





Global Water Supply and Sanitation Assessment 2000 Report

The WHO and UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) provides a snapshot of water supply and sanitation worldwide at the turn of the millennium using information available from different sources. From 2001 the JMP database — for both historic data and future projections — will be periodically updated. All assistance in identifying unused and new data to improve the estimates presented here is welcome.

WHO Library Cataloguing-in-Publication Data Global water supply and sanitation assessment 2000 report.

1. Water supply — statistics 2. Water resources development 3. Sanitation — statistics

I. WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation $\,$

(ISBN 92 4 156202 1)

(NLM classification: WA 675)

© 2000 World Health Organization and United Nations Children's Fund

Publications of the World Health Organization and the United Nations Children's Fund enjoy copyright protection in accordance with the provisions of Protocol 2 of the Universal Copyright Convention. All rights reserved.

The designations employed in this publication and the presentation of the material do not imply the expression of any opinion whatsoever on the part of the Secretariat of the World Health Organization or the United Nations Children's Fund concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies, or of certain manufacturers' products, does not imply that they are endorsed or recommended by the World Health Organization or the United Nations Children's Fund in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The World Health Organization and the United Nations Children's Fund welcome requests for permission to reproduce or translate their publications, in part or in full. Applications and enquiries should be addressed to the Office of Publications, World Health Organization, Geneva, Switzerland, or to the Editorial and Publications Section, UNICEF, New York, USA, which will be glad to provide the latest information on any changes made to the text, plans for new editions, and reprints and translations already available.

Designed by Iseman Creative
Printed in the United States of America

GLOBAL WATER SUPPLY AND SANITATION ASSESSMENT 2000 REPORT

Contents

List of boxes, figures, maps and tablesiii				
	d by the Director-General of WHO			
and the	Executive Director of UNICEFv			
	d from the Chairperson of the Water Supply			
and San	itation Collaborative Councilvi			
Preface.	vii			
1. The G	lobal Water Supply and Sanitation			
	ssment 20001			
1.1	Main findings			
	Background and methods			
1.3	Limitations of the Assessment 2000			
2. Globa	al status7			
	Global coverage			
	Changes during the 1990s			
	Regional coverage in 2000			
	or performance15			
	Sector constraints			
3.2	Investment in Africa, Asia, and Latin America and the Caribbean			
3 3	Costs and tariffs of urban services			
	Quality of service			
	General planning and management			
4. Wate	r supply and sanitation in large cities23			
	Urbanization			
4.2	Informal settlements			
4.3	Types of water supply service			
	Accounting for water loss			
	Water quality			
	Types of sanitation facility			
	enges, future needs and prospects29			
	Future prospects			
	Future needs and services Ways to face the challenges			
	Sustaining the solutions			
	Need for monitoring			
	U			

6. Africa	41
6.1 Overview	
6.2 Water supply and sanitation coverage	
6.3 Changes during the 1990s	
6.4 Trends and future needs	
7. Asia	47
7.1 Overview	
7.2 Water supply and sanitation coverage	
7.3 Changes during the 1990s	
7.4 Trends and future needs	
8. Latin America and the Caribbean	55
8.1 Overview	
8.2 Water supply and sanitation coverage	
8.3 Changes during the 1990s	
8.4 Trends and future needs	
9. Oceania	61
9.1 Overview	
9.2 Water supply and sanitation coverage	
9.3 Trends and future needs	
10. Europe	65
10.1 Overview	
10.2 Water supply and sanitation coverage	
10.3 Trends and future needs	
11. Northern America	71
11.1 Overview	
11.2 Water supply and sanitation coverage	
References	73
Acknowledgements	75
Annex A	
Methodology for the Global Water Supply	
and Sanitation Assessment 2000	77

List of boxes, figures, maps and Tables

Doxes	
Box 1.1:	International development targets for water supply and sanitation coverage
Box 1.2:	Health hazards of poor water supply and sanitation
Box 1.3:	Cholera epidemics
Box 1.4:	Health benefits of improved water supply and sanitation
Box 1.5:	Water supply and sanitation technologies considered to be "improved" and those considered to be "not improved"
Box 3.1:	Community participation in problem-solving: the Participatory Hygiene And Sanitation Transformation (PHAST) approach
Box 3.2:	Support provided for the water supply and sanitation sector in developing countries
Box 4.1:	Water contamination and loss in piped water supply
Box 5.1:	Sanitation-barriers to progress
Box 5.2:	Implementation of sanitation programmes
Box 5.3:	Population growth

Box 5.4:	Why people want latrines
Box 5.5:	Sustainable water supply and sanitation systems
Box 5.6:	Sustaining operation and maintenance through good resource management
Box 5.7:	Issues to address with improved sector monitoring
Box 5.8:	Performance indicators for African water supply and sanitation utilities
Box 6.1:	Improving access to safe drinking-water in the United Republic of Tanzania
Box 6.2:	Better management in Zambia leads to increased access to water supply
Box 7.1:	Tajikistan: decreasing water supply
Box 7.2:	Nepal: the need to prioritize sanitation
Box 7.3:	Myanmar: social mobilization to increase latrine construction
Box 7.4:	Viet Nam: increasing access to water supply
Box 8.1:	Honduras: the impact of natural disasters on water supply
Box 9.1:	Pacific islands: challenges for sanitation promotion — culture and tradition
Box A.1:	Bottled and vended waters

(continued)

List of boxes, figures, maps and tables (cont.)

Figures		Figure 6.4:	Actual and target urban water supply coverage for Africa
Figure 2.1:	Distribution of the global population not served with improved water supply, by	Figure 6.5:	Actual and target rural water supply coverage for Africa
	region	Figure 6.6:	Actual and target total sanitation coverage for Africa
Figure 2.2:	Distribution of the global population not served with improved sanitation, by	Figure 6.7:	Actual and target urban sanitation coverage for Africa
FI 0.0	region	Figure 6.8:	Actual and target rural sanitation coverage for Africa
Figure 2.3:	Global water supply coverage	Figure 7.1:	Asia: water supply coverage, 1990 and 2000
Figure 2.4:	Global sanitation coverage	Figure 7.2: Figure 7.3:	Asia: sanitation coverage, 1990 and 2000 Actual and target total water supply coverage for Asia
Figure 2.5: Figure 2.6:	Total water supply coverage for Africa, Asia, and Latin America and the Caribbean Sanitation coverage for Africa, Asia, and Latin America and the Caribbean	Figure 7.4:	Actual and target urban water supply coverage for Asia
Figure 2.7:	Water supply coverage, by region, 2000	Figure 7.4.	Actual and target undar water supply coverage for Asia
Figure 2.7:	Sanitation coverage by region, 200	Figure 7.6:	Actual and target total sanitation coverage for Asia
Figure 2.9:	Urban water supply coverage by region, 2000	Figure 7.7:	Actual and target urban sanitation coverage for Asia
Figure 2.10:	Rural water supply coverage by region, 2000	Figure 7.8:	Actual and target rural sanitation coverage for Asia
Figure 2.11:	Urban sanitation coverage by region, 2000	Figure 8.1:	Latin America and the Caribbean: water supply coverage, 1990 and 2000
Figure 2.12:	Rural sanitation coverage by region, 2000	Figure 8.2:	Latin America and the Caribbean: sanitation coverage, 1990 and 2000
Figure 2.13:	Africa, Asia, and Latin America and the Caribbean: water supply coverage by cate-	Figure 8.3:	Actual and target total water supply coverage for Latin America and the Caribbean
	gory of service, 1990	Figure 8.4:	Actual and target urban water supply coverage for Latin America and the
Figure 2.14:	11.		Caribbean
	gory of service, 2000	Figure 8.5:	Actual and target rural water supply coverage for Latin America and the Caribbean
Figure 2.15:	Africa, Asia, and Latin America and the Caribbean: sanitation coverage by category	Figure 8.6:	Actual and target total sanitation coverage for Latin America and the Caribbean
D: 0.1(of service, 1990	Figure 8.7:	Actual and target urban sanitation coverage for Latin America and the Caribbean
Figure 2.16:		Figure 8.8:	Actual and target rural sanitation coverage for Latin America and the Caribbean
Eiguno 2 1.	of service, 2000	Figure 9.1: Figure 9.2:	Actual and target total water supply coverage for Oceania Actual and target urban water supply coverage for Oceania
Figure 3.1:	Annual investment in urban water supply for Africa, Asia, and Latin America and the Caribbean, 1990–2000	Figure 9.2.	Actual and target untain water supply coverage for Oceania
Figure 3.2:	Annual investment in rural water supply for Africa, Asia, and Latin America and	Figure 9.4:	Actual and target total sanitation coverage for Oceania
1150103.2.	the Caribbean, 1990–2000	Figure 9.5:	Actual and target urban sanitation coverage for Oceania
Figure 3.3:	Annual investment in urban sanitation for Africa, Asia, and Latin America and the	Figure 9.6:	Actual and target rural sanitation coverage for Oceania
0	Caribbean, 1990–2000	Figure 10.1:	Actual and target total water supply coverage for Europe
Figure 3.4:	Annual investment in rural sanitation for Africa, Asia, and Latin America and the	Figure 10.2:	Actual and target urban water supply coverage for Europe
-	Caribbean, 1990–2000	Figure 10.3:	Actual and target rural water supply coverage for Europe
Figure 3.5:	Total annual national and external investment in water supply and sanitation for	Figure 10.4:	Actual and target total sanitation coverage for Europe
	Africa, Asia, and Latin America and the Caribbean, 1990–2000	Figure 10.5:	Actual and target urban sanitation coverage for Europe
Figure 3.6:	Total annual investment in water supply compared to total annual investment in	Figure 10.6:	Actual and target rural sanitation coverage for Europe
T: 0.7	sanitation for Africa, Asia, and Latin America and the Caribbean, 1990–2000	M	
Figure 3.7:	Median total investment in water supply and sanitation as a proportion of overall	Maps Map 2.1	Water speek, alchal assessas 2000
Figure 3.8:	government investment, 1990–2000 A comparison of the median unit production cost of urban water supply and the	Map 2.1: Map 2.2:	Water supply, global coverage, 2000 Sanitation, global coverage, 2000
riguie 3.6.	median tariff / production cost ratio by region, 1990–2000	мар 2.2. Мар 6.1:	Africa: water supply coverage, 2000
Figure 3.9:	Median water supply and sewerage tariffs by region, 1990–2000	мар 6.1: Мар 6.2:	Africa: sanitation coverage, 2000
Figure 3.10:	Average construction cost per person served of water supply facilities for Africa,	Map 7.1:	Asia: water supply coverage, 2000
0	Asia, and Latin America and the Caribbean, 1990–2000	Map 7.2:	Asia: sanitation coverage, 2000
Figure 3.11:	Average construction cost of sanitation facilities in Africa, Asia, and Latin America	Map 8.1:	Latin America and the Caribbean: water supply coverage, 2000
	and the Caribbean, 1990–2000	Map 8.2:	Latin America and the Caribbean: sanitation coverage, 2000
Figure 3.12:	Median percentage of rural water supplies which are functioning, 1990-2000	Map 10.1:	Europe: water supply coverage, 2000
Figure 3.13:	Median percentage of wastewater treated by treatment plants	Map 10.2:	Europe: sanitation coverage, 2000
Figure 3.14:	Plan status for water and sanitation coverage		
Figure 3.15:	Target status for water and sanitation coverage	Tables	
Figure 3.16:	Median coverage targets for water supply and sanitation, by region	Table 2.1:	World population by region
Figure 3.17:	Management of rural water supply	Table 2.2:	Water supply and sanitation coverage by region, 1990 and 2000
Figure 4.1:	Population growth rates and proportions living in informal settlements: regional means for the largest cities	Table 3.1: Table 4.1:	Public provision of urban water supply Cities providing information for analysis of water supply and sanitation
Figure 4.2:	Water supply in the largest cities: mean percentage of the population with each	Table 5.1:	Population coverage required by the 2015 international development target
riguie 4.2.	type of service, by region	Table 5.1:	Distribution of additional populations to be served to meet the 2015 international
Figure 4.3:	Median unaccounted-for water in large cities in Africa, Asia, Latin America and the	14010 7.2.	development target
118410 1131	Caribbean, and Northern America	Table 6.1:	Africa: water supply and sanitation coverage by country, area or territory, 1990 and
Figure 4.4:	Percentage of household connections metered, and percentage of meters replaced		2000
O	annually: regional means for the largest cities	Table 7.1:	Asia: water supply and sanitation coverage by country, area or territory, 1990 and
Figure 4.5:	Percentage of water supplied which is effectively disinfected (free residual chlorine		2000
	over 0.1 mg/l), and percentage of drinking water quality test results that violate	Table 8.1:	Latin America and the Caribbean: water supply and sanitation coverage by
	national standards (microbiological, chemical, physical, aesthetic)		country, area or territory, 1990 and 2000
Figure 4.6:	Sanitation in the largest cities: mean percentage with each type of facility, by	Table 9.1:	Oceania: water supply and sanitation coverage by country, area or territory, 1990
	region		and 2000
Figure 5.1:	Actual and target global water supply coverage	Table 10.1:	Europe: water supply and sanitation coverage by country, area or territory, 1990
Figure 5.2:	Actual and target global urban water supply coverage	m 11 - co o	and 2000
Figure 5.3:	Actual and target global rural water supply coverage	Table 10.2:	European countries not reporting full coverage
Figure 5.4:	Actual and target global sanitation coverage	Table 11.1:	Northern America: water supply and sanitation coverage by country, area or
Figure 5.5:	Actual and target global urban sanitation coverage		territory, 1990 and 2000
Figure 5.6: Figure 6.1:	Actual and target global rural sanitation coverage Africa: water supply coverage, 1990 and 2000		
Figure 6.1: Figure 6.2:	Africa: water supply coverage, 1990 and 2000 Africa: sanitation coverage, 1990 and 2000		
Figure 6.3:	Actual and target total water supply coverage for Africa		

 $\label{eq:Figure 6.3:} \textbf{ Actual and target total water supply coverage for Africa}$

Foreword by the Director-General of WHO and the Executive Director of UNICEF

Half a century of efforts by WHO, UNICEF and other international organizations to improve water and sanitation conditions around the world have contributed to global awareness, the establishment of international programmes and the strengthening of national institutions. In the 1990s this afforded improved water supply for more than 800 million people and sanitation for around 750 million people. However, despite the intensive efforts of many institutions at the national and international levels, nearly 1.1 billion people still remain without access to improved sources of water, and about 2.4 billion have no access to any form of improved sanitation services. As a consequence, 2.2 million people in developing countries, most of them children, die every year from diseases associated with lack of safe drinking-water, inadequate sanitation and poor hygiene.

Access to safe water and to sanitary means of excreta disposal are universal needs and, indeed, basic human rights. They are essential elements of human development and poverty alleviation and constitute an indispensable component of primary health care. There is evidence that provision of adequate sanitation services, safe water supply, and hygiene education represents an effective health intervention that reduces the mortality caused by diarrhoeal disease by an average of 65% and the related morbidity by 26%. Inadequate sanitation, hygiene and water result not only in more sickness and death, but also in higher health costs, lower worker productivity, lower school enrollment and retention rates of girls and, perhaps most importantly, the denial of the rights of all people to live in dignity.

The International Drinking Water Supply and Sanitation Decade (1981–1990) was a period of accelerated and concerted effort to expand water supply and sanitation services to the unserved and underserved poor populations. At the World Summit for Children in 1990, the goal of universal access to safe water and sanitation by the year 2000 was adopted to promote the survival, protection and development of children. The

importance of universal access to drinking-water supply and sanitation was further reiterated at the 1992 United Nations Conference on Environment and Development (UNCED). Thereafter, many other crucial international conferences recognized water and sanitation as the bedrock of public health and social progress and the key to improving children's survival, health and development.

Since 1990, WHO and UNICEF have been collaborating in the Joint Monitoring Programme, which has as its main purposes the building of national capacity for the water and sanitation sector, monitoring and informing policy-makers globally on the status of the sector. This programme reaffirms the commitments made by UNICEF and WHO to work together towards universal access to safe drinking-water and sanitation. More specifically, the global assessment of the water supply and sanitation sector described in this report represents an important joint contribution of the two organizations towards this goal.

Diseases related to contaminated drinking-water, unsanitary food preparation, inadequate excreta disposal and unclean household environments constitute a major burden on the health of peoples in the developing world and are among the leading causes of ill-health. Sustainable health, especially for children, is not possible without effective and adequate water supply and environmental sanitation.

We hope that the findings of this important assessment report will serve its major purpose of attracting the attention of policy-makers and decision-makers in governments, bilateral and multilateral agencies, nongovernmental organizations and civil society in general, to the crucial need to intensify efforts to attain the target of Vision 21: universal coverage with safe water supply and adequate sanitation by the year 2025. That this vision will bear fruit for the health of people in need is the aim and commitment of both our organizations.

Gro Harlem Brundtland

Director-General, World Health Organization (WHO)

hu U. Smeltlack

Carol Bellamy

Executive Director, United Nations Children's Fund (UNICEF)

Foreword by the Chairperson of the Water Supply and Sanitation Collaborative Council

This document is an important benchmark for international efforts to bring dignity and health to the world's most deprived people. Through the commendable efforts of WHO and UNICEF we now have a sound basis on which to plan, implement and monitor improvements in water supply and sanitation in the coming years.

That such improvements are urgently needed was never in doubt. For many years, governments and international agencies have been shamed by the plight of nearly half the world's population — those who live their lives with no hygienic means of personal sanitation. The 1980s, the International Drinking Water Supply and Sanitation Decade, saw big strides made in finding affordable technologies and participatory approaches to help serve those without access to improved water and sanitation services. But that Decade also demonstrated conclusively that "business as usual" would never bring improvements quickly enough to cope with the backlog and provide access to growing populations. Then, too, UNICEF and WHO brought us the damning statistics to prove it.

In the year 2000, we start with a new perspective. In Vision 21, the Water Supply and Sanitation Collaborative Council (WSSCC) has presented a strong consensus that concerted action supporting people's own energy and initiatives can bring rapid and lasting improvements. Targets will vary from country to country, but Vision 21 envisages that the number of people without access to improved water and sanitation services will be halved by 2015, and universal coverage will be achieved by 2025. To reach these goals, we need continuous advocacy targeted at all the stakeholders. The most powerful advocacy tool is dependable information. The big

improvements in data gathering that WHO and UNICEF have introduced with this latest global assessment provide us with the baseline and the monitoring methodology that will ensure reliable and consistent statistics to report our progress with confidence. By focusing on users, rather than providers, as primary sources of data the document gains in credibility and creates just the platform we need for tracking the local initiatives that are at the heart of Vision 21.

I am especially pleased at the innovative use of the Internet to keep the statistics updated and accessible on a day-to-day basis. As of today, all those interested in the sector have access, not just to the analyses made by UNICEF and WHO, but to the complete data on which those analyses are based. It is a huge step forward and one that will pay big dividends as Internet usage spreads across the developing world.

In the coming years, WSSCC will work with WHO and UNICEF to extend the monitoring process. We will look for new indicators, to assess the spread of Vision 21 approaches, to assess the impact on the delivery of basic services to the poor, and to assess the social and economic benefits of improved water and sanitation. In commending WHO and UNICEF for their excellent work to date, I call also on all the Collaborative Council's partners to join in the efforts to extend and improve the data by contributing from their own programmes.

With Global Assessment 2000 we have our starting point defined and our monitors in place. Let's be sure through our combined efforts that the next global assessment in three years' time shows good progress towards our ambitious, but eminently achievable goals.

Richard Jolly,

Richard Tolly

Chairperson, Water Supply and Sanitation Collaborative Council

Preface

At the end of the International Drinking Water Supply and Sanitation Decade, WHO and UNICEF decided to combine their experience and resources in a Joint Monitoring Programme for Water Supply and Sanitation. At its inception, the overall aim of the Joint Monitoring Programme was to improve planning and management within countries by supporting countries in monitoring the water and sanitation sector. This concept evolved and the JMP included within its aims the recurrent preparation of global assessments of the water supply and sanitation sector.

This report presents the findings of the fourth assessment by the WHO and UNICEF Joint Monitoring Programme. Previous reports were produced in 1991, 1993 and 1996 and were devoted primarily to providing information on water supply and sanitation coverage, and on the progress made at the country level by local agencies in monitoring the sector.

The present report updates and consolidates findings of earlier reports through the use of broader and verifiable data sources. Such sources include information from national surveys, which provided the basis for determining most of the coverage figures in this report. Important resources were mobilized throughout the world for data collection and data analysis. Many countries formed national teams representing the different sector agencies, not only to collect data, but also to assess the status of their water supply and sanitation sector. In Latin America and the Caribbean most countries, under the leadership of the WHO Regional Office for the Americas, prepared country assessment reports as a result of the debates and findings of their country-level exercises.

There are serious limitations to the monitoring of water supply and sanitation in many developing countries; while for the purposes of

international assessment it is necessary to pursue international consistency. Most of this report coverage has been calculated from service user information, rather than service provider information. Although this may generate coverage estimates that may differ from official country statistics, this approach provides the best overall assessment based on the data available. As new information becomes available this will systematically be added to the information base and estimates will be updated accordingly through the WHO and UNICEF web sites.

This report constitutes a source of information for water and sanitation coverage estimates, and for supporting decisions relating to investment, planning, management and quality of service in the sector. It aims to inform those within and beyond the water supply and sanitation sector of the current status of water supply and sanitation, and to highlight the huge challenges faced in meeting the need for safe water supply and adequate sanitation world wide. It is written for all those who wish to know where the water and sanitation sector now stands, and how it is changing over time. These include: national government officials; sector planners and consultants; bilateral, multilateral and United Nations agency staff; staff of international and national professional associations and nongovernmental organizations; researchers; and sector professionals throughout the world. The water supply and sanitation coverage data generated by the Joint Monitoring Programme are the reference data for the United Nations system. As such, they will be used as the water supply and sanitation reference for the United Nations' World Water Resources report, which will be launched in 2002 on the tenth anniversary of the Earth Summit.





预览已结束, 完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5_30469

