



Water and sanitation:

Evidence for public policies focused on human rights and public health results



**Pan American
Health
Organization**

*Regional Office of the
World Health Organization*

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Evidence for public policies focused on human rights and public health results



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Foreword



Dra. Mirta Roses Periago

This publication is part of the regional strategy of the Pan American Health Organization/World Health Organization (PAHO/WHO) on drinking water and sanitation. It is based on a review of the evidence conducted by the National Academy of Medicine in Buenos Aires, Argentina, at the request of PAHO/WHO. Technical support was provided by Dr. Evelina Chapman, Coordinator of EVIPNet Americas, and by Paulo Fernando Piza Teixeira, Regional Advisor on Urban Health in the Sustainable Development and Environmental Health Area (SDE) of PAHO/WHO.

An important reason for the preparation of this document was the need to produce evidence to guide decision-making and public policies that can ensure “health for all and by all,” an achievement that clearly will only be possible when all people have access to drinking water and basic sanitation. Another major motivation was the approval by the 64th Session of the United Nations General Assembly, in July 2010, of a resolution declaring access to water and sanitation as a human right.

Lack of universal access to water and sanitation in the Region is a serious problem that jeopardizes the health of the population and the sustainable development of countries. For this reason, the implementation of public policies based on human rights is an important means to guarantee access to basic levels of water and sanitation services that enable people to live healthy and dignified lives.

With this study, PAHO/WHO seeks to provide evidence to facilitate a deliberative, reason-based dialogue geared to building a new public health agenda, one that promotes universal access to water and sanitation and affirms the linkage between public health policies and fulfillment of rights for all.

Dr. Mirta Roses Periago

Director

Pan American Health Organization

Preface

This publication presents the findings of evidence-based research conducted by the Pan American Health Organization/World Health Organization (PAHO/WHO) with a view to making the connections between water for human consumption, basic sanitation, public health, and human rights, and promoting public policies that advance universal access to water and sanitation services.

The United Nations regards water and sanitation as a human right because it believes that treating water and sanitation exclusively as an economic good imposes hardship on some communities, depriving them of access to water and sanitation and of other human rights such as life, health, and well-being.

In this context, PAHO/WHO requested technical support from EVIPNet (Evidence-Informed Policy Networks) in an effort to identify public policies that address the topic of water and sanitation from the perspective of human rights and public health. EVIPNet is an initiative designed to promote the systematic use of high-quality health research in policy-making and decision-making and to provide countries with a reliable and trustworthy source of scientific evidence.

For 109 years, PAHO has cooperated with the countries of the Americas to promote prevention and control of waterborne diseases and call attention to precarious conditions of access to water and basic sanitation. PAHO emphasizes the need for governments and communities to make a serious commitment to this issue, since no public health intervention has a greater impact on national development and on individual and collective health than the provision of drinking water and sanitary excreta disposal.

This document is the result of extensive investigation into the effectiveness of drinking water and sanitation interventions. Although the available scientific evidence depends on the quality of the primary studies on which it is based, there is no doubt that it is sufficiently consistent to confirm the importance of policies to ensure universal access to drinking water and sanitation, especially for children under 5 years of age living in low- and middle-income areas.

In this regard, the studies show that interventions designed to improve the quality of water in the home have the greatest impact on the reduction of diarrhea in all age groups, including children under 5. Moreover, the improvement of basic sanitation, particularly adequate excreta disposal, is effective in lowering morbidity and mortality from diarrhea by 30% to 40%, especially when it is linked to community-level interventions to promote proper hygiene.

With regard to the sustainability of initiatives to improve water and sanitation conditions, their effectiveness depends strongly on behavioral changes in the population, such as hand washing. Hand hygiene reduces the frequency of gastrointestinal diseases.

The available economic analyses show that improvements in access to drinking water and sanitation are cost-effective. The primary reason for the economic benefits obtained, contributing at least 80% of the gain, is time savings, that is, the reduced time required for access to improved water and sanitation facilities.



The recognition of drinking water and basic sanitation as a human right favors concerted actions to provide a legal frame of reference that would make it possible to monitor fulfillment of the legal right to water and sanitation by national states. Such a legal framework promotes accountability on the part of the authorities, empowering communities to demand the fulfillment of their rights.

The recognition of water and sanitation as a human right in national laws and international human rights instruments is a key first step that will encourage states to guarantee the fulfillment of these rights. This should be followed by the formulation of clear public policies and concrete actions that respond to the needs and capacities of each country.

PAHO/WHO affirms that the formulation of public policies, plans, and legislation on water and sanitation should be grounded in the principles of (a) indivisibility and interdependence of rights; (b) attention to vulnerable groups and nondiscrimination; (c) strengthening of community participation; and (d) social control and official accountability.

The achievement of water and sanitation for all depends on the resources available in each state and can be realized progressively, as public and private resources are mobilized. The end goal is full realization of the right to water and sanitation, translated into clear distribution policies.

However, there is evidence to suggest that privatization, when used as the sole approach and without adequate state regulation, is not an adequate means of achieving universal access. In Latin America and the Caribbean, available evidence on the effects of privatization in terms of quality and coverage is inconsistent. Furthermore, studies in different Latin American countries describe negative effects following privatization, such as across-the-board rate increases not adjusted to income level, that are likely to have deepened inequity.

The recognition of water and sanitation as human rights, along with policy-making based on national and international human rights instruments, means that water and sanitation are no longer understood exclusively as commercial goods.

Finally, we believe that building partnerships among diverse actors will make it possible to find common interests, overcome obstacles, and leverage strengths to create new legal and institutional structures that facilitate collaborative work and ensure universal access to water and sanitation.

Dr. Luiz Augusto C. Galvão

Manager

Sustainable Development and Environmental Health Area (SDE)

Acknowledgments

This publication was made possible thanks to the interest and support of the Sustainable Development and Environmental Health Area of the Pan American Health Organization (PAHO), which requested a study of evidence-based research on access to water and sanitation in relation to public policies, human rights, and public health. Staff of the Epidemiological Research Institute of the National Academy of Medicine in Buenos Aires, Argentina, coordinated by Zulma Ortiz, conducted the study, which provided an indispensable foundation for the development of this publication.

We acknowledge the valuable collaboration of Carlos Corvalán, Agnes Soares, Kira Fortune, Ludovic Reveiz, Javier Vázquez, and Luis Gabriel Cuervo. In addition, we recognize the technical contributions of James Bartran, Mauricio Barreto, María Inés Azambuza, Alosio Achutti, Julio Monreal, and Luis Antonio Grassi, who helped revise the document so that it provides useful evidence to decision-makers regarding universal access to water and sanitation. We also appreciate the full and unflagging support of Janet Khoddami, Ofelia Nieto, Rosa María Villalta, and Molly Miller for the review and editing of the document.



Introduction

Lack of drinking water and basic sanitation has a devastating impact on development processes. It is the second-largest cause of morbidity and mortality for children under 5 years of age in the Region, and the largest contributor to the burden of environment-related disease. However, combined interventions in water, sanitation, and hygiene can reduce the prevalence of waterborne diseases and associated deaths by up to 80% (50% in the case of diarrheal diseases) (1).

Over the last 30 years, systematic organized efforts by governments and donor agencies have led to broader coverage of water and sanitation services. This in turn has contributed to an increase in life expectancy at birth and to reductions in mortality from diarrheal diseases and other diseases related to water quality and excreta disposal. Overall infant mortality in the Southern Cone countries in 1970 was 58.8 per 1,000 live births, but by 2010 this had fallen to 15.4/1,000 live births. In the Spanish-speaking Caribbean, infant mortality decreased from 63.6/1,000 in 1970 to 15.6/1,000 in 2010. In Brazil, life expectancy, which was 66.3 years in 1990, increased to 72.9 years in 2010; and in Mexico it went from 70.8 years in 1990 to 76.7 years in 2010.^a While other factors have also contributed to these results, improvements in water and sanitation unquestionably made the most significant contributions. Notwithstanding the great progress made, Latin America and the Caribbean still lack sustainable measures to ensure drinking water and sanitation for all.

Health contributes to the development of human capital and to national economic growth. Beyond that, the right to enjoy the highest attainable standard of health is fundamental to a life of dignity. Health status reflects a broad range of determinants, which include access to good-quality water, sanitation, and a healthy environment.

Health plays a very important role in the reduction of poverty, since healthy individuals are more productive, and more productive individuals can compete on equal terms with others. In that sense, health contributes to equality of opportunities, which improves individual incomes and overall economic growth.

The burden of disease associated with poor-quality water and lack of sanitation and hygiene includes gastrointestinal infections (e.g., cholera) and parasitosis (e.g., amebas); diseases of the skin, eyes, and ears (e.g., conjunctivitis); vector-borne diseases (e.g., malaria, dengue, and leptospirosis); and diseases associated with the ingestion of chemical contaminants present in water.

Unfortunately, the lack of sanitation services continues to have important negative consequences for human and economic development in the Region. It leads to significant yearly costs to the health system, estimated at US\$7,866 million, of which patients contribute approximately US\$232 million. As far as achievement of the Millennium Development Goals (MDGs), according to the rate of current growth, the most critical gap will be in the rural areas, where the goal is to achieve 68% coverage. It is estimated that eight countries will not meet the goal for sanitation in urban areas, while 16 will not do so in rural areas. Nevertheless, basic sanitation and hygiene are powerful instruments for inclusion and equity in health.

^a Source: PAHO Regional Health Observatory. Available: http://new.paho.org/hq/index.php?option=com_content&task=blogcategory&id=2395&Itemid=2523&lang=en.

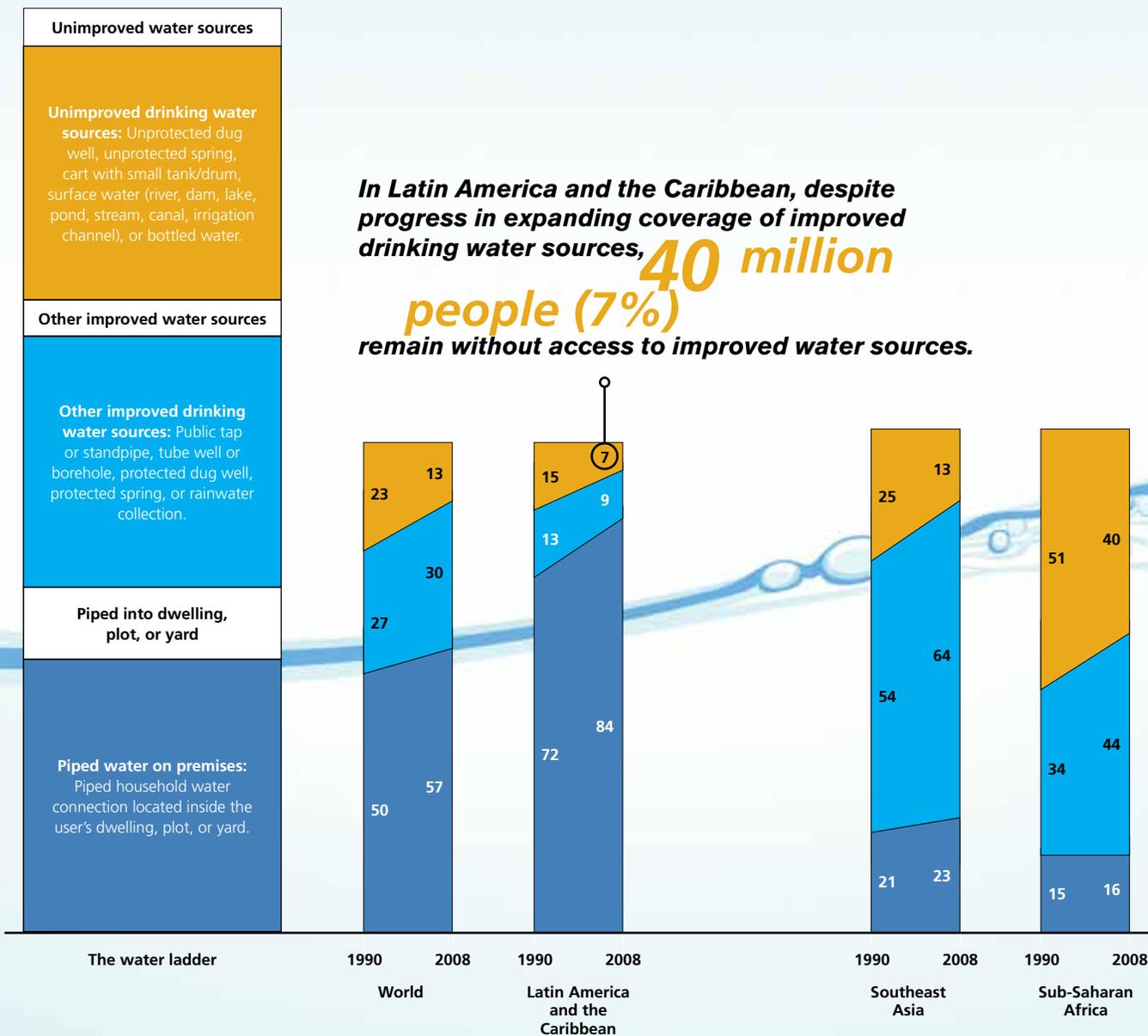
Climate change also represents a threat to water and sanitation systems, especially for the most vulnerable populations and those in island nations and coastal areas. Climate variability and changes in rain and wind patterns are potential causes of deaths and diseases from natural disasters. Floods in some regions and droughts in others will have a marked impact on water and sanitation systems. In addition, many diseases are highly sensitive to changes in temperature and rain patterns. This includes vector-borne diseases such as malaria and dengue, as well as the major causes of mortality, namely, malnutrition and diarrheal diseases. To cope with this challenge, governments in recent years have committed themselves, in various forums and initiatives, to improve sanitation conditions.^b

Although access to water and sanitation services is better in Latin America and the Caribbean than in some other regions of the world, such as Sub-Saharan Africa or Southeast Asia, a high proportion of the Region's population still lives in conditions that do not meet the minimum standard necessary for fulfillment of the right to life and well-being (figures 1 and 2) (2, 3). Current public policies have brought progress, but there remain significant gaps between levels of access for different sectors of the population. These include marked differences between countries, between areas of residence (urban and rural) within countries, and between sectors of the population according to their income levels.

^b United Nations Water Conference, Mar del Plata (1977); Declaration on the Right to Development (1986); Convention on the Rights of the Child (1989); United Nations Conference on Environment and Development, Rio de Janeiro (1992); World Summit on Sustainable Development, Johannesburg (2002); Committee on Economic, Social and Cultural Rights (2002). More recently, ministers of health and the environment, meeting in Mar del Plata, Argentina, in 2005, reaffirmed that health depends on the interrelationships of people with the physical and social environment in which they live and that the relationship between poverty, environmental quality, and human health has an impact on people's health. The ministers stated that "eradicating poverty and overcoming inequality are crucial to achieve sustainable development and constitute the greatest challenges for the governments of the Region."

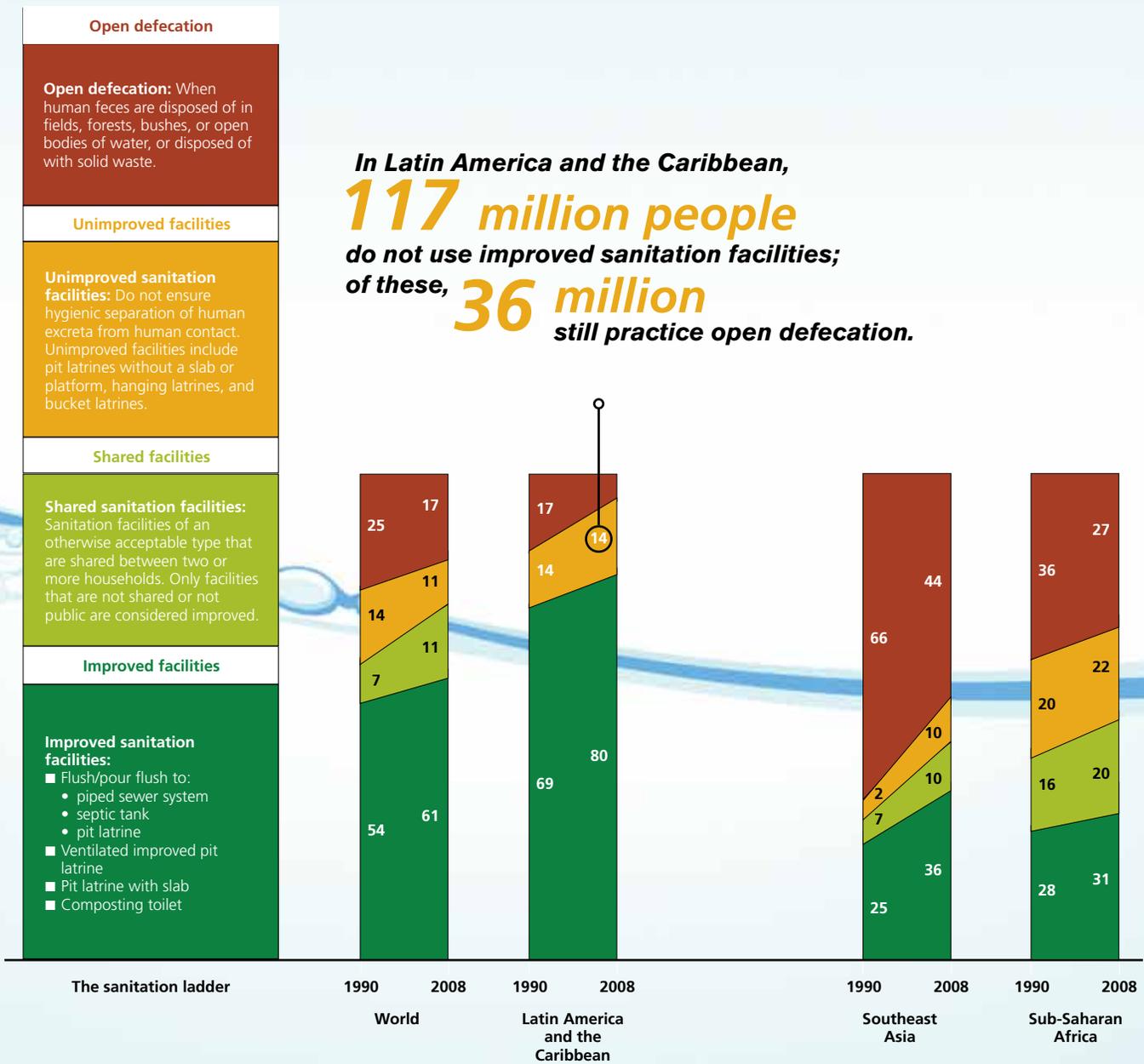


FIGURE 1. THE WATER LADDER: change in the percentage of people who have access to piped water on their premises, to other improved water sources, and to unimproved water sources in different regions of the world, 1990–2008.



Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation.

FIGURE 2. THE SANITATION LADDER: change in the percentage of people who have access to improved, sanitation installations in different regions of the world, 1990–2008.



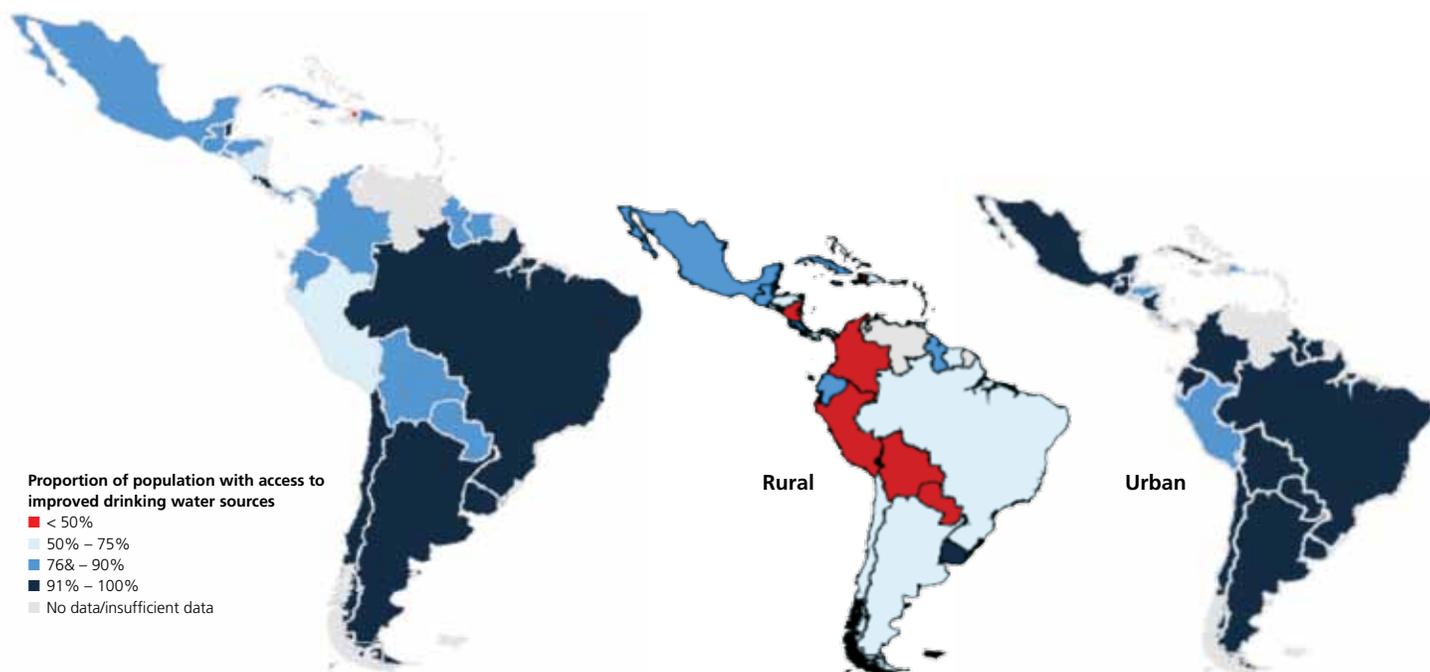
The sanitation ladder: trends in Latin America and the Caribbean and other world regions

Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation.

Inequity in access to water and sanitation

Although coverage of improved water and sanitation technologies is approximately 80% for the Region as a whole, there are significant disparities between and within countries.

For example, coverage of sanitation services in Haiti is below 20%, and almost half the Haitian population lacks drinking water coverage. In addition, in almost all the countries, with only a few exceptions, there are significant disparities in coverage between urban and rural areas.



Urban-rural inequity

Inequity by place of residence: urban and rural

- Throughout the Region, there is a marked difference in access between urban and rural areas. The gap is wider for access to sanitation than for access to drinking water.

Only 55% of the rural population has access to improved sanitation facilities, compared to 86% of the urban population, while 80% of the rural population has access to an improved water source, compared to 97% of urban dwellers (see figures 3 and 4, page 14, and table 1, page 15).

It should be noted that coverage in urban areas has remained almost flat between 1990 and 2008. This poses a substantial challenge for the sector, since dramatic growth of the urban population is projected. The year 2000 annual report of the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation projected a 50% growth in the urban population of the Region by 2025 (4).

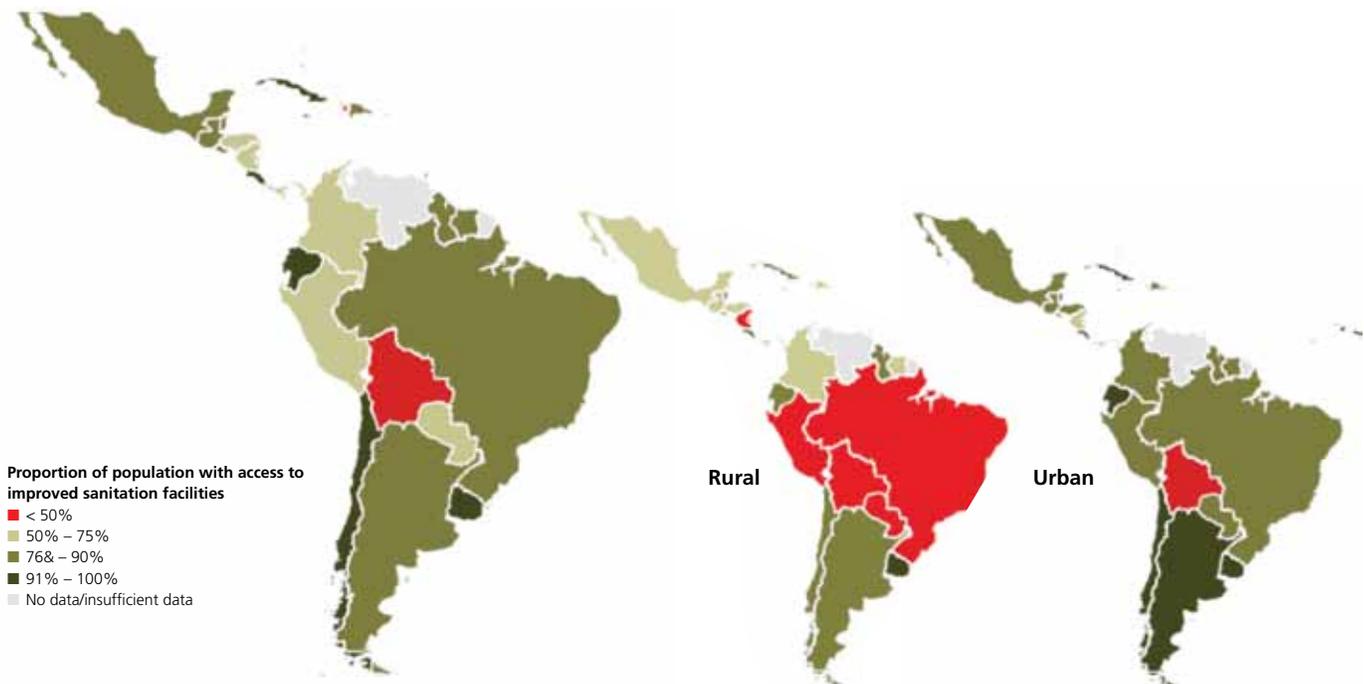
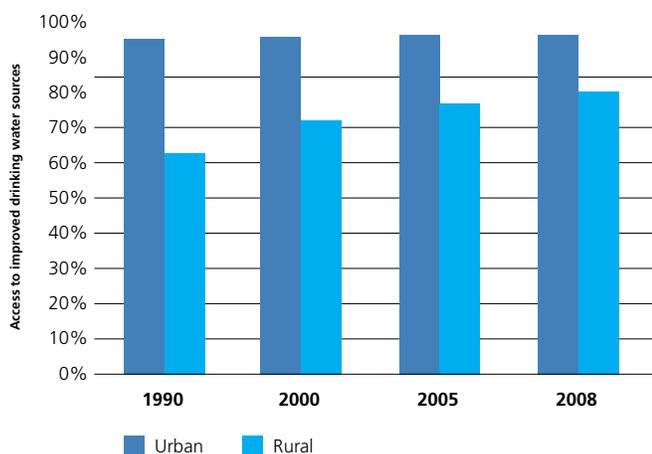
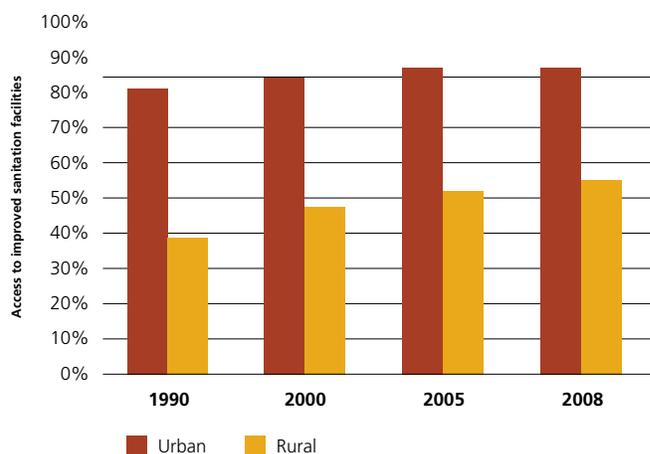


FIGURE 3: Change in access to improved drinking water sources by area of residence, Latin America and the Caribbean, 1990–2008.



Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. <http://www.wssinfo.org/data-estimates/table/>.

FIGURE 4: Change in access to improved sanitation facilities by area of residence, Latin America and the Caribbean, 1990–2008.



Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. <http://www.wssinfo.org/data-estimates/table/>.

There is a marked gap in access between urban and rural areas, more serious in access to sanitation than in access to drinking water.^c

Access to improved water sources increased in both rural and urban areas after 1990. The increase was more evident in the rural areas, which began with lower values.

The urban-rural disparity persisted in 2008, although it was reduced: 80% of the rural population has access to an improved water source, compared with 97% of the urban population.

In sanitation, progress has been much slower, and the urban-rural disparity was still very large in 2008.

In sanitation, the coverage in urban areas has remained almost unchanged over the period 1990–2008 (2, 3). This poses a significant challenge for the sector, since dramatic growth of the urban population is projected (the urban population of the Region is expected to grow 50% by 2025) (5).

^c Table 1, shows the Information disaggregated by countries.

TABLE 1. Percentage population with access to improved water sources and sanitation facilities, Latin America and the Caribbean, 2008.

Country	Total population (thousands)	% population with access to improved water sources			% population with access to improved sanitation facilities		
		Urban	Rural	Total	Urban	Rural	Total
Anguilla	15	n.d.	n.a.	n.d.	99	n.a.	99
Antigua and Barbuda	87	95	n.d.	n.d.	98	n.d.	n.d.
Argentina	39,883	98	80	97	91	77	90
Aruba	105	99	100	100	n.d.	n.d.	n.d.
Bahamas	338	98	n.d.	n.d.	100	100	100
Barbados	255	100	100	100	100	100	100
Belize	301	99	100	99	93	86	90
Bolivia (Plurinational State of)	9,694	96	67	86	34	9	25
Brazil	191,972	99	84	97	87	37	80
British Virgin Islands	23	100	100	100	100	100	100
Cayman Islands	56	95	n.a.	95	96	n.a.	96
Chile	16,804	99	75	96	98	83	96
Colombia	45,012	99	73	92	81	55	74
Costa Rica	4,519	100	91	97	95	96	95
Cuba	11,205	96	89	94	94	81	91
Dominica	67	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Dominican Republic	9,953	87	84	86	87	74	83
Ecuador	13,481	97	88	94	96	84	92
El Salvador	6,134	94	76	87	89	83	87
French Guiana	220	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Grenada	104	97	n.d.	n.d.	96	97	97
Guadeloupe	464	98	n.d.	n.d.	95	n.d.	n.d.
Guatemala	13,686	98	90	94	89	73	81
Guyana	763	98	93	94	85	80	81
Haiti	9,876	71	55	63	24	10	17
Honduras	7,319	95	77	86	80	62	71
Jamaica	2,708	98	89	94	82	84	83
Martinique	403	100	n.d.	n.d.	95	n.d.	n.d.
Mexico	108,555	96	87	94	90	68	85
Montserrat	6	100	100	100	96	96	96
Nicaragua	5,667	98	68	85	63	37	52
Panama	3,399	97	83	93	75	51	69
Paraguay	6,238	99	66	86	90	40	70
Peru	28,837	90	61	82	81	36	68
Puerto Rico	3,965	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Saint Kitts and Nevis	51	100	100	100	96	96	96
Saint Lucia	170	97	98	98	n.d.	n.d.	n.d.
Saint Vincent and the Grenadines	109	n.d.	n.d.	n.d.	n.d.	96	n.d.
Suriname	515	97	81	93	90	66	84
Trinidad and Tobago	1,333	98	93	94	92	92	92
Turks and Caicos	33	98	98	98	98	n.d.	n.d.
Uruguay	3,349	100	100	100	100	99	100
Venezuela (Bolivarian Republic of)	28,121	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
LAC	575,794	97	80	93	86	55	79

Source: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. <http://www.wssinfo.org/data-estimates/table/>.

Notes: n.d.: no data; n.a.: not applicable.

Inequity based on income

- **Inequity by income level is very marked: the majority of people without access to drinking water and sanitation services belong to low-income groups.**

A high proportion of these groups are concentrated in peri-urban areas, mainly in the poverty belts that exist on the peripheries of many cities, which expand with the influx of rural migrants (6).

There is a very strong association between expenditure on water and family income. In absolute terms, the richest families spend more on water than the poorest families; however, the proportion of family income that is spent on water is much higher in the poorest group (7).

Analysis of household surveys in 11 countries of Latin America and the Caribbean^d showed that the factors that determine inequity in access to, use of, and spending on drinking water are associated with poverty (7). In Brazil, in both urban and rural areas, the poorest sector of the population spends twice as much on water, as a proportion of household income, as the richest sector. In the Dominican Republic, it is estimated that the poorest 20% of the population spends four times as much as the richest 20% (8).

The proportion of total expenditure that poor households allocate to water is even greater when one considers expenditure of time, that is, the time that these families are forced to spend collecting water from sources that are usually of poor quality and distant from the home. Some households cope with this problem by buying water from trucks or water carriers (6).

When groups with similar income levels are compared, it is evident that those in urban areas have better access to drinking water than those in rural areas (7).

Even among the richest 10% of the rural population, the proportion of dwellings with a piped household water connection is smaller than in the poorest sectors of the urban population (7).

Barriers to expanding services to the poorest populations



"It has proved very difficult to provide these marginal areas with services of acceptable quality. The main problems encountered in efforts to expand services have been due, on the one hand, to the high poverty levels and the low level of payment capacity and culture, and on the other hand, to high construction and operation costs. These populations have very often experienced explosive growth and have developed in a disorganized manner, settling in areas far from existing networks and with more difficult topographical conditions. This situation has meant that low-income groups, in many cases, must purchase water from private vendors . . . Many of the options (such as water trucks) which the poor are obliged to use have a very high cost, and they end up spending a higher proportion of their income on water than persons in a better economic situation. They also incur a high health risk, as there is no guarantee of the quality of the water provided."

Source: Jouravlev, A. Drinking water supply and sanitation services on the threshold of the XXI century. Serie Recursos Naturales e Infraestructura, No. 74. ECLAC. 2004. Santiago, Chile.

^d The household surveys analyzed were carried out in 1995–1999 in the following countries: Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvador, Jamaica, Nicaragua, Panama, Paraguay, and Peru.

Inequity in health

In June 1992, the United Nations Conference on Environment and Development in Rio de Janeiro noted that inequalities and inequities in the delivery of drinking water services have been expressed in many ways. The Rio Declaration on Environment and Development, contained in the conference plan of action known as Agenda 21, is based on the principle that development should meet people's needs, promote their health and well-being, and provide healthy environments in which people can achieve development, including health (9).

In 2004, the World Health Organization (WHO) estimated that 95,000 deaths in Latin America and the Caribbean were from causes related to water and sanitation. More of half of these deaths were from diarrhea.

According to the WHO's *Global Burden of Disease: 2004 Update*, worldwide in 2004 there were approximately 2 million deaths^e from diarrhea related to water and sanitation, representing nearly 4% of the global disease burden. The greatest number of these deaths were in African and Asian countries.

In Latin America and the Caribbean, there were an estimated 56,208 deaths from diarrhea. Although this is fewer deaths than were reported in Africa and Asia, it is eight times the number of deaths from diarrhea related to water and sanitation reported in the high-income countries (6,802 deaths) (10, 11).

Brazil is the Latin American country where the highest number of deaths related to water and sanitation were recorded in 2004, as well as the largest burden of disease as measured in Disability-Adjusted Life Years (DALYs). However, Bolivia, Guatemala, Honduras, and Nicaragua had the highest risk of death in the Region from these causes.

In Brazil, 40,225 deaths from causes related to water and sanitation were recorded in 2004, which represents 40% of the total deaths in Latin America from these causes. This country also had the greatest burden of disease related to water and sanitation, as measured in DALYs. However, since Brazil's larger population is the reason for its higher absolute number of deaths, specific mortality rates must be estimated in order to describe and compare the risk of dying from these causes among the different countries of the Region. Bolivia, Guatemala, and Honduras have the highest rates, ranging from 0.05 to 0.03 deaths per 100,000 population (11).

- **Among the Caribbean countries, Haiti has both the largest number of deaths and the greatest risk of dying from diseases related to water and sanitation. The situation is also alarming in Jamaica and Guyana, which have the greatest burden of disease related to water and sanitation as measured in DALYs.**

Haiti, one of the poorest countries in the Region and the world, has water and sanitation conditions that are extremely deficient, with correspondingly poor health indicators. In this country, with a population of 9 million, 110,000 people per year die from all causes, including 9,100 from causes related to water and sanitation. The risk of dying from these causes in Haiti is five times the risk in Brazil (11).

^e The category "diarrheal diseases" includes some of the most severe diseases, such as cholera, typhoid fever, and dysentery. All of them are in the group of diseases with fecal-oral transmission.





Photo: © Willie Heinz

In 2004, the WHO estimated 95,000 deaths from causes related to water and sanitation in Latin America and the Caribbean. More than half of these deaths were from diarrhea.

Financing to reduce inequities

In order to achieve Millennium Development Goal 7 on improving access to water and sanitation, the low- and middle-income countries would need to invest, through 2015, US\$18,000 million a year to extend coverage (with greater investment in rural areas) and \$54,000 million to maintain existing coverage (with greater investment in urban areas) (10). Approximately 6% of the investment for expansion and 17% of that for maintenance should be in Latin America and the Caribbean (13).

Estimates of the investment needed to provide the population with improved drinking water and sanitation services vary significantly depending on the technologies used for provision, the assumptions on coverage, and the available information (12, 13, 14). It has been estimated that to achieve Target 10 of the MDGs, the developing countries would need to invest a total of \$42,000 million in water and \$142,000 million in sanitation, equivalent to an annual investment of \$18,000 million from 2005 through 2015. The cost of maintaining already existing services is \$322,000 million for water and \$216,000 million for sanitation, that is, an annual equivalent of \$54,000 million (12, 13).

- **Investment to expand coverage is needed mainly in the rural areas (64%), while maintenance needs are concentrated in the urban areas (73%).**

Furthermore, effective implementation requires additional programming expenditures of between 10% and 30% for administrative support, in addition to the budget for the interventions (12, 13).

- **In LAC, the investment needed to reach the MDGs for drinking water totals \$16,500 million between 2000 and 2015, which implies an annual investment of \$1,100 million (15).**

Almost half of this amount corresponds to Brazil and Mexico, representing 0.9% and 0.6% of GDP, respectively. For other countries, the necessary levels of investment equal and even exceed 10% of GDP (for example, 10% for Haiti and 12% for Nicaragua). Of the total amount, 93% should be allocated to urban areas and 7% to rural areas (15).

What is the role of the health sector in financing water and sanitation improvements?

The health sector has limited incentives to finance an expansion of coverage of water and sanitation services. The real savings to the sector from improved coverage (mainly in reduced treatment costs) are small in comparison to the annual intervention costs. The health sector cannot and should not be expected to finance these interventions. But it does have an essential role to play in monitoring the quality of water for human consumption and in health promotion, health education, and disease prevention (7, 16).

- **With respect to the goal for sanitation, the Region needs \$22,000 million between 2000 and 2015, or an annual investment of \$1,500 million (15).**

As with drinking water supply, Brazil and Mexico are the countries requiring the largest investment (56%). However, the greatest level of effort is needed in Nicaragua and Haiti, which require investment equivalent to 12% and 8.8% of GDP, respectively. Of the \$22,000 million, 95% is for urban areas and 5% for rural areas (15).

- **The investment in water and sanitation comes predominantly from the public sector (65%). Investment by external agencies accounts for nearly 20% (14).**

In the year 2000, 83% of the funds allocated to drinking water and sanitation came from national sources: 65% from the public sector and 18% from national private sector. The rest was from multilateral and bilateral donors (12%) and the international private sector (5%) (14).

- **There is a financing gap, since aid for drinking water interventions comes to \$3,000 million a year, half of which is in the form of loans. This does not cover the estimated minimum investment required (14).**



Human rights are understood as basic, universal, legal or moral guarantees that apply to all persons and protect them from the actions or omissions of states and some nonstate actors. They include civil, cultural, economic, political, and social rights.



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Section 1

Water and sanitation distribution policies that fulfill human rights

In Latin America and the Caribbean, only three countries explicitly recognize the right to water and sanitation in their constitutions by guaranteeing availability, quality, and access to services. However, this right is recognized implicitly in the majority of the countries, which have accepted treaties, covenants, protocols, or conventions of the United Nations and the Organization of American States. These include, among others, the Convention on the Rights of the Child, the Convention on the Elimination of All Forms of Discrimination Against Women, the Convention on the Rights of Persons with Disabilities, and the “Protocol of San Salvador” (OAS, Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights).

Human rights are understood as basic, universal, legal or moral guarantees that apply to every person

Bolivia, Ecuador, and Uruguay are the countries that explicitly recognize the right to water in their constitutions. (See section 2 of this document, “Water, sanitation, and human rights: conceptual and legal foundations,” for a description of the current status of the Region with respect to the legal recognition of water and sanitation as human rights.)

Human rights are understood as basic, universal, legal or moral guarantees that apply to all persons and protect them from the actions or omissions of states and some nonstate actors. They include civil, cultural, economic, political, and social rights^f (17).

Human rights refer principally to the relationship between the individual and the state. States that ratify international treaties in which water is considered a human right are obliged to respect, protect, and fulfill this right (19).

In LAC, all countries that are members of the UN are bound to follow the guidelines of the Universal Declaration of Human Rights and other treaties that they have ratified, including:

- **International Covenant on Economic, Social and Cultural Rights**
- **American Convention on Human Rights**
- **Additional Protocol to the American Convention on Human Rights in the area of Economic, Social, and Cultural Rights, the “Protocol of San Salvador”**
- **Convention on the Rights of the Child**
- **Convention on the Rights of Persons with Disabilities**

The right to water and the right to sanitation were *explicitly* recognized by the United Nations Human Rights Council (20), which “obliges” states to guarantee access to basic levels of these services. These “obligations” are grouped into three basic categories:

^f Historically, in the international sphere, civil and political rights have been distinguished from economic, social, and cultural rights, as reflected in the existence of two distinct covenants: one on civil and political rights (ICCPR) and another on economic, social, and cultural rights (ICESCR). This situation reflects the different ideologies and political orientations of different countries within the United Nations after World War II. However, the rights established in both pacts are indivisible, interdependent, and interrelated. (Decker, K., McInerney-Lankford, S., and Sage, C. *Human Rights and Equitable Development: “Ideals,” Issues and Implications.*)

1. RESPECT: the state does not interfere, directly or indirectly, with the enjoyment of these rights on the part of its citizens. (General Comment No. 15, paragraph 21)

The *state itself cannot deny people* access to water: for example, through pollution of water resources by state-owned companies or through forced expulsions.

2. PROTECT: the state prevents third parties, such as corporations, from interfering in any way with the enjoyment of the right to water. (General Comment No. 15, paragraph 23)

Frequently, it is not states, but private companies or individuals that deprive people of their access to water. This occurs, for example, when private enterprises arbitrarily exclude certain users from access to the water supply or when industrial activities contaminate or deplete water resources. In such cases, the state is obliged to protect the rights of its citizens.

3. FULFILL: the state adopts the necessary measures directed towards the full realization of the right to water. (General Comment No. 15, paragraphs 25, 26, and 29)

In addition to preserving access to safe water, the state should actively promote the full realization of the right to water. Within the possibilities and resources available, states should set up systems for water supply and sanitation and improve those that already exist, especially in rural and poor urban areas. The right to water should be recognized in national legislation.

States are required to fulfill these obligations and guarantee the right to water and sanitation at the national level, through appropriate policies and legislation, with clear objectives and plans for implementation. If a state recognizes the right to water as a human right, it then recognizes that:

- **Drinking water is a legal right, which should be respected, protected, and guaranteed; it is not a commercial good or a service provided out of charity.**
- **The state should specify clearly what is meant by “minimum service” in order to guarantee access to the entire population and reduce inequities.**
- **The state should carry out actions that effectively improve levels of access, especially among the most deprived groups.**
- **The state should take steps to empower vulnerable communities and groups so that they participate in decision-making processes.**
- **The state should agree to be monitored by the means and mechanisms available in the United Nations human rights system.**
- **The state should be accountable to the society.**
- **The recognition of water and sanitation as human rights in national constitutions and in international and regional human rights instruments is only the first step toward guaranteeing the fulfillment of these rights. Nevertheless, this commitment should lead to the formulation of clear public policies, plans, and legislation, and to concrete actions that respond to the needs and capacities of each country and are grounded in a rights-based approach⁹.**



⁹ An example is the monitoring carried out by the Inter-American Court of Human Rights (see the case of the Sawhoyamaya Indigenous Community v. Paraguay in 2007, http://www.corteidh.or.cr/docs/comunicados/cp_04_071.pdf).

Public policies based on the human rights approach

The formulation of public policies, plans, and legislation on water and sanitation should be grounded in the following basic principles: (i) indivisibility and interdependence of human rights; (ii) nondiscrimination and attention to vulnerable groups; (iii) empowerment and participation of the population; and (iv) control and accountability of officials (20).

1

Indivisibility and interdependence of rights

Public policies that affect one human right will inevitably have impacts on other human rights; thus, public policies based on the human rights approach are necessarily intersectoral.

International and regional human rights bodies as well as national and international courts have interpreted the right to water as implicit in other human rights, such as the rights to life, health, an adequate standard of living, food, housing, and education (20). When the right to water is infringed, other rights are thereby undermined as well, such as the right to a healthy environment, the right to food, the right to decent housing (21), and even the right to freedom, understood in the broadest sense (22).

The interdependent, interrelated, and indivisible nature of human rights is one of their most important attributes. The problem of access to water and sanitation does not stem simply from lack of technology, financial resources, and infrastructure. It is also a matter of setting priorities, of power relationships within a society, and of poverty and inequality. These are the root causes of the problem. Solving them necessarily requires an intersectoral approach (23).

The right to water and sanitation does not depend, or at least should not depend, on a person's political and/or economic situation (24). There are international treaties and conventions on human rights that require states to provide access to water and sanitation to all their inhabitants, regardless of gender, race, political affiliation, or religious beliefs, among other factors.

2

Attention to vulnerable groups – nondiscrimination and equality before the law

Public policies should identify population groups or sectors in which the right to water has been abridged and pay special attention to the causes of this deprivation, with a view to finding solutions.

However, more than 1,000 million people in the world suffer health problems, as well as economic and social difficulties, because they lack access to sources of safe water and to basic sanitation services. Some groups are severely affected (25):

The poor, in both rural and urban areas, who have neither the means for access nor the resources to deal with the problems caused by lack of access;

Women, who are responsible for collecting water from public sources for the household and who are particularly vulnerable to the lack of basic sanitation conditions needed for their health and safety;

Children, because health problems related to water and sanitation affect their well-being and education and can even put their lives at risk;



Indigenous peoples, who suffer daily from the expropriation or contamination of their natural water sources, which are a critical resource for their production activities and thus for their subsistence.

Establishing water as a human right specifically rules out the possibility that people can be excluded from basic services for any reason, for example, because they are not able to pay for them: this principle is crucial for guaranteeing services to the poorest sectors (25).

The use of a human rights approach in policy-making on water and sanitation helps prevent the situation of the most marginalized and vulnerable groups from being hidden by global or aggregate indicators. Quite to the contrary, this approach pays special attention to the most affected groups and makes every effort to guarantee their rights on a level comparable with the rest of the society.

To fulfill the principle of nondiscrimination, monitoring guidelines should be established to clearly identify progress in this regard.

States should identify groups that face discrimination, monitor progress with respect to these groups, and work toward the objective of generalized nondiscrimination (26).

One of the essential attributes of the human rights–based approach is its potential to empower people, challenge existing inequities, and bring about real and sustainable changes in power relationships, in particular for socially excluded groups (26).

People's empowerment and participation

3

Those responsible for formulating public policies on water and sanitation should see people as holders of human rights. They should enable communities and, in particular, the most affected groups to participate in a manner that is active, free, and transparent, and takes place at all levels of the development process.

Access to information, transparency, and education are essential pillars for achieving people's empowerment. People cannot participate effectively in political decision-making or claim their rights if they do not have access to the necessary information (21, 24).

The “*integrated approach*” to the provision of water and sanitation is the expression of a policy built on a human rights–based approach. This approach implies that community participation and education should be integrated with technology to achieve access to water and sanitation as a human right (24).

People have to be able to voice their opinions and participate when decisions are made that affect their access to water and sanitation services (21). In this regard, the Committee on Economic, Social and Cultural Rights has stated: “The right of individuals and groups to participate in decision-making processes that may affect their exercise of the right to water must be an integral part of any policy, programme or strategy concerning water. Individuals and groups should be given full and equal access to information concerning water, water services and the environment, held by public authorities or third parties” (CESCR, General Comment No. 15, 2002) (18).



Public policies on water and sanitation should be based on the concept of service as “co-production,” whereby users participate actively in the production of public goods. Ensuring that users are involved at the higher levels of decision-making creates mechanisms of control and accountability and makes users aware of limitations, existing inequities, and the availability of existing resources (27).

Steps should be taken to promote active participation by all stakeholders, including (23):

- **Users.** They should be able to claim and exercise their rights. Their knowledge and preferences should be taken into account during the planning process so that the resulting services are efficient but also acceptable to the population. Citizen participation should be understood as essential to the sustainable improvement of services that fulfill the rights of the community and its members (24).
- **Local governments.** Because of their proximity to communities, they should be able to offer better service and accountability.
- **Central governments.** The best way to achieve good results in water and sanitation is with the support of the central government, which can provide resources (mainly economic) and regulations (applicable to both private companies and local governments). The “absent state” opens the door to abuses by third parties and, therefore, the emergence and persistence of situations of deep inequity.
- **International cooperation and donor agencies.** These agencies should structure their financing in accordance with the priorities set by national governments and facilitate the coordination of different sectors.
- **The private sector.** When the private sector is responsible for delivery of water and sanitation services to a large part of the population, it should be subject to state regulation and monitoring, both to avoid exclusion of population groups that are unable to pay for the services and to guarantee the quality of services.

Access to information, transparency, and education are essential pillars for achieving people's empowerment. People cannot participate effectively in political decision-making or claim their rights if they do not have access to the necessary information

4

Control and accountability

Officials should permit and facilitate monitoring of the implementation of public policies and the progress made. They should be held accountable to the society as a whole.

States always bear the greatest responsibility for ensuring that every person has adequate access to water and sanitation. Regardless of who directly provides the services, states have the obligation to guarantee that all persons can enjoy their right to water and sanitation. They must supervise and control the realization of these rights at all times. In order to hold states accountable for their actions, it is essential that those whose rights have been violated can go before a tribunal or similar institution to claim their human rights and, when appropriate, receive compensation (21).

When does the state abridge the right to water and sanitation?

- There is no violation of the human right to water and sanitation when a government really does not have sufficient means to put these rights into practice.
- However, this is *only* the case when the state has genuinely tried to make use of resources at its disposal in the most effective way possible.

- **When the state does not fulfill its basic obligations, such as by guaranteeing the minimum water supply necessary to prevent diseases, it should demonstrate that it has effectively used all the resources at its disposal.**
- **Normally, all measures that deliberately reduce people's access to water and sanitation are proscribed, which means that the state must justify every measure that impedes progress and demonstrate that it did not have another alternative.**
- **When sufficient resources are not available to fulfill the rights to water and sanitation, states at a minimum should recognize the situation and respond with appropriate measures, such as by preparing a mitigation strategy and/or requesting international assistance.**

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Distribution policies that promote equitable access to drinking water and sanitation

Possible solutions to the problems of water and sanitation in the Region must deal with the issue of “institutional infrastructure,” defined as the social, institutional, and financial means for providing, managing, and ensuring the construction, maintenance, and operation of water and sanitation services. With respect to the people or institutions that are mobilized to provide access to water and sanitation services, at least three different approaches have been proposed (28):

- **Self-initiated approaches:** A person or group of people, motivated to improve water and sanitation conditions, decides to invest to create their own services. They do so without any kind of external assistance, except for some situations in which a cooperative relationship is established with an agency or private provider.
- **Opportunity-driven approaches:** Small enterprises, local private companies, or large private sector organizations provide services, motivated by the need to improve their means of subsistence (usually in the case of small-scale providers) or by a quest for profit.
- **Externally initiated or supported approaches:** In this case, governments, donors, or non-governmental organizations (NGOs) support or facilitate water and sanitation systems, motivated by broad public objectives, international development agendas, or political imperatives.

Each of these approaches is affected to a greater or lesser extent by a series of enabling factors that determine the characteristics of the services and condition their quality, coverage, and possibilities of scaling up (28). These factors can be grouped into three clusters: financing, demand stimulation, and support systems.

There are various sources of financing for construction, operation, and maintenance of water and sanitation services, ranging from those in which all costs are assumed by the users themselves to those based on development bank loans, subsidies, or credits. Bilateral and multilateral cooperation and credit agencies play an essential role in the financing of initiatives for improving access to drinking water and sanitation in low- and middle-income countries. However, only 12% of this assistance is directed to countries where less than the 60% of the population has access to an improved water source. The funds tend to go to large-scale sanitation and water projects with visible short-term impacts, rather than to inexpensive technologies or the rural sector (14). These findings underline the need to coordinate international assistance with the priorities set by governments in order to allocate funds to initiatives that benefit the neediest groups.

Traditionally, both public corporations and, especially, private corporations have provided services using a supply-based model, without considering the needs or expectations of the population. This model has important defects, in particular for coverage of rural areas and low-income populations in peri-urban areas. Strategies to stimulate demand refer to interventions initiated by the community itself, by governmental and nongovernmental entities, and, less frequently, by private enterprises, aimed at increasing demand from the population. These are several types of such interventions, including those focused on health and, more recently, social marketing oriented to user desires and preferences.

Los *sistemas de apoyo* incluyen el marco regulatorio, las competencias técnicas (tanto específicas como de gestión) para operar el servicio, la cadena de suministros que sostiene al servicio, las actividades para construir capacidades y las alianzas entre sectores.



Support systems include the regulatory framework, technical competencies (both specific technical and management competencies) for operating a service, the supply chain that supports the service, capacity-building activities, and intersectoral partnerships.

The characteristics of each of these factors depend on the approach, on the type of service (water supply or sanitation), and on the particular context.

The opportunity-driven approach, based on a model of privatization of services, prevailed over a period of several decades in many Latin American countries. Questions persist as to whether the private sector can do better than the public sector in managing water and sanitation, and whether the supposed benefits of privatization compensate for the issues of equity and social justice it raises.

During the 1980s and 1990s, international agencies took a leading role in involving the private sector in the reform of the water and sanitation sector in LAC. This was linked to broader efforts by the United States government and agencies such as the World Bank and the International Monetary Fund to promote the development model known as the “Washington Consensus.” This model was based on the pillars of market liberalization and state reform, beginning with fiscal austerity and privatization (22, 29).

Participation of the private sector was justified was the argument that it would generate the investment necessary for the sector, increase access, improve the quality of services, and reduce public sector deficits (29). However, the evidence on the effects of privatization in LAC is limited and inconclusive.

In general, the available studies can be divided into two groups: statistical and econometric studies and case studies (29, 30). The statistical and econometric studies, in general, indicate that privatization has had a positive impact on economic performance, especially from the microeconomic perspective. However, the analysis of different countries has been inconclusive. On the other hand, the case studies have demonstrated improvements in coverage, productivity, efficiency, and quality, but the process is complex and benefits are not automatic (29). In addition, one should note that the case studies have selection biases and that it is difficult to generalize the results (30).

In terms of coverage, the evidence is inconsistent. Quasi-experimental studies (controlled before-and-after studies) and household survey results in Argentina, Brazil, and Bolivia show that privatization is not associated with an increase in service coverage (30). On the other hand, an econometric study conducted in Argentina concludes that privatization improved coverage and also reduced infant mortality (31, 32), although its results have been challenged based on possible methodological limitations of the study design (22, 29).

Controlled studies show that after privatization, service coverage increased. However, coverage in non-privatized areas (used as a control group) also increased, suggesting that the privatization per se is not necessarily responsible for the improvements (22, 29, 30). In Bolivia there was no significant difference between changes in coverage of La Paz and El Alto and the remaining areas which were not privatized (33). These results agree with those found in the analysis of household surveys in Argentina, Bolivia, and Brazil, in which privatization does not show a significant correlation with increased coverage rates (30).

On the other hand, some studies carried out in Argentina show that privatization had a statistically significant effect in bringing about increased coverage and improved well-being, based on reduction in the mortality rate for children under 5 (31, 32). These studies estimate that the number of households with piped water connections increased by 11.6% in privatized areas, compared to 3.7% in nonprivatized



areas. In addition, infant mortality fell between 4.8% and 6.7% in the privatized areas, with the larger declines in the poorer areas (31). A later study obtained similar results, concluding that privatization led to a reduction of 5% in the infant mortality rate (32). These results have been criticized because they do not explicitly specify the causal mechanism between privatization and reduction of infant mortality (29). Moreover, although the increase in coverage is attributed to the participation of the private sector, the nonprivatized areas began with higher coverage levels (86.6% as compared with 64.0%), making increases there more difficult to achieve. Furthermore, at the end of the study period, coverage in the nonprivatized areas was higher than in the privatized areas. Similarly, in the final year of analysis, mortality in the privatized and nonprivatized areas was very similar (3.7 and 3.9, respectively) (22).

Questions have also been raised about the coverage increases identified in these studies that consider privatization to be a successful initiative, since they begin from a base of very low levels of investment resulting from reductions in state financing (22). It has also been argued that the increases were due to regularization of previously unrecorded or illegal connections or, alternatively, to international assistance, rather than being the result of private sector investments (30).

Privatization also raises concerns about equity, given its potential impact on access by the poorest households (22, 29). Although there is evidence to suggest that the most vulnerable groups have not experienced negative effects (30, 31, 32), there is also evidence that they have not benefited from privatization (34, 35, 36).

In Argentina it has been observed that privatization processes can create obstacles that make it difficult for the poorest households to obtain and maintain access to public services. The cost of new connections in poor neighborhoods may be so high that the poor are forced to move to other areas (34). Furthermore, it has been estimated that the gains from privatization have disproportionately benefited the middle- and high-income population in Argentina, while among poor households there have been problems with ability to pay (35). Finally, it has been shown that only 69% of poor households in Argentina have benefited from privatized water and sewerage services, compared to 89% of the richest families, and that the share of household income used to pay for these services is 2.7% and 0.5%, respectively (36).

Another problem is the possibility of rate increases (21, 29). In fact, it has been observed that in almost all cases after privatization, prices have risen, which can result in deepening inequity (29, 30). However, very few studies have addressed these problems (29), and in some cases the evidence is unclear because of lack of information (33).

In Argentina, rates for drinking water and sanitation services increased 11% after privatization (36). In 2005, the company Aguas Argentinas (responsible until 2006 for providing service to the city of Buenos Aires and its suburbs) requested a 60% rate increase to compensate for losses after the crisis in 2002. In Chile, the rate increase for privatized services was 40%, compared to 20% for nonprivatized services (14). In Cochabamba, Bolivia, two months after privatization, prices increased by 35%, according to shareholders of the company, or between 35% and 50%, according to the population.

The privatization of drinking water and sanitation is controversial because of specific characteristics that distinguish these services from other public services, including their monopolistic character, their externalities, and their role as a social good (22, 29–32).

In the first place, the possibility of competition is limited: provision of drinking water and sanitation is a natural monopoly, given the existence of significant fixed costs and economies of scale. Second, the

Controlled studies show that after privatization, service coverage increased. However, coverage in nonprivatized areas (used as a control group) also increased, suggesting that the privatization per se is not necessarily responsible for the improvements.

sector presents externalities, especially in relation to health. Third, these services are essential to daily life and constitute an important social and public good (22). The motivations of the private sector, in particular of large companies, are tied to profit seeking and not to the improvement of public health outcomes (22). This would explain the lower flow of investments to countries with the greatest need. It is estimated that between 1990 and 2003, Argentina, Chile, the Philippines, and Malaysia were the countries that received the highest levels of private investment in the sector. However, these are not the nations with the lowest levels of coverage, nor are they the poorest (29).

The big wave of privatizations in the 1980s and 1990s was framed within an ideological current that equates freedom, human rights, and development with political and property rights. Water and sanitation are conceived as goods for purchase, and the state has limited responsibility with respect to the provision of social goods (22). The recognition of water and sanitation as human rights, and policy-making with a human rights-based approach, rejects this conception of water and sanitation as commercial goods. Although it is acknowledged that the private sector may sometimes participate in the delivery of services, the focus is on the regulatory role of the state and its legal obligation to respect, protect, and fulfill these human rights, especially for the most affected groups, as established in the treaties that states have negotiated and ratified.

For all these reasons, the evidence indicates that privatization, when used as the sole approach, and in the absence of regulation by the state to guarantee respect and protection of the right to water and sanitation for the entire population, is not an adequate alternative.

Effectiveness of water and sanitation interventions in improving the health status of the population, and implications for distribution policies

Improvements in water and sanitation not only bring health benefits; they also help improve the situation and autonomy of poor women, who are normally the ones responsible for collecting water for household use. These improvements promote the reduction of poverty and hunger by providing water for industry and agriculture, saving time needed to access drinking water and sanitation facilities, and improving the health of the population. And they reduce inequity, since people without access tend to be the poorest and most vulnerable (37–39).

The effectiveness of water and sanitation interventions in improving health indicators has been extensively investigated. Although the evidence depends on the quality of the primary studies, it is without question sufficiently consistent to support policies of universal distribution of water and sanitation services.

Thirteen systematic reviews (SR) of varying quality, published between 1985 and 2010, evaluated the effects of isolated and/or multiple interventions on the reduction of morbidity and mortality from diseases related to water and sanitation. With the exception of a single study that evaluated the impact of hygiene on the incidence of trachoma (40), all the reviews focused on diarrhea, particularly in children under 5 years of age living in low- and middle-income countries, as the principal result.

In 2010, Cairncross et al. published the results of research that, using a rigorous method known as LiST (41), reviewed high-quality evidence on water and sanitation with a view to estimating the impact of water and sanitation improvements on the reduction of mortality from diarrhea in children under 5. The authors point out that even though the validity of these estimates is conditioned by the quality of the studies that are included in the SRs (for the most part, observational and quasi-experimental studies), to date the available evidence is, without a doubt, sufficiently consistent to support distribution policies aimed at providing water, sanitation, and hygiene to everyone (figure 5) (42).

Effectiveness of interventions to increase drinking water coverage

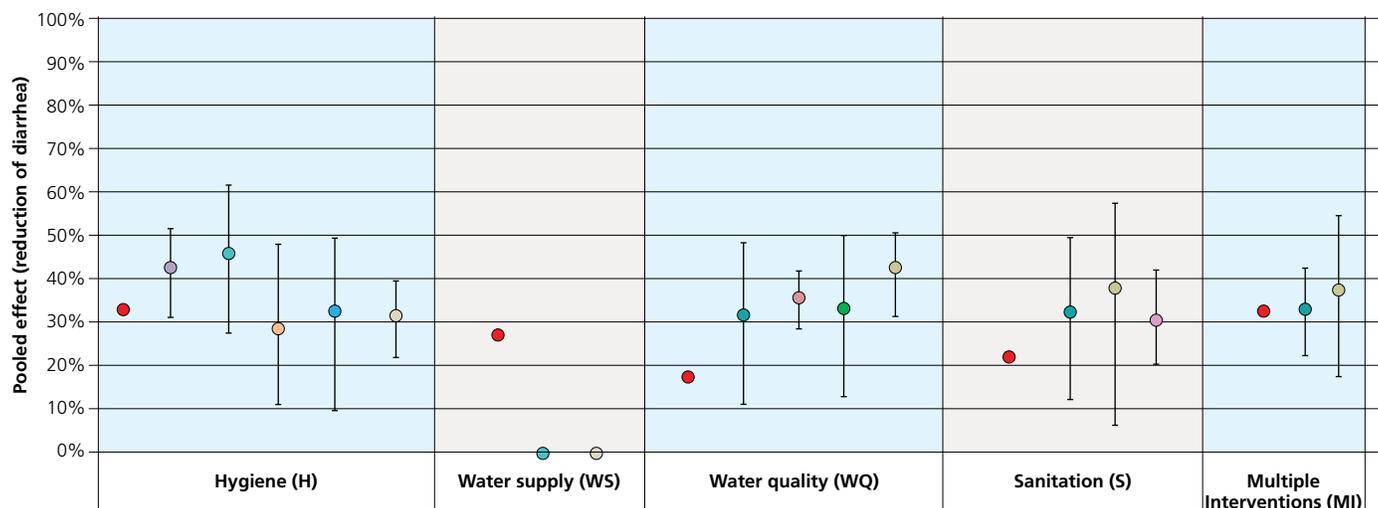
Interventions designed to improve the quality of water in the home appear to have the greatest impact on the reduction of diarrhea in all age groups, including children under 5. However, there is great uncertainty with regard to the “real” effectiveness of such interventions, for several reasons. The evidence comes from tests with high heterogeneity; they may have significant biases; a significant number have conflicts of interest; they were carried out on small populations; and, in most cases, they were of short duration.

With the exception of the review by Esrey, which estimates a reduction of 17%^h, the remaining SRs evaluating the effect of interventions to improve water quality reported a 30% to 45% reduction in diarrhea (33, 37, 38, 40). When water is available in the home rather than only at a public facility, the magnitude of the effect is greater (37, 40).

^h This result is subject to greater variation, since it does not use meta-analysis to produce a pooled estimate based on results of multiple studies. Instead it is only a descriptive measure (average percentage reduction in diarrhea).

The interventions designed to improve the quality of the water in the home would have the greatest impact on the diarrhea reduction in all ages and in children under 5.

FIGURE 5. Effectiveness of different water, sanitation, and hygiene interventions in reducing diarrhea: results from systematic reviews.



References and notes on systematic reviews included:

- Esrey et al. 1991 (H, WS, WQ, S, MI). Estimates the average percentage reduction in diarrhea (although it is an SR, it does not use meta-analysis to derive a pooled estimate) (43).
- Curtis et al. 2003 (H). Evaluates effect of interventions to promote hand hygiene on diarrhea reduction (44).
- Fewtrell et al. 2005 (H, WS, WQ, S, MI). First SR that evaluates and compares the effectiveness of all interventions in water, sanitation, and hygiene (45).
- Aiello et al. 2005 (H). Evaluates effect of interventions to promote hand hygiene on diarrhea reduction (46).
- Clasen et al. 2006 (WQ). Cochrane SR. Evaluates effect of interventions to improve water quality (47).
- Arnold et al. 2007 (WQ). Evaluates effect of chlorine treatment to improve water quality (48).
- Ejemot et al. 2008 (H). Cochrane SR. Evaluates effect of hand hygiene on diarrhea reduction (49).
- Waddington et al. 2009 (H, WS, WQ, S, MI). SR promoted by the International Initiative for Impact Evaluation (50).
- Norman et al. 2010 (S). First SR on the effectiveness of sewerage interventions. Includes 25 observational studies, 20 of which were carried out in LAC (51).

Also in 2010, Clasen carried out a Cochrane SR on different methods of excreta disposal that identified 13 experimental and quasi-experimental studies. It is not included in the figure because it did not include a meta-analysis, given the heterogeneity of the studies (52).

Despite the magnitude of the observed effects, there is still an active debate about the “real” effect of these interventions. Some authors and experts contend that the effects can be explained almost entirely by trends independent of the interventions (1).

In the first place, there is great heterogeneity of research results, ranging from studies that find the interventions have no effect to others that show reductions in diarrhea of up to 85%. There are various possible reasons for these uneven results, including differences in the efficacy of different methods of water treatment, differences in people’s adherence to prescribed measures, and differences in methods of measuring and analyzing the results. Second, there exists a very high risk of bias in a considerable proportion of the tests: the vast majority are not blind tests, and they use subjective measures for the measurement of diarrhea. The possibility of bias added to the existence of conflicts of interest, which in many studies are undeclared, leads to much uncertainty in interpreting the results (40, 42).

Of all the interventions in water and sanitation, those aimed exclusively at increasing water supply appear to have the least impact on reduction of diarrhea. The creation of a new water connection to the home was shown to be more effective than the creation of a public source in the community.

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As indicated in the figure, the studies that evaluated the effectiveness of interventions to improve water supply in the community did not show protective effects. Esrey reported a reduction of 27% (33). However, the SRs by Fewtrell (2005) (35) and Waddington (2009) (40), which use more rigorous methods, did not show a reduction in diarrheal diseases (1.03 [95% CI, 0.73–1.46] and 0.98 [95% CI, 0.89–1.06], respectively). In the latter SR, an analysis by subgroup made it possible to identify a protective effect associated with the creation of a new water source in the home, i.e., at the point of use (0.79 [95% CI, 0.63–0.98]), but the same effect was not observed with the creation of public sources (0.95 [95% CI, 0.90–1.00]) (40). These results are consistent with those reported in the SR by Wright et al. (2004), who evaluated the presence of water contamination between the source and the point of use. Although the different studies showed widely varying results, the bacteriological quality of water was considerably lower at the point of use, which shows the importance of educating the population in using methods of safe water storage in the home whenever a new public source has been created in the community (53).

Effectiveness of sanitation services

Interventions designed to improve basic sanitation,ⁱ in particular, adequate excreta disposal, are effective in preventing morbidity and mortality from diarrhea.

The majority of the SRs that evaluated the effect of sanitation showed a reduction in the incidence of diarrhea of between 30% and 40% (35, 40–42). In places where baseline conditions were very precarious, the reduction could be as much as 60% (41).

The review by Norman et al. is particularly interesting, because of the 25 studies included, 20 were carried out in countries of LAC (14 in Brazil, 1 in Honduras, 3 in Mexico, 1 in Nicaragua, and 1 in Peru). Although the review only includes observational studies,^j it is the only one that evaluates the effectiveness of sewerage systems compared with that of alternative onsite sanitation solutions such as latrines,

ⁱ Broadly conceived, sanitation includes not only the collection, disposal, elimination, and recycling of human excreta, but also the drainage, disposal, recycling, and reuse of wastewater, rainwater, and solid waste from homes, industry, and hazardous sites. From a health perspective, basic sanitation refers in particular to the safe elimination of human excreta.

^j Experimental or quasi-experimental studies that evaluated sewerage systems were not identified.

septic tanks, or dry-composting toilets. The pooled relative risk (RR) estimate for all studies was 0.70 (95% CI, 0.61–0.79). When only the studies in LAC were included, the pooled RR was 0.68 (95% CI, 0.59–0.79). In places with very poor sanitation conditions, the observed effect was even greater, with pooled RR of 0.41 (95% CI, 0.27–0.61). For the final meta-analysis seven studies were included, six of which were in LAC (42).

Effectiveness of hygiene

Hygiene is an important determinant of health and is one of the benefits of improved access to drinking water and sanitation. Interventions at the community level designed to promote adequate hand hygiene reduce the incidence of diarrheal diseases in the population by between 30% and 40%. However, this effectiveness depends on the availability of safe water.

Cairncross et al. reported the results of three studies that evaluated the effectiveness of interventions to promote hand washing in contexts of constrained access to safe water sources. The reductions in risk reported in the three studies (11%, 26%, and 41%) were less than the combined effect found in the review as a whole (42).

Hand hygiene not only reduces the frequency of gastrointestinal diseases but also contributes to the reduction of respiratory diseases, which have a large impact on the burden of disease in the entire population, and especially in children under 5 years of age.

The provision of soap (not antibacterial) together with educational activities to promote adequate hand hygiene was the intervention that showed the greatest protective effect. This was the case not only for gastrointestinal diseases (reduction of about 30%), but also for respiratory diseases (50% reduction, although it should be taken into account that this analysis only included one study) (41). The evidence of the effect of these practices on the reduction of deaths from diarrhea is less consistent. There is limited evidence on the effectiveness of this intervention in reducing mortality from diarrhea. Only one of the SRs managed to identify a single study that assessed deaths from diarrhea and from all causes in the population (42).

There are also studies that evaluated combined interventions featuring all three elements, that is, water, hygiene, and sanitation. However, the evidence is not sufficient to establish whether the different interventions are substitutes or complementary. An analysis by subgroup suggests that both sanitation and hygiene have greater effects when they are combined with interventions that improve access to water or water quality (37, 40).



Sustainability and cost-effectiveness of water and sanitation interventions

Sustainability is a key aspect to be considered in every initiative aimed at improvement of water supply and sanitation systems. It is particularly important in interventions that seek to improve water quality and hygiene practices, since the effectiveness of such interventions depends strongly on behavioral changes by the population.

Due to faltering adherence by the population, the effectiveness of interventions to improve water quality is reduced in studies of longer duration. This increases the uncertainty about the sustainability of these interventions over time (40, 41, 43).

Deficiencies in maintenance and operation of water delivery services are another factor that can negatively affect the sustainability of initiatives to improve the quantity and/or quality of water. Even short interruptions in water provision or treatment have very significant impacts on people's health.

In LAC, although drinking water coverage of the population exceeds 80%, there are serious problems with water quality in most countries, generally as a result of deficiencies in the operation and maintenance of the services (6).

A study conducted by Hunter et al. showed that even a few days of suspended services can erase all the health benefits associated with the supply of safe water. In low- and middle-income countries, the negative effects of service interruptions are more significant than in high-income countries (54). The absence of mechanisms for monitoring and control of water quantity and quality aggravates this situation (55). The population covered by systems for monitoring and control of water quality in particular, and of drinking water and sanitation services in general, is very limited in urban areas and almost nonexistent in rural areas. It is estimated that only 24% of the urban population of LAC is covered by effective water-quality surveillance systems. Furthermore, only 13.7% of the wastewater collected by the few existing sewerage systems is treated (6, 55).

The following factors, among others, affect the continuity of the quantity and quality of water: systems that function only intermittently, inefficient treatment plants, absence of or problems with disinfection, distribution systems in poor condition, clandestine and poorly constructed household connections, and problems with household installations. In low- and middle-income countries, it is estimated that more than 219 million people (approximately 60% of the population served through household drinking water connections) have water provided by hydraulic systems that operate intermittently (6, 56).



Cost-effectiveness and cost-benefit analysis of water and sanitation interventions

Interventions in water and sanitation not only are effective, but indeed are one of the most cost-effective health interventions. Cost-effectiveness ratios are estimated to range from \$20 per DALY for water disinfection at the point of use to \$13,000 per DALY for access to improved water and sanitation services^k (14).

Other estimates^l show that, except for household water connections and the construction of latrines, the cost-effectiveness ratio is below the \$150 per DALY that the World Bank proposes as a limit for the selection of interventions. Furthermore, the cost-effectiveness ratios for interventions that promote sanitation and hygiene are estimated at \$11.15 and \$3.35 per DALY, respectively, lower ratios than those for the promotion of oral rehydration therapy to prevent diarrhea (\$23 per DALY) (29).

It has also been shown that in areas where coverage of water and sanitation is low, improvement in coverage can be very cost-effective, approximately \$94 per DALY for installation of a hand pump or \$270 per DALY for the provision and promotion of basic sanitation installations (57).

Available cost-benefit analyses indicate that improvements in access to drinking water and sanitation are cost-beneficial. The primary reason for the economic benefits obtained is the time savings from access to improved water and sanitation installations, which contributes at least 80% of the gains (17).

One study estimated that in developing regions, every US\$1 invested brings gains of between \$5 and \$46, depending on the intervention selected.^m Even if worst-case scenarios are used to generate estimates, benefits exceed costs in all developing regions (5). Another study came to similar conclusions, estimating that the return on every \$1 directed toward reducing by half the number of people without access to drinking water by 2015 is between \$5 and \$28 (50).



^k The interventions analyzed in this study were: reduce by half the population that in 2000 did not have access to an improved water source and sanitation installations; provide all people who did not have access to an improved water source in 2000 with chlorine for water treatment; increase to 98% the coverage of improved water sources and sanitation installations; increase to 98% the coverage of improved water sources and sanitation installations, plus water treatment with chlorine; increase to 98% the coverage of household water connections, with water treatment and monitoring of water quality; and connection to the sanitation network with partial treatment of wastes.

^l The interventions evaluated were: access to drinking water from a hand pump or public source; access to drinking water from a household connection; regulation and advocacy of drinking water; construction and promotion of sanitation; and promotion of sanitation and hygiene.

^m The interventions evaluated in this study were: reduce by half the population without access to drinking water by 2015, taking 1990 coverage as a baseline; reduce by half the population without access to drinking water and sanitation by 2015, taking 1990 coverage as a baseline; provide universal access to drinking water and sanitation; provide universal access to water, with treatment at the point of use; and provide access to drinking water and the sanitation network.



Human rights are understood as basic, universal, legal or moral guarantees that apply to all persons and protect them from the actions or omissions of states and some nonstate actors. They include civil, cultural, economic, political, and social rights.



Section 2

Water, sanitation, and
human rights: conceptual
and legal bases

Until the end of the last century, it was assumed that the right to the water had not been formalized as a human right, but the first decade of the twenty-first century brought a new understanding. International law, international agreements, and evidence from the practices of states strongly and broadly support the human right to a basic water requirement (58).

On 26 July 2010, in its 64th Session, the United Nations General Assembly declared water and sanitation to be a human right and urged member states to implement the strategies, actions, and action plans necessary for achieving access to water and sanitation for all their citizens, and to make the necessary budget allocations for this purpose (18). After a review of the resolution by independent experts (27), the United Nations Human Rights Council gave its approval on 30 September of the same year and confirmed the existence of the right to water and sanitation in international laws.

The recognition that the realization of human rights depends on the resources available in each state party led to the principle of *progressive realization*: states are required to respect, protect, and fulfill the right to water to the *greatest extent possible in every situation*.

The principle of progressive realization establishes a mandate to fulfill human rights *within the limits of the resources that each state has available*. Each state, using the MDGs as a guide and taking into account its own priorities and resources, should set its own goals and make a commitment to achieve them. This is the essence of the concept of “progressive realization” as established in Article 2 (1) of the International Covenant on Economic, Social and Cultural Rights (ICESCR)ⁿ; the same principle is also reflected in Articles 11 (“continuous improvement of living conditions”) and 12 (“the highest attainable standard of physical and mental health”). The Convention on the Rights of the Child expresses the same view in its Article 24, which establishes the right of all children to “enjoyment of the highest attainable standard of health” (64).

Progressive realization implies that states should mobilize for the full realization of the right to water and sanitation, resulting in clear distribution policies based on a human rights approach.

“...The right to water and sanitation is a human right, equal to all other human rights, which implies that it is justifiable and enforceable. Hence from today onwards we have an even greater responsibility to concentrate all our efforts in the implementation and full realization of this essential right...”

Catarina de Albuquerque, on the adoption of the United Nations resolution (September 2010)

ⁿ Specifically, Article 2.1 of the ICESCR says the following: “Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.”

Progressive realization creates two types of obligations on the part of states. First, states are required to guarantee access for every person, at all times, to a minimum quantity of water sufficient to prevent dehydration and diseases.^o Second, states should move rapidly and effectively toward the achievement of their own goals and, over time, toward the full realization of the right to water. This mobilization should be deliberate, with concrete and focused steps, and should be sustained with clear policies designed to suit the legislative, judicial, administrative, financial, educational, health, and social characteristics of each country.

1948: The Universal Declaration of Human Rights

In the Universal Declaration of Human Rights (see box), the right to water is considered one of the second-generation rights^p that are economic, social, and cultural in nature. These rights are broadly guaranteed in Article 22: “Everyone, as a member of society, has the right to social security and is entitled to realization, through national effort and international co-operation and in accordance with the organization and resources of each State, of the economic, social and cultural rights indispensable for his dignity and the free development of his personality.”

Article 25 refers specifically to the “right to an adequate standard of living,” which can be understood to include the right to water: “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”

On 10 December 1948, the United Nations General Assembly approved the Universal Declaration of Human Rights as the culmination of a centuries-long process in which legal thinking gradually drew closer to defining the rights that every human being can claim merely by virtue of being human.

^o Dehydration can severely impair to the right to life and physical integrity, which means that **progressivity does not apply** in this case and the state is required to adopt measures to protect the lives of individuals (see the case of Víctor Congo v. Ecuador mentioned above).

^p Legal thinking on human rights distinguishes three generations of rights:

- **First-generation rights** are civil and political rights, or freedoms, which have been claimed at least since the eighteenth century. These are rights that any person can claim, both from other people and from the state itself. They include, for example, freedom of thought, expression, religion, movement, and association.
- **Second-generation rights** began to be claimed at the end of the nineteenth century. They are economic, social, and cultural rights, including the rights to education, health, food, housing, and work. These rights require significant economic resources to guarantee, and thus they can only be fulfilled gradually, depending on historical circumstances and on the possibilities of each state.
- **Third-generation rights** are those which apply not to individual persons but to groups, such as communities, peoples, and humankind in general. They include the right to development, to a healthy environment, to peace, to cultural identity, and to self-determination.



1966: The international covenants

The Universal Declaration of Human Rights, in itself, has only moral standing. Therefore, the signatory states decided to craft additional agreements that would be binding on all states signing them. In 1966 the United Nations General Assembly approved the ***International Covenant on Civil and Political Rights*** and the ***International Covenant on Economic, Social and Cultural Rights***. For these agreements to enter into force, ratification by at least 35 member countries was required, and this did not take place until 1976. Economic, social, and cultural rights include the right to water. Although this right is not explicitly mentioned in the text of the International Covenant on Economic, Social and Cultural Rights, it is indirectly cited in Article 11.1, if one considers the right to water as one of the elements making up the right to an adequate standard of living: *“The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent.”* In addition, the right to water is considered as one aspect of the right to food, and has been designated as such by the Committee on Economic, Social and Cultural Rights, principally in General Comments No. 12 and No. 15.

Finally, Article 12.1 of the International Covenant on Economic, Social and Cultural Rights establishes that *“The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”* The right to water is part of the right to health and has been explicitly recognized as such by the World Health Organization, which holds that access to drinking water and sanitation is one of the eight elements constituting primary health care.

1993: The end of an irrational division

With the end of the Cold War and the growth of the international human rights movement, the artificial distinction between first- and second-generation rights was erased by the World Conference on Human Rights in Vienna (1993), which revisited and reaffirmed the basic principles of the Universal Declaration of Human Rights:

- **Universality and inalienability**
- **Indivisibility**
- **Interdependence and interrelatedness**
- **Equality and nondiscrimination**
- **Participation and inclusion**
- **Accountability and rule of law**

Thus, once the indivisibility of human rights was proclaimed, it was recognized that economic, social, and cultural rights are human rights that have equal status with civil and political rights. At the same time, it became obvious that there was a need to define how these various rights would be operationalized in an interdependent and interrelated manner.



2000: The human right to water in the Millennium Development Goals

The Millennium Declaration commits all of the world's countries, rich and poor, to do everything possible to eradicate poverty, promote human dignity and equality, and achieve peace, democracy, and environmental sustainability. All of this should take place before the year 2015.

The MDGs are an invaluable tool for the progressive realization of cultural, social, and economic rights. However, when regional and country indicators are analyzed in addition to aggregates at the global level, very serious disparities are revealed.

The Millennium Development Goals (MDGs) are derived from the Millennium Declaration of the United Nations, approved in the year 2000 by the largest gathering of world leaders in history. The Millennium Summit synthesized the many declarations, action plans, international summits, and other instruments adopted by the international community, under United Nations auspices, during the decades of the 1980s and 1990s.

- **The human rights–based approach incorporates certain dimensions that the MDGs do not consider. When these aspects are included, the achievements in water and sanitation fall even further short of the desired levels.**

The human right to water establishes that everyone should have access to water that is *safe, acceptable, accessible, and affordable*. Several of these dimensions are not evaluated by the indicators specified for the evaluation of Goal 7, Target 7.C (“Proportion of population using an improved water source,” and “Proportion of population using an improved sanitation facility”). The human rights approach expands on the goals established by the MDGs and, accordingly, also widens the gap between what has been achieved and what is hoped for, according to the standards for full realization of these rights (27).

- **Obligations derived from the recognition of water and sanitation as a human right are not limited to the achievement of the MDG or any other arbitrary goal.**

The achievement of the MDGs would unquestionably represent great progress in development. However, it should be noted that the achievement of the MDG target – to reduce by 50% the proportion of the population without access to safe drinking water and basic sanitation – would still leave 672 million people without access to water and 1,700 million without sanitation (59).

- **The MDGs are goals to be reached at the global level and should not be applied uniformly at the level of states. Reducing the access gap in water and sanitation by 50% may be an ambitious goal in some cases and relatively simple in others (27).**
- **States should express their commitment to achieve the MDGs through public policies in line with the needs and resources of each country and translated into concrete action plans.**

- **The MDGs are a reference point for measuring progress in realization of the human right to water.** This implies going beyond constitutional texts and national legislation to adopt concrete action plans, as pointed out by the United Nations Development Programme. That agency advocates developing a global action plan and calling on each country to build the political capital for implementation. In other words, priority should be given to the construction of a political framework that favors effective implementation of the human right to water. Incorporating this right in the legal framework of each country should be only the first step. It is also necessary to translate this commitment into concrete action; otherwise, there is the risk that governments may adopt the language of human rights merely as a vague principle lacking substance (60).



2002: General comments of the Committee on Economic, Social and Cultural Rights

In an effort to ensure adequate implementation of the International Covenant on Economic, Social and Cultural Rights, the Committee on Economic, Social and Cultural Rights, under the auspices of the Economic and Social Council, has been issuing what are called general comments. These constitute authorized interpretations of the covenant detailing its correct interpretation and defining the rights it contains.

There are three general comments that are particularly relevant to the right to water:

1. The principal one is **General Comment No. 15**, of 2002, which analyzes the right to water contained in Articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights. In this general comment, the Committee on Economic, Social and Cultural Rights explains the legal basis of the right to water, its normative content, and the obligations of states parties. The introduction to the general comment states that “water is a limited natural resource and a public good fundamental for life and health. The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of other human rights. [...] States parties have to adopt effective measures to realize, without discrimination, the right to water, as set out in this general comment.”

General Comment No. 15 is the product of a process in which the international community, under the auspices of the United Nations, has attempted to regulate obligations and rights of the states with regard to water. Earlier milestones include the Mar del Plata Action Plan on water, 1977; the United Nations Convention on the Elimination of All Forms of Discrimination Against Women, 1979; the Convention on the Rights of the Child, 1989; the Dublin Statement on Water and Sustainable Development, 1992; and, most recently, the adoption of the Millennium Development Goals by the Millennium Summit in the year 2000 – along with other pacts and agreements discussed below.

2. **General Comment No. 12** sets forth the right to adequate food, relating it in several ways to the right to water. In fact, the United Nations Special Rapporteur on the Right to Food, in one of his reports, explains that drinking water constitutes part of an adequate diet; accordingly, all the remarks in this general comment also apply to water.
3. **General Comment No. 14** affirms the right to the enjoyment of the highest attainable standard of health. In paragraph 11, “The Committee interprets the right to health [. . .] as an inclusive right extending not only to timely and appropriate health care but also to the underlying determinants of health, such as access to safe and potable water and adequate sanitation, an adequate supply of safe food, nutrition and housing, healthy occupational and environmental conditions, and access to health-related education and information.”

In this general comment, the committee considers that the right to health includes, in addition to a supply of clean drinking water and access to adequate sanitation for households, a similarly adequate provision for health facilities and workplaces. In addition, it calls on states to prevent contamination of water supplies in order to ensure the right to health, among other reasons.



The obligation of governments, according to General Comment No. 15, is to respect the right of access to drinking water within the framework of human rights legislation. This is framed broadly within the context of the principles of respect, protection, and fulfillment of human needs.

This general comment also emphasizes that the 146 countries that ratified the International Covenant on Economic, Social and Cultural Rights (ICESCR) should take steps to progressively extend safe drinking water and sanitation facilities to the entire population, equitably and without discrimination. States should adopt national strategies and action plans that make it possible for them "to move as expeditiously and effectively as possible towards the full realization of the right to water." These strategies should:

- a) be based upon human rights law and principles;*
- b) cover all aspects of the right to water and the corresponding obligations of states parties;*
- c) define clear objectives;*
- d) set targets and the time frame for their achievement;*
- e) formulate adequate policies and corresponding indicators.*

List of documents that address the right to water and sanitation

UNITED NATIONS

- Universal Declaration of Human Rights, United Nations General Assembly, 10 December 1948, Article 25.
- Geneva Convention relative to the Treatment of Prisoners of War, 1949, Articles 20, 26, 29, and 46.
- Geneva Convention relative to the Protection of Civilian Persons in Time of War, 1949, Articles 85, 89, and 127.
- Standard Minimum Rules for the Treatment of Prisoners, adopted by the first United Nations Congress on the Prevention of Crime and the Treatment of Offenders, Geneva, 1955, Rules 15, 16, and 20.
- Declaration of the Rights of the Child, United Nations General Assembly, 20 November 1959, Principle 4.
- Resolution 1803 (XVII) on "Permanent Sovereignty over Natural Resources," United Nations General Assembly, 14 December 1962.
- International Convention on the Elimination of All Forms of Racial Discrimination, United Nations General Assembly, 21 December 1965, Article 5.
- International Covenant on Civil and Political Rights, United Nations General Assembly, 16 December 1966, Articles 1 and 6.
- International Covenant on Economic, Social and Cultural Rights, United Nations General Assembly, 16 December 1966, Articles 1, 11, and 12.
- Universal Declaration on the Eradication of Hunger and Malnutrition, United Nations General Assembly, 16 November 1974, Paragraphs 5, 9, and 10.
- Additional Protocol I to the Geneva Conventions, 1977, Articles 54 and 55.
- Additional Protocol II to the Geneva Conventions, 1977, Articles 5 and 14.



- Convention on the Elimination of All Forms of Discrimination Against Women, United Nations General Assembly, 18 December 1979, Article 14, Paragraph 2, Section h.
- Convention on the Rights of the Child, United Nations General Assembly, 20 November 1989, Article 24.
- Convention concerning Indigenous and Tribal Peoples in Independent Countries, Convention 169 of the International Labour Organization, 1989.
- Mar del Plata Action Plan of the United Nations Water Conference, 1977, preamble.
- Paragraph 18.47 of Agenda 21, in *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992 (A/CONF.151/26/Rev.1, Vol. I and Vol. I/Corr.1, Vol. II, Vol. III and Vol. III/Corr.1, United Nations publication, sales no. E.93.I.8), Vol. I: Resolutions adopted by the Conference, Resolution 1, Annex II.*
- “The Right to Water,” Fact Sheet 35, Office of United Nations High Commissioner for Human Rights, 1992.
- The Vienna Declaration and Programme of Action, approved by the United Nations General Assembly, July 1993.
- Dublin Statement on Water and Sustainable Development, International Conference on Water and the Environment (A/CONF.151/PC/112), Principle 3.
- Programme of Action, in *Report of the International Conference on Population and Development, Cairo, 5–13 September 1994* (United Nations publication, sales no. E.95.XIII.18), Chapter I, Resolution 1, Annex, Principle 2.
- Guiding Principles on Internal Displacement, United Nations Commission on Human Rights, 11 February 1998, Principle 18.
- Committee on Economic, Social and Cultural Rights, General Comment No. 12, 1999, “The Right to Adequate Food.”
- Committee on Economic, Social and Cultural Rights, General Comment No. 14, 2000, “The Right to the Highest Attainable Standard of Health.”
- Committee on Economic, Social and Cultural Rights, General Comment No. 15, 2002, “The Right to Water (arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights).”
- Universal Declaration on the Rights of Indigenous Peoples, resolution approved by the United Nations General Assembly, 13 September 2007.

ORGANIZATION OF AMERICAN STATES

- American Declaration on the Rights and Duties of Man, General Assembly of the Organization of American States, 2 June 1948.
- Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, “Protocol of San Salvador,” signed in San Salvador, El Salvador, on 17 November 1988, in the Eighteenth Regular Session of the General Assembly of the Organization of American States; entered into force on 16 November 1999.
- General Assembly of the Organization of American States, 17 November 1988.



Constitutional recognition of the right to water

URUGUAY

In Uruguay, the human right to water was incorporated in the National Constitution through an amendment in 2004. The following is established in Article 47, as amended:

“Article 47. Environmental protection is a matter of common interest. Persons should abstain from any act that may cause serious degradation, destruction, or pollution of the environment. This provision shall be regulated by law, which can specify sanctions for offenders. [. . .] Water is a natural resource that is essential to life. Access to drinking water and access to sanitation constitute fundamental human rights.”⁹

In Uruguay, the right to water was incorporated in the National Constitution after a popular initiative proposed a constitutional amendment for this purpose. Following a referendum on 31 October 2004, provisions on access to drinking water and sanitation as fundamental human rights were incorporated into the text of the Constitution.

The Uruguayan initiative inspired movements in other states, in accord with many international conventions and agreements. Water supply services should meet social criteria that are incompatible with market principles. Campaigns are under way in Canada, Colombia, and Mexico.

⁹ The complete article reads as follows:

Article 47. Environmental protection is a matter of common interest. Persons should abstain from any act that may cause serious degradation, destruction, or pollution of the environment. This provision shall be regulated by law, which can specify sanctions for offenders.

Water is a natural resource that is essential for life.

Access to drinking water and access to sanitation constitute fundamental human rights.

- 1) National policy on water and sanitation shall be based on:
 - a) Land use planning, conservation and protection of the environment, and restoration of nature.
 - b) Sustainable management of water resources, in solidarity with future generations, and preservation of the hydrologic cycle, which constitute matters of common interest. Users and civil society shall participate in all entities for planning, management, and control of water sources, with watersheds being established as basic units.
 - c) Establishment of priorities for water use by regions, watersheds, or parts of these units, with the first priority being the supply of drinking water to populations.
 - d) The principle that social criteria should be given priority over economic criteria in the provision of drinking water and sanitation services.

Any authorization, concession, or permit that violates the above provisions in any way should be considered null and void.
- 2) Surface and underground waters, except for rain, that are part of the hydrologic cycle constitute an integrated resource serving the common interest; as such they are part of the state domain, as public domain waters.
- 3) The public services of sanitation and water supply for human consumption will be provided exclusively and directly by legal entities of the state.
- 4) The legislature, by a three-fifths vote of the membership of each chamber, can authorize water supply to another country that lacks supplies, for reasons of solidarity.



ECUADOR

The recent revision of the Constitution of Ecuador (24 July 2008) led to inclusion of the constitutional principle that “the human right to water is essential and cannot be waived. Water constitutes a national strategic asset for use by the public and it is unalienable, not subject to a statute of limitations, immune from seizure and essential for life” (Constitution of Ecuador, Title II, Chapter Two: “Rights of the good way of living,” Article 12).¹

Responsibilities of the State of Ecuador

Article 261 of the Constitution, in point 11, provides that the central state shall have exclusive jurisdiction over water resources (taken to include water sources, watersheds, and waterways). This guarantees the public nature of water and its consideration as a national asset that is inalienable, imprescriptible, not subject to appropriation, and essential for life, as provided in Article 12.

The Constitution also gives exclusive competence to the autonomous regional governments (Articles 244 and 251) to secure watershed management (reservoirs, dams, canals) and to foster the creation of watershed councils, pursuant to the law. Chapter III does not mention these councils, and its Article 55 provides only for associations of users. However, limiting participation to water users associations would be contrary to the principle of equality stated in Article 11, point 2, which emphasizes citizen participation, as detailed in Article 95 of the Constitution.

Article 411 establishes the responsibilities of the State with regard to water:

“The State shall guarantee the conservation, recovery and integrated management of water resources, watersheds and ecological flows associated with the water cycle. All activities that can affect the quality and amount of water and the equilibriums of ecosystems shall be regulated, especially in water replenishment sources and zones.

“The sustainability of ecosystems and human consumption shall be priorities in water use and development.”

In turn, Article 66 provides:

“Article 66. The following rights of persons are recognized and guaranteed:

[...] 2. The right to a decent life that ensures health, food and nutrition, clean water, housing, environmental sanitation, education, work, employment, rest and leisure, sports, clothing, social security and other necessary social services.”

¹ Article 32 of the same chapter deals with the right to health, providing that “Health is a right guaranteed by the State and whose fulfillment is linked to the exercise of other rights, among which the right to water, food, education, sports, work, social security, healthy environments and others that support the good way of living.”



BOLIVIA

Bolivia is the country that has most recently introduced the right to water as a basic right enshrined in its Constitution, in 2009.

Article 16 of the Constitution provides:

“Article 16. I. Every person has the right to water and food.

“II. The State has the obligation to guarantee food security, with food that is healthy, appropriate, and sufficient for the entire population.”

Article 20 reinforces this right:

“Article 20. I. Every person has the right to universal and equitable access to basic services of drinking water, sewerage, electricity, household gas, post and telecommunications.

“II. The State, at all levels of government, has responsibility for the delivery of basic services through public, mixed, cooperative, or community entities. In the cases of electricity, household gas, and telecommunications, services can be provided through contracts with private enterprises. The delivery of services should meet the criteria of universality, responsibility, accessibility, continuity, quality, efficiency, effectiveness, fair charges, and necessary coverage, with participation and social control.

“III. Access to water and access to sewerage constitute human rights, are not subject to concession or privatization, and are subject to control by licenses and registries, pursuant to the law.”

In addition, Article 373, in Chapter Five on Water Resources, establishes that the right to water is essential to life and requires the state to ensure the right to water. It provides:

“Article 373. I. The right to water is essential to life, within the framework of sovereignty of the people. The State will promote use of and access to water based on principles of solidarity, complementarity, reciprocity, equity, diversity, and sustainability.”

“II. Water resources in all their forms, both surface and underground, constitute finite, vulnerable, and strategic resources and fulfill social, cultural, and environmental functions. These resources cannot be

Bolivia and the right to water in the United Nations

In 2006, Bolivia and four other Latin American countries signed a manifesto calling for water to be declared a human right. This was presented to the 150 countries attending the Fifth World Water Forum in 2009 with a view to having this vital element declared a right, in order to promote its protection and appropriate use and secure commitments to cooperate in joint activities on the issue.

The declaration signed in Istanbul, Turkey, states: “We, ministers meeting at the Fifth World Water Forum, declare to the forum participants, to the international community, and to the peoples of world that we recognize access to water and sanitation as a human right. We commit ourselves to take the necessary actions for the progressive implementation of this right.”

In addition, Bolivia promoted a resolution of 26 July 2010 in which the United Nations General Assembly established water and sanitation as human rights.



subject to private appropriation. Neither water resources nor water services shall be granted as concessions, and they shall be subject to a regime of licenses, registries, and authorizations in accordance with the law.”

Finally, Article 374 sets forth additional state obligations with regard to respecting and fulfilling the right to water:

“Article 374. I. The State shall protect and guarantee the priority use of water for life. It is the obligation of the State to manage, regulate, protect, and plan the appropriate and sustainable use of water resources, with social participation, guaranteeing access to water to the entire population. The law will establish the conditions and limitations of all uses of water.”

“II. The State will recognize, respect, and protect the customary practices of communities, local authorities, and indigenous, originary, and peasant organizations regarding the right to water, its control, and its sustainable management.”

“III. Fossil water, glacial water, wetlands water, underground water, mineral water, and medicinal water, among others, are priorities for the State, which shall guarantee their conservation, protection, preservation, restoration, sustainable use, and comprehensive management; they are inalienable, not subject to appropriation, and imprescriptible.”





Annexes

ANNEX 1

Review of evidence

The review of evidence focused on three basic questions:

1. Which policies for distribution of drinking water and basic sanitation in Latin America and the Caribbean contribute to the fulfillment of human rights?
2. Which distribution policies contribute to equitable access to drinking water, hygiene, and basic sanitation in Latin America and the Caribbean?
3. Which policies for distribution of drinking water, hygiene, and basic sanitation affect the level of health/disease of the population, measured objectively through morbidity or mortality indicators or other health indicators in Latin America and the Caribbean?

Evidence selected to support responses

The following criteria were used to select studies to support responses to the three study questions:

a) Eligibility criteria

Every study that included a reference to water, hygiene, or sanitation in its title or summary was considered eligible. If an eligible study addressed aspects of human rights or equity, it was selected for application of the inclusion and exclusion criteria.

b) Inclusion criteria

All documents meeting the following criteria were included:

1. **Type of study, by question:** *Human rights approach (question 1): case studies, narrative reviews, expert reports, and opinion articles.*

Impact of public policies on equity (question 2): case studies, comparative studies, comparative analyses of household surveys, ecological studies, quasi-experimental primary studies, and econometric studies.

Impact of public policies on health outcomes (question 3): systematic reviews and economic evaluations in health (for example, studies on cost-benefit and cost-effectiveness).

2. **Type of participants:** People who reside in rural and/or urban areas of LAC.
3. **Types of intervention:** All kinds of studies dealing with public policies defined as information flows, courses of action, and/or interventions to solve problems related to water and sanitation in specific political circumstances.

Interventions were grouped into three broad categories: improvement of disposal of human wastes and wastewater from homes (sanitation), promotion of hand washing and other hygiene practices (hygiene), and improvement of access to safe water. Within the latter category, two types of interventions are recognized:

- Interventions designed to improve the supply of water, for example, by increasing access to an improved water source, through the creation of either a public source in the community or a household source.
- Interventions designed to improve the quality of water, at a public source or in the home, using different types of technologies. These range from the simplest, such as the physical removal of pathogens (through filtration, absorption, or sedimentation) or chemical treatment (chlorination), to others such as disinfection by heat or ultraviolet radiation (using solar radiation or a UV lamp).

4. **Types of results:**

- In the case of question 3, the primary results considered were (a) effectiveness (measured through mortality and morbidity indicators for diseases related to water and sanitation), and (b) cost-effectiveness (cost-effectiveness, cost-benefit, and/or cost-utility ratios).

Search, selection, and synthesis of evidence

Manual and electronic searches were conducted in accord with the recommendations of the Cochrane Collaboration (61). Based on the components of each question, corresponding thematic groups, descriptors, and keywords were defined for each database selected. Keywords related to water were prioritized by their relevance to the theme. The words “sanitation” and “hygiene” were only included as descriptors (annex 1, table 1).

The manual search included: (a) search for relevant articles on the websites of institutions concerned with the topic of water and human rights (UNICEF, PAHO, WHO, ECLAC); (b) legal instruments; and (c) a manual review of references in the studies included.

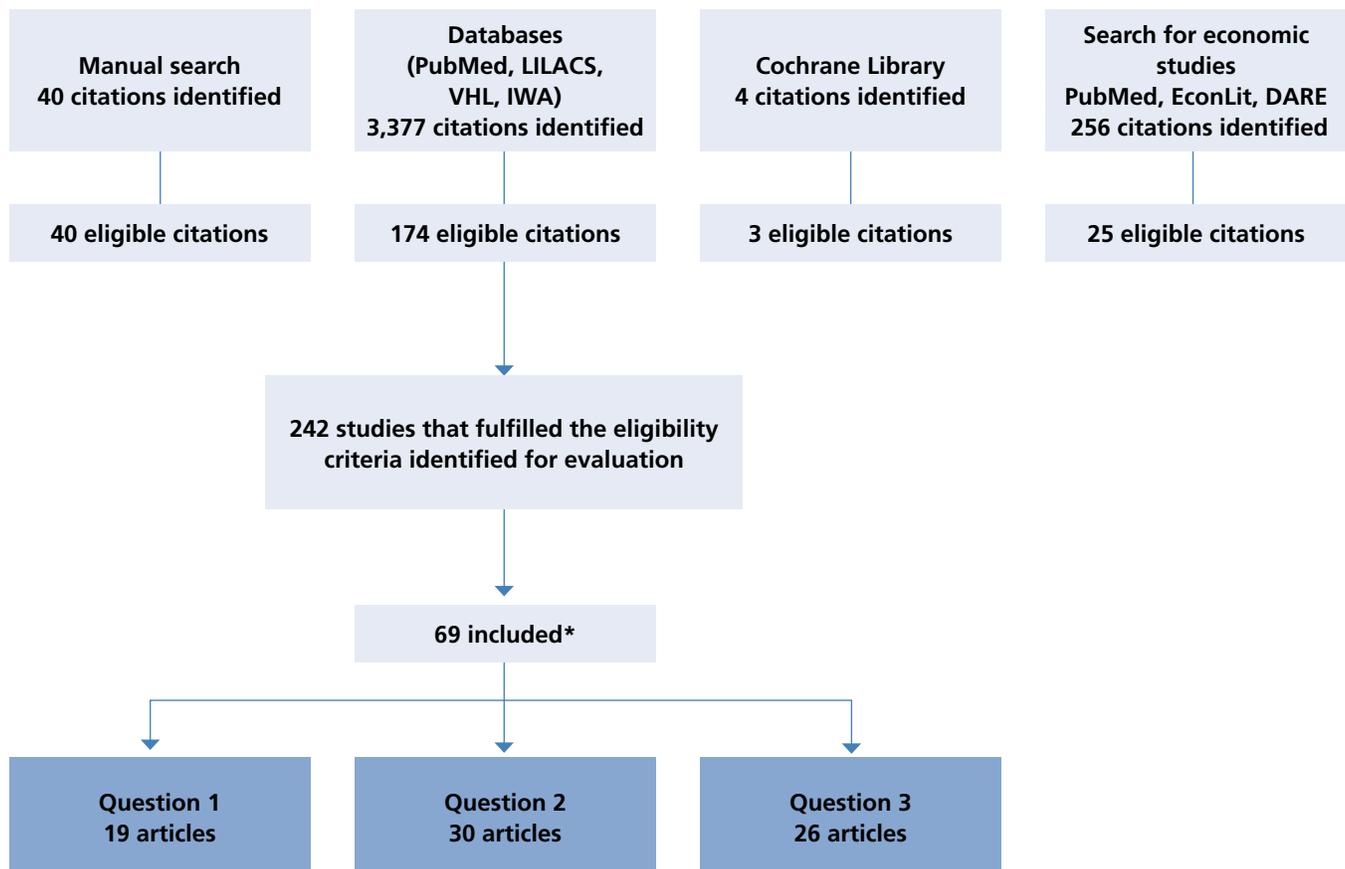
The electronic search included: (a) generic databases: MEDLINE; BIREME/PAHO/WHO Virtual Health Library (VHL, including LILACS, LEYES) and the Virtual Library of Sustainable Development and Environmental Health; (b) the Cochrane Library; (c) meta-search engines and other data sources related to the topic, including: Políticas públicas sobre pobreza en América Latina y el Caribe, database of the Latin American and Caribbean Economic System (SELA), regional inter-governmental agency; IWA Publishing Online Journals and Water Reference Library (Water Intelligence Online); Google Scholar; (d) specific search strategy for economic studies and evaluations in PubMed, EconLit, and DARE.

The search fields included were keywords, title, and summary. Published works were included without restriction by language. The search for articles in MEDLINE on questions 1 and 2 was restricted by geographic area, including only those studies conducted in LAC. The search extended through 15 February 2010 (annex 1, table 2).

In the remaining databases and meta-search engines (the Cochrane Library, SELA, VHL, IWA, Google Scholar), the keywords used were “water,” “sanitation,” “human rights,” and “equity” (annex 1, table 2). The articles were selected on the basis of the inclusion criteria established.

Synthesis of evidence

The search of electronic databases and the manual search turned up 3,637 citations and 40 citations, respectively (annex 1, table 3). Of these, 202 from the electronic databases and all 40 from the manual search met the criteria for eligibility, and 69 were considered potentially relevant to the report. Of these, 19 were used for the summary of evidence for question 1; 30 for question 2; and 26 for question 3 (figure 1).

FIGURE 1. Flow chart: search for and selection of studies for the rapid report.

*The articles for the three questions add up to more than the total number of articles included because some articles were used in the evidence synthesis for more than one question.

Bibliographic search

TABLE 1. Word selection for the questions.

Stage 1: Selection of relevant words for the questions			
<ul style="list-style-type: none"> ● How are legal mechanisms to fulfill the human rights to water, hygiene, and sanitation established, or how should they be established, in such a way as to prevent environmental losses, degradation, and conflicts and above all to guarantee the universality of human rights? ● Do you think that current national policies in LAC contribute to equitable access to drinking water and basic sanitation and hygiene? ● Which policies for distribution of drinking water and basic sanitation in LAC affect the level of health/disease of the population, measured objectively through morbidity or mortality or other health indicators? 			
Stage 2: Search for keywords to use with search engines			
MeSH words	Non-MeSH words	DeCS words	Non-DeCS words
"Water"	Clean Water	Agua dulce	Agua
"Fresh Water"	Potable Water	Purificación del Agua	Agua dulce
"Water Purification"	Water Resources	Abastecimiento de agua	Recursos hídricos
"Water Supply"	Hydic Resources	Conservación de los recursos Naturales	Agua potable
"Conservation of Natural Resources"	Water Distribution	Saneamiento	
"Sanitation"	Drinking Water	Higiene	
"Hygiene"			
"Public Policy"	Availability	Política Social	Disponibilidad
"Policy Making"	Privatization	Formulación de políticas	Privatización
"Health Policy"	Policy	Políticas de control social	Legislación
"Social Control Policies"	Legislation	Controles formales	Leyes
"Social Control, Formal"	Law	de la Sociedad	Normas
"Social Control, Informal"	Norms	Controles informales	Resoluciones
"Resource Allocation"	Resolutions	de la sociedad	Regulación
	Regulation		Tarifas
	Rates		Concesión
	Concession		Impuestos
	Taxes		Tarifas diferenciales
	Differential Rates		
"Human Rights"	Equity	Derechos humanos	Equidad

TABLE 2. Search Strategies – Databases Consulted.

Components of the question	
Situation/Population	Intervention
Access to drinking water, sanitation, and hygiene in Latin American countries	Respect for human rights and equity
Database = MEDLINE	
A. Situation/Population ((((("Sanitation"[Mesh] OR "Hygiene"[Mesh])) OR (((("Fresh Water" OR "Clean Water" OR (Potable AND Water) OR "Water Resources" OR "Hydric resources" OR "Water distribution" OR "Drinking water")) OR (((("Water"[Mesh] OR "Water Purification"[Mesh] OR "Water Supply"[Mesh] OR "Fresh Water"[Mesh])) OR "Conservation of Natural Resources"[Mesh])))	C. Geographic area (Latin America* OR South America* AND Central America* OR Caribbean* OR Anguilla OR Antigua and Barbuda OR Argentina OR Aruba OR Bahamas OR Barbados OR Belize OR Bermuda OR Bolivia OR Brazil* OR British Virgin Islands OR Cayman Islands OR Chile* OR Colombia* OR Costa Rica OR Cuba OR Dominica OR Dominican Republic OR El Salvador OR Ecuador OR French Guiana OR Grenada OR Guadeloupe OR Guatemala OR Guyana OR Haiti OR Honduras OR Jamaica* OR Martinique OR Mexico OR Montserrat OR Netherlands Antilles OR Nicaragua OR Panama OR Paraguay OR Peru OR Puerto Rico OR Saint Lucia OR Saint Vincent and the Grenadines OR Suriname OR Trinidad and Tobago OR Uruguay* OR Venezuela OR Antigua and Barbuda[mh] OR Argentina[mh] OR Aruba[mh] OR Bahamas[mh] OR Barbados[mh] OR Belize[mh] OR Bermuda[mh] OR Bolivia[mh] OR Brazil[mh] OR British Virgin Islands[mh] OR Cayman Islands[mh] OR Chile[mh] OR Colombia[mh] OR Costa Rica[mh] OR Cuba[mh] OR Dominica[mh] OR Dominican Republic[mh] OR El Salvador[mh] OR Ecuador[mh] OR French Guiana[mh] OR Grenada[mh] OR Guatemala[mh] OR Guyana[mh] OR Haiti[mh] OR Honduras[mh] OR Jamaica[mh] OR Montserrat[mh] OR Mexico[mh] OR Montserrat[mh] OR Netherlands Antilles[mh] OR Nicaragua[mh] OR Panama[mh] OR Paraguay[mh] OR Peru[mh] OR Puerto Rico[mh] OR Saint Kitts and Nevis[mh] OR Saint Lucia[mh] OR Saint Vincent and the Grenadines[mh] OR Suriname[mh] OR Trinidad and Tobago[mh] OR Uruguay[mh] OR Venezuela[mh]))
B. Intervention/Result ((((("Human Rights"[Mesh] OR "human right" OR "human rights" OR equity)) OR ("Human Rights"[Mesh])) OR ((availability OR privatization OR policy OR legislation OR Law OR norms OR resolutions OR regulation OR concession OR fine OR rates)) OR (((("Public Policy"[Mesh] OR "Policy Making"[Mesh]) OR "Health Policy"[Mesh]) OR ("Social Control, Formal"[Mesh] OR "Social Control Policies"[Mesh] OR "Social Control, Informal"[Mesh])) OR "Resource Allocation"[Mesh])))	

continues

Components of the question	
Situation/Population	Intervention Result
Access to drinking water, sanitation, and hygiene in Latin American countries	Respect for human rights and equity
Search strategy: A + B + C	
Database = LILACS	
A. Situation/Population	B. Intervention/Result
"AGUA" or "SANEAMIENTO" [Words]	(Disponibilidad OR privatización OR legislación OR leyes OR normas OR resoluciones OR regulación OR tarifas OR concesión OR impuestos OR tarifas diferenciales) OR formulación de políticas OR derechos humanos [Words]
Search strategy: A + B	
Database = VHL/Virtual Library of Sustainable Development and Environmental Health	
Descriptors	
A. Situation/Population	B. Intervention/Result
Agua	Equidad OR (derechos AND humanos))
Search strategy: A + B	
Google Scholar	
Descriptors	
A. Situation/Population	B. Intervention/Result
Agua	Derechos humanos
Water	Human rights
Search strategy: A + B	
Cochrane Library	
Given the nature of the databases, the search was limited to use of the words "agua potable" and "potable water".	
IWA Publishing Online Journals and Water Reference Library (Water Intelligence Online)	
Because this database refers to a specific topic, the words "human rights" were combined with each country of the Latin American Region included in the MEDLINE search.	
Specific search for economic studies and evaluations	
DARE: The only descriptors used were for Situation/Population, separately for Water, Hygiene, and Sanitation	
Descriptors	
A. Water	B. Higiene
("Fresh Water" OR "Clean Water" OR (Potable AND Water) OR "Water Resources" OR (Hydric AND Resource*) OR "Water Distribution" OR "Drinking Water" OR "Water" OR "Water Purification" OR "Water Supply" OR "Fresh Water" OR "Conservation of Natural Resources")	C. Saneamiento
	"Sanitation"

continues

Components of the question	
Situation/Population	Intervention
Access to drinking water, sanitation, and hygiene in Latin American countries	Result Respect for human rights and equity
Search strategies: A; B; C	
PubMed	
Descriptors	
A. Situation/Population	B. Type of study = Economic evaluation
A1: ("Fresh Water" OR "Clean Water" OR "Potable AND Water" OR "Water Resources" OR (Hydric AND Resource*)) OR "Water Distribution" OR "Drinking Water" OR "Water"[Mesh] OR "Water Purification"[Mesh] OR "Water Supply"[Mesh] OR "Fresh Water"[Mesh] OR "Conservation of Natural Resources"[Mesh].	C1: "Developing Countries"[Mesh]
A2: "Sanitation"[Mesh]; A3: "Hygiene"[Mesh]	C2: "Low-Middle Income Countries" OR "Low- and Middle-Income Countries" OR "Low/Middle Income Countries"
A = A1 OR A2 OR A3	C3: "Latin America"[Mesh]
	C = C1 OR C2 OR C3
Search strategy: A + B + C	
EconLit	
Descriptors	
A. Situation/Population	B. Geographic region
A1 - WATER - TI= ("Fresh Water") or ("Clean Water") or (Potable AND Water) or TI= ("Water Resources") or ("Water Distribution") or ("Drinking Water") or ("Water Purification") or TI= ("Water Supply")	(("Developing Countries") or ("Low-Middle Income Countries") or ("Low/Middle Income Countries"))
A2 - SANITATION - TI= (Sanitation or "Excreta Disposal")	
Search strategies: A1 + B; A2 + B	

TABLE 3. Search results and selection of eligible documents.

Search	Results	Eligible
DATABASES		
General search strategy		
PubMed	1,922	96
LILACS	1,124	1
VHL specialized areas	77	28
VHL international agencies	8	1
Virtual Library of Sustainable Development and Environmental Health	18	10
Google Scholar Spanish	16	10
Google Scholar English	95	5
Cochrane Library	4	3
IWA Publishing Online Journals and Water Reference Library (Water Intelligence Online)	117	23
Specific search strategy for economic evaluations		
PubMed	46	8
DARE	97	17
EconLit (108 water and 5 sanitation)	113	0
MANUAL		
	40	40
TOTAL	3,677	242

ANNEX 2. Approaches to the delivery of water and sanitation services

SELF-INITIATED APPROACH: The users themselves, individually or organized in community groups, construct their own water sources or waste disposal facilities.

Financing	Demand stimulation	Support system	Disadvantages	Opportunities
<p>Financing is provided by users themselves or, alternatively, through subsidies, credits, loans, or donations. (Reliance on donations is not recommended, due to the high cost of construction; also, it is important to strengthen the users' sense of ownership.)</p> <p>Increasingly, alternative financing mechanisms are being promoted, such as revolving funds. These are funds created by an NGO and usually managed by a community group. Repayments are used to finance other new users.</p>	<p>Self-initiated projects can be promoted and strengthened through various mechanisms, such as social marketing, interventions to promote hygiene, and demonstration projects. In general, these are demand-oriented interventions that try to match the technology to the needs and expectations of users. Initiatives to strengthen demand among the poorest sectors, while increasingly common, still fall short of what is needed.</p>	<p>This approach tends to lack a legislative and control framework.</p> <p>Community-based initiatives at times forge partnerships with other actors, such as small-scale private suppliers. Cooperation between different community groups, or between these groups and other actors, would improve the administrative capacity and supply chain necessary for adequate service provision.</p>	<p>The lack of a regulatory framework (particularly in the case of initiatives by individual users), together with users' limited knowledge of appropriate water and sanitation systems and lack of access to subsidies and credits all jeopardize the quality of water and sanitation services provided by users themselves. This also has implications from a gender perspective, since in the case of water supply, children and women tend to be the ones responsible for collecting water.</p>	<p>This approach is used by a very large number of households, particularly in rural areas, since it is the most immediate way to guarantee access to water and sanitation. Populations living in rural areas tend to rely on this approach for access to water and sanitation. However, other actors need to become more involved. For example, governmental entities, NGOs, or external agencies can facilitate access to financing sources, in particular for the poorest and most vulnerable sectors, to defray the costs of construction and use of simple technologies that provide access to safe water. The rights-based approach and its dissemination to the sectors with the greatest need is central to improving the coverage and sustainability of initiatives promoted by users themselves.</p>

continues

OPPORTUNITY-DRIVEN APPROACH: Small-scale providers or large private enterprises provide water or sanitation services as a way to make a living or for profit, respectively.

Financing	Demand stimulation	Support system	Disadvantages	Opportunities
<p>The financing for large private enterprises consists of loans from development banks, company investments, and municipal financing. Its sustainability depends on the rates paid by users of the services. The structure of prices and costs requires better incentives as well as strategies to improve efficiency, for example, through comparative evaluations of water consumption, etc.</p> <p>Small-scale private providers are financed by their own capital and by user investments, microcredit, and social funds. They may have difficulty obtaining certain supplies because of their limited access to the international market. At times, association between multiple small suppliers enables them to benefit from economies of scale.</p>	<p>Private companies tend to provide services using a supply-based model; they have limited knowledge of the needs of the poorest populations. According, to provide services adapted to those needs, they could benefit from partnerships with other sectors that have better understanding of these users and the problems of inequity. Moreover, when a private provider holds a monopoly in a given geographic region, this limits the possibility for users to complain or demand improvements in services.</p> <p>Some private enterprises have implemented initiatives to increase the demand for household water connections and also to improve rational water consumption.</p>	<p>The support network is well developed in the case of large private companies, but very little developed in small-scale providers. The latter tend to have nonexistent or very limited technical know-how and administrative infrastructure</p>	<p>Smaller providers generally operate in a legal gap. Large companies in general are regulated by provincial or municipal governments, and the legal framework is clearly established. Some countries have created government regulatory agencies, although these often function inefficiently. Failure to enforce the regulatory framework exposes users of the services to abuses by providers, and the existence of a monopoly in a given region aggravates this problem. As a result, poor sectors often lack coverage; water quality is not controlled, and the established quality standards are not guaranteed; and excreta disposal in unauthorized places by sanitation providers is not controlled, leading to contamination.</p>	<p>The key factor in the private delivery of services is the regulatory framework and the control exercised by the state over the activities of these providers. Large private providers have extensive knowledge and strong technical, administrative, and management competencies. However, they lack knowledge and competence to identify and understand the needs of the poorest sectors and, thus, to extend the delivery of services to these sectors in accord with their needs and expectations. Partnership with other actors such as government or NGOs is potentially a very useful strategy.</p>

continues

EXTERNALLY INITIATED APPROACH: Initiatives undertaken by government entities at the national, regional, or municipal level, by donors, or by national or international NGOs.

Financing	Demand stimulation	Support system	Disadvantages	Opportunities
<p>When a government entity undertakes construction of water and sanitation services, the work is usually financed by cost sharing between the government and the users, who pay for part of the project. Financing may also come from development bank credits or loans. Operation and maintenance is covered by rates paid by the users. However, these very often turn out to be insufficient to guarantee service, since rate increases tend to have a political cost that no official wants to incur. Differential charges (cross-subsidies) and bonds are alternatives that would make it possible to improve financing of water and sanitation services for the poorest sectors.</p>	<p>Public services tend to use demand-oriented strategies with a view to promoting hygiene, health, the rational use of water, and multiple uses of water.</p> <p>NGOs have vast experience in development and implementation of demand-oriented initiatives.</p>	<p>There is a legislative framework that regulates the activities of the governmental sector. Technical capacities for providing adequate services vary, but are sometimes limited. Technical assistance may sometimes be provided by large private companies with much experience. The capacity to adjust services to demand tends to be limited; the dominant model is based on the supply of services.</p> <p>NGOs stand out for their more innovative character, which is possible precisely because they operate within a more flexible framework.</p>	<p>Public services, whether municipal or national, operate in the political arena, within a legal framework that often limits the scope for rate increases needed to ensure the operation and maintenance of services. Political influence can be a factor that negatively affects the quality of services. In general, national agencies do not have sufficient capacity to guarantee a minimum quality of services. This often leads to decentralization, although with only limited transfer of capacities and financing. Public services tend to have insufficient human resources and problems in financing their activities, given that rates are often too low to support operation and maintenance of the services. In low- and middle-income countries, water and sanitation in public facilities such as schools can be quite deficient.</p> <p>Interventions initiated by NGOs tend to be isolated, at times leading to duplication of services in the same setting. They are based on projects of limited duration and usually focus on construction of facilities rather than on capacity building. They often fail to provide for maintenance of the services, which limits their sustainability and possibilities for scaling up.</p>	<p>The main challenge is institutional reform of the public services, aimed at improving efficiency by strengthening technical and management capabilities. Partnership with actors in the private sector, NGOs, or community groups is an interesting alternative. Access to knowledge and information is critical in providing support for this reform. Reform should be intersectoral, with greater participation by sectors such as health, and should redirect efforts to needy populations and to public facilities such as schools.</p> <p>Great strengths of NGOs are their active role in supporting the human rights-based approach, their capacity for innovation, and their demand-oriented approach. They also have much experience in delivering services to the most vulnerable population sectors.</p>

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