total of 198 million will be served by 1990.

1.3 Staff and training

Table 1.5 presents the information available from countries on the present level of staff within the water supply and sanitation sector and anticipated needs for the year 1990. In other words, the figures should indicate the manpower development needs if new systems to meet Decade targets are to be

properly operated and maintained. Unfortunately, the data are far from complete and only in a few cases is it possible to see a full picture of resources and needs. As in 1980, there is a wide variation from country to country in the proportion of staff in the different categories, but the reporting on community-based workers in particular is very patchy.

Of the 18 countries which provided full or partial data, the largest staff per million inhabitants is in Guinea-Bissau (982), where nearly 90% of the reported staff are categorized as technical or craftsmen. Lowest staffing is in Niger, where the total 53 staff represent just 9 per million population, though it is important to note that Niger did not report the number of community-based workers involved in water supply and sanitation activities.

In terms of new staff needed, some countries such as Malawi and Liberia show only small increases (less than 5% in each case). Over the region as a whole, however, much larger increases are projected. Using median values to eliminate the extreme variations, the figures suggest that African countries will need substantial training programmes to raise the manning level over the region as a whole from about 260 staff per million population in 1983 to about 380 staff per million population in 1990.

The importance of human resources development in the African Region is further emphasized in qualitative terms by the fact that 13 countries identified lack of professional manpower as a severe or very severe constraint to sector progress (Table 1.8), and the same number rated a shortage of sub-professional staff under the same headings. Overall, shortage of trained personnel came high in the rankings of constraints to Decade progress in the region, along with funding limitations, shortcomings in operation and maintenance, and logistics.

1.4 Financial resources

Table 1.6 compares the average unit costs of building new water supply and sanitation systems in the different countries of the region, and also indicates how water tariffs relate to the costs of water production from country to country. There are some very big differences between the per capita costs reported by different countries for the equivalent type of service, which must in part relate to the basis of calculation. In Senegal, for example, the construction cost of providing urban water supplies by standpost is put at just US$ 2 per capita, while the same form of supply in Sierra Leone is reported to cost US$ 200 per capita. The median value for urban supply by standpost across the region is US$ 68 (it was US$ 46 in 1980), while for supply by house connection the equivalent figure is US$ 100 (the same as in 1980). Only two out of 14 reporting countries have a water tariff higher than the calculated cost of water production - i.e. a prospect of recovering funds for the upkeep of the systems without outside subsidy. Progressive tariffs are applied in part at least of 14 out of 22 countries which provided information, so that there is scope for larger consumers to subsidize smaller ones in 64% of the sample.

Urban sanitation costs range from US$ 960 per capita for sewer connections in Tanzania to US$ 40 for a similar level of service in Togo, and from US$ 945 for non-sewered sanitation in Tanzania to US$ 20 for the same thing in Niger. Median values for the two levels of service were the same - US$ 160 per capita - a considerable change from 1980 when non-sewered sanitation was calculated to cost US$ 53 per capita and sewer connections US$ 150 per capita.

Rural water supply costs have been reported as ranging from US$ 8 per capita in Zaire to US$ 200 per capita in the Congo, with a median value of US$ 40 (it was US$ 32 in 1980). In the case of rural sanitation, the median value in 1983 - US$ 30 per capita is double that calculated in 1980. Actual reported costs range from US$ 5 per capita in some areas of Kenya to US$ 300 in Sierra Leone.

High unit costs in comparison with countries of other regions with similar development indicators were seen as a problem for the African countries when the Decade began. The new figures do nothing to ease the situation and control

of construction costs will be important if significant progress is to be achieved during the remainder of the IDWSSD.

The estimated total cost of reaching Decade targets has been reported by 19 countries (Table 1.7) though in four cases the amount indicated does not cover all four sub-sectors. A comparison has been made of the implied annual investment throughout the Decade and the actual level of spending achieved during 1981-1983 for the 11 countries for which comparable data were available. This is a crude indicator of investment acceleration requirements as clearly water supply and sanitation investment is spread over many years. It does however enable some judgement to be made of the possibility of Decade objectives being achieved. In the case of Burundi, for example, investment during the first three years of the Decade has virtually matched the anticipated level needed to reach the targets, whereas in Togo annual investment in the sector would have to increase by a factor of 20 or more. The median value for the region is a 2.8-fold increase in the annual level of spending.

1.5 Decade approaches

There was a sparse reponse to the request for information on "Decade Approaches" adopted by countries - i.e. provision of services to the urban poor, community involvement in rural projects, and health education in primary schools relating to the hygienic use of water and disposal of wastes. Table 1.9 lists the information which was provided.

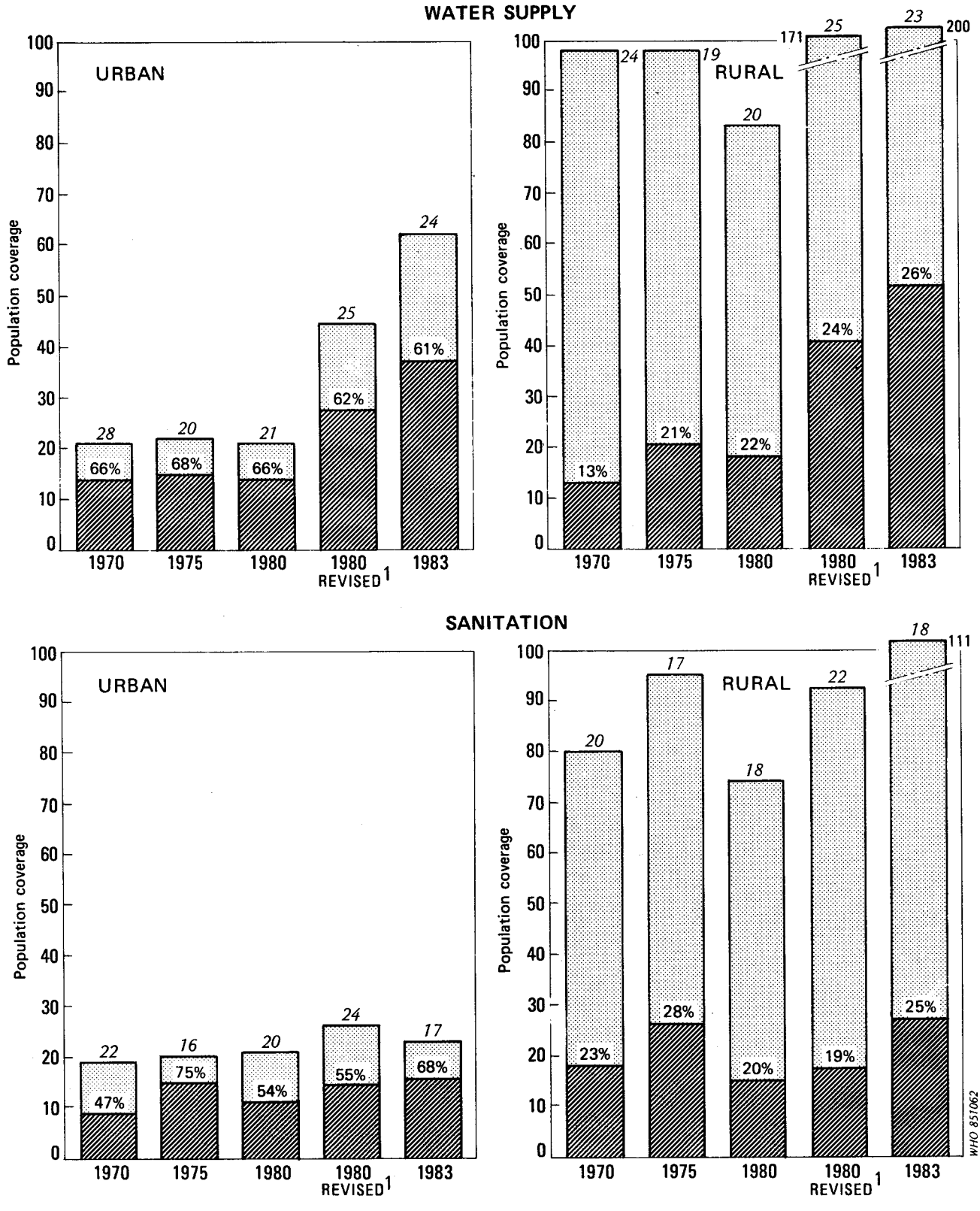
The urban poor account for between 20% and 80% of the total urban populations, with a median value of 40% (it was 48% in 1980). Five countries report programmes being implemented which address the problem of the urban poor, with between 5% and 30% of the population being beneficiaries.

Eight countries record that rural communities participated in building new systems, seven report community participation in operation and maintenance and seven say that the community participated in project planning. The degree of participation varies considerably. At the planning stage, three countries - Burundi, Tanzania and the Gambia report that all communities are involved, while in Guinea-Bissau 28% of the communities are said to have participated in planning during 1983. The proportion of communities involved in operation and maintenance ranges from 10% in the Gambia to 100% again in Burundi and Tanzania.

Seven countries report that health education relating to the sector is given in primary schools and in all cases this is available to more than 75% of children. Insufficient health education is nevertheless cited by 9 countries as a severe or very severe constraint in Decade efforts, and emerges as the sixth most important constraint in the list of 17 (Table 1.8) alongside inadequate cost recovery.

FIG. 1.1 AFRICAN REGION

POPULATION COVERAGE IN 1970, 1975, 1980 AND 1983[a]

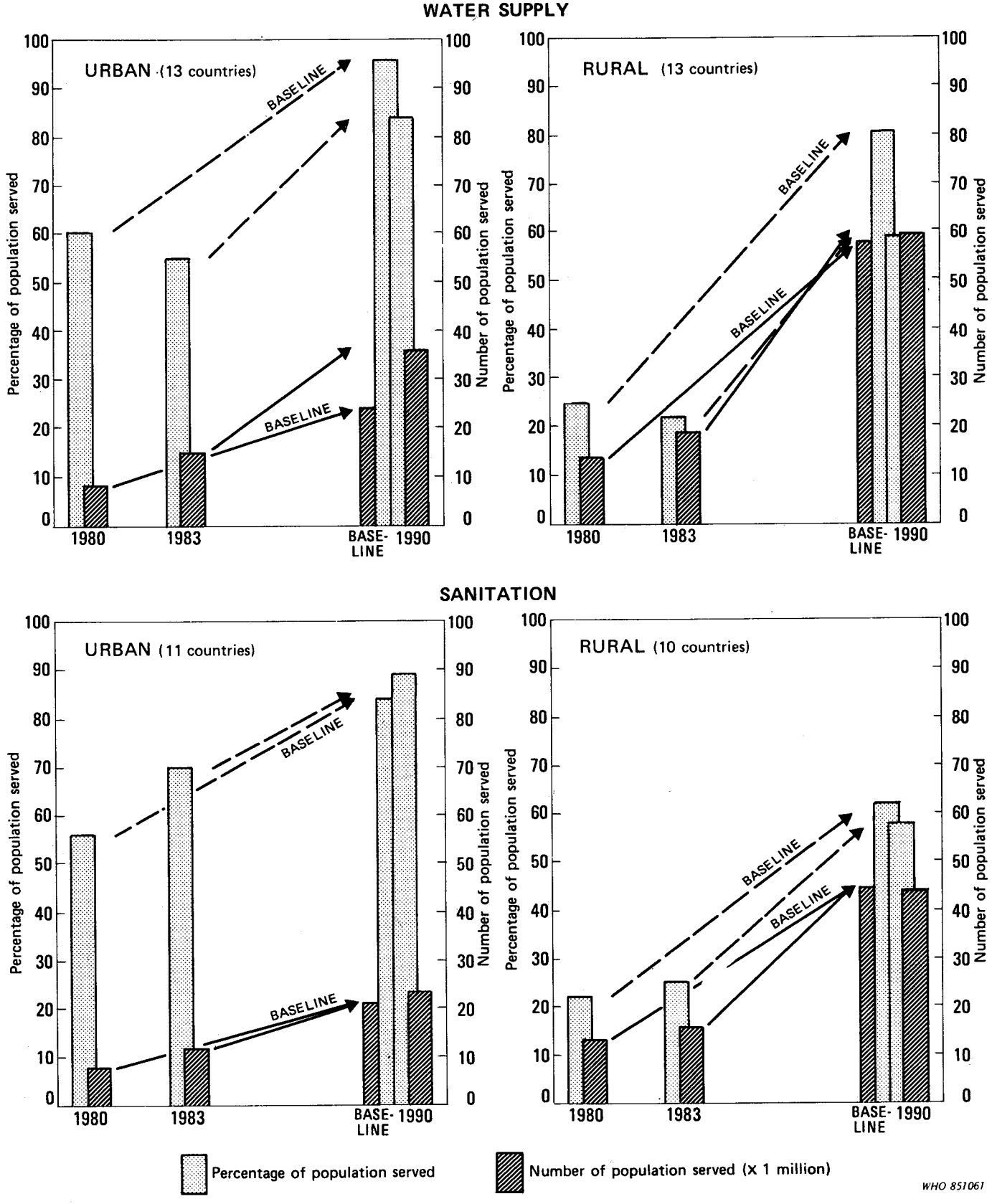


[1]NOTE: The 1980 revised values are based on the original 1980 (Baseline) data supplemented by additional information received in 1984.

[a]See Tables A.3.1 to A.3.5 and Section 1.2

FIG. 1.2 AFRICAN REGION

DECADE TARGETS FOR URBAN AND RURAL WATER SUPPLY AND SANITATION IN SELECTED COUNTRIES COMPARED WITH 1980 AND 1983[a] LEVELS OF COVERAGE



[a] See Tables 1.4.1.1, 1.4.1.2, 1.4.2.1, 1.4.2.2 and Section 1.2.

TABLE 1.1 AFRICAN REGION

BASIC INDICATORS: DEMOGRAPHIC, ECONOMIC, HEALTH
(Year 1983)

Country/ Territory	Population (000)	Population growth rate (%)	GNP per capita (US$)	Life expectancy (years)	Infant mortality per 1000 live births	Water disease cases per 100 000	Population without safe water (%)	Population without sanitation (%)
Nigeria	97 400	3.5	670	65	170	-	63	70[a]
Zaire	30 000	2.7	280	50	106	-	-	-
Republic of Tanzania*	20 600	3.2	230	50	135	120	54	48
Kenya	17 722	2.9	390	56	85	-	72	55
Uganda*	13 890	2.8	240	53	100	-	84	87
Ghana	12 100	2.6	400	37	156	-	49	73
Madagascar	9 470	2.7	240	45	92	7 140	77	-
Angola	8 600	2.4	440	41	154	4 690	72	82
Mali*	7 519	2.5	-	40	150	80 000	86	82
Malawi*	6 645	3.1	211	40	130	-	49	25[a]
Senegal	6 200	2.8	430	48	110	360	56	13[a]
Zambia	6 171	2.8	330	50	140	-	53	27
Niger*	6 007	2.8	337	42	200	2 500	66	93
Rwanda*	5 670	3.7	240	47	127	5 000	40	40
Burundi*	4 540	2.2	110	45	136	6 500	74	48
Benin*	3 714	2.6	276	46	110	-	74	78
Sierra Leone*	3 389	2.3	218	47	225	-	77	79
Togo*	2 859	2.8	380	46	91	-	63	88
Liberia	2 061	3.3	444	50	132	-	60	-
Congo	1 675	2.7	900	51	280	-	65	-
Mauritania	1 645	2.5	440	44	159	13 769	-	20[a]
Botswana*	941	3.4	638	56	68	340	23	64
Guinea Bissau*	834	2.1	160	40	200	3 500	67	81
The Gambia*	700	2.8	240	41	150	-	49	-
Cape Verde*	314	2.0	262	65.5	60	5 600	45	81
Equatorial Guinea*	300	2.6	215	46	141	31 855	87	73

* LDCs.
[a] Urban only. (% of urban population not served by sewer connection)

TABLE 1.2 AFRICAN REGION

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			
Nigeria	-	-	-	-	-	-	under preparation (1984)
Zaire	40	30	-	-	35	-	under preparation (-)
Republic of Tanzania*	-	-	-	-	-	-	under preparation (1985)
Kenya	100[a]			90[a]	75	50	under preparation (1985)
Uganda*	80[a]			85[a]	40	50	under preparation (1984)
Ghana	42	58	-	80	77	77	under preparation (1985)
Madagascar	-	-	-	-	-	-	no plan foreseen
Angola	-	-	-	-	-	-	no plan foreseen
Mali*	18	35	1	93	36	30	1984
Malawi*	69	21	12	66	65	-	under preparation (1985)
Senegal	40	50	27	67	67	-	under preparation (1985)
Zambia	60	33	48	51	100	57	1983
Niger*	60	40	-	20	-	80	1984
Rwanda*	45	45	-	85	70	75	1984
Burundi*	57	39	40	60	90	70	1984
Benin*	-	-	-	-	-	-	under preparation (-)
Sierra Leone*	-	-	-	-	-	-	1981
Togo*	100[a]			100[a]	85	74	1984
Liberia	-	-	-	-	-	-	under preparation (-)
Congo	100	-		100[a]	96	96	1982
Mauritania	100	-	20	-	59	-	1983
Botswana	-	-	-	-	-	-	1982 (Partial)
Guinea Bissau*	-	-	-	-	-	-	no plan foreseen
The Gambia*	-	-	-	-	-	-	1982 (Partial)
Cape Verde*	-	-	-	-	-	-	under preparation (-)
Equatorial Guinea*	-	-	-	-	-	-	no plan foreseen

* LDCs.
[a] No breakdown given.

TABLE 1.3 AFRICAN REGION

1983 LEVELS OF SERVICE

Country/ Territory	Population			Population with service							
				Drinking-water				Sanitation			
				Urban			Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S.[b]		Total	by S.C.[c]	by other	
Nigeria	97 400	23 200	74 200	13 920	6 960	6 960	22 300	-	-	6 960	-
		(24)	(76)	(60)	(30)	(30)	(30)	-	-	(30)	-
Zaïre	30 000	11 400	18 600	4 902	4 560	342	930	-	-	-	1 860
		(38)	(62)	(43)	(40)	(3)	(5)	-	-	-	(10)
Republic of Tanzania*	20 600	3 090	17 510	2 719	1 631	1 088	6 800	2 565	385	2 180	8 230
		(15)	(85)	(88)	(53)	(35)	(39)	(83)	(3)	(80)	(47)
Kenya	17 722	2 797	14 925	1 700	1 100	600	3 200	2 104	1 376	728	5 800
		(16)	(84)	(61)	(39)	(22)	(21)	(75)	(49)	(26)	(39)
Uganda*	13 890	1 470	12 420	-	662	-	1 520	-	497	-	1 242
		(11)	(89)	-	(45)	-	(12)	-	(34)	-	(10)
Ghana	12 100	4 356	7 744	3 150	1 100	2 050	3 012	2 030	160	1 870	1 277
		(36)	(64)	(72)	(25)	(47)	(39)	(47)	(4)	(43)	(16)
Madagascar	9 470	2 020	7 450	1 470	340	1 130	690	-	60	-	-
		(21)	(79)	(73)	(17)	(56)	(9)	-	(3)	-	-
Angola	8 600	1 720	6 880	1 550	390	1 160	841	498	240	258	1 030
		(20)	(80)	(90)	(23)	(67)	(12)	(29)	(14)	(15)	(15)
Mali*	7 519	1 263	6 256	581	222	359	501	1 147	10	1 137	188
		(17)	(83)	(46)	(18)	(28)	(8)	(91)	(0)	(91)	(3)
Malawi*	6 645	880	5 765	583	407	176	2 817	658	97	561	-
		(13)	(87)	(66)	(46)	(20)	(49)	(75)	(11)	(64)	-
Senegal	6 200	2 480	3 720	1 700	700	1 000	1 000	2 150	350	1 800	-
		(40)	(60)	(69)	(28)	(40)	(27)	(87)	(14)	(73)	-
Zambia	6 171	2 851	3 320	1 866	1 410	456	1 046	2 851	1 288	1 563	1 593
		(46)	(54)	(65)	(49)	(16)	(33)	(100)	(45)	(55)	(48)

Niger*	6 007	788 (13)	5 219 (87)	320 (41)	229 (29)	91 (12)	1 709 (33)	284 (36)	0 (0)	284 (36)	156 (3)
Rwanda*	5 670	277 (5)	5 393 (95)	152 (55)	97 (35)	55 (20)	3 235 (60)	166 (60)	0 (0)	166 (60)	3 235 (60)
Burundi*	4 540	278 (6)	4 262 (94)	251 (90)	160 (58)	91 (32)	938 (22)	140 (50)	13 (5)	127 (45)	2 200 (52)
Benin*	3 714	1 820 (49)	1 894 (51)	-	-	-	-	-	-	-	-
Sierra Leone*	3 389	1 017 (30)	2 372 (70)	622 (61)	233 (23)	389 (38)	145 (6)	530 (52)	7 (1)	460 (51)	237 (10)
Togo*	2 858	718 (25)	2 140 (75)	490 (68)	100 (14)	390 (54)	565 (26)	170 (24)	0 (0)	170 (24)	180 (8)
Liberia	2 061	767 (37)	1 294 (63)	542 (71)	162 (21)	380 (50)	279 (20)	- -	184 (24)	- -	279 (20)
Congo	1 675	1 059 (63)	616 (37)	441 (42)	357 (34)	84 (8)	46 (7)	- -	- -	- -	- -
Mauritania	1 645	462 (28)	1 183 (72)	370 (80)	71 (15)	298 (65)	- -	- -	18 (4)	- -	0 (0)
Botswana*	941	335 (36)	606 (64)	328 (98)	131 (39)	197 (59)	285 (47)	302 (90)	151 (45)	151 (45)	136 (23)
Guinea Bissau*	834	167 (20)	667 (80)	35 (21)	21 (13)	14 (8)	244 (37)	37 (22)	2 (0)	35 (6)	120 (18)
The Gambia*	700	100 (14)	600 (86)	100 (100)	57 (57)	43 (43)	218 (36)	- -	- -	- -	- -
Cape Verde*	314	84 (27)	230 (73)	83 (99)	29 (35)	54 (64)	61 (27)	41 (49)	16 (19)	25 (30)	19 (8)
Equatorial Guinea*	300	83 (28)	217 (72)	39 (47)	23 (28)	16 (19)	- -	82 (99)	23 (27)	60 (72)	- -
Total	270 965	65 482 (24)	205 483 (76)	37 914 (61)	21 152	17 423	52 372 (26)	15 755 (68)	4 877	18 535	27 782 (25)

* LDC's.
a H.C. = house connection.
b P.S. = public standpost.
c S.C. = sewer connection.

TABLE 1.4 AFRICAN REGION

PRESENT (1983 - top line) AND PROJECTED (1990 - bottom line) POPULATION COVERAGE (in thousands)

Country/ Territory	Urban population	Water supply		Sanitation		Rural population	Safe water	Adequate sanitation
		House connection	Stand-post	Sewer connection	Other means			
Nigeria	23 200	6 960	6 960	-	6 960	74 200	22 300	-
	36 500	-	-	-	-	85 200	-	-
Zaïre	11 400	4 560	342	-	-	18 600	930	1 860
	18 315	5 128	7 693	-	-	19 379	6 783	-
Republic of Tanzania*	3 090	1 631	1 088	385	2 180	17 510	6 800	8 230
	-	-	-	-	-	-	-	-
Kenya	2 797	1 100	600	1 376	728	14 925	3 200	5 800
	3 808	3 808[a]		3 427[a]		18 928	14 196	9 464
Uganda	1 470	662[a]		497[a]		12 420	1 520	1 242
	1 970	1 576[a]		1 675[a]		15 000	6 000	7 500
Ghana	4 356	1 100	2 050	160	1 870	7 744	3 012	1 277
	6 922	2 922	4 127	99	5 540	8 937	7 000	7 000
Madagascar	2 020	340	1 130	60	-	7 450	690	-
	2 846	-	-	-	-	8 562	-	-
Angola	1 720	390	1 160	240	258	6 880	841	1 030
	-	-	-	-	-	-	-	-
Mali*	1 263	222	359	10	1 137	6 256	501	188
	1 882	339	659	19	1 751	7 080	2 549	2 124
Malawi*	880	407	176	97	561	5 765	2 817	-
	1 124	776	236	137	740	7 182	4 687	-
Senegal	2 480	700	1 000	350	1 800	3 720	1 000	-
	3 000	900	1 200	920	1 900	4 500	2 000	-
Zambia	2 851	1 410	456	1 288	1 563	3 320	1 046	1 593
	3 900	2 416	1 289	1 863	1 998	3 560	3 560	2 024
Niger*	788	229	91	0	284	5 219	1 709	156
	1 325	795	530	-	414	5 995	-	4 796
Rwanda*	277	97	55	0	166	5 393	3 235	3 235
	411	185	185	-	349	6 852	4 797	5 139
Burundi*	278	160	91	13	127	4 262	938	2 200
	351	206	137	140	211	4 918	4 425	3 442

Benin*	1 820	-	-	-	-	1 894	-	-
	2 952	-	-	-	-	2 365	-	-
Sierra Leone*	1 017	233	389	7	460	2 372	145	237
	-	-	-	-	-	-	-	-
Togo*	718	100	390	0	170	2 140	565	180
	1 020	1 020[a]		-	1 020	2 480	2 100	1 840
Liberia	767	162	380	184	-	1 294	279	279
	962	-	-	-	-	1 732	-	-
Congo	1 059	357	84	-	-	617	46	-
	1 251	1 251	0	-	1 251	635	610	610
Mauritania	462	71	298	18	-	1 183	-	0
	578	578	-	250	-	1 274	752	-
Botswana*	335	131	197	151	151	606	285	136
	-	-	-	-	-	-	-	-
Guinea Bissau*[b]	167	21	14	2	35	667	244	120
	193	60	50	3	60	772	450	200
The Gambia*	100	57	43	-	-	600	218	-
	150	-	-	-	-	750	-	-
Cape Verde[b]	84	29	54	16	25	230	61	19
	-	-	-	-	-	-	-	-
Equatorial Guinea*	83	23	16	23	60	217	-	-
	-	-	-	-	-	-	-	-

* LDCs.
[a] No breakdown given.
[c] Information on 1990 populations: UN Demographic Indicators, UN New York, 1982.

TABLE 1.4.1.1 - AFRICAN REGION

DECADE TARGETS FOR URBAN WATER SUPPLY

Country/Territory	Urban Population (000)		WATER SUPPLY Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Zaïre	11 400	18 315	4 902	43	12 821	70
Kenya	2 797	3 808	1 700	61	3 808	100
Uganda	1 470	1 970	662	45	1 576	80
Ghana	4 356	6 922	3 150	72	6 922	100
Mali*	1 263	1 882	581	46	998	53
Malawi*	880	1 124	583	66	1 012	90
Zambia	2 851	3 900	1 866	65	3 705	95
Niger*	788	1 325	320	41	1 325	100
Rwanda*	277	411	152	55	370	90
Burundi*	278	351	251	90	343	96
Togo*	718	1 020	490	68	1 020	100
Congo	1 059	1 251	441	42	1 251	100
Mauritania	462	578	369	80	578	100
TOTAL	28 599	42 857	15 467	54	35 729	83

* LDCs.

1 Where no value given by government, values have been taken from the UN Demographic Indicators, UN New York, 1982.

TABLE 1.4.1.2 - AFRICAN REGION

DECADE TARGETS FOR URBAN SANITATION

Country/Territory	Urban Population (000)		SANITATION Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Kenya	2 797	3 808	2 104	75	3 427	90
Uganda	1 470	1 970	587	40	1 675	85
Ghana	4 356	6 922	2 030	47	5 540	80[c]
Mali*	1 263	1 882	1 147	91	1 770	94
Malawi*	880	1 124	658	75	877	78
Senegal	2 480	3 000	2 150	87	2 820	94
Zambia	2 851	3 900	2 851	100	3 861	99
Niger*	788	1 325	284	36	1 193	90
Rwanda*	277	411	166	60	349	85[b]
Burundi*	278	351	140	50	351	100
Togo*	718	1 020	170	24	1 020	100
TOTAL	18 158	25 713	12 287	70	22 883	89

* LDCs.

a Where no value given by government, values have been taken from the UN Demographic Indicators, UN New York, 1982.

b Sewer connection only.

c Non sewer connection.

TABLE 1.4.2.1 - AFRICAN REGION

DECADE TARGETS FOR RURAL WATER SUPPLY

Country/Territory	Rural Population (000)		WATER SUPPLY Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Zaïre	18 600	19 379	930	5	6 783	35
Kenya	14 925	18 928	3 200	21	14 196	75
Uganda*	12 420	15 000	1 520	12	6 000	40
Ghana	7 744	8 937	3 012	39	7 000	78
Mali*	6 256	7 080	501	8	2 549	36
Malawi*	5 765	7 182	2 817	49	4 687	65
Senegal	3 720	4 500	1 000	27	2 000	44
Zambia	3 320	3 560	1 046	33	3 560	100
Rwanda*	5 393	6 852	3 235	60	4 797	70
Burundi*	4 262	4 918	938	22	4 425	90
Togo*	2 140	2 480	565	26	2 100	85
Congo	617	635	46	7	610	96
Guinea-Bissau*	667	772	244	37	450	58
TOTAL	85 829	100 223	19 054	22	59 157	59

* LDCs.

TABLE 1.4.2.2 - AFRICAN REGION

DECADE TARGETS FOR RURAL SANITATION

Country/Territory	Rural Population (000)		SANITATION Population covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Kenya	14 925	18 928	5 800	39	9 464	50
Uganda*	12 420	15 000	1 242	10	7 500	50
Ghana	7 744	8 937	1 277	16	7 000	78
Mali*	6 256	7 080	188	3	2 124	30
Zambia	3 320	3 560	1 593	48	2 024	57
Niger*	5 219	5 995	156	3	4 796	80
Rwanda*	5 393	6 852	3 235	60	5 139	75
Burundi*	4 262	4 918	2 200	52	3 442	70
Togo*	2 140	2 480	180	8	1 840	74
Guinea-Bissau*	667	772	120	18	200	26
TOTAL	62 346	74 522	15 991	26	43 529	58

* LDCs.

TABLE 1.5 - AFRICAN REGION

STAFF RESOURCES 1983 (top line) AND PROJECTED REQUIREMENTS FOR 1990 (bottom line)

Country/Territory	Planning and management	Technical	Craftsmen Artisanal	Administration Clerical	Community based	Totals per million population
Nigeria[b]	365[b]	7 755	1 880	7 450	-	204
	1 107	22 827	5 471	23 149	-	487[c]
Zaïre	-	-	-	-	-	-
	-	-	-	-	-	-
Republic of Tanzania	800	960	1 350	1 600	-	190
	500	2 200	3 400	4 000	-	327
Kenya	-	-	-	-	-	-
	-	-	-	-	-	-
Uganda[b]*	41	920[a]		2 753[a]		254
	180	2 196[a]		4 605[a]		381
Ghana	-	-	-	-	-	-
	-	-	-	-	-	-
Madagascar	-	-	-	-	-	-
	-	-	-	-	-	-
Angola	-	-	-	-	2 000	263
	-	-	-	-	-	-
Mali*	38	201	77	60	1 500	250
	361	2 361	548	160	20 000	2 614
Malawi*	62	225	1 300	169	-	264
	74	605	1 450	120	-	271
Senegal	-	-	-	-	-	-
	-	-	-	-	-	-
Zambia	34	579	1 085	100	600	389
	100	1 300	1 500	200	1 300	590
Niger*	3	35	15	-	-	9
	52	79	335	-	-	64
Rwanda*	60	274	1 419	60	275	368
	-	-	-	-	-	-
Burundi*	26	70	55	30	-	40
	40	105	85	50	-	53

Benin*	-	-	-	-	-	-
	-	-	-	-	-	-
Sierra Leone[c]*	2	290	600	135	1 200	657
	3	460	1 000	220	7 250	1 939[c]
Togo*	9	319	311	79	-	251
	-	350	369	38	-	256
Liberia	12	60	89	589	12	372
	19	88	120	815	15	392
Congo	30	80	230	193	160	414
	40	100	300	250	200	297
Mauritania	8	43	409	28	-	297
	10	118	518	45	-	373
Botswana*	-	-	-	-	-	-
	-	-	-	-	-	-
Guinea-Bissau*	3	229	298	33	26	705
	-	-	-	-	-	-
The Gambia*	-	2	-	-	-	-
	2	10	-	-	-	-
Cape Verde*	-	-	-	-	-	-
	-	-	-	-	-	-
Equatorial Guinea*	-	2	20	1	64	223
	2	36	40	21	622	1 534

* LDCs.
[a] No breakdown given.
[b] 1980 values, since no 1983 figures available.
[c] 1990 population used from UN Demographic Indicators of countries; UN New York, 1982 to calculate "total per million population".

TABLE 1.6 AFRICAN REGION

UNIT COSTS OF CONSTRUCTION (US$ PER CAPITA) AND OF WATER PRODUCTION (US$/m^3)

Country/ Territory	Construction						Operation		
	Urban water supply		Urban sanitation		Rural water supply	Rural sanitation	Average cost of water production	Average water tariff	Progressive water tariffs
	House connection	Stand post	Sewer connection	Other means					
Nigeria	81	43	-	-	34	-	1.18	0.67	YES (some areas)
Zaïre	39.5	-	-	-	8	-	-	-	YES (urban)
Rep. of Tanzania*	80	56	960	945	56	30	0.45	0.24	NO
Kenya	150-300	50-150	-	20-60	15-70	5-20	-	-	YES (some areas)
Uganda*	200[a]		300[a]		40	50	-	-	YES
Ghana	100	80	300	160	50	-	0.30	0.20	YES
Madagascar	97	43	115	33	38	15	-	-	NO
Angola	90	-	75	40	25	8	-	0.10	NO
Mali*	70	14	118	50	37.5	8	0.20	0.14	YES
Malawi*	-	45	-	250	10	15	0.50	0.28	YES
Senegal	12.5	2	160	-	10	-	0.40	0.22	YES
Zambia	127	82	261	75	45-90	45	0.34	0.22	YES
Niger*	143.6	-	-	19.5	47.1	19.5	-	-	YES
Rwanda*	120	40	-	370	15	10-15	0.65	0.22	NO
Burundi*	160	100	150	2000	17	100	0.39	0.22	NO
Benin*	21[a]		39[a]		51	39	-	-	-
Sierra Leone*	250	200	-	300	60	300	0.80	0.20	NO
Togo*	126[a]		40	40	19	40	0.66	0.31	YES
Liberia	91.5	-	-	-	15	10	-	0.44	YES
Congo	143	80	-	-	200	-	0.50	0.29	NO
Mauritania	-	-	-	-	-	-	0.62	0.68	YES
Botswana*	35[a]		200[a]		120	35	equal (Urban)	0 (Rural)	YES
Guinea Bissau*	160[a]		300[a]		100	100	0.50	0.50	NO
The Gambia*	-	-	-	-	-	-	-	-	-
Cape Verde*	-	-	-	-	-	-	-	-	-
Equatorial Guinea*	-	-	-	-	-	-	-	-	-

* LDCs.
[a] No breakdown given.

TABLE 1.7 AFRICAN REGION

COST PROJECTIONS COMPARED WITH 1981-3 SECTOR INVESTMENTS

Country	Estimated cost to reach country Decade targets US $ million	Sector investments (1981, 1982, 1983)			Acceleration in investment needed (fold)
		Total US $ million	Percent of total development investment	External US $ million (%) (%)	
Nigeria	4 343	-	-	-	-
			-	-	
Zaïre	250[a] (urban water only)	-	-	-	-
				-	
Rep. of Tanzania*	-	-	-	-	-
Kenya	-	-	-	-	-
Uganda*	1 034	-	11	-	-
				-	
Ghana	660	76.0	6.0	8.0 (11)	2.6
					-
Madagascar	-	-	-	-	-
				-	
Angola	114[a]	13.3	-	1.3 (10)	3.0
Mali*	356	7.7	-	6.7 (86)	13.8
Malawi*	157[a]	20.7	5	18.6 (90)	2.3
Senegal	138[a]	23.0[b]	8.27	20.1 (87)	1.8
Zambia	1 220	-	-	-	-
				-	
Niger*	476[b]	64.4	-	-	2.2
				-	
Rwanda*	225	9.5	5	8.1 (85)	7.0
Burundi*	81[b]	23.6	-	20.9 (86)	1.03
Benin*	193[b]	-	-	-	-
				-	
Sierra Leone*	63	17.3	10	10.2 (59)	1.09
Togo	247[b]	3.6	-	0.8 (22)	20.6
Liberia	-	32.9	-	25.9 (79)	-
Congo	77	-	-	-	-
				-	
Mauritania	175[b]	11.8	-	10.9 (92)	4.4
Botswana*	-	-	-	-	-
				-	
Guinea Bissau*	65[c]	-	-	-	-
				-	
The Gambia*	-	1.8	-	1.5 (83)	-
Cape Verde*	25.5[b]	-	-	-	-
				-	
Equatorial Guinea*	-	-	-	-	-
				-	

[a] These figures are underestimates because either not all subsectors were included or projections for the later years of the Decade were not made.
[b] Revised since baseline.
[c] Cost of reaching 1986 targets.
[d] Urban water only.
* LDCs.

TABLE 1.8 AFRICAN REGION

RANKING AND FREQUENCY OF CONSTRAINTS[a]

Constraints	No. of countries indicating constraint			Ranking Index[b]	Order of Seriousness
	Very severe	Severe	Moderate		
Funding limitations	8	10	1	45	1
Operation and maintenance	5	10	4	39	2
Logistics	6	8	4	38	3
Insufficiency of trained personnel (sub-professional)	4	9	6	36	4
Insufficiency of trained personnel (professional)	5	8	2	33	5
Inadequate cost-recovery framework	3	9	3	30	6=
Insufficient health education efforts	5	4	7	30	6=
Inadequate or outmoded legal framework	3	6	7	28	8
Inappropriate institutional framework	1	5	12	25	9
Intermittent water service	1	6	9	24	10=
Insufficient knowledge of water resources	1	4	13	24	10=
Non-involvement of communities	1	6	8	23	12
Import restrictions	3	3	7	22	13
Inappropriate technology	1	3	12	21	14
Lack of definite government policy for sector	1	4	6	17	15=
Lack of planning and design criteria	1	2	10	17	15=
Inadequate water resources	-	-	15	15	17

[a] Number of reporting countries: 19
[b] Ranking index = (No. very severe x 3) + (No. severe x 2) + (No. moderate x 1).

TABLE 1.9 AFRICAN REGION

DECADE APPROACHES DURING 1983

Country/ Territory	Improved services for the urban poor			No. of rural communities participating in improvements			No. of primary school children receiving health education
	Total urban poor population (000)	Population affected by improvements (%)	Urban water development funds used (%)	Planning (%)	Building (%)	Operating (%)	(000)
Nigeria	9 280	-	-	- -	- -	- -	- (100%)
Rep. of Tanzania*	-	5	-	- (100)	- (100)	- (100)	- (90%)
Mali*	-	-	-	- (90)	- (60)	- (60)	- (80%)
Malawi*	704	25	-	315 (36)	3 135 (36)	5 607 (64)	- -
Zambia	1 026	5	-	- -	- -	- -	- -
Niger*	788	-	-	- -	- -	- -	- -
Rwanda*	166	30	-	- -	54 (37)	95 (65)	64 260 -
Burundi*	-	-	-	10 (100)	10 (100)	10 (60)	40 000 -
Sierra Leone*	508	12	-	183 (71)	183 (71)	- -	32 340 -
Togo*	280	-	-	- -	- -	- -	- -
Liberia	180	-	-	- -	- -	- -	- -
Mauritania	98	-	-	- -	- -	- -	3 000 -
Guinea Bissau*	-	-	-	160 (28)	210 (37)	320 (57)	- -
The Gambia*	-	-	-	- (100)	- (80)	- (10)	- -

* LDCs.

2. REGION OF THE AMERICAS

2.1 Socioeconomic and health situation

Twenty-four countries or territories representing 97% of the population of the developing countries of the Region provided information on the status of water supply and sanitation services at the end of 1983. Between 1983 and 1990, the population is expected to increase by 19%, with the urban population growing by 27% and the rural population by 3%. By 1990, the urban population will have grown from 67% to 71% of the total population.

The per capita gross national product ranges from US$ 270 to US$ 7277. One country (Haiti) is classified by the United Nations as a Least Developed Country (LDC). Only four countries report that more than half of their population are without access to safe water, but another six say that more than 40% do not have safe water. There are seven countries in which more than half the population lack adequate sanitation facilities.

All the countries have a life expectancy at birth above 50 years, and in only three (Bolivia, Haiti and Nicaragua) is it below 60 years. However, ten countries report an infant mortality rate in excess of 50 per 1000 live births and in two (Bolivia and Haiti) the rate exceeds 100. Of the 20 countries reporting values for the incidence of water-borne diseases, five say that more than 5% of the population are afflicted and a further five record an incidence level between 1% and 5%. Though not as grave as in some countries in Africa and the Western Pacific, these unfavourable health conditions do indicate a need for better water supply and sanitation services.

Only one country saw inadequate water resources as a very serious constraint to Decade progress, but five classified it as severe and 13 thought it a moderate constraint. Insufficient knowledge of water resources was considered a serious constraint by six countries.

2.2 Targets and planning

Progress in the different sub-sectors between 1970 and 1983 is illustrated in the global Tables A.3.2.1 to A.3.2.4 and here in Figure 2.1. More details of the 1983 levels of service country by country appear in Table 2.3 and Tables 2.2 and 2.4 show the 1990 targets of each country in the Region. Between 1980 and 1983, the figures show a significant improvement in water supply and sanitation coverages in the urban areas, but a small decrease in rural areas. This is despite the much higher population growth in urban areas.

Some care is needed in interpreting these statistics, as variations in the countries included and the method of calculation do appear to have had a big influence.

For urban water supply, the overall percentage of the population covered rose to 85% in 1983 from 78% in 1980 (77% in the expanded Baseline reproduced as Table B.2.3). This positive progress is confirmed by direct comparison of the 17 countries which reported for both years; 15 recorded an improvement in coverage and only two (Uruguay and Panama) indicated small reductions. The apparent 24% improvement in urban sanitation coverage from 56% in 1980 to 80% in 1983 does however seem to exaggerate the actual progress made. One important reason is that Brazil, which in both years has reported only on the number of people served by sewer connections (33% in 1983) was included in the calculation of total coverage in 1980, artificially lowering the overall regional coverage. On direct comparison of the countries for which comparable data are available for 1980 and 1983, it appears that urban sanitation coverage has improved by about 11%, still impressive progress.

Rural water supply coverage can be seen to have fallen slightly in the three years from 42% in 1980 (or 41% on the expanded Baseline) to 40% in 1983, and this essentially static position is confirmed by direct comparison country by country. In the rural sanitation sub-sector, the apparent 2% drop in

coverage between 1980 and 1983 from 20% coverage at the start of the Decade to 18% at the end of 1983 is translated into a 3% improvement when direct comparison is made of countries with comparable data, but the 1983 coverage remains a low 19% and the sample size is much smaller, as fewer countries have provided data for this sub-sector.

Information on 1990 targets was not provided by all countries, the most significant omission being Brazil, the most populous country in the Region. However, ten countries did give information on targets for all four sub-sectors, while eight others provided partial targets - i.e. for some sub-sectors or within sub-sectors for house connections or sewer connections only.

For urban water supply, 15 countries, representing 52% of the urban population of the American Region's member states (excluding Canada and the USA) provided the information which is presented in Table 2.4.1.1 and Fig 2.2. According to the goals established by these countries, coverage would remain at the level of 86% existing in 1983, with new services provided for the same proportion of the new population between 1984 and 1990. For the 15 countries, that would mean water supply services for an extra 24 million people during the seven years in addition to the 100 million served in those countries at the end of 1983. Projected into regional terms, with the usual warning about the statistical inaccuracy inherent in such extrapolation, the targets imply new services for a total of 55 million urban residents. Judging by the progress actually recorded from 1980 to 1983, these forecasts are well within the capabilities of the countries of the Region.

Rural water supply data from 15 countries containing 50% of the Region's total rural population indicates a target to lift coverage from 34% in 1983 to 54% by 1990. For the selected countries that would mean that 38 million rural people would have access to safe water in 1990, compared with 22 million in 1983. Extrapolating over the region as a whole, new water supply services would need to be provided for an extra 27 million rural dwellers.

Urban sanitation targets are available for only 14 countries, representing 42% of the total urban population of the Region. In those countries, the 1983 coverage averaged 77% and the 1990 target was 80% coverage. To achieve the target would mean new sanitation services for 28 million urban people during the seven years in the 14 countries, or 57 million if the targets were extrapolated over the whole Region.

The rural sanitation goal of 39% service by 1990 is based on data from just 12 countries, containing 55% of the region's rural population. The 1983 coverage in those 12 countries was only 16% and to reach the targets an extra 19 million rural people would need to be provided with adequate sanitation facilities between 1984 and 1990. Extrapolated over the region as a whole, the targets would imply new services for an extra 32 million people.

It is clear from the targets they have set that the countries of the American Region intend to focus more attention on the rural areas during the remainder of the Decade, with the aim of achieving the same progress there as has been attained in the previous three years in the urban areas. It is encouraging to note that of 25 reporting countries, only four are without Decade Plans either prepared or under preparation.

2.3 Staff and training

Information on the number of staff employed in the sector is presented in Table 2.5. Eleven countries provided information on both the present staffing levels and the projected levels for 1990, while another ten countries reported only on the current situation. The relative proportions of different categories of staff vary greatly among the countries of the Region. Existing levels of staffing range from 32 trained staff per million population in Venezuela to 3611 staff per million in Barbados, but such comparisons are of little value, as for Venezuela no information was provided about community-based workers and Barbados is a relatively small island territory which is not representative of other countries of the Region. The median current strength is 685 trained staff

per million population, and the median of the targets for 1990 is a staffing level of 723 per million population.

Lack of trained personnel was considered to be the third most serious constraint to Decade progress by the countries of the Region (Table 2.8), with 12 listing it as either severe or very severe.

2.4 Financial resources

Table 2.6 compares the unit costs of building new water supply and sanitation systems in the different countries of the Region, and also indicates how water tariffs relate to the actual costs of water production from country to country. Urban water supply through house connections ranges from lows of US$ 25 per capita in Belize and US$ 52 in Peru to highs of US$ 290 in the Bahamas and US$ 350 in Trinidad and Tobago. The median value is US$ 120 per capita, which compares favourably with the US$ 125 per capita calculated in 1980.

The unit cost of urban water supply through standposts is also down over the three years. The median value was US$ 62 per capita in 1980 and US$ 50 in 1983. There is a very high range of costs quoted for standpost supplies, from US$ 5 per capita in Peru to US$ 500 in Surinam. This kind of disparity is hard to account for, though clearly there can be considerable variations in the number of people served from a single standpost.

The median value for the cost of rural water supply services is the same for 1983 as it was in 1980 - US$ 88 per capita. Lowest costs are reported by Haiti at US$ 25 per capita, while in Trinidad and Tobago the figure is US$ 410.

Venezuela's quoted cost of US$ 536 per capita for rural sanitation is very high compared with other reporting countries, which range from US$ 6 in Mexico to US$ 180 in Ecuador. The median value in 1983 is US$ 38 per capita, US$ 8 higher than the 1980 value.

Production cost of water in the Region ranged from US$ 0.04 per cubic metre in Colombia to US$ 1.15 per cubic metre in the Bahamas, with a median value of US$ 0.11. Water tariffs exceeded production costs in 14 out of 18 reporting countries and the median tariff of US$ 0.19 per cubic metre shows a comfortable margin over the median production cost. This is the only Region in which a majority of countries have tariffs set at a level sufficient to generate funds for operation and maintenance of water systems without outside subsidy. Also, all but one country (Honduras) reported that progressive tariffs are employed as a means of discouraging excessive consumption and forcing big consumers to subsidize smaller ones.

Table 2.7 shows the estimates of the costs for individual countries to achieve their Decade targets, and compares this with the level of spending achieved for 1981, 1982 and 1983. Though water supply and sanitation investment is necessarily spread over many years, comparison of actual spending with implied spending to meet Decade targets is a crude indicator of the need for programme acceleration and the likelihood of goals being achieved. The final column of Table 2.7 indicates that none of the reporting countries can be expected to reach its Decade goals without increased investment in water supply and sanitation, though the implied acceleration is moderate in a few cases - a 20% increase for Brazil and Chile; an extra 10% in Costa Rica; and 40% more in the case of Panama. The rest need from 3 to 8-fold increases and may have to scale down targets accordingly.

The proportion of external funding for water supply and sanitation programmes varies from 2% in the Dominican Republic to 87% in Haiti (the only LDC in the Region). The median value is relatively low at 31%. Inadequate funding was ranked second in the list of constraints affecting Decade progress, just below inadequate cost recovery (Table 1.8).

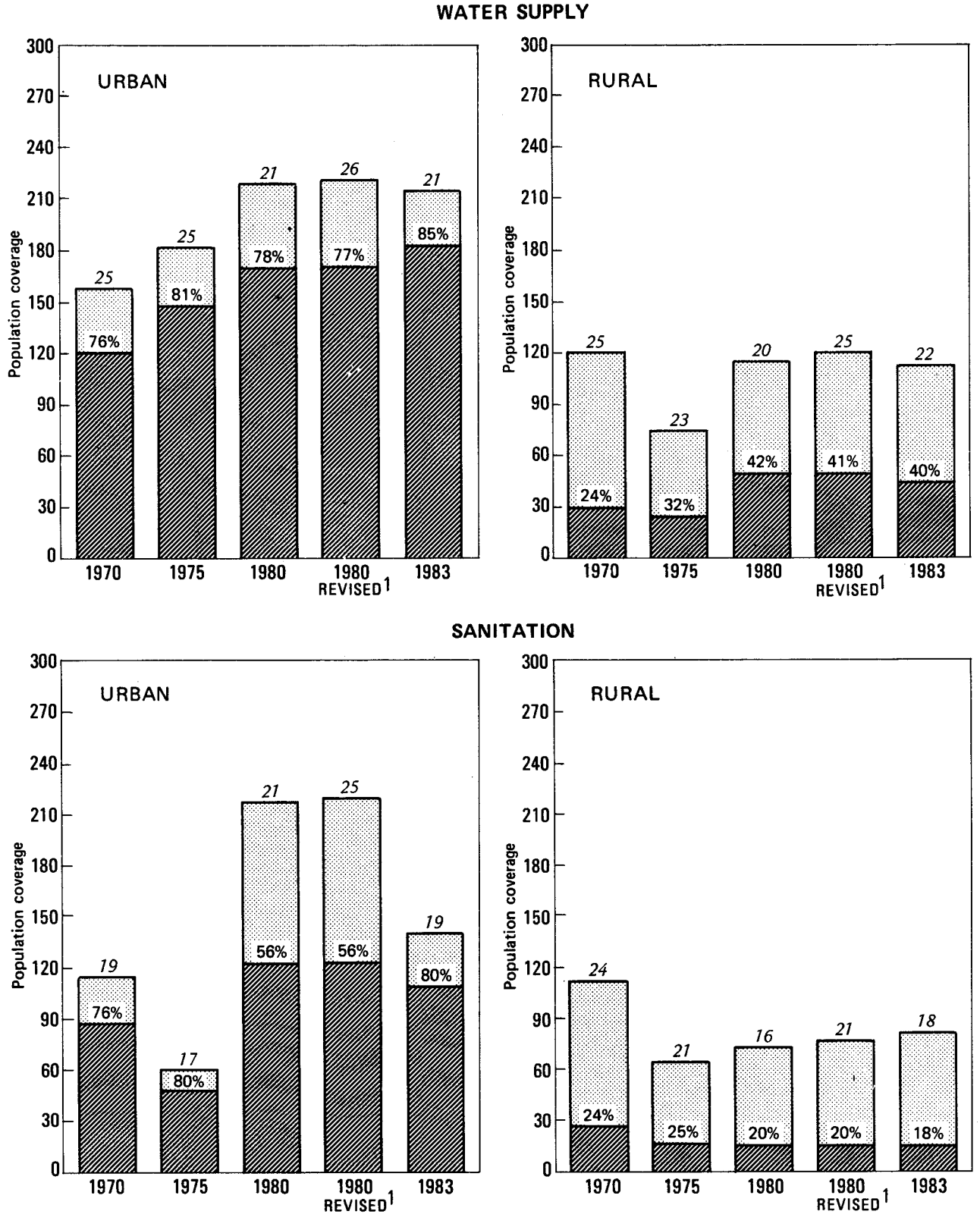
2.5 Decade approaches

Some information on Decade Approaches and the orientation of programmes in line with the Mar del Plata Plan of Action was received from 18 of the reporting countries, though data on the impact of programmes on the urban poor were limited to partial reports from just 10 countries. Chile and Costa Rica recorded the greatest impact of services to the urban poor, with 100% and 85% respectively reported to have benefited from some service improvement during 1983. In Peru, around 4 million urban poor (30% of the total urban population) are reported to have received improved services.

Community participation in all aspects of programme development from planning through construction to operation and maintenance appears to be established policy in a number of countries. Argentina reports 100% community involvement in planning and construction and says that 96% of rural communities participate in operation and maintenance of completed systems, while Colombia claims 100% community participation in all aspects. Health education related to the hygienic use of water and disposal of wastes is provided in the majority of primary schools in all but one of the nine countries which reported on this aspect of their programmes.

FIG. 2.1 REGION OF THE AMERICAS

POPULATION COVERAGE IN 1970, 1975, 1980 AND 1983[a]

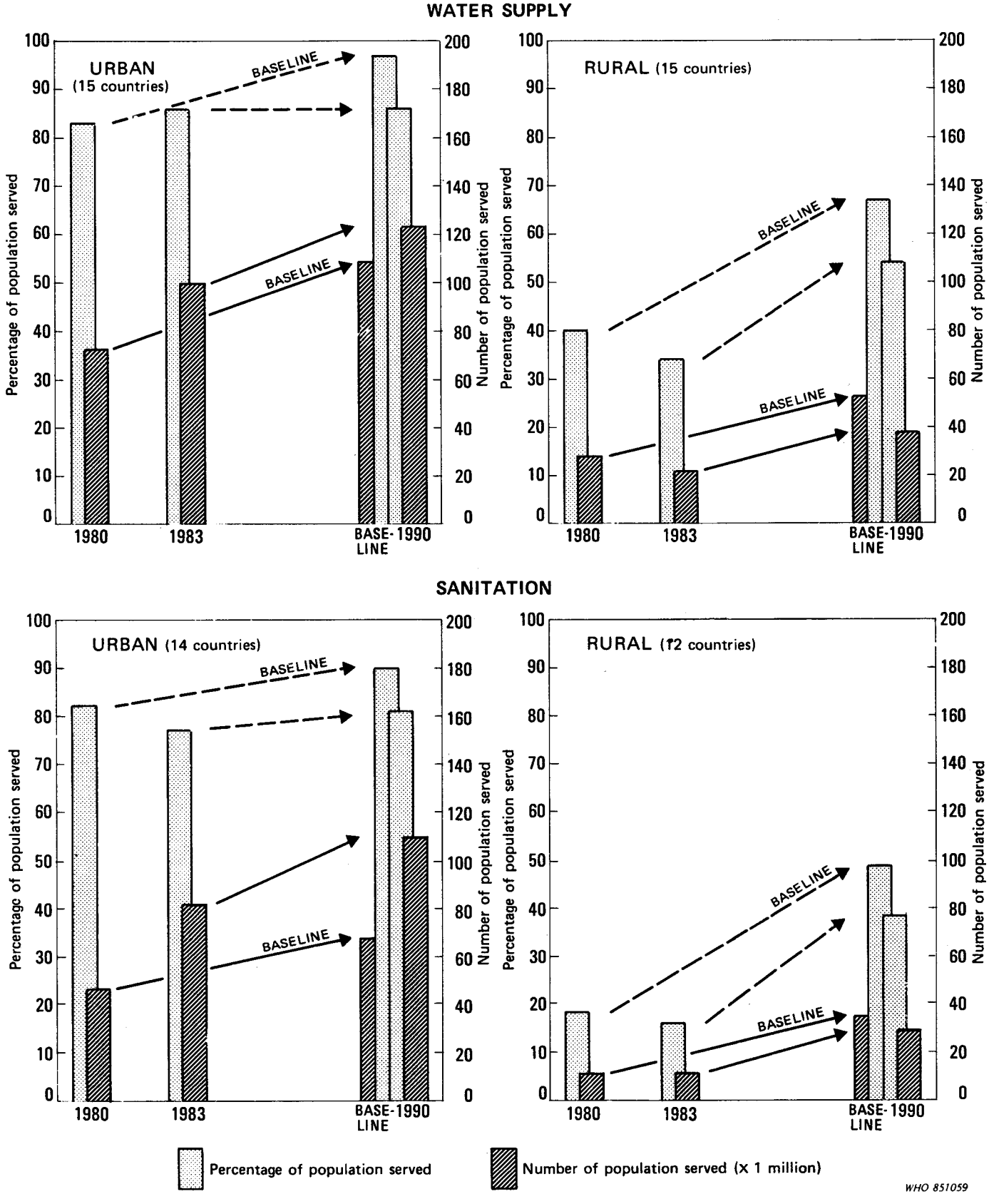


[1] NOTE: The 1980 revised values are based on the original 1980 (Baseline) data supplemented by additional information received in 1984.

[a] See Tables A.3.2.1 to A.3.2.4 and Section 2.2.

FIG. 2.2 REGION OF THE AMERICAS

DECADE TARGETS FOR URBAN AND RURAL WATER SUPPLY AND SANITATION IN SELECTED COUNTRIES COMPARED WITH 1980 AND 1983[a] LEVELS OF COVERAGE



[a] See Tables 2.4.1.1, 2.4.1.2, 2.4.2.1, 2.4.2.2 and Section 2.2.

TABLE 2.1 AMERICAN REGION

BASIC INDICATORS: DEMOGRAPHIC, ECONOMIC, HEALTH
(Year 1983)

Country/ Territory	Population (000)	Population growth rate (%)	GNP per capita (US$)	Life expectancy (years)	Infant mortality per 1000 live births	Water disease cases per 100 000	Population without safe water (%)	Population without sanitation (%)
Brazil	128 182	2.5	2 103	62	87	-	24	-
Mexico	75 702	2.4	1 447	66	53	5 310	26	44
Argentina	30 564	1.9	2 600	71	36	700	27	18
Colombia	27 504	2.0	-	64	80	58	-	32
Peru	18 515	2.6	-	60	89	496	48	65
Venezuela	16 471	2.7	-	67	32	1 944	70	-
Chile	11 678	2.0	333	67	21	210	15	18
Ecuador	8 256	2.5	357	64	45	8 100	41	46
Guatemala	8 041	2.9	1 058	61	64	1 096	49	61
Bolivia	6 082	2.5	-	50	200	171	57	77
Dominican Republic	6 075	2.8	1 034	65	32	1 919	39	73
Haiti*	5 161	1.7	270	54	135	55 000	67	81
El Salvador	5 016	2.9	745	65	42	10 250	45	58
Honduras	4 162	3.4	681	61	87	5 030	31	56
Paraguay	3 118	3.1	796	65	51	73	80	14
Uruguay	2 968	0.6	-	69	38	496	21	-
Nicaragua	3 015	3.3	-	58	85	-	47	18[a]
Costa Rica	2 470	2.5	729	72	27	835	12	3
Panama	2 085	2.5	939	71	20	3 401	38	-
Trinidad & Tobago	1 150	1.6	7 277	67	19	-	0	1
Guyana	807	1.0	715	69	45	707	20	10
Surinam	380	2.6	2 800	67	32	-	3	0
Barbados	251	1.5	3 600	70	18	-	37	37
Bahamas	222	2.2	5 920	66	30	1 005	36	16
Belize	146	2.0	976	70	24	725	43	-

* LDC's.
[a] Urban sewer connections only. % of urban population unsewered.

TABLE 2.2 AMERICAN REGION

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			
Brazil	-	-	-	-	-		partial (urban water)
Mexico	81	5	70	3	51	26	1982
Argentina	80	-	70	-	21	43	under preparation (1984)
Colombia	90	-	80	-	-	60	under preparation (-)
Peru	77	6	61	4	49	12	NIL
Venezuela	-	-	-	-	23	3	under preparation (-)
Chile	100	0	100	0	100	-	under preparation (-)
Ecuador	85	10	65	17	50	50	under preparation (1984)
Guatemala	71	22	71	22	73	73	1983
Bolivia	-	-	-	-	-	-	1981
Dominican Republic	68	29	34	12	30	38	1984
Haiti*	16	47	6	56	41	41	1982
El Salvador	77	16	77	23	75		1982
Honduras	90	-	75	3	90	80	1983
Paraguay	-	-	-	-	-	-	1983
Uruguay	95	-	28	0.5	-	40	NIL
Nicaragua	-	-	-	-	-	-	under preparation (-)
Costa Rica	98	2	75	25	85	95	under preparation (1985)
Panama	100	-	85	-	23	-	under preparation (1984)
Trinidad & Tobago	-	-	-	-	-	-	NIL
Guyana	100	-	17	80	95	95	under preparation (1985)
Surinam	98	2	10	88	100	25	NIL
Barbados	-	-	-	-	-	-	under preparation
Bahamas	97	3	41	59	-	-	1978
Belize	-	-	-	-	-	-	under preparation (1985)

* LDC.

TABLE 2.3 AMERICAN REGION

1983 LEVELS OF SERVICE

Country/ Territory	Population			Population with service							
				Drinking-water				Sanitation			
				Urban			Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S.[b]		Total	by S.C.[c]	by other	
Brazil	128 182	90 414 (71)	37 768 (29)	77 540 (86)	74 770 (83)	2 770 (3)	20 100 (53)	- -	29 890 (33)	- -	- -
Mexico	75 702	50 800 (67)	24 902 (33)	45 984 (91)	31 496 (62)	14 488 (29)	9 961 (40)	39 380 (78)	24 892 (49)	14 488 (29)	2 988 (12)
Argentina	30 564	25 566 (84)	4 998 (16)	18 446 (72)	18 046 (71)	400 (1)	827 (17)	23 672 (94)	9 125 (37)	14 547 (57)	1 609 (32)
Colombia	27 504	18 103 (66)	9 401 (34)	- -	13 967 (77)	- -	- -	17 395 (96)	11 307 (62)	6 088 (34)	1 253 (13)
Peru	18 515	11 377 (61)	7 138 (39)	8 324 (73)	7 478 (66)	846 (7)	1 314 (18)	6 471 (57)	6 216 (55)	255 (2)	30 (<1)
Venezuela	16 471	12 749 (77)	3 722 (23)	- -	- -	- -	2 427 (65)	- -	- -	- -	
Chile	11 678	9 492 (81)	2 186 (19)	9 492 (100)	8 983 (95)	509 (5)	394 (18)	9 492 (100)	6 695 (71)	2 797 (29)	85 (4)
Ecuador	8 256	4 037 (49)	4 219 (51)	3 956 (98)	2 382 (59)	1 574 (40)	899 (21)	2 592 (64)	2 350 (58)	242 (6)	1 096 (26)
Guatemala	8 041	3 196 (40)	4 845 (60)	2 877 (90)	1 822 (57)	1 055 (33)	1 260 (26)	1 534 (48)	1 214 (38)	320 (10)	1 357 (28)
Bolivia	6 082	2 823 (46)	3 259 (54)	2 211 (78)	1 082 (38)	1 129 (40)	396 (12)	1 116 (40)	779 (28)	337 (12)	291 (9)
Dominican Republic	6 075	3 281 (54)	2 794 (46)	2 778 (85)	1 823 (56)	955 (29)	887 (32)	1 341 (41)	947 (29)	394 (12)	259 (9)
Haiti*	5 163	1 318 (26)	3 845 (74)	764 (58)	408 (31)	356 (27)	961 (25)	540 (41)	- -	540 (41)	461 (12)
El Salvador	4 948	2 074 (42)	2 874 (58)	- -	- -	- -	1 221 (42)	- -	- -	- -	984 (34)

Honduras	4 162	1 606 (39)	2 556 (61)	1 465 (91)	815 (51)	650 (40)	1 411 (55)	802 (50)	706 (44)	96 (6)	1 011 (40)
Paraguay	3 118	1 319 (42)	1 799 (58)	603 (46)	588 (45)	15 (1)	180 (10)	1 219 (92)	374 (28)	845 (64)	1 520 (84)
Uruguay	2 968	2 464 (83)	504 (17)	2 331 (95)	2 196 (89)	135 (6)	13 (3)	- -	370 (15)	- -	- -
Nicaragua	2 732	1 459 (53)	1 273 (47)	1 329 (91)	985 (67)	345 (24)	125 (10)	- -	505 (35)	- -	- -
Costa Rica	2 470	1 482 (56)	988 (44)	1 481 (100)	1 370 (93)	112 (7)	805 (82)	1 482 (100)	385 (26)	1 097 (74)	857 (87)
Panama	2 084	1 032 (49)	1 052 (51)	1 007 (97)	882 (85)	125 (12)	279 (26)	633 (61)	633 (61)	- -	- -
Trinidad & Tobago	1 150	735 (64)	415 (36)	735 (100)	615 (84)	120 (16)	400 (96)	735 (100)	182 (25)	553 (75)	400 (96)
Guyana	807	396 (49)	411 (51)	396 (100)	357 (90)	39 (10)	247 (60)	396 (100)	67 (17)	329 (83)	329 (80)
Surinam	380	150 (39)	230 (61)	150 (100)	148 (99)	2 (1)	220 (96)	150 (100)	20 (13)	130 (87)	220 (96)
Barbados	251	80 (32)	171 (68)	80 (100)	78 (97)	2 (2)	31 (18)	<1 (<1)	<1 (<1)	- -	- -
Bahamas	222	145 (65)	77 (35)	139 (96)	106 (73)	33 (23)	- -	139 (96)	14 (10)	125 (86)	- -
TOTAL	367 525	246 098 (67)	121 427 (33)	182 089 (85)	170 397	25 680	44 358 (40)	109 088 (80)	96 671	43 183	14 815 (18)

* LDC.
[a] H.C. = house connection.
[b] P.S. = Public Standpost.
[c] S.C. = sewer connection.

TABLE 2.4 AMERICAN REGION

PRESENT (1983 - top line) AND PROJECTED (1990 - bottom line) POPULATION COVERAGE (in thousands)

Country/Territory	Urban population	Water supply		Sanitation		Rural population	Safe water	Adequate sanitation
		House connection	Stand-post	Sewer connection	Other means			
Brazil	90 414	74 770	2 770	29 890	-	37 768	20 100	-
	-	-	-	-	-	-	-	-
Mexico	50 800	31 496	14 488	24 892	14 488	24 902	9 961	2 988
	63 962	51 607	3 394	44 773	1 919	26 319	13 300	6 857
Argentina	25 566	18 046	400	9 125	14 547	4 998	827	1 609
	27 700	22 159	-	16 570	-	5 200	1 087	2 214
Colombia	18 103	13 967	-	11 307	6 088	9 401	-	1 253
	25 600	23 040	-	20 480	-	10 500	-	6 300
Peru	11 377	7 478	846	6 216	255	7 138	1 314	30
	14 614	11 239	891	8 933	5 681	7 457	3 625	876
Venezuela	12 749	-	-	-	-	3 722	2 427	65
	14 708	-	-	-	-	4 294	3 368	401
Chile	9 492	8 983	509	6 695	2 797	2 186	394	85
	10 451	10 451	0	10 451	0	2 452	2 452	-
Ecuador	4 037	2 382	1 574	2 350	242	4 219	899	1 096
	5 427	4 613	543	3 528	922	4 400	2 200	2 200
Guatemala	3 196	1 822	1 055	1 214	320	4 845	1 260	1 357
	4 079	2 881	912	2 881	912	5 597	4 074	4 074
bolivia	2 823	1 083	1 129	779	337	3 259	396	291
	-	-	-	-	-	-	-	-
Dominican Republic	3 281	1 823	955	947	394	2 794	887	259
	4 322	2 957	1 235	1 488	500	2 649	788	1 000
Haiti*	1 318	408	356	0	540	3 845	961	461
	4 000	639	1 881	250	2 230	6 000	2 450	2 450
El Salvador	2 074	-	-	-	-	2 874	1 221	984
	-	-	-	-	-	-	-	-
Honduras	1 606	815	650	706	96	2 556	1 411	1 011
	2 237	2 013	-	1 678	67	2 868	2 581	2 294
Paraguay	1 319	588	15	374	845	1 799	180	1 520
	1 727	-	-	-	-	1 995	-	-

Uruguay	2 464	2 196	135	370	-	504	13	-
	2 648	2 421	-	731	37	480	-	193
Nicaragua	1 459	985	345	505	-	1 273	125	-
	-	-	-	-	-	-	-	-
Costa Rica	1 482	1 370	112	385	1 097	988	805	857
	1 762	1 727	35	1 322	440	1 175	999	1 116
Panama	1 032	882	125	633	-	1 052	279	-
	1 321	1 321	0	1 123	-	1 219	275	-
Trinidad & Tobago	735	615	120	182	553	415	400	400
	-	-	-	-	-	-	-	-
Guyana	396	357	39	67	329	411	247	329
	412	412	0	70	330	428	407	407
Suriname	150	148	2	20	130	230	220	220
	305	300	5	30	269	200	200	200
Barbados	80	78	2	<1	-	171	31	-
	-	-	-	-	-	-	-	-
Bahamas	145	106	33	14	125	-	-	-
	170	165	5	70	100	-	-	-
Belize	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-

* LDC.

TABLE 2.4.1.1 - AMERICAN REGION

DECADE TARGETS FOR URBAN WATER SUPPLY

Country/Territory	Urban Population (000)		WATER SUPPLY Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Mexico	50 800	63 962	45 984	91	55 001	86
Argentina	25 566	27 700	18 446	72	22 160	80[a]
Peru	11 377	14 614	8 324	73	12 130	83
Chile	9 492	10 451	9 492	100	10 451	100
Ecuador	4 037	5 427	3 956	98	5 156	95
Guatemala	3 196	4 079	2 877	90	3 793	93
Dominican Republic	3 281	4 322	2 778	85	4 192	97
Haiti*	1 318	4 000	764	58	2 520	63
Honduras	1 606	2 237	1 465	91	2 013	90[a]
Uruguay	2 464	2 648	2 331	95	2 421	95[a]
Costa Rica	1 482	1 762	1 467	99	1 762	100
Panama	1 032	1 321	1 007	97	1 321	100
Guyana	396	412	396	99	412	100
Surinam	150	305	150	100	305	100
Bahamas	145	170	139	96	170	100
TOTAL	116 342	143 410	99 576	86	123 807	86

* LDC.
[a] House connections

TABLE 2.4.1.2 AMERICAN REGION

DECADE TARGETS FOR URBAN SANITATION

Country/Territory	Urban Population (000)		SANITATION Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Mexico	50 800	63 962	39 380	78	46 692	73
Colombia	18 103	25 600	17 395	96	20 480	80[a]
Peru	11 377	14 614	6 471	57	14 614	100
Chile	9 492	10 451	9 492	100	10 451	100[a]
Ecuador	4 037	5 427	2 592	64	4 450	82
Guatemala	3 196	4 079	1 534	48	3 793	93
Dominican Republic	3 281	4 322	1 341	41	1 988	46
Haiti*	1 318	4 000	540	41	2 480	62
Honduras	1 606	2 237	802	50	1 745	78
Costa Rica	1 482	1 762	1 482	100	1 762	100
Panama	1 032	1 321	633	61	1 123	85
Guyana	396	412	396	100	400	97
Surinam	150	305	150	100	299	98
Bahamas	145	170	139	96	170	100
TOTAL	106 415	138 662	82 347	77	110 447	80

* LDC = Least Developed Country

[a] Sewer System.

TABLE 2.4.2.1 AMERICAN REGION

DECADE TARGETS FOR RURAL WATER SUPPLY

Country/Territory	Rural Population (000)		WATER SUPPLY Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Mexico	24 902	26 319	9 961	40	13 300	50
Argentina	4 998	5 200	827	17	1 087	21
Peru	7 138	7 457	1 314	18	3 625	49
Venezuela	3 722	4 294	2 427	65	3 368	78
Chile	2 186	2 452	394	18	2 452	100
Ecuador	4 219	4 400	899	21	2 200	50
Guatemala	4 845	5 597	1 260	26	4 074	73
Dominican Republic	2 794	2 649	887	32	788	30
Haiti*	3 845	6 000	961	25	2 450	41
Honduras	2 556	2 868	1 411	55	2 581	85
Costa Rica	988	1 175	805	99	999	85
Panama	1 053	1 219	279	26	275	23
Trinidad & Tobago	415	1 009[a]	400	96	-	-
Guyana	411	428	247	60	407	95
Surinam	230	200	220	96	200	100
TOTAL	63 887	70 258	21 892	34	37 806	54

* LDC.

[a] Figures from UN Demographic Indicators, UN New York, 1982.

TABLE 2.4.2.2 AMERICAN REGION

DECADE TARGETS FOR RURAL SANITATION

Country/Territory	Rural Population (000)		SANITATION Population covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Mexico	24 902	26 319	2 988	12	6 857	26
Argentina	4 998	5 200	1 609	32	2 214	43
Colombia	9 401	10 500	1 253	13	6 300	60
Peru	7 138	7 457	30	<1	876	12
Venezuela	3 722	4 294	65	2	401	9
Ecuador	4 219	4 400	1 096	26	2 200	50
Guatemala	4 845	5 597	1 357	28	4 074	73
Dominican Republic	2 794	2 649	259	9	1 000	38
Haiti*	3 845	6 000	461	12	2 450	41
Honduras	2 556	2 868	1 011	40	2 294	80
Costa Rica	988	1 175	857	87	1 116	95
Guyana	411	428	329	80	407	95
TOTAL	69 819	76 887	11 315	16	30 189	39

* LDC.

TABLE 2.5 AMERICAN REGION

STAFF RESOURCES 1983 (top line) AND PROJECTED TRAINEES (bottom line)

Country/Territory	Planning and management	Technical	Craftsmen Artisanal	Administration Clerical	Community based	Totals per million population
Brazil	-	-	-	-	-	-
	-	-	-	-	-	-
Mexico	1 569	10 046	35 064	14 586	-	804
	-	-	-	-	-	-
Argentina	200	4 017	11 044	4 550	53	707
	-	-	-	-	-	-
Colombia	1 148	3 772	5 740	2 296	3 700	605
	3 000	6 000	7 000	3 000	4 000	723
Peru	239	1 159	3 992	2 043	-	387
	262	2 224	1 929	2 509	-	296
Venezuela	21	137	307	81	-	32
	30	187	407	91	-	34
Chile	231	918	2 973	1 717	-	499
	317	1 271	4 112	2 367	-	618
Ecuador	-	-	-	-	-	-
	-	-	-	-	-	-
Guatemala	52	212	1 294	392	56	252
	-	-	-	-	-	-
Bolivia	228	618	1 077	292	-	366
	-	-	-	-	-	-
Dominican Republic	93	356	1 844	924	300	549
	-	-	-	-	-	-
Haiti*	21	237	105	177	84	100
	28	309	137	223	109	107
El Salvador	-	-	-	-	-	-
	-	-	-	-	-	-
Honduras	68	600	1 274	685	90	663
	77	1 057	3 727	1 047	117	1 181
Paraguay	50	703	408	532	304	574
	105	1 465	850	1 108	1 216	1 122

Uruguay	50	462	2 947	1 732	30	1 746
	-	-	-	-	-	-
Nicaragua	350	1 108	696	708	350	948
	160	720	1 012	-	750	699
Costa Rica	21	183	1 355	843	322	1 145
	-	-	-	-	-	-
Panama	54	473	974	784	1	1 126
	-	-	-	-	-	-
Trinidad & Tobago	19	300	940	860	-	1 737
	-	-	-	-	-	-
Guyana	10	60	510	90	60	777
	11	66	561	99	66	750
Surinam	11	300	350	130	250	2 479
	20	350	600	200	500	3 151
Barbados	3	37	200	66	300	3 611
	5	50	-	-	-	-
Bahamas	7	36	200	30	-	1 138
	9	38	220	32	-	1 246
Belize	-	-	-	-	-	-
	-	-	-	-	-	-

* LDC.

TABLE 2.6 AMERICAN REGION

UNIT COSTS OF CONSTRUCTION (US$ PER CAPITA) AND OF WATER PRODUCTION (US$/m^3)

Country/ Territory	Construction						Operation		
	Urban water supply		Urban sanitation		Rural water supply	Rural sanitation	Average cost of water production	Average water tariff	Progressive water tariffs
	House connection	Stand post	Sewer connection	Other means					
Brazil	75	25	150	30	45	15	0.10	0.13	YES
Mexico	142.7	-	184.6	10	157	6	0.09	0.06	YES
Argentina	180	50	200	170	170	-	0.07	0.1	YES
Colombia	108	30	200	30	69.2	51	0.04	0.05	YES
Peru	52	5	35	-	51.9	100	0.06	0.08	YES
Venezuela	-	-	-	-	104	536	-	-	-
Chile	170	-	145	40	127.6	-	0.11	0.14	YES
Ecuador	230	85	260	100	157	180	-	0.2	YES
Guatemala	146.5	30	91.4	15	48	33.8	0.08	0.03	YES
Bolivia	119	96	151	40	88	40	-	-	YES
Dominican Republic	94	-	68.6	-	58.2	51.4	0.05	1.70	YES
Haiti*	120	40	150	20	25	10	0.15	0.28	YES
El Salvador	-	-	-	-	100	10	-	-	-
Honduras	257	-	160	25	50	18	0.19	0.24	NONE
Paraguay	125	-	140	400	130	30	0.24	0.19	YES
Uruguay	122	45	150	-	122	-	-	0.16	YES
Nicaragua	116	24	144	-	57	30	0.29	0.44	YES
Costa Rica	80	-	90	20	55	-	0.17	1.5	YES
Panama	110	-	215	-	60	-	0.07	0.29	YES
Trinidad & Tobago	350	300	800	400	410	100	1.0	-	YES
Guyana	120	100	1 000	200	120	100	0.08	0.03	YES
Surinam	180	500	150	50	75	50	0.60	0.80	YES
Barbados	170	50	-	-	150	-	0.28	0.68	YES
Bahamas	290	215	1 000	300	-	-	1.15	2.50	YES
Belize	25	-	-	688	125	62.5	-	-	-

* LDC.

TABLE 2.7 AMERICAN REGION

COST PROJECTIONS COMPARED WITH 1981-3 SECTOR INVESTMENTS

Country	Estimated cost to reach country Decade targets US $ million	Sector investments (1981, 1982, 1983)			Acceleration in investment needed (fold)
		Total US $ million	Percent of total development investment	External US $ million (%) (%)	
Brazil	10 300	2 550[a]	-	690 (27)	1.2
Mexico	11 500	497.7	-	140.3 (28)	6.9
Argentina	3 122	45.3	-	18.3 (40)	6.9
Colombia	1 540[b]	-	5	- -	-
Peru	1 114[b]	100.4	-	26.3 (26)	3.3
Venezuela	113.7[a]	-	-	- -	-
Chile	776[b]	194	2.3	37.2 (19)	1.2
Ecuador	1 536	-	-	- -	-
Guatemala	589[b]	31.2	3.05	- -	5.7
Bolivia	730[a]	-	-	- -	-
Dominican Republic	630[b]	39.6	1.21	0.7 (2)	4.8
Haiti	143	8.3	3	7.2 (87)	5.2
El Salvador	121[a] (RURAL ONLY)	8.9	-	4.5 (50)	4.1
Honduras	746 [b]	55.1	-	25.2 (46)	4.1
Paraguay	-	54.7[a] (WATER ONLY)	-	28.1 (51)	-
Uruguay	135[a],[c] (URBAN ONLY)	13.3	-	4.1 (31)	3.0
Costa Rica	77	21.3	-	16.7 (78)	1.1
Panama	161	34.8	1.96	5.6 (16)	1.4
Trinidad & Tobago	1 055	44.0	-	33.0 (75)	7.9
Guyana	115[b]	9.7	-	4.9 (50)	3.6
Surinam	-	17.9	10.0	11.2 (63)	-
Barbados	-	-	-	- -	-
Bahamas	-	17.7	-	4.6 (26)	-
Belize	-	-	-	- -	-

* LDCs.
[a] These figure are underestimates because either not all subsectors were included or projections for the later years of the Decade were not made.
[b] Revised since baseline.
[c] Cost to reach 1986 target.

TABLE 2.8 AMERICAN REGION

RANKING AND FREQUENCY OF CONSTRAINTS[a]

Constraints	No. of countries indicating constraint			Ranking Index[b]	Order of Seriousness
	Very severe	Severe	Moderate		
Inadequate cost-recovery framework	7	10	4	45	1
Funding limitations	7	7	8	43	2
Insufficiency of trained personnel (professional)	4	8	10	38	3=
Insufficiency of trained personnel (sub-professional)	4	8	10	38	3=
Operation and maintenance	2	11	9	37	5
Logistics	1	12	7	34	6
Insufficient health education efforts	-	12	9	33	7
Intermittent water service	1	10	8	31	8
Import restrictions	5	4	7	30	9
Non-involvement of communities	-	8	12	28	10
Inappropriate institutional framework	2	7	7	27	11=
Insufficient knowledge of water resources	1	5	14	27	11=
Lack of definite government policy for sector	1	4	16	27	11=
Inadequate water resources	1	5	13	26	14
Inappropriate technology	-	7	10	24	15=
Lack of planning and design criteria	-	7	10	24	15=
Inadequate or outmoded legal framework	1	4	11	22	17

[a] Number of reporting countries: 22.
[b] Ranking index = (No. very severe x 3) + (No. severe x 2) + (No. moderate x 1).

TABLE 2.9 AMERICAN REGION

DECADE APPROACHES DURING 1983

Country/ Territory	Improved services for the urban poor			No. of rural communities participating in improvements			No. of primary school children receiving health education
	Total urban poor population (000)	Population affected by improvements (%)	Urban water development funds used (%)	Planning (%)	Building (%)	Operating (%)	(000)
Argentina	-	-	-	23 (100)	37 (100)	752 (96)	-
Colombia	-	-	-	2 036 (100)	2 036 (100)	2 036 (100)	-
Peru	4 090	2	-	136 (44)	136 (44)	124 (-)	-
Venezuela	-	-	-	- -	- -	- -	2 591 051
Chile	3 734	100	-	-	-	522 (48)	2 200 000
Ecuador	2 100	2	-	- -	- -	- -	-
Guatemala	-	-	-	575 -	274 -	313 -	-
Bolivia	-	-	-	11 (15)	15 (15)	11 (15)	1 728 000
Haiti	857	15	-	190 (70)	80 (60)	300 (75)	165 900
El Salvador	-	-	-	-	130 (100)	-	-
Honduras	44	30	-	990 (-)	990 (-)	990 (-)	-
Paraguay	-	-	-	-	98 (80)	66 (54)	8 000
Costa Rica	370	85	-	-	40 (70)	30 (50)	-
Trinidad & Tobago	-	-	-	- -	- -	- -	100%
Guyana	60	0	-	0 (0)	1 (10)	0 (0)	0
Surinam	30	50	-	300 (2)	500 (10)	20 (-)	-
Barbados	6	-	-	- -	- -	- -	20 000
Bahamas	39	2	-	- -	- -	- -	14 924

* LDC.

3. SOUTH-EAST ASIA REGION

3.1 Socioeconomic and health situation

Information on the status of water supply and sanitation services at the end of 1983 was provided by the same nine of the Region's eleven countries which supplied data for the Baseline document. The nine countries contain about 96% of the Region's total population, so that the information can be said to give a true representation of trends and developments in the Region during the Decade's first three years.

The population is expected to increase by 14% between the end of 1983 and the end of 1990, urban communities growing by 31% and rural communities by 9%. Four of the nine countries are classified by the United Nations as Least Developed Countries (LDCs). The per capita gross national product ranges from US$ 73 in Bhutan to US$ 793 in Thailand, the median value of US$ 260 being that of India, the largest country of the Region.

Life expectancy at birth ranges from 43 to 68 (Table 3.1), and four countries report infant mortality rates per 1000 live births in excess of 100. Only two countries (Burma and Sri Lanka) reported on the incidence of waterborne disease and both record more than 1000 cases per 100 000 population. In five out of seven countries providing data about sanitation facilities, 80% or more of the population were without adequate services, and only two countries out of eight report safe water available to more than half of their people.

3.2 Targets and planning

All but one of the nine reporting countries had established Decade plans by the end of 1983, and the one exception, Bangladesh, indicated that such plans would be completed during 1984 (Table 3.2).

Progress in the different sub-sectors between 1970 and 1983 is illustrated in the global Tables A.3.2.1 to A.3.2.4 and here in Figure 3.1. More details of the 1983 levels of service country by country appear in Table 3.3 and Tables 3.2 and 3.4 show the 1990 targets for each country in the Region. As Fig 3.1 makes clear, there has been some improvement in coverage in all sub-sectors except rural sanitation in the first three years of the IDWSSD.

For urban water supply, the 2% increase in coverage from 64% in 1980 to 66% in 1983 represents new services for about 18 million urban residents during the three years and compares favourably with a 1% improvement over the previous five years.

A very impressive rise in rural water supply coverage - up from 31% in 1980 to 43% in 1983 - indicates a further acceleration of the good progress achieved during the previous five years (only 17% of the rural population had access to safe water supplies in 1975). The 1983 figures imply that an extra 114 million rural people were provided with improved water supplies during the Decade's first three years, an encouraging sign that programmes are giving priority to the special problem of the rural poor.

Progress in the sanitation sub-sectors has been less encouraging, though the 1% improvement in urban sanitation coverage from 30% (1980) to 31% (1983) has to be seen against the high urban population increase. In fact it means that improved sanitation facilities were made available to an extra 8 million urban residents during the three years. Rural sanitation coverage remained static at a very low 6%, and the extra 9 million people served during the three years to maintain this level have to be seen alongside the 114 million provided with improved water supplies during the same period.

Figure 3.2 supported by Tables 3.4.1.1 to 3.4.2.2 compares 1983 coverage levels and 1990 targets for those countries which provided comparable data for both years. In the case of urban water supply and urban sanitation, the 1990 targets set in 1983 have remained unchanged from those calculated in 1980, and only small changes have occurred in the rural targets.

Three of the eight countries reporting on urban water supply have set targets of 100% coverage by 1990, including India which alone accounts for nearly two-thirds of the sample population. As a result, the regional target is to raise urban water supply coverage from 66% in 1983 to 89% by 1990. That would mean providing new services for some 109 million urban people during the seven years, compared with the 18 million extra served during the first three years of the Decade.

The regional rural water supply target is also highly influenced by India's commitment to achieve 100% coverage by 1990. That alone accounts for 354 million of the 469 million extra people who would need to be provided with improved services in the nine reporting countries to lift the 1983 coverage of 43% to 90% by the end of the Decade. Even the impressive implementation rate achieved from 1980 to 1983 would need considerable acceleration to reach this ambitious goal.

The seven countries providing data on urban sanitation coverage and targets are seeking to lift the 1983 coverage of 31% to 73% by 1990. To do so, they will between them need to provide improved facilities for 146 million more people during the seven years. The limited progress achieved between 1980 and 1983 suggests that these targets will need to be reviewed, or the timescale extended.

The rural sanitation targets may also be over-ambitious. A little under 58 million rural people in the seven reporting countries were judged to have adequate sanitation facilities at the end of 1983. To reach the target of 30% coverage by 1990, the figure would need to grow to 270 million.

If the creditable performance of South-East Asian countries in the rural water supply sub-sector during the first three years of the Decade can be repeated in other sub-sectors, and possibly enhanced as well during the remaining seven years, the IDWSSD will see considerable progress towards improved health in the Region.

3.3 Staff and training

Seven countries provided information on 1983 staffing levels in water supply and sanitation services along with forecasts of staffing needs for 1990. Table 3.5 has the data. In terms of numbers of staff per million population, the Region has the lowest staffing ratio of all (see global Table A.5), less than a quarter of that in the Americas and only a tenth of levels in the Western Pacific. Part of this wide difference may be accounted for by the bigger populations of the South-East Asian nations, but it is also apparent that the perception of sector needs is different in this Region.

Insufficiency of trained personnel (sub-professional) was rated a severe or very severe constraint to sector progress by five countries and four rated shortage of professional staff in the same way. The median value for staff employed at the end of 1983 was 147 per million population and by 1990 the aim is to raise that to 267 staff per million population. The most substantial changes in staffing ratios are planned in Nepal and Indonesia, though, as in all statistical comparisons, the numbers in India dwarf those from other countries.

3.4 Financial resources

Table 3.6 compares the unit costs of building new water supply and sanitation systems in the different countries of the Region, and also indicates how water tariffs relate to the costs of water production from country to country. Some countries quote ranges of unit costs, while other have not

distinguished between water supply by house connection and that through standposts. Nevertheless, it is clear (Table A.6) that the Region has the lowest per capita construction costs in the world for all types of service.

For urban water supply through house connections, costs ranged from US$ 40 (Bangladesh) to US$ 150 (Sri Lanka) per capita, while Nepal and India noted the cost for any urban water supply to be in the range of US$ 25 to 70 per capita. Individual costs for standpost supplies showed a wider spread - from US$ 5.5 per capita in Bangladesh to US$ 111 in the Maldives. This latter figure clearly reflects special conditions in the island communities, where water is scarce and the number of people who could be served from a single standpost is limited.

Costs of rural water supplies are consistently lower throughout the region, and no doubt this is an important factor in the rapid strides being made to implement rural water programmes, as the coverage statistics confirm.

Unit costs for urban sewer connections, ranging from US$ 45 per capita to US$ 350 per capita and with a median value of US$ 115, compare with median values of US$ 150 and 155 calculated for the Americas and Africa, whereas the median US$ 21 per capita costs of non-sewered urban sanitation is well below that of other regions.

In rural sanitation too, the countries all report costs much lower than those in other regions, with a range of US$ 3 to 20 and a median of US$ 9 per capita.

Seven countries reported water production costs. With the exception of the Maldives (US$ 1.00 per cubic metre), costs were generally low, ranging from US$ 0.10 to 0.26 per cubic metre, but in only one country (Sri Lanka) was the water tariff set above cost and even there the difference was only US$ 0.01 per cubic metre. Six out of eight reporting countries have progressive tariffs.

Table 4.7 shows estimated costs of achieving Decade targets, along with the level of spending achieved for the first three years of the Decade. Using the ratio between projected and actual annual spending as a guide to the extra investment needed (not a very true guide because of the way that investment is spread over many years), overall investment in the Region would need to grow by a factor of 2.3 to meet the Decade objectives. The smallest programme acceleration needed on this basis would be in Indonesia (1.1) and the largest in Burma (3.4). The proportion of external aid to total sector investment ranged from 41% to 59% in six countries and reached an untypical 86% in the Maldives. So it seems fair to estimate that about half of Decade investments in South-East Asia need to come from external sources.

3.5 Decade approaches

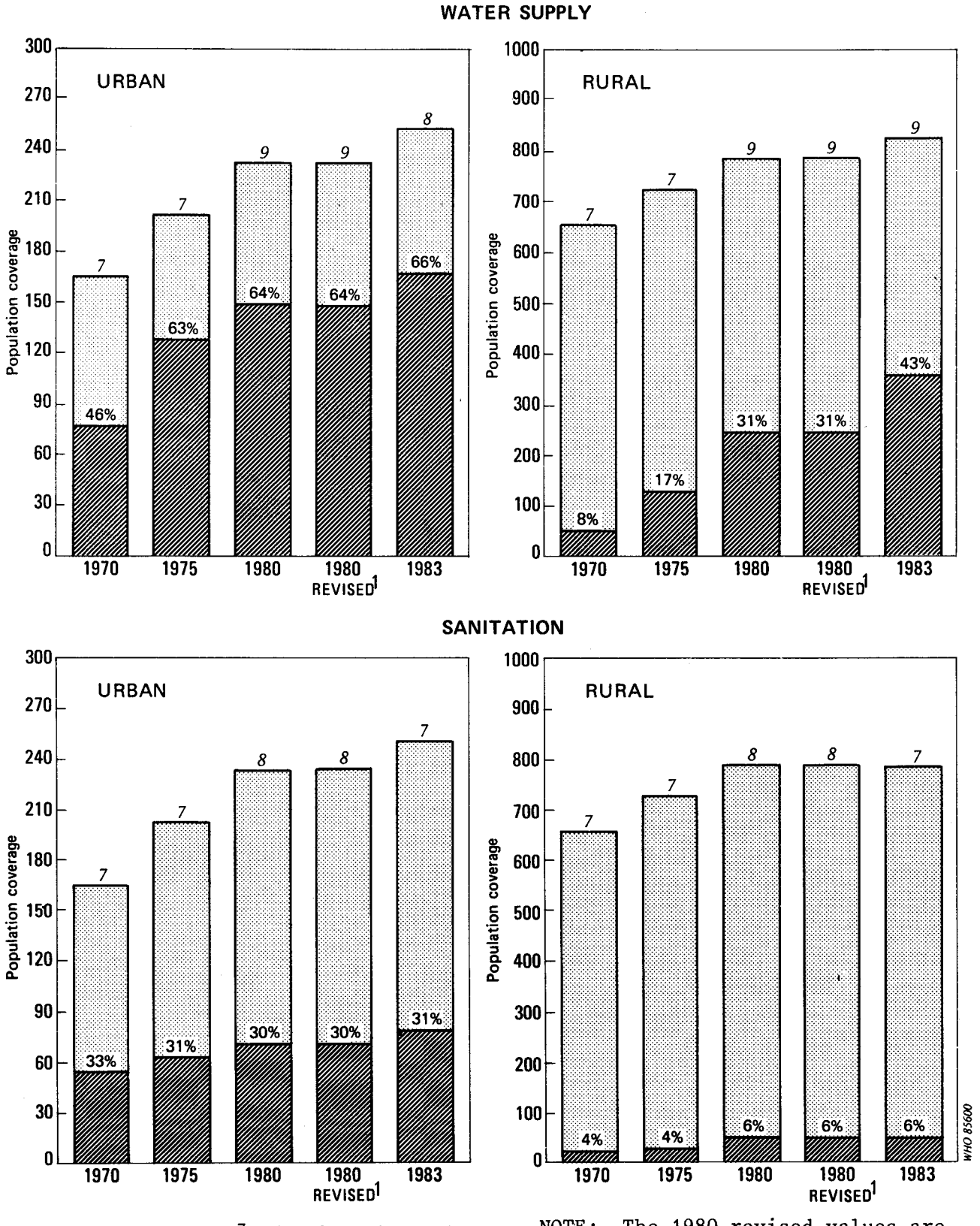
Table 4.9 presents such information as is available about the orientation of water supply and sanitation programmes towards the "Decade Approaches" of emphasis on the poor and underserved, community involvement, and health education in hygienic use of water and disposal of wastes. Data provided was sparse.

Indonesia, Bangladesh, Burma and Nepal indicated that urban water supply programmes have been including provision of services for the urban poor. Thailand reports that community involvement is 100% in all aspects of programme implementation, while other countries indicate varying degrees of involvement in the different stages - planning, construction, and operation and maintenance.

Six countries reported that primary school health education curricula include components stressing the advantages of safe water and proper hygiene, and in all cases a high proportion of young children benefit from such education.

FIG. 3.1 SOUTH-EAST ASIA REGION

POPULATION COVERAGE IN 1970, 1975, 1980 AND 1983[a]

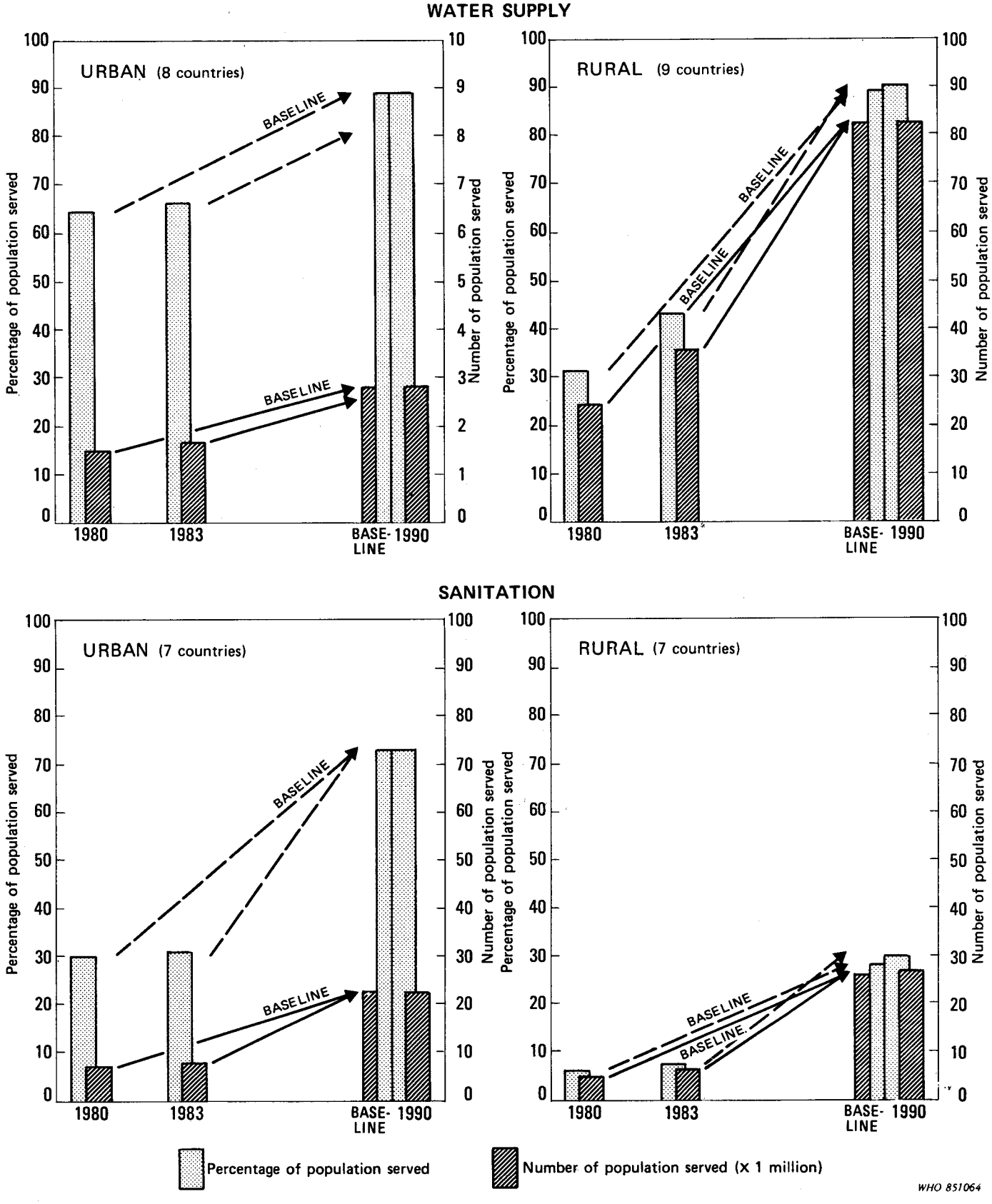


NOTE: The 1980 revised values are based on the original 1980 (Baseline) data supplemented by additional information received in 1984.

[a] See Tables A.3.2.1 to A.3.2.4 and Section 3.2.

FIG. 3.2 SOUTH-EAST ASIA REGION

DECADE TARGETS FOR URBAN AND RURAL WATER SUPPLY AND SANITATION IN SELECTED COUNTRIES COMPARED WITH 1980 AND 1983[a] LEVELS OF COVERAGE



[a] See Tables 3.4.1.1, 3.4.1.2, 3.4.2.1, 3.4.2.2 and Section 3.2.

TABLE 3.1 SOUTH-EAST ASIA REGION

BASIC INDICATORS: DEMOGRAPHIC, ECONOMIC, HEALTH
(Year 1983)

Country/ Territory	Population (000)	Population growth rate (%)	GNP per capita (US$)	Life expectancy (years)	Infant mortality per 1000 live births	Water disease cases per 100 000	Population without safe water (%)	Population without sanitation (%)
India	708 193	2.5	260	52	114	-	46	92
Indonesia	158 000	2.3	530	54	98	-	67	69
Bangladesh*	92 000	2.4	120	55	122	-	58	96
Thailand	49 459	1.8	793	62	27	-	35	55
Burma	35 680	2.0	176	62	49	1 488	75	80
Nepal*	15 817	2.7	150	45	152	-	84	98
Sri Lanka	15 550	1.7	284	68	37	1 100	62	-
Bhutan*	1 280	2.2	73	43	117	-	-	-
Maldives*	170	3.2	407	53	77	-	83	84

* LDCs.

TABLE 3.2 SOUTH-EAST ASIA REGION

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			
India	100[a]		25[a]		100	25	1983
Indonesia	76[a]		60[a]		60	40	1982
Bangladesh*	58[a]		50[a]		77	13	under preparation (1984)
Thailand	78[a]		78[a]		96	96	1984
Burma	50[a]		25	45	50	50	1982
Nepal*	49	45	12	7	67	11	1980
Sri Lanka	100[a]		28[a]		58	-	1980
Bhutan*	100[a,b]		100[c]		60[b]	100[c]	1984
Maldives*	0	100	100	0	80	90	1980

* LDCs.
[a] No breakdown given.
[b] 1992 target.
[c] 2000 target.

TABLE 3.3 SOUTH-EAST ASIA REGION

1983 LEVELS OF SERVICE

Country/ Territory	Population			Population with service							
				Drinking-water				Sanitation			
				Urban			Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S.[b]		Total	by S.C.[c]	by other	
India	708 193	160 875	547 318	128 300[d]	-	-	255 000	49 000[d]	-	-	4 300
		(23)	(77)	(80)	-	-	(47)	(30)	-	-	(1)
Indonesia	158 000	56 000	102 000	22 500[d]	-	-	30 000	17 500[d]	-	-	31 000
		(35)	(65)	(40)	-	-	(29)	(31)	-	-	(30)
Bangladesh*	92 000	11 000	81 000	3 200	2 500	700	35 000	2 300	500	1 800	1 800
		(12)	(88)	(29)	(23)	(6)	(43)	(21)	(5)	(16)	(2)
Thailand	49 459	12 182	37 277	6 100[d]	-	-	26 000	6 100[d]	-	-	16 400
		(25)	(75)	(50)	-	-	(70)	(50)	-	-	(44)
Burma	35 680	8 445	27 135	3 065	1 623	1 442	5 776	2 858	266	2 592	4 179
		(24)	(76)	(36)	(19)	(17)	(21)	(34)	(3)	(31)	(15)
Nepal*	15 817	1 112	14 705	787	338	449	1 658	180	70	110	153
		(7)	(93)	(71)	(30)	(41)	(11)	(16)	(6)	(10)	(1)
Sri Lanka	15 550	3 350	12 200	2 550[d]	-	-	3 120	-	-	-	-
		(22)	(78)	(76)	-	-	(26)	-	-	-	-
Bhutan	1 280	161	1 119	-	64	-	157	-	-	-	-
		(13)	(87)	-	(40)	-	(14)	-	-	-	-
Maldives*	170	35	135	19	0	19	10	25	18	7	2
		(21)	(79)	(54)	(0)	(54)	(7)	(71)	(51)	(20)	(1)
Total	1 076 149	253 160	822 889	166 521	4 525	2 610	356 721	77 963	854	4 509	57 834
		(24)	(76)	(66)			(43)	(31)			(7)

* LDCs.
[a] H.C. = house connection.
[b] P.S. = Public standpost.
[c] S.C. = sewer connection.
[d] = no breakdown.

TABLE 3.4 SOUTH-EAST ASIA REGION

PRESENT (1983 - top line) AND PROJECTED (1990 - bottom line) POPULATION COVERAGE (in thousands)

Country/Territory	Urban population	Water supply		Sanitation		Rural population	Safe water	Adequate sanitation
		House connection	Stand-post	Sewer connection	Other means			
India	160 875		128 300[a]		49 000[a]	547 318	255 000	4 300
	190 550		190 550		154 360[a]	608 590	608 590	152 170
Indonesia	56 000		22 500[a]		17 500[a]	102 000	30 000	31 000
	70 000		53 000[a]		42 000[a]	113 000	68 000	45 000
Bangladesh*	11 000	2 500	700	500	1 800	81 000	35 000	1 800
	18 400		10 672[a]		9 200[a]	90 000	69 300	11 700
Thailand	12 182		6 100[a]	6 100	0	37 277	26 000	16 400
	14 000		10 920[a]	10 920	-	45 000	43 000	43 000
Burma	8 445	1 623	1 442	266	2 592	27 135	5 776	4 179
	10 000		5 000[a]	2 500	4 500	32 000	16 000	16 000
Nepal*	1 112	338	449	70	110	14 705	1 658	153
	1 727	848	775	215	113	17 457	11 696	2 000
Sri Lanka	3 350		2 550[a]	-	-	12 200	3 120	-
	3 800		3 800[a]		3 800[a]	13 806	8 000	-
Bhutan*	161	64	-	-	-	1 119	157	-
	185		180[a]		185[a]	1 235	741	1 235
Maldives*	35	0	19	18	7	135	10	2
	44	0	44	44	0	167	134	151

* LDCs.
[a] No breakdown given.

TABLE 3.4.1.1 SOUTH-EAST ASIA REGION

DECADE TARGETS FOR URBAN WATER SUPPLY

Country/Territory	Urban Population (000)		WATER SUPPLY Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
India	160 875	190 550	128 300	80	190 550	100
Indonesia	56 000	70 000	22 500	40	53 000	76
Bangladesh*	11 000	18 400	3 200	29	10 672	58
Thailand	12 182	14 000	6 100	50	10 920	78
Burma	8 445	10 000	3 065	36	5 000	50
Nepal*	1 112	1 727	787	71	1 623	94
Sri Lanka	3 350	3 800	2 550	76	3 800	100
Maldives*	35	44	19	54	44	100[a]
TOTAL	252 999	308 521	166 521	66	275 609	89

* LDCs.
[a] All standposts.

TABLE 3.4.1.2 SOUTH-EAST ASIA REGION

DECADE TARGETS FOR URBAN SANITATION

Country/Territory	Urban Population (000)		SANITATION Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
India	160 875	190 550	49 000	30	154 360	81
Indonesia	56 000	70 000	17 500	31	42 000	60
Bangladesh*	11 000	18 400	2 300	21	9 200	50
Thailand	12 182	14 000	6 100	50	10 920	78
Burma	8 445	10 000	2 858	34	7 000	70
Nepal*	1 112	1 727	180	16	328	19
Maldives*	35	44	25	71	44	100[a]
TOTAL	249 649	304 721	77 963	31	223 852	73

* LDCs.
[a] Sewer connections.

TABLE 3.4.2.1 SOUTH-EAST ASIA REGION

DECADE TARGETS FOR RURAL WATER SUPPLY

Country/Territory	Rural Population (000)		WATER SUPPLY Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
India	547 318	608 590	255 000	47	608 590	100
Indonesia	102 000	113 000	30 000	29	68 000	60
Bangladesh*	81 000	90 000	35 000	43	69 300	77
Thailand	37 277	45 000	26 000	70	43 000	96
Burma	27 135	32 000	5 776	21	16 000	50
Nepal*	14 705	17 457	1 658	11	11 696	69
Sri Lanka	12 200	13 800	3 120	26	8 000	58
Bhutan*	1 119	1 235	157	14	741	60
Maldives*	135	167	10	7	134	80
TOTAL	822 889	921 249	356 721	43	825 461	90

* LDCs.

TABLE 3.4.2.2 SOUTH-EAST ASIA REGION

DECADE TARGETS FOR RURAL SANITATION

Country/Territory	Rural Population (000)		SANITATION Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
India	547 318	608 590	4 300	1	152 170	25
Indonesia	102 000	113 000	31 000	30	45 000	40
Bangladesh*	81 000	90 000	1 800	2	11 700	13
Thailand	37 277	45 000	16 400	44	43 000	96
Burma	27 135	32 000	4 179	15	16 000	50
Nepal*	14 705	17 457	153	1	2 000	11
Maldives*	135	167	2	1	151	90
TOTAL	809 570	906 214	57 834	7	270 021	30

* LDCs.

TABLE 3.5 - SOUTH-EAST ASIA REGION

STAFF RESOURCES 1983 (top line) AND PROJECTED REQUIREMENTS FOR 1990 (bottom line)

Country/Territory	Planning and management	Technical	Craftsmen Artisanal	Administration Clerical	Community based	Totals per million population
India (1981 no change)	11 220	15 755	29 195	-	-	79
	33 767	52 785	127 262	-	-	267
Indonesia (no urban sanitation)	-	-	19 600[a]	-	-	124
	-	-	83 400[a]	-	-	456
Bangladesh*	44	574	2 310	750	-	40
	60	600	2 600	900	-	38
Thailand (urban only)	-	-	11 124[a]	-	-	225
	-	-	12 746[a]	-	-	216
Burma	9	1 102	1 009	34	-	61
	10	2 703	2 639	29	-	128
Nepal*	53	464	528	1 500	20	169
	175	1 729	3 491	1 800	3 000	531
Sri Lanka	47	576	1 998	447	-	197
	101	1 210	3 089	188	-	268
Bhutan*	-	-	-	-	-	-
	-	-	-	-	-	-
Maldives*	2	4	9	10	199	1 318
	-	-	-	-	-	-

* LDC.
[a] Partial; all subsectors not included.

TABLE 3.6 SOUTH-EAST ASIA REGION

UNIT COSTS OF CONSTRUCTION (US$ PER CAPITA) AND OF WATER PRODUCTION (US$/$m^3$)

Country/ Territory	Construction						Operation		
	Urban water supply		Urban sanitation		Rural water supply	Rural sanitation	Average cost of water production	Average water tariff	Progressive water tariffs
	House connection	Stand post	Sewer connection	Other means					
India	25-70[a]		45-70	24-35	7-70	10-15	0.16	0.10	YES
Indonesia	60	-	120	15	10-15	3-5	0.1	0.1	YES
Bangladesh*	40	5.5	-	20	2.5	4	0.12	0.06	NO
Thailand	61	-	-	23	4-66	20	0.26	0.15	YES
Burma	65-70	30-35	64	10-30	5-35	4-10	-	0.2	YES
Nepal*	70[a]		-	18-48	2-30	6-10	0.16	0.08	YES
Sri Lanka	150	80	350	30	12	10	0.19	0.20	YES
Bhutan*	-	-	-	-	-	-	-	-	-
Maldives*	-	110.8	114.6	0	12	15.4	1.0	-	NO

* LDCs.
[a] No breakdown given.

TABLE 3.7 SOUTH-EAST ASIA REGION

COST PROJECTIONS COMPARED WITH 1981-3 SECTOR INVESTMENTS

Country	Estimated cost to reach country Decade targets. US $ million	Sector investments (1981, 1982, 1983)			Acceleration in investment needed (fold)
		Total US $ million	Percent of total development investment	External US $ million (%) (%)	
India	17 708	2 384.0	2.44	987.6 (41)	2.2
Indonesia	2 712[b]	716.0	-	346.0 (47)	1.1
Bangladesh*	650[b]	86.6	1.30	41.0 (47)	2.3
Thailand	1 383 (WATER ONLY)	307.1	-	-	1.4
Burma	504	44.6	2.90	26.5 (59)	3.4
Nepal*	337[b]	37.1	4.10	15.6 (42)	2.7
Sri Lanka	921 (EXCLUDING RURAL SANITATION)	122.9[a]	6.00[a]	72.0[a] (58)	2.2
Bhutan*	-	-	-	-	-
Maldives*	14[b]	1.4	-	1.2 (86)	3.0

* LDCs.

[a] These figures are underestimates because either not all subsectors were included or projections for the later years of the Decade were not made.

[b] Revised since baseline.

TABLE 3.8 SOUTH-EAST ASIA REGION

RANKING AND FREQUENCY OF CONSTRAINTS[a]

Constraints	No. of countries indicating constraint			Ranking Index[b]	Order of Seriousness
	Very severe	Severe	Moderate		
Funding limitations	3	3	-	15	1
Operation and maintenance	-	7	-	14	2
Insufficiency of trained personnel (sub-professional)	1	4	2	13	3
Insufficiency of trained personnel (professional)	1	3	3	12	4=
Logistics	-	5	2	12	5=
Insufficient health education efforts	-	4	3	11	6=
Non-involvement of communities	1	3	2	11	4=
Intermittent water service	1	4	-	11	6=
Inadequate cost-recovery framework	-	3	2	8	9
Inappropriate institutional framework	-	1	5	7	10=
Inadequate water resources	1	-	4	7	10=
Lack of definite government policy for sector	-	1	4	6	12
Inadequate or outmoded legal framework	-	-	5	5	13=
Inappropriate technology	-	1	3	5	13=
Import restrictions	-	1	3	5	13=
Insufficient knowledge of water resources	-	-	4	4	16
Lack of planning and design criteria	-	-	3	3	17

[a] Number of reporting countries: 7
[b] Ranking index = (No. very severe x 3) + (No. severe x 2) + (No. moderate x 1).

TABLE 3.9 SOUTH-EAST ASIA REGION

DECADE APPROACHES DURING 1983

Country	Improved services for the urban poor			No. of rural communities participating in improvements			No. of primary school children receiving health education
	Total urban poor population (000)	Population affected by improvements (%)	Urban water development funds used (%)	Planning (%)	Building (%)	Operating (%)	(000)
Indonesia	11 000	-	-	-	-	-	-
				-	-	-	
Bangladesh*	4 400	3	-	-	300 000	-	9 000
					(10)	-	
Thailand	-	-	-	-	-	-	(100%)
	-	-	-	(100)	(100)	(100)	
Burma	1 773	7	-	786	786	786	1 096
				(11)	(11)	(11)	
Nepal*	205	20	-	167	167	453	1 627
				(10)	(61)	(-)	
Sri Lanka	-	-	-	-	-	-	(100%)
				-	-	-	
Maldives*	-	-	-	0	22	2	7.5
				(0)	(100)	(29)	

* LDCs.

4. EASTERN MEDITERRANEAN REGION

4.1 Socioeconomic and health situation

Information for this Region was received from the smallest proportion of countries and any regional conclusions drawn are correspondingly less reliable than for other regions. Generalized conclusions are always difficult anyway in the Eastern Mediterranean Region, because of the big variation in size and socioeconomic development among the countries. Unfortunately, several of the Region's larger countries - Egypt, Islamic Republic of Iran, Iraq, Libyan Arab Jamahiriya, and Syrian Arab Republic - did not provide 1983 data in time for inclusion in this review, with the result that less than half (48%) of the regional population is included in the sample.

Twelve countries provided some data for this analysis, but only six reported service coverage for all four sub-sectors; urban water supply; rural water supply; urban sanitation; and rural sanitation. The six are Cyprus, Democratic Yemen, Djibouti, Pakistan, Saudi Arabia and Somalia.

The population of the sample countries is expected to grow overall by 21% between the end of 1983 and the end of 1990. Urban growth is forecast at 34% and rural growth at 11% over the seven years.

Table 4.1 demonstrates well the wide range of socioeconomic conditions across the Region; note particularly the differences in per capita gross national product spread between Somalia at US$ 240 and Saudi Arabia's US$ 16 685. Neither averages nor median values offer a satisfactory statistical means of combining data from countries so vastly different in size and economic development as, for example, Cyprus and Pakistan.

Five of the reporting countries are classified by the United Nations as Least Developed Countries (LDCs). Six of the 12 countries report a life expectancy at birth of less than 50 years and seven have an infant mortality rate of 100 or more per 1000 live births. The highest incidence rates in the world of waterborne diseases are reported by Djibouti (20% of the population affected) and Sudan (22%), while the Yemen Arab Republic is also high at 3.5%. In these countries, in which between one-third and two-thirds of the population are without access to a safe water supply and as many as 90% lack adequate sanitation, Decade progress could have a major impact on the unsatisfactory health conditions.

One important aspect shared by most of the Eastern Mediterranean countries is a hot, mainly dry climate, so it is not surprising to find six out of seven countries which reported on constraints to Decade progress listing inadequate water resources as a severe or very severe constraint.

4.2 Targets and planning

Global Tables A.3.2.1 to A.3.2.4 and Fig 4.1 show the statistical interpretation of data for each of the four sub-sectors for the years 1970, 1975, 1980 and 1983. In view of the wide variation in sample size for the different years, trends indicated by the histograms and tables have to be treated with considerable caution, and wherever possible it is advisable to consult the country-specific data before drawing any firm conclusions.

During the first three years of the Decade, the figures suggest that urban water supply coverage rose from 83% in 1980 to 86% in 1983; rural water supply coverage fell from 30% to 26% (in the light of known actions by governments, this is a misleading figure from a small sample); urban sanitation coverage improved from 57% in 1980 to 64% in 1983; and rural sanitation coverage remained at the very low level of 7%.

More significantly, as Table 4.3 shows, five out of ten countries reporting on 1983 urban water supply had already reached 100% coverage, and the lowest reported coverage was 65% in Somalia. In the rural areas however, the picture was much less satisfactory. Only Cyprus (100%) and Saudi Arabia (68%) of the nine reporting countries provide safe water for more than half of their rural population. Direct comparison of countries which provided data in both 1980 and 1983 (five in all) gives an optimistic picture of this sub-sector. Between them, the five countries increased coverage from 51% to 63% in the three years, providing new services for more than five million rural people, compared with a population rise of two million in the same period. A similar comparison of just four countries which provided comparable data on rural sanitation coverage in 1980 and 1983 shows new services provided for nearly three million people alongside a rural population rise of almost four million.

Tables 4.4.1.1 to 4.4.2.2 and Fig 4.2 compare 1983 coverage with 1990 targets for those countries which provided comparable data for both years.

Of the nine selected countries for urban water supply, only one, Somalia, has a 1990 target of less than 100%. The overall aim is to provide new urban services for 18 million people in addition to the 37 million served up to the end of 1983. As 14.5 million of those extra urban people will be in Pakistan, it is that country's programme which will principally affect the possibility of achieving the target.

In rural water supply, a massive effort will be needed to achieve the targets of the seven reporting countries. The aim is to lift coverage from 26% in 1983 to 70% by 1990. In numerical terms that means that the number of people provided with safe water in the rural areas of the seven countries must grow from 23 million to 73 million in seven years. Again, Pakistan's targets dominate the statistics, but Sudan and the Yemen Arab Republic have also set themselves very stiff challenges.

The urban sanitation target of 72% coverage by 1990 seems well within the scope of the seven reporting countries, which had achieved 64% coverage at the end of 1983. To reach the goals, the number of urban people with adequate sanitation facilities must rise from 25 million at the end of 1983 to 36 million by the end of the Decade.

Only five countries supplied information about 1983 coverage and 1990 targets for rural sanitation, and Pakistan accounts for more than 90% of the sample population. In consequence, the Eastern Mediterranean Region appears to have the lowest target (16%) of all the WHO Regions in this sub-sector, despite the fact that two of the five countries have a 100% target and one is aiming at 61%. Clearly there is little statistical significance in this Table from the regional point of view, though it does demonstrate that the number of rural people served would have to grow from 4.5 million to 13.6 million to lift coverage from 7% to 16%.

4.3 Staff and training

As in all Regions, the lack of adequately trained and experienced staff within the water supply and sanitation sector was identified as one of the major constraints to Decade progress. Only five countries provided information on the 1983 level of staffing, and four reported on anticipated levels in 1990 (see Table 4.5). No major increases in numbers are planned, perhaps suggesting that the deficiencies noted are in the quality and level of training and expertise.

4.4 Financial resources

Table 4.6 demonstrates very well the difficulty in attempting to generalize conclusions about the Eastern Mediterranean region. Comparison of unit costs of constructing water supply and sanitation systems and the relationships between water production costs and tariffs from one country to another serve only to demonstrate the contrasts between the countries of the Region, rather than their similarities.

Nevertheless, it is true to say that the region has some of the highest per capita construction costs in the world, and that these apply even in the poorer countries - note the urban sanitation costs in Somalia and rural water supply costs in Democratic Yemen, among others. On the other hand, Eastern Mediterranean countries generally demonstrate smaller differences between the per capita costs of alternative levels of service - i.e. the differential between the cost of providing safe water through house connections and that of providing it through standposts is comparatively small.

The nine countries reporting water production costs and tariffs, again demonstrate a wide variation, with Sudan's production cost of US$ 0.05 per cubic metre presumably based on shallow wells, while, at the other end of the scale, the Gulf State of Qatar depends on desalination and has production costs of US$ 1.74 per cubic metre.

Of the nine countries, five have tariffs higher than costs and one (Sudan) has a tariff equal to the cost of production. Eight out of ten countries report that they operate progressive tariffs.

As might be expected, investment in the sector (Table 4.7) by the richer countries is totally from internal resources, and no difficulty is anticipated in raising enough funds to attain the Decade goals. There is every indication that the wealthy nations of the region are giving sufficient priority to the sector, as Saudi Arabia's projected Decade investment of US$ 9472 million amply demonstrates.

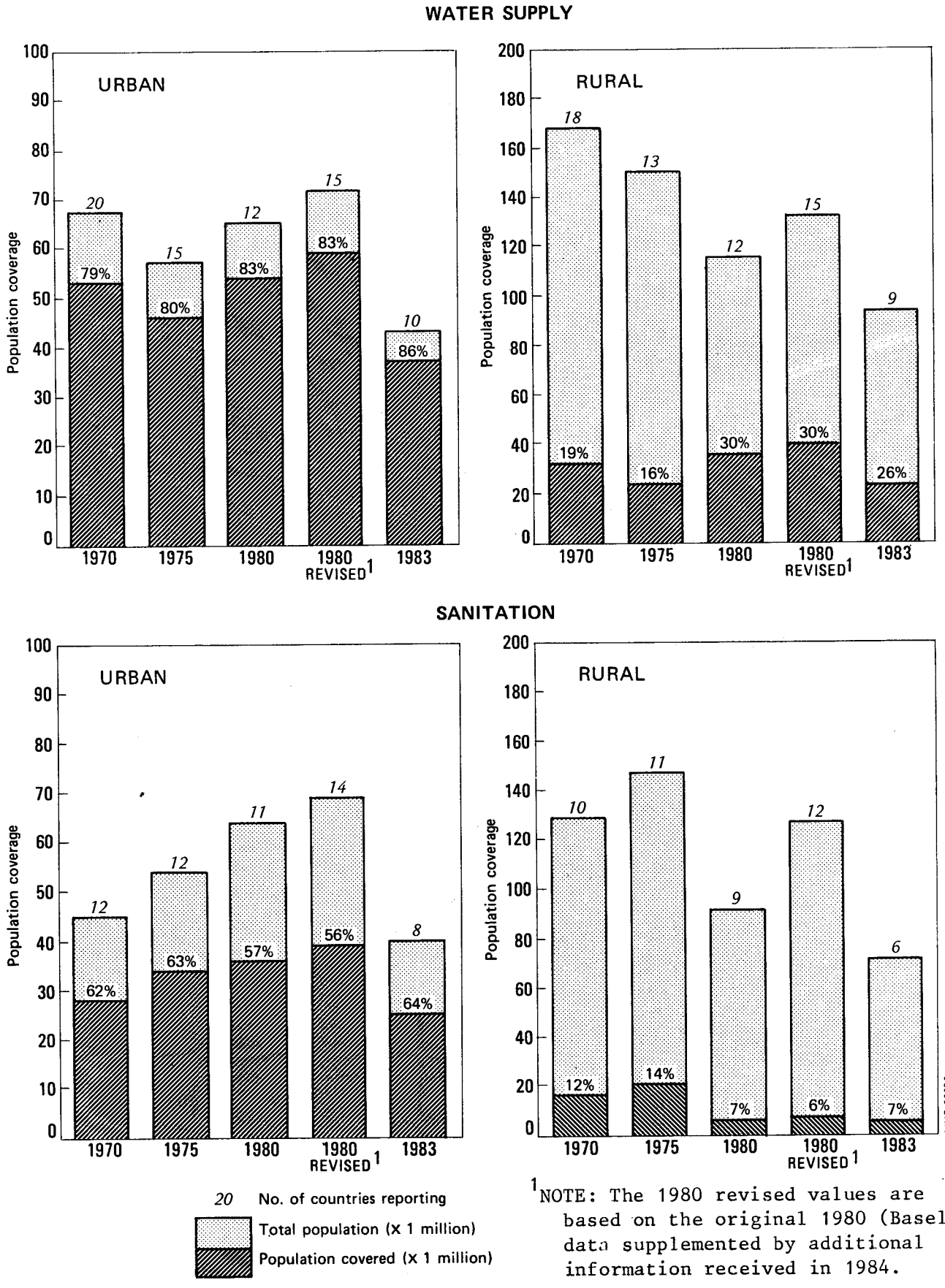
Of the remaining, less economically fortunate, countries, only six provided data on sector investment, and two of these were for water supply only. The proportion of investment during the first three years of the Decade obtained from external sources ranges from 15% in the case of the Yemen Arab Republic to 100% in the case of Djibouti.

4.5 Decade approaches

The information presented in Table 4.9 on Decade Approaches during the first three years is too limited to draw any general conclusions; only five countries provided partial information. The Democratic Yemen and Republic of Yemen each record some attention directed towards the urban poor, while varying degrees of community participation in different stages of programme implementation are reported by the same two countries along with Tunisia and Cyprus. Three countries report that health education related to water supply and sanitation forms a component of primary school curricula.

FIG. 4.1 EASTERN MEDITERRANEAN REGION

POPULATION COVERAGE IN 1970, 1975, 1980 AND 1983[a]

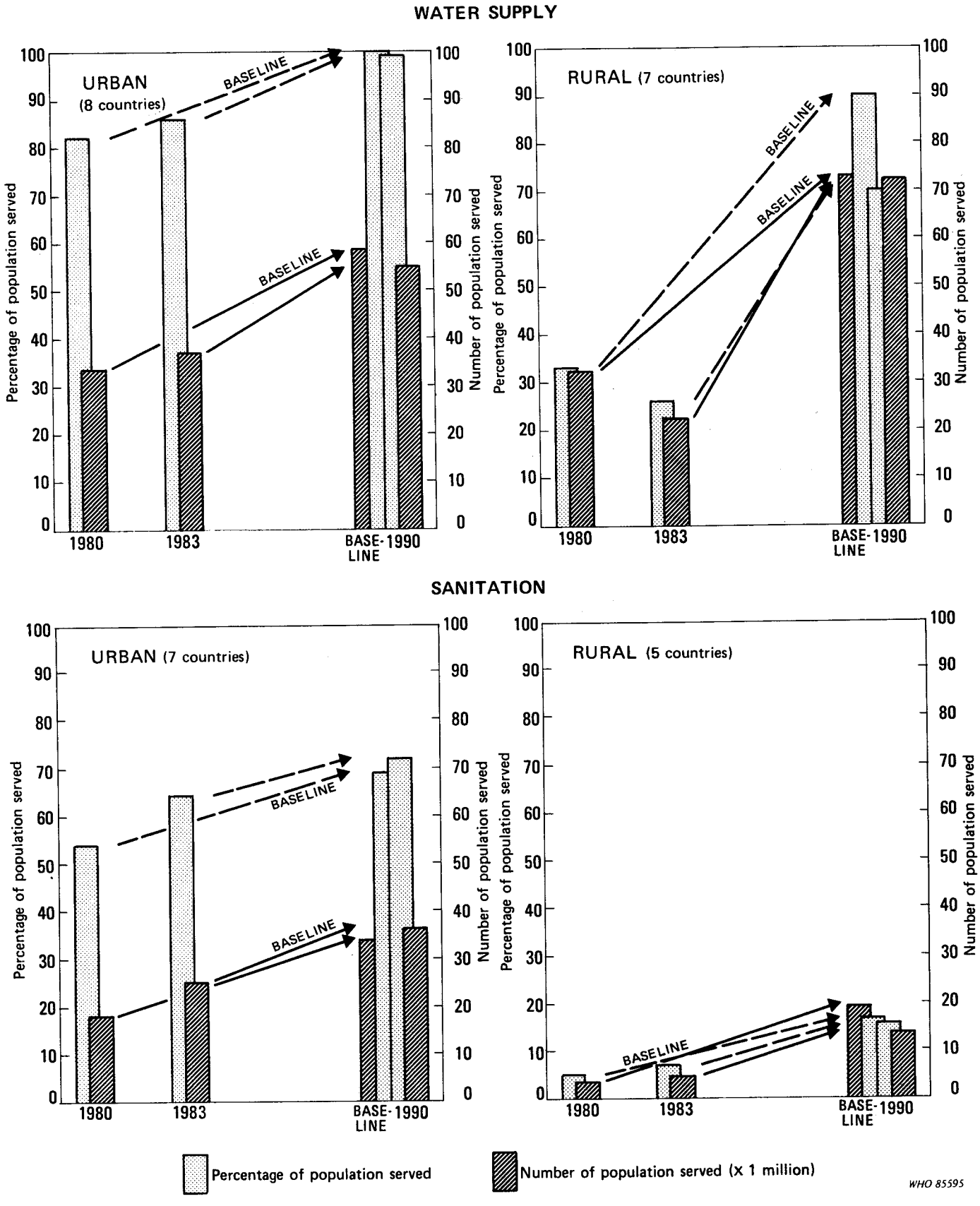


[1] NOTE: The 1980 revised values are based on the original 1980 (Baseline) data supplemented by additional information received in 1984.

[a] See Tables A.3.2.1 to A.3.2.4 and Section 4.2.

FIG. 4.2 EASTERN MEDITERRANEAN REGION

DECADE TARGETS FOR URBAN AND RURAL WATER SUPPLY AND SANITATION
IN SELECTED COUNTRIES COMPARED WITH 1980 AND 1983[a] LEVELS OF COVERAGE



[a] See Tables 4.4.1.1, 4.4.1.2, 4.4.2.1, 4.4.2.2 and Section 4.2.

TABLE 4.1 EASTERN MEDITERRANEAN REGION

BASIC INDICATORS: DEMOGRAPHIC, ECONOMIC, HEALTH
(Year 1983)

Country/ Territory	Population (000)	Population growth rate (%)	GNP per capita (US$)	Life expectancy (years)	Infant mortality per 1000 live births	Water disease cases per 100 000	Population without safe water (%)	Population without sanitation (%)
Pakistan	88 500	3.0	296	55	100	315	61	82
Sudan*	17 309	2.5	400	47	140	21 994	52	82
Saudi Arabia	8 250	3.2	16 685	49	-	-	4	1
Yemen Arab Republic*	6 955	2.6	486	47	165	3 524	69	91
Tunisia	6 882	2.5	1 110	62	70	49	33	-
Somalia*	5 486	3.1	240	41	170	-	69	86
Jordan	2 496	4.0	1 019	<60	141	-	-	-
Democratic Yemen*	2 240	2.8	-	46	150	-	50	55
Cyprus	536	1.4	3 207	74	17	0	0	0
Djibouti*	300	3.0	480	48	125	20 000	33	11
Qatar	257	-	7 618	68	37	-	30	-

* LDCs.

TABLE 4.2 EASTERN MEDITERRANEAN REGION

COVERAGE TARGETS (% of population) AND DECADE PLANS (1990)

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			
Pakistan	100[a]		65[a]		66	15	under preparation (1985)
Sudan*	85	15	5	60	80	50	under preparation (1984)
Saudi Arabia	83	17	70	24	100	61	NIL
Yemen Arab Republic*	100	-	79	20	100	30	NIL
Tunisia	100	-	81	-	31	-	1982
Somalia*	36	44	12	56	50	23	1983
Jordan	-	-	-	-	-	-	under preparation (1985)
Democratic Yemen*	91	9	-	-	40	-	-
Cyprus[b]	-	-	27	73	-	100	NIL
Djibouti*	47	53	84	16	100	100	under preparation (-)
Qatar	68	-	-	-	86	-	under preparation (1986)
Oman	-	-	-	-	-	-	under preparation (1984)

* LDCs.
[a] No breakdown given.

TABLE 4.3 EASTERN MEDITERRANEAN REGION

1983 LEVELS OF SERVICE

Country/ Territory	Population			Population with service							
				Drinking-water				Sanitation			
				Urban			Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S.[b]		Total	by S.C.[c]	by other	
Pakistan	88 500	25 400	63 100	19 812	-	-	15 144	13 550	-	-	3 540
		(29)	(71)	(78)	-	-	(24)	(53)	-	-	(6)
Sudan*	17 911	4 351	13 560	4 351	2 153	2 198	4 237	3 177	131	3 046	-
		(24)	(76)	(100)	(49)	(51)	(31)	(73)	(3)	(70)	-
Saudi Arabia	8 250	6 488	1 762	6 488	5 100	1 388	1 200	6 488	4 500	1 988	575
		(79)	(21)	(100)	(79)	(21)	(68)	(100)	(69)	(31)	(33)
Yemen Arab Republic*	6 955	862	6 092	862	419	443	1 296	646	215	431	-
		(12)	(88)	(100)	(49)	(51)	(21)	(75)	(25)	(50)	-
Tunisia	6 882	3 708	3 174	3 708	3 403	305	-	-	-	-	-
		(54)	(46)	(100)	(92)	(8)	-	-	-	-	-
Somalia*	5 486	1 221	4 265	791	351	440	900	584	-	584	210
		(22)	(78)	(65)	(29)	(36)	(21)	(48)	-	(48)	(5)
Jordan	2 496	1 872	624	-	-	-	-	-	-	-	-
		(75)	(25)	-	-	-	-	-	-	-	-
Democratic Yemen*	2 240	739	1 501	540	326	214	584	509	310	199	501
		(33)	(67)	(73)	(44)	(29)	(39)	(69)	(42)	(27)	(33)
Cyprus	536	343	193	343	342	1	193	343	50	293	193
		(64)	(36)	(100)	(100)	(0)	(100)	(100)	(15)	(85)	(100)
Djibouti*	300	201	99	160	125	3	40	150	75	75	18
		(67)	(33)	(80)	(62)	(17)	(40)	(75)	(37)	(38)	(18)
Qatar	257[d]	211	46	160	130	30	20	-	-	-	-
		(82)	(18)	(76)	(62)	(14)	(43)	-	-	-	-
Total	139 813	45 396	94 417	37 215	12 349	5 044	23 614	25 447	5 281	6 616	5 037
		(32)	(68)	(86)			(26)	(64)			(7)

* LDCs.
[a] H.C. = house connection.
[b] P.S. = Public Standpost.
[c] S.C. = sewer connection.
[d] Division between urban and rural based on UN Demographic Indicators, UN New York, 1982.

TABLE 4.4 EASTERN MEDITTERANEAN REGION

PRESENT (1983 - top line) AND PROJECTED (1990 - bottom line) POPULATION COVERAGE (in thousands)

Country/ Territory	Urban population	Water supply		Sanitation		Rural population	Safe water	Adequate sanitation
		House connection	Stand-post	Sewer connection	Other means			
Pakistan	25 400	19 812[a]		13 550[a]		63 100	15 144	3 540
	34 200	34 200[a]		22 230[a]		77 300	51 018	11 595
Sudan*	4 351	2 153	2 198	131	3 046	13 560	4 237	-
	3 500	2 975	525	2 100	175	15 500	12 400	7 750
Saudi Arabia	6 488	5 100	1 388	4 500	1 988	1 762	1 200	575
	9 346	7 772	1 574	6 519	2 266	940	940	575
Yemen Arab Republic*	862	419	443	215	431	6 092	1 296	-
	1 032	1 032	0	825	197	7 292	7 292	2 203
Tunisia	3 708	3 403	305	-	-	3 174	-	-
	4 300	4 300	-	3 500	-	3 400	1 040	-
Somalia*	1 221	351	440	0	584	4 265	900	210
	1 566	564	689	188	877	5 262	2 631	1 210
Jordan	1 872	-	-	-	-	624	-	-
	2 419	-	-	-	-	806	-	-
Democratic Yemen*	739	326	214	310	199	1 501	584	501
	881	800	81	-	-	1 789	715	-
Cyprus	343	342	1	50	293	193	193	193
	376	375	1	100	276	197	-	197
Djibouti*	201	125	35	125	25	99	40	18
	405	190	215	340	65	30	30	30
Qatar	-	120	40	-	-	-	10	-
	-	200	-	-	-	-	30	-

* LDCs.
[a] No breakdown given.

TABLE 4.4.1.1 - EASTERN MEDITERRANEAN REGION

DECADE TARGETS FOR URBAN WATER SUPPLY

Country/Territory	Urban Population (000)		WATER SUPPLY Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Pakistan	25 400	34 200	19 812	78	34 200	100
Sudan*	4 351	3 500	4 351	100	3 500	100
Saudi Arabia	6 488	9 346	6 488	100	9 346	100
Yemen Arab Republic*	862	1 032	862	100	1 032	100[a]
Tunisia	3 708	4 300	3 708	100	4 300	100[a]
Somalia*	1 221	1 566	791	65	1 253	80
Democratic Yemen*	739	881	540	73	881	100
Cyprus	343	376	343	100	376	100
Djibouti*	201	405	160	80	405	100
TOTAL	43 313	55 606	37 055	86	55 293	99

*LDCs.
[a] House connection.

TABLE 4.4.1.2 - EASTERN MEDITERRANEAN REGION

DECADE TARGETS FOR URBAN SANITATION

Country/Territory	Urban Population (000)		SANITATION Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Pakistan	25 400	34 200	13 550	53	22 230	65
Sudan*	4 351	3 500	3 177	73	2 275	65
Saudi Arabia	6 488	9 346	6 488	100	8 785	94
Yemen Arab Republic*	862	1 032	646	75	1 022	99
Somalia*	1 221	1 566	584	48	1 065	68
Cyprus	343	376	343	100	376	100
Djibouti*	201	405	150	75	405	100
TOTAL	38 866	50 425	24 938	64	36 158	72

* LDCs.

TABLE 4.4.2.1 - EASTERN MEDITERANNEAN REGION

DECADE TARGETS FOR RURAL WATER SUPPLY

Country/Territory	Rural Population (000)		WATER SUPPLY Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Pakistan	63 100	77 300	15 144	24	51 018	66
Sudan*	13 560	15 500	4 237	31	12 400	80
Saudi Arabia	1 762	940	1 200	68	940	100
Yemen Arab Republic*	6 092	7 292	1 296	21	7 292	100
Democratic Yemen*	1 501	1 789	584	39	715	40
Cyprus	193	197	193	100	197	100
Djibouti*	99	30	40	40	30	100
TOTAL	86 307	103 048	22 694	26	72 592	70

* LDCs.

TABLE 4.4.2.2 - EASTERN MEDITERANNEAN REGION

DECADE TARGETS FOR RURAL SANITATION

Country/Territory	Rural Population (000)		SANITATION Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Pakistan	63 100	77 300	3 540	6	11 595	15
Saudi Arabia	1 762	940	575	33	575	61
Somalia*	4 265	5 262	210	5	1 210	23
Cyprus	193	197	193	100	197	100
Djibouti*	99	30	18	18	30	100
TOTAL	69 419	83 729	4 536	7	13 607	16

* LDCs.

TABLE 4.5 EASTERN MEDITERRANEAN REGION

STAFF RESOURCES 1983 (top line) AND PROJECTED TRAINEES (bottom line)

Country/Territory	Planning and management	Technical	Craftsmen Artisanal	Administration Clerical	Community based	Totals per million population
Pakistan	-	-	-	-	-	-
	-	-	-	-	-	-
Sudan*	18	24	90	800	-	-
	25	50	120	1 200	26 000	1 442
Saudi Arabia	-	-	-	-	-	-
	-	-	-	-	-	-
Yemen Arab Republic*	20	118	200	360	-	100
	34	150	304	368	-	103
Tunisia	-	-	-	-	-	-
	-	-	-	-	-	-
Somalia*	-	-	-	-	-	-
	-	-	-	-	-	-
Jordan	98	84	96	45	6	86
	-	-	-	-	-	-
Democratic Yemen*	9	134	354	503	-	446
	16	160	386	513	-	409
Cyprus	-	-	-	-	-	-
	-	-	-	-	-	-
Djibouti*	50	160	4	-	-	713
	50	300	6	-	-	818
Qatar	-	-	-	-	-	-
	-	-	-	-	-	-
Oman	-	-	-	-	-	-
	-	-	-	-	-	-

* LDCs.

TABLE 4.6 EASTERN MEDITERRANEAN REGION

UNIT COSTS OF CONSTRUCTION (US$ PER CAPITA) AND OF WATER PRODUCTION (US$/$m^3$)

Country/ Territory	Construction						Operation		
	Urban water supply		Urban sanitation		Rural water supply	Rural sanitation	Average cost of water production	Average water tariff	Progressive water tariffs
	House connection	Stand post	Sewer connection	Other means					
Pakistan	38[a]		26[a]		18.5	7.5	-	-	YES
Sudan*	60	40	101	200-350	17	-	0.05	0.05	YES
Saudi Arabia	420	-	1 100	200	-	-	1.1	0.1	NONE
Yemen Arab Republic*	300	250	400	300	125	150	1.1	1.4	YES
Tunisia	250	-	-	-	200	-	-	0.31	YES
Somalia*	130	90	460	400	160	30	0.5	0.75	YES
Jordan	-	-	-	-	-	-	0.11	0.35	YES
Democratic Yemen*	300	260	-	-	240	-	0.26	0.30	YES
Cyprus	-	-	427.5	285	-	285	0.32	0.28	-
Djibouti*	390	150	140	28	-	23	0.4	0.55	YES
Qatar	-	-	-	-	-	-	1.74	0.60	NONE
Oman	-	-	-	-	-	-	-	-	-

* LDCs.
[a] No breakdown given.

TABLE 4.7 EASTERN MEDITERRANEAN REGION

COST PROJECTIONS COMPARED WITH 1981-3 SECTOR INVESTMENTS

Country	Estimated cost to reach country Decade targets US $ million	Sector investments (1981, 1982, 1983)			Acceleration in investment needed (fold)
		Total US $ million	Percent of total development investment	External US $ million (%) (%)	
Pakistan	1 433	-	-	-	-
Sudan*	-	20.1	3.3	9.6 (48)	-
Saudi Arabia	9 472	-	-	-	-
Yemen Arab Republic*	1 249[b]	531.3	17.0	79.9 (15)	-
Tunisia	-	22.3[a] (URBAN WATER ONLY)	-	5.9 (26)	-
Somalia*	-	-	-	-	-
Jordan	661[a]	-	15.8	-	-
Democratic Yemen*	314	45.7[a] (WATER ONLY)	-	19.2 (42)	2.06
Cyprus	-	17.1[a] (WATER ONLY)	-	9.4 (55)	-
Djibouti*	89.5	2.9[a] (URBAN WATER ONLY)	0.3[a]	2.9[a] (100)	9.3[a]
Qatar	-	-	-	-	-
Oman	-	-	-	-	-

* LDCs.

[a] These figures are underestimates because either not all subsectors were included or projections for the later years of the Decade were not made.

[b] Revised since baseline.

TABLE 4.8 EASTERN MEDITERRANEAN REGION

RANKING AND FREQUENCY OF CONSTRAINTS[a]

Constraints	No. of countries indicating constraint			Ranking Index[b]	Order of Seriousness
	Very severe	Severe	Moderate		
Funding limitations	3	3	1	16	1=
Inadequate water resources	3	3	1	16	1=
Inappropriate institutional framework	3	2	2	15	3
Insufficiency of trained personnel (professional)	1	3	3	12	4=
Insufficiency of trained personnel (sub-professional)	2	1	4	12	4=
Insufficient knowledge of water resources	2	2	2	12	4=
Insufficient health education efforts	1	1	4	9	7=
Operation and maintenance	1	2	2	9	7=
Intermittent water service	1	2	2	9	7=
Non-involvement of communities	1	1	3	8	10=
Inadequate or outmoded legal framework	-	3	2	8	10=
Lack of planning and design criteria	1	1	3	8	10=
Import restrictions	1	1	3	8	10=
Inadequate cost-recovery framework	-	3	1	7	14=
Logistics	-	2	3	7	14=
Inappropriate technology	-	2	3	7	14=
Lack of definite government policy for sector	-	3	1	7	14=

[a] Number of reporting countries: 7.
[b] Ranking index = (No. very severe x 3) + (No. severe x 2) + (No. moderate x 1).

TABLE 4.9 EASTERN MEDITERRANEAN REGION

DECADE APPROACHES DURING 1983

Country	Improved services for the urban poor			No. of rural communities participating in improvements			No. of primary school children receiving health education
	Total urban poor population (000)	Population affected by improvements (%)	Urban water development funds used (%)	Planning (%)	Building (%)	Operating (%)	(000)
Sudan*	2 500	-	-	- -	- -	- -	3 000 (-)
Yemen Arab Republic*	646	18	-	126 (70)	20 (10)	48 (100)	20 294 (-)
Tunisia	-	-	-	4 000 (100)	- -	- -	- -
Jordan	270	-	-	- -	- -	- -	- -
Democratic Yemen*	341	19	-	0 (0)	16 (36)	13 (30)	- (-)
Cyprus	-	-	-	88 (100)	88 (100)	400 (100)	44 530 (-)
Djibouti*	180	-	-	- -	- -	- -	- -

* LDCs.

5. WESTERN PACIFIC REGION

5.1 Socioeconomic and health situation

The 22 countries or territories which reported on the status of water supply and sanitation services at the end of 1983 cover a wide range of socioeconomic and geographic conditions, from small island states such as Tokelau and Niue (14 of the 22 countries have populations of less than one million) to the much bigger and more populous nations of Vietnam and the Republic of Korea. In all, the reporting countries contain 98% of the population of the Region (excluding China). Between 1983 and 1990, their population is expected to increase by 15%, with the urban population growing by 29% and the rural population by 8%.

The per capita gross national product ranges from US$ 100 in the Lao People's Democratic Republic to US$ 4200 in Guam, the median value being US$ 601. Two countries are classified by the United Nations as Least Developed Countries (LDCs). Thirteen of the countries considered that lack of water resources was a constraint to Decade progress, with three rating it as severe and one as very severe. Lack of knowledge of water resources was rated a moderate constraint by 12 countries.

All countries except the Lao People's Democratic Republic reported a life expectancy at birth of 50 years or over, and four had a value of 70 or more. The incidence of waterborne diseases is very high in several countries, affecting almost 26% of the population in Tuvalu, 18% in the Lao People's Democratic Republic and 15% in Kiribati. Over 2% of the population are affected in four further countries: Malaysia, Solomon Islands, Tonga and Cook Islands.

This poor health situation is consistent with the low levels of water supply and sanitation service coverage; six countries note that more than half of their populations lack safe water supply and seven say that more than half are without adequate sanitation.

5.2 Targets and planning

Progress in the different sub-sectors between 1970 and 1983 is illustrated in the global Tables A.3.2.1 to A.3.2.4 and here in Figure 5.1. More details of the 1983 levels of service country by country appear in Table 5.3, and Tables 5.2 and 5.4 show the 1990 targets of each country in the Region. With one important exception, the reporting countries have made good progress in all four sub-sectors during the first three years of the IDWSSD. The single exception is the Philippines, where a review of standards is the most likely explanation for a reported drop in the number of people served both in urban water supply and in rural sanitation. Because of its size (it is the second largest country in the Region), the Philippines has a big influence on the regional statistics, which must therefore be interpreted with extra caution.

In urban water supply, for example, average coverage appears to have fallen from 81% in 1980 to 70% in 1983 (Fig 5.1). If a direct comparison is made of the 15 countries which provided comparable data for the two years, the picture improves slightly, but still shows a drop from 77% to 70% during the three years. Closer analysis however reveals that coverage actually rose or remained static at 100% in 14 of the 15 countries (all except the Philippines). Discounting the Philippines' data in the regional calculation, 1.2 million extra urban residents were given access to safe water in the three years, lifting coverage from 92% to 94% (Vietnam and the Republic of Korea did not report on urban water supply in 1983, so that the Philippines' statistics had even more significance).

Fuller reporting means that the rural water supply figures for 1980 and 1983 are more directly comparable, so that the progress from 41% coverage in 1980 to 45% in 1983 shown in Fig 5.1 should be a fair reflection of the actual achievements of the individual countries.

The apparent drop in urban sanitation coverage from 93% in 1980 to 80% in 1983 (Fig 5.1) is also distorted by the different countries making up the statistics for each year. With Vietnam missing from both sets of figures, the most significant countries are the Philippines and the Republic of Korea. The Philippines reported a drop in coverage from 81% to 75% during the three years, but the Korean figures have much more impact, as the country reported 100% coverage for urban sanitation in 1980, but has not supplied figures for 1983. Direct comparison of 13 countries which supplied data for both years shows that urban water supply coverage fell from 86% to 83% between 1980 and 1983, or rose from 92% to 96% if the Philippines' statistics are discounted (there is less reason to discount the Philippines' figures for urban sanitation, where the reported drop in coverage may simply mean that provision of new services has not kept pace with population growth. In the urban water supply and rural sanitation statistics, the 1983 data actually showed fewer people with services than was the case in 1980, which is more likely to be accounted for by a review of standards).

The rural sanitation sub-sector is the one most influenced by the statistics from the Philippines, where 5.5 million less people were deemed to have satiafactory services in 1983 than was the case in 1980*. On that basis, Fig 5.1 shows an apparent drop in rural sanitation coverage from 61% to 57% between 1980 and 1983. Discounting the Philippines' figures, and comparing only those 12 countries which provided comparable data for 1980 and 1983, the picture changes completely. Some 9.4 million extra rural people were provided with adequate sanitation facilities in the 12 countries during the three years, lifting the coverage from 50% to 62%.

Decade target information was provided by 14 countries in the rural water supply sub-sector, but by ten countries or less in the other sub-sectors. Figure 5.2 and Tables 5.4.1.1 to 5.4.2.2 present the targets along with the 1983 situation in the reporting countries sub-sector by sub-sector.

For urban water supply, the 10 reporting countries contain about 37% of the regional population. Six of the 10 countries have a 1990 target of 100% and two more are aiming for more than 90% coverage (in 1980 every reporting country in the Western Pacific Region set a 100% urban water supply coverage target for the end of the Decade). The other two countries, the Philippines (86%) and the Lao People's Democratic Republic (46%) bring the regional average target down to 87%, compared with a 1983 coverage in the selected countries of 58%. If the targets were to be achieved, the number of urban people benefiting from access to safe water would need to grow from 14 million to 26.5 million between 1983 and 1990. This cannot be extrapolated to give a regional figure, as the missing countries are known to have a very much higher existing coverage level.

All 14 countries included in the rural water supply sample are aiming for 100% coverage by 1990, though the 1983 level is just 45%. This has to be seen as an exceptionally ambitious target, particularly when seen alongside the small improvements achieved during the first three years of the Decade. To reach the target would mean providing new services for an extra 72 million rural people in the 14 countries, in which just 48.5 million benefited from such services at the end of 1983. Some scaling down of targets or extension of the timescale for achieving full coverage is clearly called for in some countries. It seems, for example, that Vietnam and the Republic of Korea, both of which experienced a marginal reduction in coverage between 1980 and 1983, will require more than seven years to provide new services for so many people.

Urban sanitation in the Western Pacific is the only sub-sector in any region in which the 1990 target coverage (77%) is lower than the actual coverage in 1983 (80%). Again the figures are dominated by the data from the Philippines, where the government does not expect to match the projected urban growth rate with the provision of new services, and is anticipating a continuing drop in coverage from 75% in 1983 to 70% by 1990 (it was 81% in 1980). Of the remaining eight countries in the urban sanitation sample, six are aiming for 100% coverage by 1990 (three have already reached it).

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* No suggestion is made here that the Philippines' figures are in any way incorrect, and they will of course be included in the regional averages from which future progress will be judged. The recalculations represented here are thought to give a better impression of progress in the remainder of the Western Pacific Region, by removing the distortions introduced by apparent "negative" progress.

The rural sanitation sample consists of only eight countries of which five have 1990 targets of 95% or more. The average coverage in the eight countries in 1983 was 40%, and the combined aim is to raise that figure to 81% by the end of the Decade. That would mean providing new services for 18.5 million people in the eight countries, which represent only 30% of the regional population.

5.3 Staff and training

Information on the number of staff employed in the sector is presented in Table 5.5. Twelve countries provided data on both 1983 staffing levels and 1990 projections, four quoted 1983 figures only, and one reported only on 1990 targets. For the small islands which make up so many of the Western Pacific territories, the normal parameter (trained staff per million population) for assessing staffing levels can be misleading. Thus, Tokelau's apparently over-generous 7000 staff per million population in fact represented just 14 people employed in the sector.

With 11 out of 17 reporting countries indicating that lack of trained sub-professional personnel was a severe or very severe constraint to Decade progress (Table 5.8), it is interesting to note that few countries plan large increases in staff during the remainder of the Decade (Tonga is a notable exception). The emphasis is more on improving the technical capacity of existing staff and in some cases this involves transfer of staff from one category to another (Philippines, Lao People's Democratic Republic).

Several countries have indicated a relatively high proportion of community-based staff (Vietnam, Philippines, Lao People's Democratic Republic).

5.4 Financial resources

Table 5.6 compares the unit costs of building new water supply and sanitation systems in the different countries of the Region, and also indicates how water tariffs relate to the actual costs of water production from country to country. Though a reasonable number of countries submitted cost data, surprisingly few (four) quoted costs for urban water supply through standposts.

Per capita costs for urban water supply through house connections ranged from US$ 19 in Singapore (this may represent the cost of the house connection only, rather than the intended share of the whole system costs) to US$ 1000 in American Samoa, where perhaps transporation costs are a major element. The median value of US$ 194 per capita for urban water supply by house connection is in line with costs in other regions. From the small sample, urban standpost supplies range from an extreme low of US$ 0.3 in the Lao People's Democratic Republic, which must mean the uncosted community participation provides this form of supply, to US$ 650 per capita in tiny Niue. The other values range from US$ 50 per capita in Papua New Guinea and US$ 150 in Western Samoa.

The median value for urban sewerage was US$ 290 per capita, again in line with costs reported by other regions, and again with one very high value - US$ 1500 per capita in American Samoa. Non-sewered urban sanitation ranged in cost from US$ 30 per capita in Kiribati to US$ 350 in the Pacific Island Trust Territories, with an extra high US$ 2000 reported by Niue. Seven of the 13 reporting countries quoted non-sewered urban sanitation costs at US$ 100 per capita or less.

Rural water supply and sanitation costs also covered a wide range, with lows of US$ 5 per capita for rural water supplies in Kiribati and US$ 2.5 per capita for rural sanitation in Malaysia. The median values of US$ 49 for rural water supplies and US$ 13 for rural sanitation compare well with other regions.

Water production costs ranged from US$ 0.18 to US$ 0.75 per cubic metre, with a median value of US$ 0.32. Six of the 13 reporting countries have water tariffs set higher than costs, four of them with a comfortable margin to allow the possibility of generating enough revenue for operation and maintenance. The remainder must rely on outside subsidy for the upkeep of water systems. Nine

out of 17 countries report that they operate progressive tariffs.

Table 5.7 shows the estimates of costs for individual countries to achieve their Decade targets, and compares this with the level of spending achieved in 1981, 1982 and 1983. Using the ratio between implied annual spending according to Decade estimates and actual spending in the first three years as a guide to the acceleration needed (though the spread of Decade investments over many years makes this only a crude indicator), only Malaysia would reach its Decade goals without some acceleration in spending. Of the rest (12 supplied enough data for this calculation to be made), six would have to increase annual investment by about 50%, and the median acceleration needed in the Region is 1.8.

Lack of funding was identified by 9 countries out of 18 as a very severe or severe constraint to Decade progress, while 5 classified inadequate cost recovery within the sector in the same way. Only Singapore did not see shortage of funds as some kind of obstacle to progress. Hong Kong is the only territory in the Region which does not depend on some external support, while a number of countries rely 100% on outside funding for Decade activities. The median proportion of external funding among the countries is 63%.

5.5 Decade Approaches

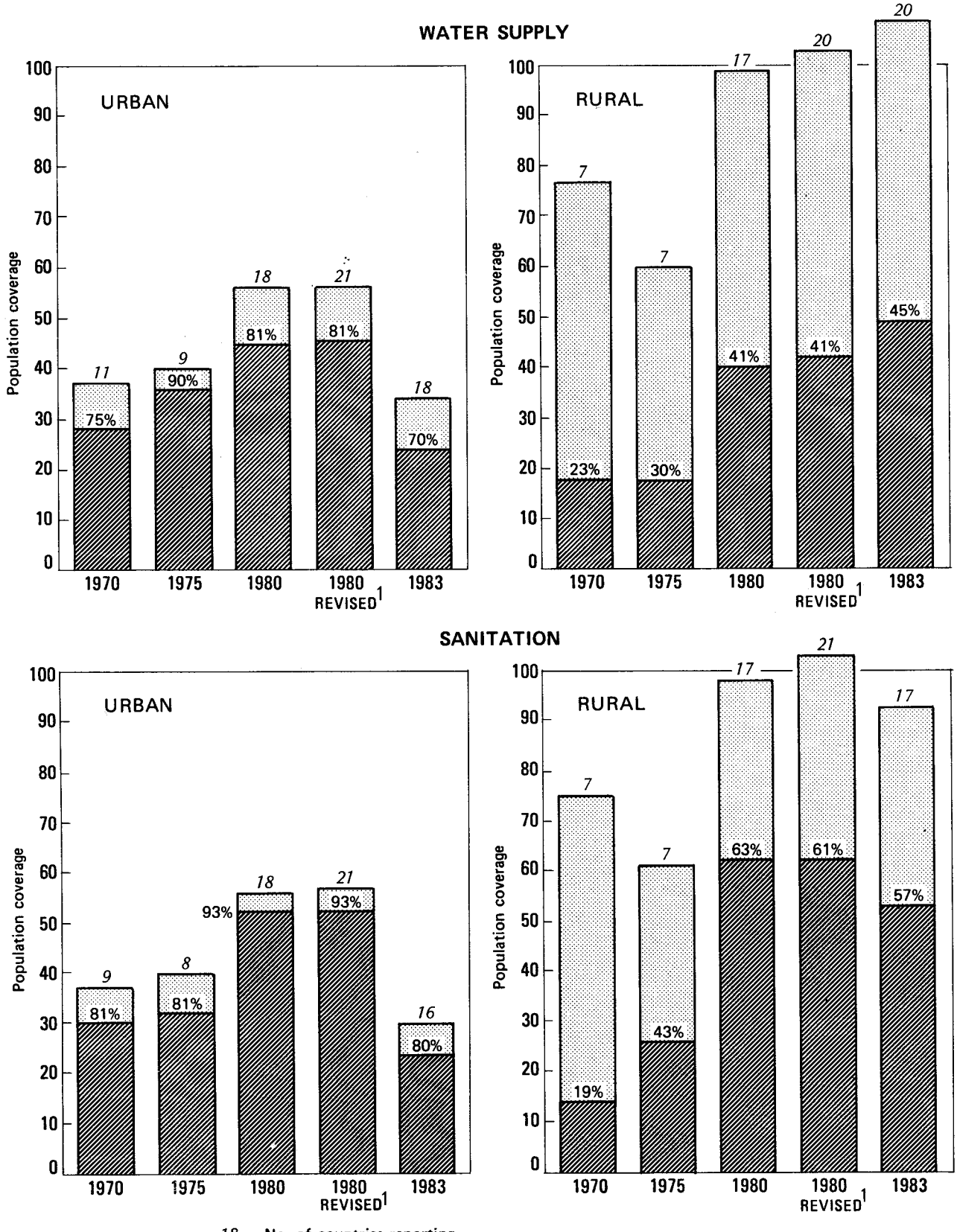
Information about services to the urban poor came from only two countries: the Solomon Islands, where half of the poorer urban dwellers have been affected by improvements, and Western Samoa, where the quoted figure is 2%.

Ten countries reported varying degrees of community involvement in rural development, with the Republic of Korea, Solomon Islands and Kiribati indicating that there was 100% participation in planning, building and operation of schemes. The Philippines also reported a high level of community involvement in all three stages, while Tonga indicated no involvement of the community in planning but 100% participation in operation and maintenance.

Eight out of 10 reporting countries indicated that health education related to water supply and sanitation formed a part of the curriculum in all primary schools.

FIG. 5.1 WESTERN PACIFIC REGION

POPULATION COVERAGE IN 1970, 1975, 1980 AND 1983[a]

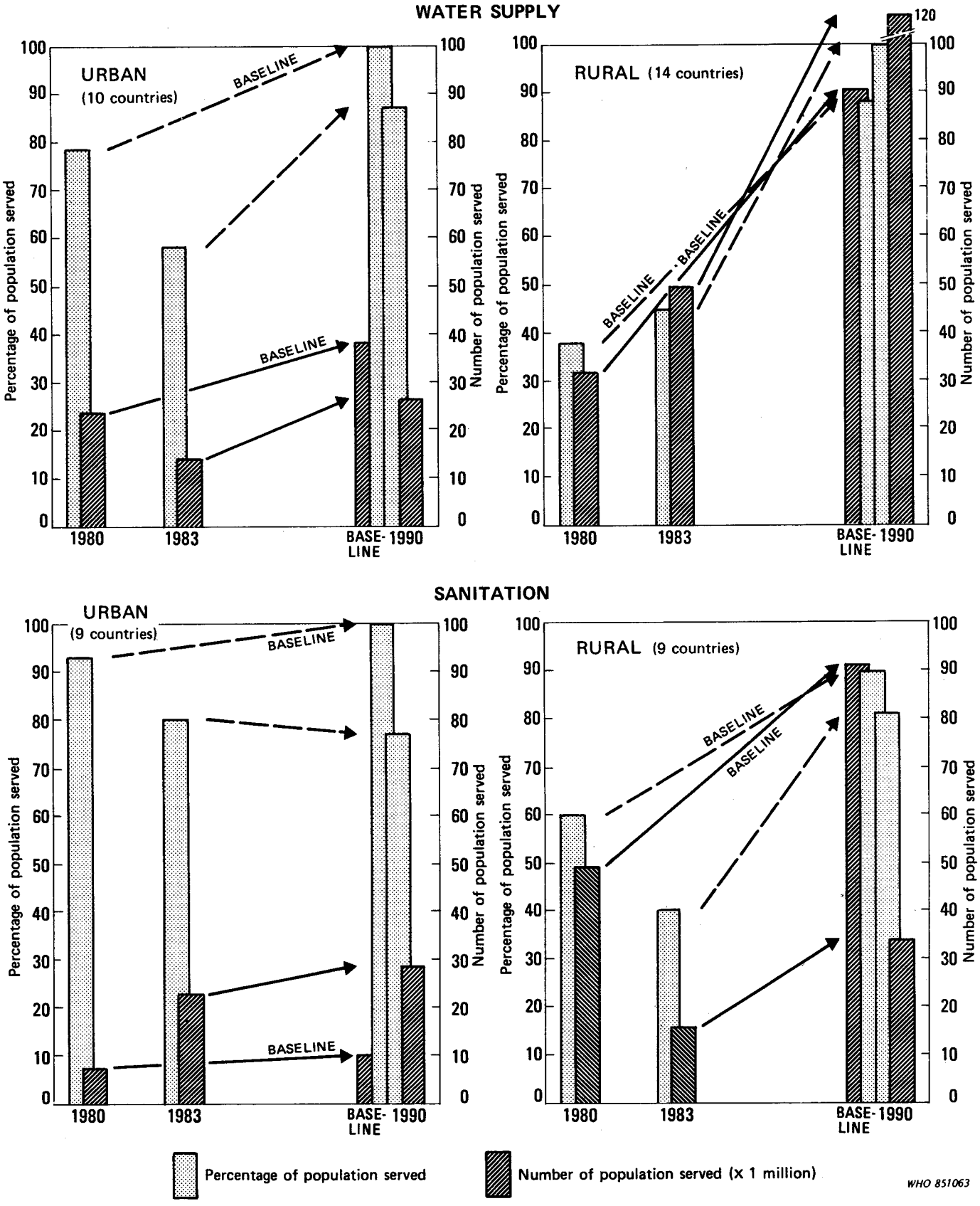


[1]NOTE: The 1980 revised values are based on the original 1980 (Baseline) data supplemented by additional information received in 1984.

[a] See Tables A.4.1.1, A.4.1.2, A.4.2.1, A.4.2.2 and Section 5.2.

FIG. 5.2 WESTERN PACIFIC REGION

DECADE TARGETS FOR URBAN AND RURAL WATER SUPPLY AND SANITATION IN SELECTED COUNTRIES COMPARED WITH 1980 AND 1983[a] LEVELS OF COVERAGE



[a] See Tables 5.4.1.1, 5.4.1.2, 5.4.2.1, 5.4.2.2 and Section 5.2.

TABLE 5.1 WESTERN PACIFIC REGION

BASIC INDICATORS: DEMOGRAPHIC, ECONOMIC, HEALTH
(Year 1983)

Country/ Territory	Population (000)	Population growth rate (%)	GNP per capita (US$)	Life expectancy (years)	Infant mortality per 1000 live births	Water disease cases per 100 000	Population without safe water (%)	Population without sanitation (%)
Vietnam	57 443	2.3	230	63	33	-	-	-
Philippines	51 956	2.3	519	63	59	537	46	42
Republic of Korea	40 263	1.6	1 875	65	32	-	-	-
Malaysia	14 511	2.6	1 743	70	26	2 600	20	27
Hong Kong	5 344	2.2	-	75	10	50	1	-
Lao Peop. Dem. Republic*	3 846	2.4	100	46	284	17 900	79	94
Papua New Guinea	3 160	2.2	490	50	78	-	84	86
Singapore	2 502	1.2	-	-	-	-	0	0
Fiji	677	2.0	1 717	62	33	-	21	-
Solomon Islands	249	3.4	601	54	46	2 726	50	73
Brunei	206	3.5	-	66	11	370	2	1
Western Samoa*	160	2.3	-	64	33	-	6	15
Guam	155	3.0	4 200	75	11	190	0	0
Vanuatu	126	3.2	529	51	75	-	68	68
Pac. Isl. Tru. Terr.	124	3.0	910	-	22	957	65	73
Tonga	101	1.5	450	-	22	2 615	4	1
Kiribati	62	2.2	290	53	87	15 000	66	60
American Samoa	33	2.5	2 300	70	18	-	12	0
Cook Islands	17	-	3 794	64	22	5 674	17	67
Tuvalu	7.4	1.5	430	59	15	25 670	-	-
Nuie	3	-	-	-	-	-	0	0
Tokelau	2	-3.2	800	-	50	-	0	0

* LDCs.

TABLE 5.2 WESTERN PACIFIC REGION

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			
Vietnam	-	-	-	-	-	-	under preparation (-)
Philippines	82	4	4	27	82	95	1981
Republic of Korea	-	-	-	-	100	-	1983
Malaysia	-	-	-	-	-	-	under preparation (-)
Hong Kong	-	-	-	-	-	-	not being prepared
Lao Peop. Dem. Republic*	25	21	7	14	53	12	1982
Papua New Guinea	73	27	34	66	50	5	under preparation (1985)
Singapore	100	0	100	0	-	-	1980
Fiji	89	0	45	9	66	-	NIL
Solomon Islands	97[a]		89[a]		96	71	1979
Brunei	-	-	-	-	-	-	NIL
Western Samoa*	-	-	-	-	-	-	1981
Guam	-	-	-	-	-	-	1979
Vanuatu	100	0	100[a]		99	99	1982
Pac. Isl. Trus. Ter.	-	-	-	-	-	-	under preparation (-)
Tonga	93	0	-	-	-	-	under preparation (1985)
American Samoa	-	-	-	-	-	-	NIL
Cook Islands	-	-	-	-	-	-	-
Tuvalu	-	-	-	-	-	-	not being prepared
Niue	-	-	-	-	-	-	1980
Tokelau	-	-	-	-	-	-	1981

* LDCs.
[a] No breakdown given.

TABLE 5.3 WESTERN PACIFIC REGION

1983 LEVELS OF SERVICE
(Population in thousands; percentages shown in brackets)

Country/ Territory	Population			Population with service							
				Drinking-water				Sanitation			
				Urban			Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S.[b]		Total	by S.C.[c]	by other	
Vietnam	57 400	12 000 (21)	45 400 (79)	- -	- -	- -	14 000 (31)	- -	- -	- -	32 000 (70)
Philippines	51 956	20 165 (39)	31 791 (61)	10 660 (53)	5 800 (29)	4 860 (24)	17 634 (55)	15 096 (75)	636 (3)	14 460 (72)	15 000 (47)
Rep. of Korea	40 263	25 889 (64)	14 374 (36)	- -	- -	- -	8 616 (60)	- -	- -	- -	- -
Malaysia	14 511	5 021 (35)	9 490 (65)	4 859 (97)	4 558 (91)	301 (6)	6 718 (71)	5 021 (100)	840 (17)	4 181 (83)	5 622 (59)
Hong Kong	5 344	4 956 (93)	388 (7)	4 947 (100)	4 738 (96)	209 (4)	360 (93)	- -	- -	- -	- -
Lao Peop Dem Rep*	3 846	581 (15)	3 265 (85)	164 (28)	144 (25)	20 (3)	653 (20)	75 (13)	15 (3)	60 (10)	139 (4)
Papua New Guinea	3 160	393 (12)	2 767 (88)	216 (55)	189 (48)	27 (7)	277 (10)	356 (91)	156 (40)	200 (51)	95 (3)
Singapore	2 502	2 502 (100)	0 (0)	2 502 (100)	2 497 (99)	5 (1)	0 (0)	2 502 (100)	2 126 (85)	376 (15)	0 -
Fiji	677	258 (38)	419 (62)	258 (100)	258 (100)	0 (0)	200 (48)	- -	90 (35)	- -	- -
Solomon Islands	249	25 (10)	224 (90)	24 (96)	24 96	- -	100 (45)	20 (80)	- -	- -	48 (21)
Brunei	206	124 (60)	82 (40)	124 (100)	124 (100)	0 (0)	78 (95)	93 (75)	50 (40)	43 (35)	80 (98)
Western Samoa*	160	38 (24)	122 (76)	36 (95)	36 (95)	0 (0)	115 (94)	31 (82)	0 (0)	31 (82)	105 (86)
Guam	115	46 (40)	69 (60)	46 (100)	46 (100)	0 (0)	69 (100)	46 (100)	37 (80)	9 (20)	69 (100)

Vanuatu	126	22 (17)	104 (83)	22 (100)	22[d] (100)		52 (50)	19 (86)	0 (0)	19 (86)	67 (64)
Pacific Isl Tru Ter	124	38 (31)	86 (69)	26 (68)	26 (68)	0 (0)	21 (24)	30 (79)	8 (21)	22 (58)	6 (7)
Tonga	101	32 (32)	69 (68)	29 (91)	29 (91)	0 (0)	62 (90)	32 (100)	0 (0)	32 (100)	67 (97)
American Samoa	33	22 (66)	11 (33)	22 (100)	22 (100)	0 (0)	7 (64)	22 (100)	10 (45)	12 (55)	11 (100)
Cook Islands	17	9 (53)	8 (47)	9 (100)	9 (100)	- -	7 (85)	9 (100)	- -	9 (100)	8 (100)
Tuvalu	9	3 (33)	6 (67)	- -	- -	- -	- -	- -	- -	- -	- -
Niue	3	3 (100)	Min (0)	3 (100)	3 (100)	- (0)	0 (0)	3 (100)	- -	3 (100)	0 -
Tokelau	2	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	1 (50)
Total	180 804	72 127 (40)	108 677 (60)	23 947 (70)	18 503	5 422	48 971 (45)	23 355 (80)	3 968	19 457	53 318 (57)

* LDCs.
[a] H.C. = house connection.
[b] P.S. = public standpost.
[c] S.C. = sewer connection.

TABLE 5.4 WESTERN PACIFIC REGION

PRESENT (1983 - top line) AND PROJECTED (1990 - bottom line) POPULATION COVERAGE (in thousands)

Country/Territory	Urban population	Water supply		Sanitation		Rural population	Safe water	Adequate sanitation
		House connection	Stand-post	Sewer connection	Other means			
Vietnam	12 000	-	-	-	-	45 400	14 000	32 000
	13 200	-	-	-	-	52 800	-	-
Philippines	20 165	5 800	4 860	636	14 460	31 791	17 634	15 000
	25 693	21 146	950	1 032	16 933	34 492	28 302	32 767
Republic of Korea	25 889	-	-	-	-	14 374	8 616	-
	28 460	-	-	-	-	15 801	15 801	-
Malaysia	5 021	4 558	301	840	4 181	9 490	6 718	5 622
	6 620	-	-	6 620[a]	-	9 130	-	-
Hong Kong	4 956	4 738	209	-	-	388	360	-
	-	-	-	-	-	-	-	-
Lao Peop. Dem. Rep.*	581	144	20	15	60	3 265	653	139
	714	181	153	50	100	4 046	2 160	500
Papua New Guinea	393	189	27	156	200	2 767	277	95
	800	580	220	270	530	3 000	1 500	152
Singapore	2 502	2 497	5	2 126	376	0	0	0
	2 710	2 710	0	2 710	0	0	0	0
Fiji	258	258	0	90	-	418	200	-
	425	425	0	193	79	345	225	-
Solomon Islands	25	24	-	20[a]		224	100	48
	37	36[a]		33[a]		282	270	200
Brunei	124	124	0	50	43	82	78	80
	142	142	0	-	-	107	-	-
Western Samoa*	38	36	0	0	31	122	115	105
	40	-	-	-	-	130	-	-
Guam	46	46	0	37	9	69	69	69
	-	-	-	-	-	-	-	-
Vanuatu	22	12	10	0	19	104	52	67
	26	26	0	0	26	129	128	128

Pacific Isl Tru Ter.	38 -	26 -	0 -	8 -	22 -	86 -	21 -	6 -
Tonga	32 42	29 39	0 0	0 -	32 -	69 60	62 60	67 -
American Samoa	22 28	22 28	0 0	10 28[a]	12	11 11	7 -	11 -
Cook Islands	9 -	9 -	- -	9[a] -	-	8 -	7 -	8 -
Tuvalu	3 -	- -	- -	- -	- -	6 -	- -	- -
Niue	3 -	3 -	0 -	3[a] -	- -	- -	0 -	8 -
Tokelau	0 -	0 -	0 -	0 -	- -	2 -	2 -	1 -

* LDCs.
[a] No breakdown given

TABLE 5.4.1.1 - WESTERN PACIFIC REGION

DECADE TARGETS FOR URBAN WATER SUPPLY

Country/Territory	Urban Population (000)		WATER SUPPLY Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Philippines	20 165	25 693	10 660	53	22 096	86
Lao P.D.R.*	581	714	164	28	328	46
Papua New Guinea	393	800	216	55	800	100
Singapore	2 502	2 710	2 502	100	2 710	100[b]
Fiji	258	425	258	100[a]	425	100[b]
Solomon Islands	25	37	24	96	36	97
Brunei	124	142	124	100[a]	142	100
Tonga	32	42	29	91	39	93
Kiribati	20	23	19	95	23	100
American Samoa	22	28	22	100[a]	28	100
TOTAL	24 122	30 614	14 018	58	26 627	87

* LDCs.

[a] Countries with 100% service coverage in 1983 are assumed to retain this level of service unless otherwise stated.

[b] House connections only.

TABLE 5.4.1.2 WESTERN PACIFIC REGION

DECADE TARGETS FOR URBAN SANITATION

Country/Territory	Urban Population (000)		SANITATION Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Philippines	20 165	25 693	15 096	75	17 965	70
Malaysia	5 021	6 620	5 021	100	6 620	100[a]
Lao P.D.R.*	581	714	75	13	150	21
Papua New Guinea	393	800	356	91	800	100
Singapore	2 502	2 710	2 502	100	2 710	100
Solomon Islands	25	37	20	80	33	89
Vanuata	22	26	19	86	26	100
Kiribati	20	23	19	95	23	100
American Samoa	22	28	22	100	28	100[a]
TOTAL	28 751	36 651	23 130	80	28 355	77

* LDC.

[a] Countries with 100% service coverage in 1983 are assumed to retain this level of service unless otherwise stated.

TABLE 5.4.2.1 WESTERN PACIFIC REGION

DECADE TARGETS FOR RURAL WATER SUPPLY

Country/Territory	Rural Population (000)		WATER SUPPLY Population Covered 1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Vietnam	45 400	52 800	14 000	31	52 800	100
Philippines	31 791	34 492	17 634	55	34 492	100
Republic of Korea	14 374	15 801	8 616	60	15 801	100
Malaysia	9 490	9 130	6 718	71	9 130	100
Lao P.D.R.*	3 265	4 046	653	20	4 046	100
Papua New Guinea	2 767	3 000	277	10	3 000	100
Fiji	418	345	200	48	345	100
Solomon Islands	224	282	100	45	282	100
Brunei	82	107	78	95	107	100
Western Samoa*	122	130	115	94	130	100
Vanuata	104	129	52	50	129	100
Tonga	69	60	62	90	60	100
Kiribati	42	50	2	5	50	100
American Samoa	11	11	7	64	11	100
TOTAL	108 159	120 383	48 514	45	120 383	100

* LDCs.

TABLE 5.4.2.2 WESTERN PACIFIC REGION

DECADE TARGETS FOR RURAL SANITATION

Country/Territory	Rural Population (000)		SANITATION Population Covered			
			1983		1990	
	1983	1990	No. (000)	%	No. (000)	%
Philippines	31 791	34 492	15 000	47	32 767	95
Lao P.D.R.*	3 265	4 046	139	4	500	12
Papua New Guinea	2 767	3 000	95	3	152	5
Solomon Islands	224	282	48	21	200	71
Vanuata	104	129	67	64	128	99
Tonga	69	60	67	97	60	100
Kiribati	42	50	6	14	50	100
American Samoa	11	11	11	100	11	100[7]
TOTAL	38 273	42 070	15 433	40	33 868	81

* LDC.

a Countries reporting 100% coverage in 1983 are assumed to retain this level of service unless otherwise stated.

TABLE 5.5 WESTERN PACIFIC REGION

STAFF RESOURCES 1983 (top line) AND PROJECTED TRAINEES (bottom line)

Country/Territory	Planning and management	Technical	Craftsmen Artisanal	Administration Clerical	Community based	Totals per million population
Vietnam	45[a]	400[a]	15[a]	-	9 000[a]	165[a]
	165	600	-	-	10 000	161
Philippines	718	14 983	3 167	1 567	94 829	2 218
	1 820	15 400	2 160	2 000	81 100	1 703
Rep. of Korea	-	-	-	-	-	-
	-	-	-	-	-	-
Malaysia	-	-	-	-	-	-
	-	-	-	-	-	-
Hong Kong	-	-	-	-	-	-
	-	-	-	-	-	-
Lao Peop. Dem. Rep.*	10	50	20	48	500	163
	48	505	100	100	200	200
Papua New Guinea	38	100	170	25	-	105
	20	90	100	20	-	61
Singapore	58	1 170	1 119	216	NIL	2 563
	49	1 555	1 053	205	NIL	2 862
Fiji	17	124	830	21	-	1 467
	-	-	-	-	-	-
Solomon Islands	5	28	138	40	-	847
	8	45	190	60	-	950
Brunei	-	-	-	-	-	-
	-	-	-	-	-	-
Western Samoa*	-	-	-	-	-	13
	2	4	1	2	2	65
Guam	19	87	192	55	38	3 400
	28	100	244	69	38	3 742[b]
Vanuatu	1	-	3	1	-	40
	-	-	-	-	-	-
Pac Isl Tru Terr.	2	35	40	25	50	1 226
	3	40	60	20	50	1 277

Tonga	6	101	23	118	14	2 360
	10	270	405	207	17	8 912
Kiribati	5	30	30	30	-	1 696
	-	-	-	-	-	-
American Samoa	3	15	38	14	-	2 121
	4	25	30	14	-	1 872
Cook Islands	2	15	31	2	2	2 889
	2	20	35	2	10	3 833
Tuvalu	2	3	16	2	16	4 699
	2	3	16	2	16	4 585
Nuie	-	-	-	-	-	-
	-	-	-	-	-	-
Tokelau	3	1	9	1	-	7 000
	3	-	-	-	-	-

* LDCs.
[a] 1980 values.
[b] Rising population figure based on World Health Statistics 1985, WHO, Geneva, 1985.

TABLE 5.6 WESTERN PACIFIC REGION

UNIT COSTS OF CONSTRUCTION (US$ PER CAPITA) AND OF WATER PRODUCTION (US$/m^3)

Country/ Territory	Construction						Operation		
	Urban water supply		Urban sanitation		Rural water supply	Rural sanitation	Average cost of water production	Average water tariff	Progressive water tariffs
	House connection	Stand post	Sewer connection	Other means					
Vietnam	-	-	-	-	-	-	-	-	NO
Philippines	28	-	-	38	37	12	0.29	0.12	YES
Republic of Korea	-	-	-	-	29	-	-	-	-
Malaysia	200	-	330	200	35-210	2.5	0.18	0.25	YES
Hong Kong	-	-	-	-	-	-	-	0.24	YES
Lao Peop. Dem. Rep.*	300-500	0.3-10	-	200	5-50	15	0.35	0.38	-
Papua New Guinea	150	50	220	20-250	15	10	0.6	0.4	YES
Singapore	19	-	-	-	-	-	0.18	0.25	YES
Fiji	188	-	230	175	61	34	0.35	0.18	YES
Solomon Islands	130	-	100	50	40	5	0.3	0.25	YES
Brunei	-	-	-	-	-	-	-	-	-
Western Samoa*	300	150	-	100	200	70	0.75	0.30	YES
Guam	205	-	335	-	100	-	0.52	-	NO
Vanuatu	-	-	-	-	50	5	0.19	0.31	NO
Pac Isl Tru Ter.	450	-	900	350	120	350	0.18	0.07	YES
Tonga	63	-	-	73	48	28	0.8	0.85	NO
Kiribati	-	-	250	30	5	5	-	-	NO
American Samoa	1 000	-	1 500	100	-	-	0.4	0.8	NO
Cook Islands	96	-	-	48	72	12	0.30	0	NO
Tuvalu	-	-	-	-	-	-	-	-	-
Niue (per house or standpost)	680	650	-	2 000	650	2 000	-	-	NO
Tokelau	-	-	-	-	31.5	25.5	-	-	-

* LDCs.

TABLE 5.7 WESTERN PACIFIC REGION

COST PROJECTIONS COMPARED WITH 1981-3 SECTOR INVESTMENTS

Country	Estimated cost to reach country Decade targets US $ million	Sector investments (1981, 1982, 1983)			Acceleration in investment needed (fold)
		Total US $ million	Percent of total development investment	External US $ million (%) (%)	
Vietnam	-	5.12	-	5.01 (98)	-
Philippines	5 898	563.9	-	355.4 (63)	3.1
Republic of Korea	2 663 (RURAL WATER ONLY)	37.4	-	11.3 (30)	21.4
Malaysia	1 128	593.5	3.16	69.7 (12)	NONE
Hong Kong	416[c]	68.8	-	0 (0)	1.8
Lao Peop. Dem. Rep.*	-	4.2	0.20	2.6 (62)	-
Papua New Guinea	-	-	-	- -	-
Singapore	476[b] (URBAN WATER ONLY)	91.5	-	3.1 (3)	1.6
Fiji	141 (EXCLUDING RURAL SANITATION)	26.0[a]	1.06[a]	2.5[a] (10)	1.6
Solomon Islands	20[b] (WATER ONLY)	4.8	-	3.3 (69)	1.3
Brunei	250[a]	-	-	- -	-
Western Samoa*	21.5[b]	0.6	30	0.5 (83)	10.8
Guam	-	25.7	-	14.3 (56)	-
Vanuatu	6 (RURAL WATER ONLY)	0.3	-	0.3 (100)	6.0
Pac Isl Tru Ter.	107.5	19.6	40	19.6 -	1.6
Tonga	4.6 (WATER ONLY)	0.11	-	0.08 (73)	12.5
Kiribati	-	1.07	-	1.07 (100)	-
American Samoa	25.5[a]	4.4	-	4.4 (100)	1.7
Cook Islands	-	0.84	82	0.69 (-)	-
Tuvalu	-	-	-	-	-
Niue	-	-	-	-	-
Tokelau	-	0.09	4.0	0.02 (22)	-

* LDCs.
a These figures are underestimates because either not all subsectors were included or projections for the later years of the Decade were not made.
b Revised since baseline.
c Cost of reaching 1986 targets.

TABLE 5.8 WESTERN PACIFIC REGION

RANKING AND FREQUENCY OF CONSTRAINTS[a]

Constraints	No. of countries indicating constraint			Ranking Index[b]	Order of Seriousness
	Very severe	Severe	Moderate		
Funding limitations	4	5	9	31	1=
Insufficiency of trained personnel (sub-professional)	3	8	6	31	1=
Logistics	5	3	8	29	3
Insufficiency of trained personnel (professional)	4	3	10	28	4
Operation and maintenance	3	3	9	24	5
Inadequate cost-recovery framework	2	3	8	20	6=
Lack of planning and design criteria	1	5	7	20	6=
Inappropriate institutional framework	1	4	8	19	8
Inadequate water resources	1	3	9	18	9
Insufficient health education efforts	1	3	6	15	10=
Lack of definite government policy for sector	2	2	5	15	10=
Import restrictions	2	2	5	15	10=
Inadequate or outmoded legal framework	2	1	6	14	13
Non-involvement of communities	-	3	7	13	14
Intermittent water service	-	1	10	12	15=
Inappropriate technology	-	2	8	12	15=
Insufficient knowledge of water resources	-	-	12	12	15=

[a] Number of reporting countries: 18
[b] Ranking index = (No. very severe x 3) + (No. severe x 2) + (No. moderate x 1).

TABLE 5.9 WESTERN PACIFIC REGION
DECADE APPROACHES DURING 1983

Country	Improved services for the urban poor			No. of rural communities participating in improvements			No. of primary school children receiving health education
	Total urban poor population (000)	Population affected by improvements (%)	Urban water development funds used (%)	Planning (%)	Building (%)	Operating (%)	(000)
Vietnam	-	-	-	- -	- -	- -	- (100)
Philippines	-	-	-	30 400 (80)	30 400 (80)	30 400 (80)	8 488 283 (100)
Republic of Korea	-	-	-	53 000 (100)	53 000 (100)	53 000 (100)	5 255 716 (100)
Malaysia	-	-	-	- -	- -	- -	2 084 455 (100)
Lao Peo Dem Rep.*	-	-	-	50 (5)	200 (20)	200 (20)	447 000 (100)
Solomon Islands	2	50	-	185 (100)	185 (100)	180 (97)	-
Western Samoa*	-	2	-	2 (25)	2 (25)	-	150 (100)
Pac Isl Tru Ter.	-	-	-	85 (72)	85 (72)	65 (55)	31 000 (100)
Tonga	-	-	-	0 (0)	21 (30)	93 (100)	- (7)
Kiribati	-	-	-	30 (100)	30 (100)	120 (100)	- -
Cook Islands	-	-	-	2 (-)	10 (-)	3 (-)	2 514 (23)
Tokelau	1.5	-	-	-	2 (67)	3 (100)	- (100)

* LDCs.

C. REASSESSMENT OF BASELINE INFORMATION

The material used to develop the figures and tables in the Baseline document* was the first to be collected using the WHO Sector Digest Forms for Systemwide Reporting. Not all countries responded and many of those which did were unable to complete the forms for all sectors in their entirety. Questions were therefore raised concerning the validity of any conclusions drawn about global or regional trends, based on limited available data. Doubts were compounded because country data for 1980 often differed significantly from data reported in the earlier monitoring exercises for 1970 and 1975.

As a supplementary check on the validity of the 1980 data, countries were asked to report again on the 1980 situation when providing data on the situation at the end of 1983 for this latest monitoring. For countries which provided data on both occasions, it was possible to confirm or adjust the original Baseline data, while information from those which reported in 1983 but had not done so in 1980 enabled the Baseline to be expanded. The aim was to obtain a new assessment of the regional and global situation at the start of the IDWSSD and at the same time to form some judgement on the reliability of conclusions drawn in the Baseline document.

For the five WHO Regions included in this document, additional 1980 data received with the 1983 reports came from the following countries:

1. Africa: Congo, Liberia, Uganda, Zambia and Nigeria
2. Americas: Bahamas, Barbados, Belize, Haiti and Surinam
3. South-east Asia: No extra countries (97% population reported both years)
4. Eastern Mediterranean: Cyprus, Somalia and Sudan
5. Western Pacific: Guam, Lao People's Democratic Republic, Niue and Tokelau

Using this extra information, new "Expanded Baseline" Tables have been produced for Africa, the Americas, Eastern Mediterranean, and Western Pacific. The tables (Tables B.1.3 to B.5.3) are reproduced here alongside the equivalent tables from the original Baseline document. For completeness, Table B.3.3 has also been included, though this is unaltered from the Baseline document.

Table C.1.1 compares the regional and global statistics for 1980 on the original Baseline data with the recalculated figures for the expanded Baseline. It is particularly noteworthy that the addition of 145 million to the population base did not affect the global percentage coverage figures for urban sanitation and rural water supply at all and made only a single percentage point difference in the case of urban water supply and rural sanitation.

Regionally too the changes were small, giving some cause for added confidence in the figures quoted in the Baseline document. Even in Africa, where the sample population more than doubled, urban sanitation and rural sanitation coverage varied by only one percentage point, rural water supply by two and urban water supply coverage by four from 66% on the basis of the original data down to 62% on the Expanded Baseline data (largely due to the addition of Nigeria). And in the Eastern Mediterranean, where there is a wide variation in economic and developmental conditions between individual countries and the original sample was small, only marginal changes have occurred through the addition of three more countries.

It does seem that the Baseline document provides a reasonably representative view of the regional and global situation at the end of 1980 in terms of national judgements of the adequacy of water supply and sanitation services.

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

TABLE C.1.1 GLOBAL

COMPARISON OF REGIONAL COVERAGES BY SUB-SECTOR AT THE END OF 1980
CALCULATED USING ORIGINAL BASELINE (1980) DATA (TOP LINE)
AND EXPANDED (1983) DATA (BOTTOM LINE)

REGION	Rural Population in sample ('000)	Urban Population in sample ('000)	Urban Water coverage %	Urban Sanitation coverage %	Rural Water c'age %	Rural Sanitation coverage %
AFRICA	82 935	20 788	66	54	22	20
	169 036	45 156	62	55	24	19
AMERICAS	115 289	218 109	78	56	42	20
	119 510	219 774	77	56	41	20
EASTERN MEDITERRANEAN	115 109	65 498	83	57	30	7
	132 618	71 134	83	56	30	5
SOUTH-EAST ASIA	787 360	232 601	64	30	31	6
	787 360	232 601	64	30	31	6
WESTERN PACIFIC	98 687	66 397	81	93	41	63
	103 356	66 979	81	92	41	61
TOTALS	1 199 371	603 393	74	50	33	13
	1 311 880	635 644	75	50	33	12

TABLE 1.3 AFRICAN REGION
(ORIGINAL BASELINE)
1980 LEVELS OF SERVICE (Populations in thousands; percentages shown in brackets)

Country/ Territory	Population			Population with service							
				Drinking water				Sanitation			
					Urban		Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S.[b]		Total	by S.C[c]	by other	
Kenya	15 900	2 414 (15)	13 486 (85)	2 051 (85)	1 436 (59)	615 (26)	2 055 (15)	2 140 (89)	1 180 (49)	960 (40)	2 590 (19)
Ghana	11 573	4 164 (36)	7 409 (64)	3 015 (72)	1 100 (26)	1 915 (46)	2 439 (33)	1 940 (47)	160 (4)	1 780 (43)	1 226 (17)
Madagascar	8 740	1 720 (20)	7 020 (80)	1 380 (80)	330 (19)	1 050 (61)	500 (7)	150 (9)	60 (4)	90 (5)	...
Angola	7 900	1 200 (15)	6 700 (85)	1 020 (85)	360 (30)	660 (55)	670 (10)	480 (40)	240 (20)	240 (20)	1 000 (15)
Mali	7 204	1 210 (17)	5 994 (83)	451 (37)	248 (20)	203 (17)	8 (0)	955 (79)	10 (1)	945 (78)	6 (0)
Upper Volta	6 129	930 (15)	5 199 (85)	255 (27)	155 (16)	100 (11)	1 612 (31)	349 (38)	0 (0)	349 (38)	260 (5)
Malawi	6 007	576 (10)	5 431 (90)	443 (77)	307 (53)	136 (24)	1 995 (37)	576 (100)	90 (16)	486 (84)	4 400 (81)
Senegal	5 728	1 810 (32)	3 918 (68)	1 400 (77)	600 (33)	800 (44)	980 (25)	1 811 (100)	91 (5)	1 720 (95)	79 (2)
Niger	5 534	701 (13)	4 833 (87)	286 (41)	203 (29)	83 (12)	1 547 (32)	252 (36)	...	252 (36)	145 (3)
Rwanda	5 185	233 (4)	4 952 (96)	112 (48)	70 (30)	42 (18)	2 700 (55)	140 (60)	0 (0)	140 (60)	2 500 (50)
Guinea	5 017	1 117 (22)	3 900 (78)	769 (69)	180 (16)	589 (53)	90 (2)	600 (54)	145 (13)	455 (41)	40 (1)
Burundi	4 214	219 (5)	3 995 (95)	197 (90)	49 (22)	148 (68)	799 (20)	88 (40)	18 (8)	70 (32)	1 393 (35)
Benin	3 540	1 580 (45)	1 960 (55)	413 (26)	165 (10)	248 (16)	300 (15)	760 (48)	0 (0)	760 (48)	80 (4)
Sierra Leone	3 161	923 (29)	2 238 (71)	462 (50)	185 (20)	277 (30)	45 (2)	284 (31)	7 (1)	277 (30)	134 (6)
Togo	2 500	700 (28)	1 800 (72)	490 (70)	100 (14)	390 (56)	565 (31)	170 (24)	0 (0)	170 (24)	180 (10)
Mauritania	1 443	354 (25)	1 089 (75)	283 (80)	71 (20)	212 (60)	925 (85)	18 (5)	18 (5)	...	...
Lesotho	1 300	150 (12)	1 150 (88)	55 (37)	36 (24)	19 (13)	126 (11)	20 (13)	15 (10)	5 (3)	162 (14)
Mauritius	957	410 (43)	547 (57)	410 (100)	287 (70)	123 (30)	536 (98)	410 (100)	225 (55)	185 (45)	492 (90)
Guinea-Bissau	794	159 (20)	635 (80)	29 (18)	17 (11)	12 (7)	49 (8)	34 (21)	2 (1)	32 (20)	81 (13)
Gambia	601	110 (18)	491 (82)	94 (85)	...	...	...	...	...	...	...
Cape Verde	296	108 (36)	188 (64)	108 (100)	25 (23)	83 (77)	40 (21)	37 (34)	12 (11)	25 (23)	19 (10)
Total	103 723	20 788 (20)	82 935 (80)	13 723 (66)	5 924 (29)	7 705 (37)	17 981 (22)	11 214 (54)	2 273 (11)	8 941 (43)	14 787 (20)

[a] H.C. = house connection.
[b] P.S. = public standpost.
[c] S.C. = sewer connection.

TABLE B.1.3 AFRICAN REGION
(EXPANDED BASELINE)
1980 LEVELS OF SERVICE (Populations in thousands; percentages shown in brackets)

Country/ Territory	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	
Nigeria*	88 700	19 300 (22)	69 400 (78)	11 520 (60)	5 760 (30)	5 760 (30)	20 820 (30)	- -	- -	5 760 (30)	- -
Kenya	15 900	2 414 (15)	13 486 (85)	2 051 (85)	1 436 (59)	615 (26)	2 055 (15)	2 140 (89)	1 180 (49)	960 (40)	2 550 (19)
Uganda*	12 634	1 101 (9)	11 533 (91)	495 (45)	- -	- -	922 (8)	440 (40)	- -	- -	1 153 (10)
Ghana	11 573	4 164 (36)	7 409 (64)	3 015 (72)	1 100 (26)	1 915 (46)	2 439 (33)	1 940 (47)	160 (4)	1 780 (43)	1 226 (17)
Madagascar	8 740	1 720 (20)	7 020 (80)	1 380 (80)	330 (19)	1 050 (61)	500 (7)	150 (9)	60 (4)	90 (5)	- -
Angola	7 900	1 200 (15)	6 700 (85)	1 020 (85)	360 (30)	660 (55)	670 (10)	480 (40)	240 (20)	240 (20)	1 000 (15)
Mali*	7 204	1 210 (17)	5 994 (83)	451 (37)	248 (20)	203 (17)	8 (0)	955 (79)	10 (1)	945 (78)	6 (0)
Bukina Faso*	6 129	930 (15)	5 199 (85)	255 (27)	155 (16)	100 (11)	1 612 (31)	349 (38)	0 (0)	349 (38)	260 (5)
Malawi*	6 007	576 (10)	5 431 (90)	443 (77)	307 (53))	136 (24)	1 995 (37)	576 (100)	90 (16)	486 (84)	4 400 (81)
Senegal	5 728 (32)	1 810 (68)	3 918 (77)	1 400 (33)	600 (44)	800 (25)	980 (100)	1 811 (5)	91 (95)	1 720 (2)	79
Zambia	5 680	2 440 (43)	3 240 (57)	1 697 (65)	1 207 (49)	390 (16)	1 021 (32)	2 440 (100)	1 155 (47)	1 285 (53)	1 555 (48)
Niger*	5 534	701 (13)	4 833 (87)	286 (41)	203 (29)	83 (12)	1 547 (32)	252 (36)	- -	252 (36)	145 (3)
Rwanda*	5 185	233 (4)	4 952 (96)	112 (48)	70 (30)	42 (18)	2 700 (55)	140 (60)	0 (0)	140 (60)	2 500 (50)
Guinea*	5 017	1 117 (22)	3 900 (78)	769 (69)	180 (16)	589 (53)	90 (2)	600 (54)	145 (13)	455 (41)	40 (1)
Burundi*	4 214	219 (5)	3 995 (95)	197 (90)	49 (22)	148 (68)	799 (20)	88 (40)	18 (8)	70 (32)	1 393 (35)
Benin*	3 540	1 580 (45)	1 860 (55)	413 (26)	165 (10)	248 (16)	300 (15)	760 (48)	0 (0)	760 (48)	80 (4)
Sierra Leone*	3 161	923 (29)	2 238 (71)	462 (50)	185 (20)	277 (30)	45 (2)	284 (31)	7 (1)	277 (30)	134 (6)
Togo*	2 500	700 (28)	1 800 (72)	490 (70)	100 (14)	390 (56)	565 (31)	170 (24)	0 (0)	170 (24)	180 (10)
Liberia	1 967	648 (34)	1 319 (66)	- -	- -	- -	211 (16)	116 (18)	116 (18)	- -	66 (5)
Congo	1 488	879 (59)	609 (41)	313 (36)	243 (28)	70 (8)	21 (3)	147 (17)	147 (17)	- -	0 (0)
Mauritania	1 443	354 (25)	1 089 (75)	283 (80)	71 (20)	212 (60)	925 (85)	18 (5)	18 (5)	- -	- -
Lesotho*	1 300	150 (12)	1 150 (88)	55 (37)	36 (24)	19 (13)	126 (11)	20 (13)	15 (10)	5 (3)	162 (14)
Mauritius	957	410 (43)	547 (57)	410 (100)	287 (70)	123 (30)	536 (98)	410 (100)	225 (55)	185 (45)	492 (90)
Guinea Bissau*	794	159 (20)	635 (80)	29 (18)	17 (11)	12 (7)	49 (8)	34 (21)	2 (1)	32 (20)	81 (13)
Gambia*	601	110 (18)	491 (82)	94 (85)	- -	- -	- -	- -	- -	- -	- -
Cape Verde	296	108 (36)	188 (64)	108 (100)	25 (23)	83 (77)	40 (21)	37 (34)	12 (11)	25 (23)	19 (10)
TOTALS	214 192	45 156 (21)	169 036 (79)	27 648 (62)	13 134	13 925	40 976 (24)	14 357 (56)	3 691	15 986	17 561 (19)

[a] H.C. = house connection
[b] P.S. = public standpost
[c] S.C. = sewer connection
* LDCs

TABLE 2.3 REGION OF THE AMERICAS
(ORIGINAL BASELINE)
1980 LEVELS OF SERVICE

Country/ Territory	Population			Population with service							
				Drinking water				Sanitation			
					Urban		Rural[d]	Urban			Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S.[b]		Total	by S.C.[c]	by other	
Brazil	119 090	80 470 (68)	38 620 (32)	64 600 (80)	64 600 (80)	...	19 600 (51)	25 900 (32)	25 900 (32)	...	...
Mexico	67 400	43 400 (64)	24 000 (36)	27 600 (64)	26 800 (62)	800 (2)	10 300 (43)	22 200 (51)	21 500 (49)	700 (2)	2 800 (12)
Argentina	27 863	23 113 (83)	4 751 (17)	14 977 (65)	14 146 (61)	831 (4)	787 (17)	20 544 (89)	7 390 (32)	13 154 (57)	1 532 (32)
Colombia	25 000	16 000 (64)	9 000 (36)	16 000 (100)	11 840 (74)	4 160 (26)	7 110 (79)	16 000 (100)	9 760 (61)	6 240 (39)	370 (4)
Peru	16 812	10 925 (65)	5 887 (35)	7 407 (68)	6 227 (57)	1 180 (11)	1 210 (21)	6 242 (57)	6 000 (55)	242 (2)	24[e] (0)
Venezuela	16 048	12 029 (75)	4 019 (25)	11 004 (91)	9 804 (82)	1 200 (10)	2 010 (50)	10 824 (90)	7 217 (60)	3 607 (30)	2 814 (70)
Chile	11 199	9 071 (81)	2 128 (19)	9 071 (100)	8 420 (93)	651 (7)	355 (17)	9 015 (99)	6 251 (69)	2 764 (30)	...
Ecuador	8 354	3 700 (44)	4 654 (56)	3 028 (82)	1 739 (47)	1 289 (35)	745 (16)	1 443 (39)	1 332 (36)	111 (3)	651 (14)
Guatemala	7 260	2 690 (37)	4 570 (63)	2 403 (89)	1 377 (51)	1 026 (38)	828 (18)	1 215 (45)	945 (35)	270 (10)	920 (20)
Bolivia	5 599	2 488 (44)	3 111 (56)	1 728 (69)	599 (24)	1 129 (45)	316 (10)	916 (37)	579 (23)	337 (14)	116 (4)
Dominican Republic	5 431	2 752 (51)	2 679 (49)	2 330 (85)	1 642 (60)	688 (25)	897 (33)	691 (25)	691 (25)	...	110 (4)
El Salvador	4 539	1 902 (42)	2 637 (58)	1 281 (67)	1 171 (62)	110 (6)	1 049 (40)	1 524 (80)	914 (48)	610 (32)	688 (26)
Honduras	4 093	1 563 (38)	2 530 (62)	782 (50)	719 (46)	63 (4)	1 012 (40)	766 (49)	672 (43)	94 (6)	658 (26)
Paraguay	3 062	1 148 (37)	1 914 (63)	448 (39)	448 (39)	...	192 (10)	1 091 (95)	341 (30)	750 (65)	1 703 (89)
Uruguay	2 939	2 439 (83)	500 (17)	2 353 (96)	2 190 (90)	163 (7)	12 (2)	1 443 (59)	357 (15)	1 086 (44)	300 (60)
Nicaragua	2 733	1 459 (53)	1 273 (47)	1 330 (91)	985 (68)	345 (24)	125 (10)	505 (35)	505 (35)	...	...
Costa Rica	2 213	1 096 (50)	1 117 (50)	1 096 (100)	1 041 (95)	55 (5)	761 (68)	1 019 (93)	471 (43)	548 (50)	916 (82)
Panama	1 825	900 (49)	925 (51)	900 (100)	838 (93)	62 (7)	602 (65)	556 (62)	556 (62)	...	261 (28)
Trinidad and Tobago	1 096	700 (64)	396 (36)	700 (100)	550 (79)	150 (21)	370 (93)	665 (95)	165 (24)	500 (71)	350 (88)
Guyana	825	247 (30)	578 (70)	247 (100)	222 (90)	25 (10)	347 (60)	247 (100)	67 (27)	180 (73)	462 (80)
Cayman Islands	17	17 (100)	...	17 (100)	17 (100)	...	...	16 (94)	0	16 (94)	0
TOTALS	333 398	218 109 (65)	115 289 (35)	169 302 (78)	155 375 (71)	13 927 (7)	48 628 (42)	122 822 (56)	91 613 (42)	31 209 (14)	14 675 (20)

[a] H.C. = house connection.

[b] P.S. = public standpost.

[c] S.C. = sewer connection.

[d] Several countries reported only on house or patio connections for rural areas.

[e] This figure only includes people served by connections to sewer systems.

TABLE B.2.3 REGION OF THE AMERICAS
(EXPANDED BASELINE)
1980 LEVELS OF SERVICE (Populations in thousands; percentages shown in brackets)

Country/ Territory	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	
Brazil	119 090	80 470 (68)	38 620 (32)	64 600 (80)	64 600 (80)	- -	19 600 (51)	25 900 (32)	25 900 -	- -	-
Mexico	67 400	43 400 (64)	24 000 (36)	27 600 (64)	26 800 (62)	800 (2)	10 300 (43)	22 200 (51)	21 500 (49)	700 (2)	2 800 (12)
Argentina	27 864	23 113 (83)	4 751 (17)	14 977 (65)	14 146 (61)	831 (4)	787 (17)	20 544 (89)	7 390 (32)	13 154 (57)	1 532 (32)
Colombia	25 000	16 000 (64)	9 000 (36)	16 000 (100)	11 840 (74)	4 160 (26)	7 110 (79)	16 000 (100)	9 760 (61)	6 240 (39)	370 (4)
Peru	16 812	10 925 (65)	5 887 (35)	7 407 (68)	6 227 (57)	1 180 (11)	1 210 (21)	6 242 (57)	6 000 (55)	242 (2)	24[e] (0)
Venezuela	16 048	12 029 (75)	4 019 (25)	11 004 (91)	9 804 (82)	1 200 (10)	2 010 (50)	10 824 (90)	7 217 (60)	3 607 (30)	2 814 (70)
Chile	11 199	9 071 (81)	2 128 (19)	9 071 (100)	8 420 (93)	651 (7)	355 (17)	9 015 (99)	6 251 (69)	2 764 (30)	- -
Ecuador	8 354	3 700 (44)	4 654 (56)	3 028 (82)	1 739 (47)	1 289 (35)	745 (16)	1 443 (39)	1 332 (36)	111 (3)	651 (14)
Guatemala	7 260	2 690 (37)	4 570 (63)	2 403 (89)	1 377 (51)	1 026 (38)	828 (18)	1 215 (45)	945 (35)	270 (10)	920 (20)
Bolivia	5 599	2 488 (44)	3 111 %6)	1 728 (69)	599 (24)	1 129 (45)	316 (10)	916 (37)	579 (23)	337 (14)	116 (4)
Dominican Rep.	5 431	2 752 (51)	2 679 (49)	2 330 (85)	1 642 (60)	688 (25)	897 (33)	691 (25)	691 (25)	- -	110 (4)
Haiti*	5 008	1 277 (25)	3 731 (75)	613 (48)	332 (26)	281 (22)	281 (8)	498 (39)	0 (0)	498 (39)	373 (10)
El Salvador	4 539	1 902 (42)	2 637 (58)	1 281 (67)	1 171 (62)	110 (6)	1 049 (40)	1 524 (80)	914 (48)	610 (32)	688 (26)
Honduras	4 093	1 563 (38)	2 530 (62)	782 (50)	719 (46)	63 (4)	1 012 (40)	766 (40)	672 (43)	94 (6)	658 (26)
Paraguay	3 062	1 148 (37)	1 914 (63)	448 (39)	448 (39)	- -	192 (10)	1 091 (95)	341 (30)	750 (65)	1 703 (89)
Uruguay	2 939	2 439 (83)	500 (17)	2 353 (96)	2 190 (90)	163 (7)	12 (2)	1 443 (59)	357 (15)	1 086 (44)	300 60)
Nicaragua	2 733	1 459 (53)	1 273 (47)	1 330 (91)	985 (68)	345 (24)	125 (10)	505 (35)	505 (35)	- -	- -
Costa Rica	2 213	1 096 (50)	1 117 (50)	1 096 (100)	1 041 (95)	55 (5)	761 (68)	1 019 (93)	471 (43)	548 (50)	916 (82)
Panama	1 825	900 (49)	925 (51)	900 (100)	838 (93)	62 (7)	602 (65)	556 (62)	556 (62)	- -	261 (28)
Trinidad and Tobago	1 096	700 (64)	396 (36)	700 (100)	550 (79)	150 (21)	370 (93)	665 (95)	165 (24)	500 (71)	350 (88)
Guyana	825	247 (30)	578 (70)	247 (100)	222 (90)	25 (10)	347 (60)	247 (100)	67 (27)	180 (73)	462 (80)
Suriname	352	100 (28)	252 (72)	100 (100)	98 (98)	2 (2)	200 (79)	100 (100)	15 (15)	85 (85)	200 (79)
Barbados	244	79 (32)	165 (68)	79 (100)	77 (97)	2 (3)	47 (28)	- -	- -	- -	- -
Belize	145	73 (50)	73 (50)	73 (100)	45 (62)	28 (38)	26 (36)	45 (62)	3 (4)	42 (58)	55 (75)
Bahamas	136	136 (100)	0 (0)	136 (100)	112 (82)	24 (18)	0 (100)	136 (100)	21 (15)	115 (85)	0 (100)
Cayman Islands	17	17 (100)	- -	17 (100)	17 (100)	- -	- -	16 (94)	0	16 (94)	0
TOTALS	339 284	219 774 (65)	119 510 (35)	170 303 (77)	156 039	14 264	49 182 (41)	123 601 (56)	91 652	31 949	15 303 (20)

[a] H.C. = house connection
[b] P.S. = public standpost
[c] S.C. = sewer connection
* LDCs

TABLE 4.3 EASTERN MEDITERRANEAN REGION

(ORIGINAL BASELINE)

1980 LEVELS OF SERVICE (Populations in thousands; percentages shown in brackets)

Country/Territory	Population			Population with service							
				Drinking water				Sanitation			
				Urban			Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S.[b]		Total	by S.C.[c]	by other	
Pakistan	83 800	23 700 (28)	60 100 (72)	17 000 (72)	7 100 (30)	9 900 (42)	12 000 (20)	10 000 (42)	...	...	1 000 (2)
Egypt	42 710	19 880 (47)	22 830 (53)	17 450 (88)	13 770 (69)	3 680 (19)	14 540 (64)	8 930 (45)	8 930 (45)	...	2 280 (10)
Afghanistan	16 270	1 890 (12)	14 380 (88)	521 (28)	136 (7)	385 (21)	1 100 (8)	...	...	...	...
Syrian Arab Republic	8 979	3 436 (38)	5 543 (62)	3 367 (98)	3 367 (98)	0	2 982 (54)	2 548 (74)	2 548 (74)	0	1 533 (28)
Saudi Arabia	7 508	6 358 (54)	1 150 (46)	5 832 (92)	2 225 (35)	3 607 (57)	1 000 (87)	5 131 (81)	1 231 (20)	3 900 (61)	575 (50)
Tunisia	6 300	3 500 (55)	2 800 (45)	3 500 (100)	2 480 (71)	1 020 (29)	470 (17)	3 500 (100)	1 600 (46)	1 900 (54)	...
Yemen	6 227	710 (11)	5 517 (89)	710 (100)	355 (50)	355 (50)	993 (18)	426 (60)	71 (10)	355 (50)	...
Libyan Arab Jamahiriya	3 245	2 596 (80)	649 (20)	2 596 (100)	2 466 (95)	130 (5)	584 (90)	2 596 (100)	1 146 (44)	1 450 (56)	467 (72)
Jordan	2 233	1 550 (69)	683 (31)	1 550 (100)	1 208 (78)	342 (22)	444 (65)	1 458 (94)	280 (18)	1 178 (76)	231 (34)
Democratic Yemen	1 925	637 (33)	1 288 (67)	539 (85)	509 (80)	30 (5)	316 (25)	446 (70)	319 (50)	127 (20)	193 (15)
United Arab Emirates	1 080	967 (90)	113 (10)	915 (95)	870 (90)	45 (5)	92 (81)	899 (93)	654 (68)	245 (25)	25 (22)
Djibouti	330	274 (83)	56 (17)	137 (50)	110 (40)	27 (10)	11 (20)	118 (43)	...	...	11 (20)
Totals	180 607	65 498 (36)	115 109 (64)	54 117 (83)	34 596 (53)	19 521 (30)	34 532 (30)	36 052 (57)	16 779 (42)	9 155[d] (15)	6 315 (7)

[a] H.C. = house connection. [b] P.S. = public standpost. [c] S.C. = sewer connection. [d] This partial total does not correspond to adjusted percentage.

TABLE B.4.3 EASTERN MEDITERRANEAN REGION
(EXPANDED BASELINE)
1980 LEVELS OF SERVICE (Populations in thousands; percentages shown in brackets)

Country/ Territory	Population			Population with service						
				Drinking-water				Sanitation		
				Urban			Rural	Urban		Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S[b]		Total	by S.C.[c]	by other	
Pakistan	83 800	23 700 (28)	60 100 (72)	17 000 (72)	7 100 (30)	9 900 (42)	12 000 (20)	10 000 (42)	- -	- -	1 000 (2)
Egypt	42 710	19 880 (47)	22 830 (53)	17 450 (88)	13 770 (69)	3 680 (19)	14 540 (64)	8 930 (45)	8 930 (45)	- -	2 280 (10)
Sudan*	17 309	4 144 (24)	13 165 (76)	4 144 (100)	2 050 (49)	2 094 (51)	4 036 (31)	2 610 (63)	124 (3)	2 486 (60)	0 (0)
Afghanistan*	16 270	1 890 (12)	14 380 (88)	521 (28)	136 (7)	385 (21)	1 100 (8)	- -	- -	- -	- -
Syrian Arab Republic	8 979	3 436 (38)	5 543 (62)	3 367 (98)	3 367 (98)	0 (0)	2 982 (54)	2 548 (74)	2 548 (74)	0 (0)	1 533 (28)
Saudi Arabia	7 508	6 358 (54)	1 150 (46)	5 832 (92)	2 225 (35)	3 607 (57)	1 000 (87)	5 131 (81)	1 231 (20)	3 900 (61)	575 (50)
Tunisia	6 300	3 500 (55)	2 800 (45)	3 500 (100)	2 480 (71)	1 020 (29)	470 (17)	3 500 (100)	1 600 (46)	1 900 (54)	- -
Yemen*	6 277	700 (11)	5 517 (89)	710 (100)	435 (50)	355 (50)	993 (18)	426 (60)	71 (10)	355 (50)	- -
Somalia*	5 321	1 181 (22)	4 140 (78)	707 (60)	319 (27)	390 (33)	821 (20)	531 (45)	0 (0)	531 (45)	207 (5)
Libyan Arab Jamahiriya	3 245	2 596 (80)	649 (20)	2 596 (100)	2 466 (95)	130 (5)	584 (90)	2 596 (100)	1 146 (44)	1 450 (56)	467 (72)
Jordan	2 233	1 550 (69)	683 (31)	1 550 (100)	1 208 (78)	342 (22)	444 (65)	1 458 (94)	280 (18)	1 178 (76)	231 (34)
Democratic Yemen*	1 925	637 (33)	1 288 (67)	539 (85)	509 (80)	30 (5)	316 (25)	446 (70)	319 (50)	127 (20)	193 (15)
United Arab Emirates	1 080	967 (90)	113 (10)	915 (95)	870 (90)	45 (5)	92 (81)	899 (93)	654 (68)	245 (25)	25 (22)
Cyprus	515	311 (60)	204 (40)	311 (100)	310 (100)	1 (0)	204 (100)	311 (100)	10 (3)	301 (97)	204 (100)
Djibouti*	330	274 (83)	56 (17)	137 (50)	110 (40)	27 (10)	11 (20)	118 (43)	- -	- -	11 (20)
TOTALS	203 752	71 134 (35)	132 618 (65)	59 279 (83)	37 275 (52)	22 006 (31)	39 593 (30)	39 504 (56)	16 913 (37)	12 473 (49)	6 726 (6)

[a] H.C. = house connection
[b] P.S. = public standpost
[c] S.C. = sewer connection
* LDCs

TABLE 5.3 WESTERN PACIFIC REGION
ORIGINAL BASELINE
1980 LEVELS OF SERVICE (Populations in thousands; percentages shown in brackets)

Country/ territory	Population			Population with service							
				Drinking water				Sanitation			
					Urban		Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S.[b]		Total	by S.C.[c]	by other	
Viet Nam	53 000	10 600 (20)	42 400 (80)	...	...	...	13 600 (32)	...	...	...	23 500 (55)
Philippines	47 914	17 392 (36)	30 552 (64)	11 315 (65)	9 303 (53)	2 012 (12)	13 034 (43)	14 161 (81)	206 (1)	13 955 (80)	20 486 (67)
Republic of Korea	38 100	25 400 (67)	12 700 (33)	21 800 (86)	21 800 (86)	0	7 800 (61)	25 400 (100)	2 200 (9)	23 200 (91)	12 700 (100)
Malaysia	13 436	4 595 (34)	8 841 (66)	4 130 (90)	4 130 (90)	...	4 370 (49)	4 595 (100)	700 (15)	3 895 (85)	4 850 (55)
Hong Kong	5 095	4 719 (93)	376 (7)	4 719 (100)	4 534 (96)	185 (4)	357 (95)	4 719 (100)	3 775 (80)	944 (20)	...
Papua New Guinea	3 007	372 (12)	2 635 (88)	206 (55)	179 (48)	27 (7)	264 (10)	356 (96)	156 (42)	200 (54)	75 (3)
Singapore	2 414	2 414 (100)	0	2 414 (100)	2 402 (100)	12 (0)	0	1 936 (80)	1 936 (80)	...	0
Fiji	638	244 (38)	394 (62)	229 (94)	171 (70)	58 (24)	260 (66)	208 (85)	67 (27)	141 (58)	236 (60)
Macao	323	313 (97)	10 (3)	313 (100)	280 (89)	33 (11)	10 (100)	313 (100)	250 (80)	63 (20)	6 (60)
Solomon Islands	224	22 (10)	202 (90)	20 (91)	...	...	40 (20)	18 (82)	...	...	20 (10)
Brunei	185	109 (59)	76 (41)	109 (100)	109 (100)	0	72 (95)	...	...	...	...
Samoa	155	35 (23)	120 (77)	34 (97)	34 (97)	0	113 (94)	30 (86)	0	30 (86)	100 (83)
New Caledonia	138	58 (42)	80 (58)	58 (100)	58 (100)	...	14 (18)	58 (100)	44 (76)	14 (24)	52 (65)
Vanuatu	118	20 (17)	98 (83)	13 (65)	9 (45)	4 (20)	52 (53)	19 (95)	0	19 (95)	67 (68)
Pacific Islands, Trust Terr.	117	36 (31)	81 (69)	25 (69)	25 (69)	0	19 (23)	27 (75)	6 (17)	21 (58)	4 (5)
Tonga	98	29 (29)	69 (71)	25 (86)	25 (86)	0	48 (70)	28 (97)	0	28 (97)	65 (94)
Kiribati	55	15 (27)	40 (73)	14 (93)	8 (53)	6 (40)	10 (25)	13 (87)	10 (67)	3 (20)	32 (80)
American Samoa	32	20 (63)	12 (37)	20 (100)	20 (100)	0	12 (100)	20 (100)	9 (45)	11 (55)	11 (92)
Cook Islands	19	2 (10)	17 (90)	2 (100)	2 (100)	0	...	2 (100)	0	2 (100)	13 (76)
Tuvalu	7	2 (29)	5 (71)	...	...	...	...	2 (100)	0	2 (100)	4 (80)
Totals	165 075	66 397 (40)	98 678 (60)	45 446 (81)	43 089 (77)	2 337 (4)	40 075 (41)	51 905 (93)	9 359 (17)	42 528 (76)	62 221 (63)

[a] H.C. = house connection.
[b] P.S. = public standpost.
[c] S.C. = sewer connection.

TABLE B.5.3 WESTERN PACIFIC REGION
(EXPANDED BASELINE)
1980 LEVELS OF SERVICE (Populations in thousands; percentages shown in brackets)

Country/ Territory	Population			Population with service							
				Drinking-water				Sanitation			
				Urban			Rural	Urban			Rural
	Total	Urban	Rural	Total	by H.C.[a]	by P.S[b]		Total	by S.C.[c]	by other	
Vietnam	53 000	10 600 (20)	42 400 (80)	- -	- -	- -	13 600 (32)	- -	- -	- -	23 500 (55)
Philippines	47 944	17 392 (36)	30 552 (64)	11 315 (65)	9 303 (53)	2 012 (12)	13 034 (43)	14 161 (81)	206 (1)	13 955 (80)	20 486 (67)
Rep. of Korea	38 100	25 400 (67)	12 700 (33)	21 800 (86)	21 800 (86)	0 (0)	7 800 (61)	25 400 (100)	2 200 (9)	23 200 (91)	12 700 (100)
Malaysia	13 436	4 595 (34)	8 841 (66)	4 130 (90)	4 130 (90)	- -	4 370 (49)	4 595 (100)	700 (15)	3 895 (85)	4 850 (55)
Hong Kong	5 095	4 719 (93)	376 (7)	4 719 (100)	4 534 (96)	185 (4)	357 (95)	4 719 (100)	3 775 (80)	944 (20)	- -
Lao People's Dem. Republic*	3 600	540 (15)	3 060 (85)	114 (21)	104 (19)	10 (2)	380 (12)	60 (11)	10 (2)	50 (9)	100 (3)
Papua New Guinea	3 007	372 (12)	2 635 (88)	206 (55)	179 (48)	27 (7)	264 (10)	356 (96)	156 (42)	200 (54)	75 (3)
Singapore	2 414	2 414 (100)	0	2 414 (100)	2 402 (100)	12 (0)	0	1 936 (80)	1 936 (80)	- -	0
Tokelau	1 554	0 (0)	1 554 (100)	0	0	0	1 554 (100)	0 (0)	0 (0)	0 (0)	300 (19)
Fiji	638	244 (38)	394 (62)	229 (94)	171 (70)	58 (24)	260 (66)	208 (85)	67 (27)	141 (58)	236 (60)
Macao	323	313 (97)	10 (3)	313 (100)	280 (89)	33 (11)	10 (100)	313 (100)	250 (80)	63 (20)	6 (60)
Solomon Islands	224	22 (10)	202 (90)	20 (91)	- -	- -	40 (20)	18 (82)	- -	- -	20 (10)
Brunei	185	109 (59)	76 (41)	109 (100)	109 (100)	0	72 (95)	- -	- -	- -	- -
Western Samoa*	155	35 (23)	120 (77)	34 (97)	34 (97)	0 (0)	113 (94)	30 (86)	0 (0)	30 (86)	100 (83)
New Caledonia	138	58 (42)	80 (58)	58 (100)	58 (100)	- -	14 (18)	58 (100)	44 (76)	14 (24)	52 (65)
Vanuatu	118	20 (17)	98 (83)	13 (65)	9 (45)	4 (20)	52 (53)	19 (95)	0 (0)	19 (95)	67 (68)
Pacific Islands	117	36 (31)	81 (69)	25 (69)	25 (69)	0 (0)	19 (23)	27 (75)	6 (17)	21 (58)	4 (5)
Guam	106	42 (40)	64 (60)	42 (100)	42 (100)	0 (0)	64 (100)	42 (100)	34 (81)	8 (19)	64 (100)
Tonga	98	29 (29)	69 (71)	25 (86)	25 (86)	0 (0)	48 (70)	28 (97)	0 (0)	28 (97)	65 (94)
Kiribati	55	15 (27)	40 (73)	14 (93)	8 (53)	6 (40)	10 (25)	13 (87)	10 (67)	3 (20)	32 (80)
American Samoa	32	20 (63)	12 (37)	20 (100)	20 (100)	0 (0)	12 (100)	20 (100)	9 (45)	11 (55)	11 (92)
Cook Islands	19	2 (10)	17 (90)	2 (100)	2 (100)	0 (0)	- -	2 (100)	0 (0)	2 (100)	13 (76)
Tuvalu	7	2 (29)	5 (71)	- -	- -	- -	- -	2 (100)	0 (0)	2 (100)	4 (80)
Totals	170 365	66 979 (39)	103 386 (61)	45 602 (81)	43 235 (77)	2 347 (5)	42 073 (41)	52 007 (92)	9 403 (17)	42 586 (79)	62 685 (61)

[a] H.C. = house connection
[b] P.S. = public standpost
[c] S.C. = sewer connection
* LDCs

TABLE 3.3 SOUTH-EAST ASIA REGION

1980 LEVELS OF SERVICE

Country/Territory	Population			Population with service						
				Drinking-water				Sanitation		
					Urban [a]		Rural	Urban [a]		Rural
	Total	Urban	Rural	Total	by H.C.	by P.S.		Total	by S.C. by other	
India	672 000	148 000 (22)	524 000 (78)	115 000 (77)			162 000 (31)	40 000 (27)		2 800 (0.5)
Indonesia	147 500	50 500 (34)	97 000 (66)	17 700 (35)			18 000 (19)	14 600 (29)		20 000 (21)
Bangladesh	90 000	10 000 (11)	80 000 (89)	2 600 (26)			32 000 (40)	2 100 (21)		900 (1)
Thailand	47 500	10 900 (23)	36 600 (77)	7 000 (65)			23 000 (63)	7 000 (64)		15 000 (41)
Burma	32 900	8 300 (25)	24 600 (75)	3 200 (38)			3 700 (15)	3 150 (38)		3 700 (15)
Nepal	14 000	1 000 (7)	13 000 (93)	800 (83)			900 (7)	160 (16)		1 (1)
Sri Lanka	14 700	3 800 (26)	10 900 (74)	2 500 (65)			2 000 (18)	3 040 (80)		6 900 (63)
Bhutan	1 200	60 (5)	1 140 (95)	30 (50)			60 (5)	...		...
Maldives	161	41 (25)	120 (75)	4 (11)			4 (3)	25 (60)		1 (1)
Totals	1 019 961	232 601 (23)	787 360 (77)	1. 48 834 (64)			241 664 (31)	70 075 (30)		49 431 (6)

[a] No breakdown given between house connections and public standposts and between sewer connections and other means.

D. CONCLUSIONS

Comparing the data from this latest monitoring exercise with that presented in the Baseline document, some general conclusions can be drawn about the early impact of the International Drinking Water Supply and Sanitation Decade:

- Countries have been encouraged to develop specific plans for the water supply and sanitation sector and to coordinate the activities of the many different ministries and agencies providing services in urban and rural areas.

- The Decade Approaches of increasing priority towards the urban and rural poor are being adopted in many countries, with a positive effect on, for example, the provision of rural water supplies. The impact on rural sanitation has been less evident, and this remains the sub-sector most in need of accelerated programme implementation.

- Different countries interpret the concept of safe and adequate drinking water supply and sanitation in different ways, and so obtain different health impacts from service improvement.

- The targets set for coverage levels to be achieved by 1990 indicate a need for considerably increased spending and programme implementation rates over what has been achieved during the first three years of the Decade. Some targets will undoubtedly have to be scaled down, or the timescale for achieving them will have to be extended.

- Cost information does not relate well to investment projections in many countries, suggesting that more attention should be given to monitoring the real cost of providing different levels of service, so that programmes can be accurately costed and targets can be based on realistic projections. For future reports, countries are requested to pay particular attention to calculation of unit costs according to the criteria set out in the Sector Digest Forms, as this will make regional and gobal comparisons more reliable, and help countries to learn from others where appropriate.

- Funding limitations and shortages of skilled staff remain the two most serious constraints to sector progress, though the information on tariffs and costs makes it clear that operation and maintenance of new systems will be a continuing problem until tariffs are raised to generate internal funds. Also increasing funds will not in itself solve the problem unless the necessary institutional changes to increase national absorptive capacity are made.

For the future, the statistics suggest that efforts need to be stepped up in the rural sanitation sub-sector in particular, that there is scope for exchange of information between countries and between regions, particularly in connection with low cost technologies and cost-recovery systems, and that the sector efforts initiated as a result of the IDWSSD launch must not end in 1990.

ANNEX 1

THE INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE

Situation: December 1983

Country

FORM 1: GENERAL INFORMATION

Area	_____	Km^2
Total population	_____	
Annual rate of population growth	____	%
Ratio urban population to total population	____	%
Ratio rural population to total population	____	%
Per capita GNP	_____	US Dollars
Annual per capita GNP growth	____	%
Life expectancy at birth	____	Years
Infant mortality rate (0 to 1 year old)	____	Deaths per 1000 live births
Incidence of waterborne diseases	____	Cases per 100,000 people
Literacy rate – Population over 15 years of age who can read and write over adult population	____	%
Duration of current national development plan	____	Years
Current plan ends in year	____	
Total investment budget for plan period	____	Million US$
of which external investment equals	____	Million US$
Exchange rate	1 US Dollar = ____	National currency units

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE Situation: December 1983

Country

FORM 2: DECADE PLANNING

1. Have Decade targets been established ?

yes ☐
partially ☐
no ☐

2. Has a Drinking Water Supply and Sanitation Decade Plan been prepared or is in the process of preparation ?

Completed ☐ date _____
being prepared ☐ expected date
not being prepared ☐ of completion _____

3. Form 2 for the 1980 survey shows total urban and rural populations which should have services at the end of the Decade and/or of medium-term planning periods.
Have these projections since changed? yes ☐
no ☐

4. If yes, please enter the new projections below:

SERVED POPULATIONS IN 1000s	DECADE TARGETS END 1990	INTERMEDIATE TARGETS END _____ [1]
Urban water by private connexion		
by standpost		
Rural water with resonable access		
Urban sanitation by sewer connexion		
through pit privies, septic tanks		
Rural sanitation with adequate facilities		

ESTIMATED POPULATION IN 1000s	End 1990	End _____ [1]
Urban		
Rural		

[1] Specify year

NOTE ON FORM 2 - DECADE PLANNING

The establishment of targets and the preparation of plans to meet the targets can be an important element for the success of the Decade.

Question 1. The answer " partially " indicates that targets have not been set for all sub-sectors or that more work needs to be done to specify levels of service.

Question 2. Only the projections which differ from those given in the 1980 survey should be indicated.

Question 4. Figures for total population which will have services should be given, not just for the additional populations to be provided with services. Definition of reasonable access and adequate sanitation, as given on Form 3.

Intermediate targets are those mentioned in the current or proposed socioeconomic development plan, the completion year of which should be indicated.

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE Situation: December 1983

Country

FORM 3: COVERAGE AND LEVELS OF SERVICE

	Population in thousands as at 31 Dec'80	31 Dec'83
1. Estimated population		
Urban		
Rural		
Total		
2. Population served with water		
(a) Urban population served by house connexions		
(b) Urban population without house connexions but with reasonable access to public standposts		
(c) Rural population with reasonable access to safe water		
3. Population served with excreta disposal facilities		
(a) Urban population served by connexions to public sewers		
(b) Urban population served by household systems (pit privies, pour-flush latrines, septic tanks, communal toilets, etc.)		
(c) Rural population with adequate disposal such as pit privies, pour-flush latrines, etc.		

Source of information :

NOTE ON FORM 3 - COVERAGE AND LEVELS OF SERVICE

Up-dating of this form provides information on countrywide progress towards the national Decade targets. The following criteria are suggested:

Urban and rural: National definitions should be used.

Reasonable access: In a town a distance of not farther than 200 metres from a house to a public standpost may be considered as reasonable access. In rural areas reasonable access implies that the housewife does not have to spend a disproportionate part of the day in fetching water for the family's needs.

Safe: Includes treated surface waters, untreated but uncontaminated waters such as from protected springs, boreholes and sanitary wells. Other sources of doubtful quality should be considered unsafe and not included in the estimate of coverage.

Question 1. Only official figures and estimated projections from the national census should be given. In the footnote reference should be made to these official documents.

Questions 2. & 3. The best estimate for the whole country is required as at 31 December 1983. This should be based on statistical records for communities for which this information is available and estimated for other communities on the basis of sample surveys or by knowledgeable sources from the areas. Since this information forms the basis for planning and for plan revisions, an attempt should be made to be factual, so that the estimates are neither optimistic nor pessimistic.

The information on coverage reported for the 1980 survey should be entered again in the appropriate boxes to show the progress made between 1980 and 1983.

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE

Situation: December 1983

Country ☐

FORM 4: INSTITUTIONAL RESPONSIBILITIES

1. **Form 4 for the 1980 survey shows institutional responsibilities in your country. Have there been any changes?** yes ☐ no ☐
2. **If yes, please enter the changes below:**
3. List agencies concerned with sector
   - A _____
   - B _____
   - C _____
   - D _____
   - E _____
   - F _____
   - G _____
   - H _____
   - I _____
   - J _____
4. Mark with crosses their functions using the letter designation as above

FUNCTION \ AGENCY	A	B	C	D	E	F	G	H	I	J
Overall Planning										
Loan Negotiations										
Groundwater Exploration										
Water Quality Control										
Urban Water Planning & Design										
Construction										
Supervision of Construction										
Operation & Maintenance										
Rural Water Planning & Design										
Construction										
Operation & Maintenance										
Urban Sanitation Planning & Design										
Construction										
Supervision of Construction										
Operation & Maintenance										
Rural Sanitation Planning & Design										
Construction										
Inspection										

NOTE ON FORM 4 – INSTITUTIONAL RESPONSIBILITIES

Community water supply and sanitation are the responsibility of many agencies, some of which have a principal and others a subsidiary role. The identification of these roles assists in obtaining the overall managerial picture and in determining whether duplication of gaps exist which need correcting.

If there have been changes between 1980 and 1983, only the new agencies or the new functions of old agencies should be entered in the matrix table.

Under item 3 all agencies concerned should be listed and given a code letter which can then be used in the matrix of functions of item 4. Agencies should include Central Ministries (for instance planning, public works, health, etc.), Water and Sewerage Agencies, Municipalities, Village Councils, etc., and, where appropriate, State or Regional Bodies.

The contents of this form are important for Country Sector Digests but are not meant for processing and classifying in the central reporting system.

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE Situation: December 1983

Country

FORM 5: MANPOWER AND TRAINING

1. Current situation and 1990 projections

Category	No. of filled positions end 1980	No. of filled positions end 1983	Expected total no. of positions end 1990*
– Planning and Management – Technical (all levels) – Craftsmen/ Artisanal – Administrative/ Clerical – Community Based			

*Total to include the positions already filled.

2. Are post requirements in 1990:

Known from plan with accurate projections? ☐

Known from rough estimates? ☐

Not known? ☐

NOTE ON FORM 5 - MANPOWER AND TRAINING

The availability of trained manpower in sufficient numbers is a critical factor for planning, managing and evaluating sector operations.

Country efforts in this programme area should be reviewed periodically against projections of needs made in the context of national plans, or on the basis of considered estimates.

The grouping of categories could follow the general pattern below:

PLANNING AND MANAGEMENT	: Managers, planners, economists, chief engineers, principal chemists, etc.
TECHNICAL (all levels)	: Engineers, economists, financial analysts, social scientists, chemists, biologists, hydrologists, hydro-geologists, health educators, sanitary inspectors, surveyors, draftsmen, plant operators, laboratory technicians, stores supervisors, drilling supervisors, etc.
CRAFTSMEN/ ARTISANAL	: Foremen, mechanics, electricians, masons, plumbers, pipe-layers, well drillers, etc.
ADMINISTRATIVE/ CLERICAL	: Personnel, accountants, auditors, meter readers, billing clerks, storekeepers, typists, etc.
COMMUNITY BASED	: Primary health care workers, extension workers, sanitary aides, etc.

This form is simpler than the form used for the 1980 survey, as it requests information only on the number of positions filled and of the total positions envisaged in 1990. The latter figure represents the objective against which progress is measured. When available, the information on positions which were filled at the end of 1980 should also be entered, to show progress between 1980 and 1983.

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE

Situation: December 1983

Country

FORM 6: UNIT COSTS AND COST PROJECTIONS

(AT CONSTANT 1983 PRICES)

1. Unit Costs

As an estimate of the overall national average, what is the approximate cost (expressed in equivalent US dollars) of construction, per person served, of:

US Dollars

(a) urban water supplies? – through house connexions

– through public standposts

(b) rural water supplies?

(c) urban sewerage (but not including the cost of house connexions)?

(d) urban household sanitation (septic tanks, poor-flush latrines)?

(e) rural sanitation?

2. Production costs and tariffs for urban water

(a) Average cost of water production _____ US$ / m³

(b) Average water tariff _____ US$ / m³

(c) Are there progressive tariffs? ☐ yes ☐ in some areas only ☐ no

3. Decade Costs

Form 6 for the 1980 survey shows the estimated investments (national plus external) for construction to attain national Decade targets.

Have these estimates changed since? yes ☐

no ☐

If yes, kindly enter the new figures below:

1981-1990 CONSTRUCTION INVESTMENTS – 1000 US DOLLARS

	URBAN WATER	RURAL WATER	URBAN SANITATION	RURAL SANITATION	TOTAL
New estimated total investments for the Decade					

Source of information:

NOTE ON FORM 6 - UNIT COSTS AND COSTS PROJECTIONS

An estimate of the order of magnitude of costs to meet the Decade targets is required for planning national budgetary allocations and proposing levels of external financial cooperation to be sought. These costs can then be compared with the figures of Form 7 " Investments and External Contributions " to determine whether the funding effort is keeping pace with the work proposed.

It was not envisaged to update this form after only three years. Unit costs reported in the 1980 survey, however, show variations wider than can be reasonably accounted for. Government officials are therefore requested to look again at records of past expenditures and provide cost estimates closer to the actual averages.

1. Unit Costs

   The answers should provide a considered estimate of overall national average unit costs for broad categories of service in urban and rural areas. It is appreciated that unit costs cannot be estimated accurately in the absence of information disaggregated to appropriate levels.

2. Production costs and tariffs

   2 (a) and (b) provide an estimate of the financial efficiency of the systems.

   2 (c) - the existence of progressive tariffs in favour of small consumers is an indication of whether there is a social policy to provide service to as many people as possible.

3. Decade Cost Projections

   The figures should include all construction costs for new systems and for the upgrading and extension of existing systems, as well as costs for project development.

   Only the changes having occurred since the 1980 suryey should be recorded in the table.

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE Situation: December 1983

Country

FORM 7: INVESTMENTS AND EXTERNAL CONTRIBUTIONS

1. Annual investments expressed in equivalent thousand US dollars

	Investments during the 3-year period Jan.'81 to Dec. '83		During calendar year 1983	
	Total	External	Total	External
(a) Urban Water Supplies				
(b) Rural Water Supplies				
(c) Urban sanitation				
(d) Rural sanitation				
(e) Total				

2. Total investments for community water supply and sanitation as percentage of total investment budget (see Form 1) over the periods specified to the right

Average for calendar years 1981-82 and '83	For calendar year 1983
%	%

Source of information:

3. External contributions to IDWSSD during the 3 year period Jan'81-Dec'83

List the names of the main international, multilateral, bilateral agencies and NGOs which are contributing to the development of the sector during the present plan period, together with their actual contribution.

Agency	3-year actual contribution US $ 1000

NOTE ON FORM 7 - INVESTMENTS AND EXTERNAL CONTRIBUTIONS

Updating of the form provides information on the flow of internal and external resources towards the sector.

The history of cooperation with external donors is important in matching country needs with external financial and technical resources.

For questions 1 to 3, all investments should include only funds actually expended not those approved or committed, during the periods under consideration. Total investments should include all costs borne by the country and met by external agencies for construction and improvement of facilities as well as for programme support such as studies, training of manpower, institutional strengthening, etc. National costs should include those at all levels of government and those borne by local communities which provide funds. labour and materials. External contributions from various international, multilateral and bilateral sources should include loans, grants, materials and other forms of aid for construction and support programmes.

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE Situation: December 1983

Country

FORM 8: MAJOR CONSTRAINTS

1. Form 8 for the 1980 survey shows constraints experienced by your country and their rating.

   Has the situation changed since? yes ☐ no ☐

2. If yes, kindly enter constraints, with new ratings, below:

	Rating of Constraints		
	Very Severe	Severe	Moderate
Lack of definite government policy for sector			
Funding limitations			
Inadequate or outmoded legal framework			
Inappropriate institutional framework			
Inadequate water resources			
Insufficient knowledge of water resources			
Inadequate cost-recovery framework			
Insufficiency of trained personnel			
(i) Professional			
(ii) Sub-professional			
Lack of planning and design criteria			
Inappropriate technology			
Intermittent water service			
Operation and maintenance			
Logistics			
Import restrictions			
Non-involvement of communities			
Insufficient health education efforts			
Others (specify):			

NOTE ON FORM 8 – MAJOR CONSTRAINTS

The constraint factors listed may prevent an accelerated development of the sector. Crosses in the appropriate boxes will show whether these factors represent a very severe, a severe or a moderate impediment to the overall development of the entire sector.

Constraints are usually inter-dependent. However, it may be possible to determine the relative importance for some of them. Constraint ranking is subjective and will vary depending on the agency that makes the evaluation.

The purpose of ranking constraints is to intensify efforts to remove or reduce the most important ones. If the ranking changes appreciably at mid and end Decade, it means that a certain degree of success has been achieved in the constraint-reduction endeavour.

If changes occurred between 1980 and 1983, all constraints, including those not having changed, should be entered in the table to give a full picture of the situation at the end of 1983.

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE

Situation: December 1983

Country

FORM 9: DECADE APPROACHES

1. Service to the under-privileged

   (a) Estimated 1983 urban poor population (in thousands)

   (b) What percentage of the urban poor was provided with new access to water and sanitation service during 1983? %

2. Community involvement

   In 1983 how many villages participated actively in rural water supply and sanitation work

	Number of participating villages	As percentage of total number of villages with on-going water/sanitation programmes
(a) during planning		%
(b) during construction		%
(c) in operation and maintenance		%

3. Health education in school

   During 1983 health education was given regularly

	Number	% total number of primary schools
(a) in how many primary schools ?		%
(b) involving approximately how many children		% total number of primary school children: %

4. Other approaches

NOTE ON FORM 9 - DECADE APPROACHES

Periodic updating of this form is envisaged, since in most countries the attainment of Decade targets depends to a large extent on the success of a number of measures frequently referred to as " Decade approaches ". Simple monitoring indices have been worked out for three of them, namely : service to the under-privileged urban populations, community involvement and health education in schools. Monitoring indices could also be determined for other approaches such as the use of appropriate technology, the effectiveness of community based health education programmes, etc. In the meantime examples of other successful approaches could be provided in the appropriate space.

Question 1 Covers mainly the extension of water supply by public standposts and the construction of communal toilets in urban fringe and slum areas.

Question 2 The answer would include all the communities where a local committee, representative of the community, has been established to participate in planning, construction and operation and maintenance.

Question 3 The answer would include all the primary schools where health education is given on a regular basis such as an hour per week, and includes an appropriate component on sanitary water and excreta disposal practices.

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE Situation: December 1983

Country

FORM 10: STATUS OF PROJECTS

1. For CONSTRUCTION work indicate in the table below the number, total cost and number of beneficiaries of projects which were completed and put into operation during the period January 1981-December 1983:

	COMPLETED PROJECTS DURING 1981-1983			
	No. of projects	Beneficiaries in 1000	Cost 1000 US$	
			Total	External
Urban water				
Rural water				
Urban sanitation				
Rural sanitation				

2. For SUPPORT activities indicate sector related projects which were implemented during the period January 1981 - December 1983:

Type of Support Projects	COMPLETED			STILL ON-GOING		
	No.	Cost 1 000 US$		No.	Cost 1 000 US$	
		Total	External		Total	External
1. Manpower Development and Training						
2. Community Participation and Health Education						
3. Management Studies						
4. Tariff Studies						
5. Others (specify)						

NOTE ON FORM 10 - STATUS OF PROJECTS.

This form is simpler than the form used for the 1980 survey, as it requests information only on completed construction projects and on completed or on-going (in other words already funded) support projects. Periodic updating will show whether there is progress in the number and reach of water supply and sanitation projects.

Question 1 Under construction, all work should be included relative to carry-over of on-going projects, new systems and extension and upgrading of existing systems. These projects will often include some components for support activities. Costs and numbers of beneficiaries, if not exactly known, should be estimated fairly accurately.

Question 2 Support activities are not necessarily related to construction (if they are, their cost is included under item 1 above) and aim at strengthening certain aspects of the water and sanitation programme.

INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

SECTOR DIGEST FORMS

1983 UPDATE

Situation: December 1983

Country

FORM 11: SOURCES OF INFORMATION

Major reports produced during the period
January 1981 - December 1983

Title of Report	Date of	
	Field Mission	Report

NOTE ON FORM 11 - SOURCES OF INFORMATION

The review of documents containing sector information aids considerably in the planning and conduct of sector missions. The number of studies is also an indication of how much work is done or is planned in the sector.

Periodic updating is envisaged.

The types of reports/documents to be listed are:

- Basic documents such as census reports, published socioeconomic national development plans, UNDP country programmes, etc.
- Sector documents such as Decade Plans, Sector Studies, Rapid Assessments and reports for special purposes.
- Project reports in which overall sector information is given.