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HEALTH, DRINKING WATER, AND SANITATION IN SUSTAINABLE HUMAN DEVELOPMENT

Human development is the process of increasing people's options by expanding their essential capacities: health, knowledge, resources, and basic rights. Equitable access to these capacities is a central element of sustainable development. Drinking water and sanitation, in turn, are instruments for achieving health and sustainable human development.

Despite the increase in water and sanitation coverage in the Region of the Americas, 76.6 million people still do not have easy access to adequate water supply options and 103.3 million do not have sanitation options. In Latin America and the Caribbean, only 13.7% of discharges from sewerage systems receive some treatment. Furthermore, 50% of the countries with data on the continuity of the urban water supply report problems with intermittent supply. The percentage of rural population in the Region without adequate access to water and sanitation is five times higher than for the urban population. Furthermore, poor families spend proportionately more on this service than higher income families.

Health protection goes beyond safeguarding the quality of the water consumed by the population. Producing and distributing good quality water requires a well-organized sector and regulated services. Ministries of Health are responsible for safeguarding public health, supporting universal coverage, improving the quality of services, and eliminating inequities. To this end, they must exercise functions in intelligence, regulation, association, negotiation, and direct intervention. To make these functions operational, the management, consensus-building and promotion capacities of the Ministries of Health must be strengthened.

At its 128th Session, the Executive Committee argued that the ministries of health should work with other sectors to improve basic sanitation in the Region. Within this context, the Committee welcomed Canada's call to hold a Meeting of ministers of health and the environment in 2002.

The objective of this document is to present to the Directing Council conceptual considerations on sustainable human development and the role of health, drinking water, and sanitation services in this development, and to describe the current situation of the Region's drinking water and sanitation sector in order to further discussion and the identification of actions that will help to strengthen the role of the Ministries of Health in this context and in terms of the Pan American Charter on Health and Environment in Sustainable Human Development. The Executive Committee adopted Resolution CE128.R10 for consideration by the Directing Council.

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1. Introduction

Despite the increased coverage of drinking water supply and sanitation services in the Region, important limitations persist in the coverage, quality, and equity of service delivery. These limitations primarily affect the inhabitants of rural areas, small urban centers, or poorer urban families and reduce their capacity and chances for a long and healthy life.

With support from PAHO and within the framework of the global WHO/UNICEF initiative, the countries periodically evaluate the drinking water and sanitation situation in the Region. *Evaluation 2000*, based on 1998 data, made it possible to analyze the situation in the sector, indicating limitations and inequities in the delivery of these services. The search for sustainable human development and for healthy environments within the countries involves intersectoral challenges and opportunities for the participation of society to overcome this situation. National health authorities are key actors in this process and, to obtain strategies suitable for managing health actions compatible with environmental and economic development policies, most countries require measures aimed at strengthening their managerial capacity in this field at both the national and local levels.

The purpose of this document is to present conceptual considerations on: 1) sustainable human development and the role of health, drinking water, and sanitation services in this development, and 2) to describe the situation of the sector in the Region, with emphasis on Latin America and the Caribbean, to promote discussion and the identification of actions to strengthen the role of the Ministries of Health in this context and in terms of the Pan American Charter on Health and Environment in Sustainable Human Development.

2. Elements of Sustainable Human Development

Human development is the process whereby people are given greater options. This is achieved by expanding essential capacities and operations. At all levels of development, the three essential capacities for human development are that people have a long and healthy life, the knowledge they need, and access to the resources required for an acceptable standard of living.

The achievement of human development is consistent with the achievement of human rights. The 1948 Universal Declaration of Human Rights states that “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, medical care and necessary social services...” Subsequent international documents on human rights reaffirm people-centered development as a universal

right and add the dimensions of the right to security, participation, and freedom of association, as well as protection against discrimination and against being excluded from development.

Concerns about equity are primary from a human development perspective, particularly equity in capacities and basic opportunities for all, i.e., equity in access to education, health, and political rights. The essence and the test of strategies for sustainable human development should be attaining a sustainable way of life for all. These strategies are necessary for people-centered development, with concerns for human empowerment, participation, gender equality, equitable growth, poverty reduction and long-term sustainability.

Sustainability is an important dimension of human development. However, it must apply to both present and future generations, without sacrificing one to the other. This means both intragenerational and intergenerational equity. When we speak about “sustainable human development,” we should avoid the erroneous idea that this includes only environmental aspects. There is no conflict between sustainable human development and sustainable development. Development models that perpetuate current inequities are not sustainable nor do they deserve to be.

Sustainable development means a new concept of economic growth that offers justice and opportunities for all the world’s peoples, not just to a privileged few, without continuing to destroy the world’s finite natural resources and without endangering the planet’s capacity to support life. Sustainable development is a process in which economic, fiscal, commercial, energy, agricultural, and industrial policies are conceived so as to achieve development that is economically, socially, and environmentally sustainable.

Sustainable human development requires a new world ethic. The universal recognition of appeals to support life and concerns over our common survival should lead to the formulation of policies for a more equitable world order. The concept of sustainability is at great peril when the income disparity between the richest 20% and the poorest 20% of the world’s population has doubled over the past three decades, and when one-quarter of humanity cannot meet its basic human needs.

2.1 *Poverty, Health, and Sustainable Human Development*

Poverty is basically deprivation or reduced capacity. There are forms of deprivation that are intrinsically important, such as poor health, malnutrition, or illiteracy, while others, such as low income, play a decisive role. The health status of a person or a population is both a component of and a decisive factor in human development. Poor health is itself a cause of poverty, in the sense that the least fortunate members of society are systematically deprived of an intrinsically necessary component of optimal capacity when they suffer higher levels of

mortality and morbidity. Developing countries that have made investments to provide their citizens with universal access to basic health services, food security, and nutrition as well as drinking water and sanitation services and adequate educational opportunities may have populations with relatively a low income but a higher level of capacity and health status in comparison with wealthier countries that have a much more uneven distribution of opportunities and capacities.

Among the essential public health functions in management that the health sector must exercise are monitoring, measuring, and championing the safety of the physical and social environment and ensuring that all development activity is properly evaluated in terms of its environmental and social impact on the health of the population, particularly that of its most vulnerable and unprotected members.

Although at slower rate, total population and the urban segment of total population continue to grow in Latin America and the Caribbean. During the second half of the 20th century, the population of the Americas doubled from 400 to 800 million inhabitants, with a predominance of urban (73%) versus rural (27%) population. Forty-five percent of the urban population is concentrated in metropolitan areas. Rural and urban populations include inhabitants with different degrees of marginality who do not benefit equitably from economic growth in the Region.

The effort to achieve better health in sustainable human development must include policies leading to sustained economic growth with a more equitable distribution of income, linked with interventions that improve the essential capacities of the poor (health services, healthy environments, particularly access to adequate water and sanitation services, nutrition, and educational opportunities).

2.2 *Water and Sanitation in Sustainable Human Development*

The importance of ensuring environmental health has been emphasized repeatedly in initiatives on sustainable human development. This is true, for example, of the 1990 World Summit for Children; the United Nations Conference on Environment and Development and Agenda 21 in 1992; the Pan American Conference on Health and Environment in Sustainable Human Development; the Pan American Charter, and the Plan of Action in 1995; the Summits of Presidents, especially the one in Santa Cruz de la Sierra; and the Montreal Meeting of Environment Ministers in March 2001. In this context, the instrumental role of drinking water and sanitation is emphasized as part of the search for sustainable human development and its essential capacities: health, knowledge, resources, and basic rights.

2.2.1 *Water, Sanitation, and Health.* Drinking water and sanitation are instruments for health and hence, for sustainable human development. Application of the concept of multiple

barriers is important in reducing health risks associated with a water supply contaminated by microbiological or chemical agents. These barriers include proper management of watersheds and land to protect surface water and groundwater sources; selection and protection of the best water sources; wastewater treatment, use, or disposal adhering to sanitary and environmental criteria; adequate water treatment and distribution systems; and rational and hygienic practices in water consumption and use.

Constraints to applying the concept of multiple barriers or in the administration, operation, or maintenance of the water and sanitation infrastructure expose the population to risks, disease, and death, with considerable socioeconomic and political losses. This is dramatically illustrated by the cholera epidemic, with more than 1.2 million cases and 12,535 deaths to date, and by the prevalence of gastrointestinal diseases in the Region. It is also reflected in North America by the outbreaks of *Cryptosporidium* in 1993 in Milwaukee in the United States (370,000 cases, with 47 deaths). and *E. coli* in 2000 in Walkertown, Canada (more than 1,000 cases, with 6 deaths). In addition to these microbiological cases, we could cite chemical cases associated with organic compounds, fluorides, arsenic, lead, nitrates, etc.

2.2.2 Water, Sanitation, and Knowledge. Knowledge that becomes healthy behavior (e.g., hygiene and the protection and rational use of water) is essential to the management of drinking water and sanitation. Adequate access to water and sanitation services, in turn, helps to improve the quality of life and the availability of time for schooling in the community.

2.2.3 Water, Sanitation, and Economic Activities. The management of water resources and drinking water supply and sanitation are key factors for the development of industry, trade, and tourism. The discharge of household wastewater is one of the most significant threats to water resources, public health, and sustainable development. This includes the sustainable development of coastal areas, which is particularly important in vulnerable areas, such as the Caribbean, that have significant tourist development.

2.2.4 Water, Sanitation, and Basic Rights. The right to live in a decent, healthy environment requires access to good quality water services and proper management of excreta, wastewater, and solid waste. Limitations and inequities in these services impede the exercise of this right. On the occasion of World Water Day 2001, the Secretary General of the United Nations declared that “Access to safe water is a fundamental human need and, therefore, a basic human right.”

3. Current Drinking Water Supply and Sanitation Situation

Based on the situation and outlook of the drinking water and sanitation sector in each country, PAHO prepared a Regional Report as part of *Evaluation 2000* consolidating the analysis of the sector in the Region. To supplement *Evaluation 2000*, a study was conducted from a demographic perspective that sought to identify and analyze inequalities in

the supply and use of water and spending on water, based on data obtained from multipurpose household surveys conducted between 1995 and 1999. The 11 countries included in the study were Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvador, Jamaica, Nicaragua, Panama, Paraguay, and Peru. The databases and indicators of the services' situation, the national and regional analyses produced within the context of *Evaluation 2000*, and the study of inequities are available www.cepis.ops-oms.org/ under: [Drinking Water and Sanitation, Sector Information](#).

3.1 *Current Trends in Drinking Water and Sanitation Services*

One of the trends in the Region is toward the decentralization of drinking water and sanitation services, allowing greater local responsibility for their administration, operation, and maintenance. This trend is part of sectoral reforms to improve the quality of services, cut costs, boost earnings, introduce innovative technologies, increase coverage, and promote active, informed, and responsible participation by civil society and the private sector, consistent with the premises of sustainable human development. These reforms generally differentiate three functions: 1) a steering role, which includes the preparation of development plans and the setting of national policies for the sector; 2) regulation and quality control of services; and 3) delivery of these services. The steering role is the responsibility of the State; regulation and control is the responsibility of an autonomous government agency with participation from society; and service delivery is the responsibility of public, private, or mixed autonomous entities. These reforms involve significant sectoral changes, whose formulation and implementation require training at all levels.

Another important trend is the search for comprehensive water management. This involves managing the different uses of water resources, including water for human consumption, food security, and the protection of ecosystems. Comprehensive management should contribute to better management of municipal and industrial wastewater systems, as well as choices in irrigation and the use of agricultural chemicals and pesticides. This management should help to increase the availability and improve the quality of water, which is becoming critical in areas with scarce resources.

3.2 *Progress, Gaps, and Inequities*

Evaluation 2000 shows growing drinking water and sanitation coverage. Between 1990 and 2000, water supply (with a household connection or easy access) in Latin America and the Caribbean rose from 80% to 85% and sanitation (sewerage or *in situ* alternatives), from 66% to 79%. Tables 1 and 2 summarize the estimated coverage for water and sanitation in 1998.

Table 1. Water Supply Coverage in the Region of the Americas and Latin America and the Caribbean

Area	Millions of Inhabitants			Percentage (%)		
	Household connection	Easy access	Without service	Household connection	Easy access	Without service
Region of the Americas						
Urban	526.2	22.9	25.6	91.6	4.0	4.5
Rural	128.6	34.9	51.0	60.0	16.3	23.8
Total	654.8	57.8	76.6	83.0	7.3	9.7
Latin America and the Caribbean						
Urban	316.6	22.9	25.6	86.7	6.3	7.0
Rural	49.5	31.0	50.9	37.7	23.6	38.8
Total	366.1	53.9	76.5	73.7	10.9	15.4

Table 2. Sanitation Coverage in the Region of the Americas and Latin America and the Caribbean

Area	Millions of Inhabitants			Percentage (%)		
	Household connection	<i>In situ</i>	Without service	Household connection	<i>In situ</i>	Without service
Region of the Americas						
Urban	428.6	109.0	37.1	74.6	19.0	6.5
Rural	37.6	110.7	66.2	17.5	51.6	30.9
Total	466.2	219.7	103.3	59.1	27.8	13.1
Latin America and the Caribbean						
Urban	229.6	98.4	37.1	62.9	27.0	10.2
Rural	11.7	53.5	66.2	8.9	40.7	50.4
Total	241.3	151.9	103.3	48.6	30.6	20.8

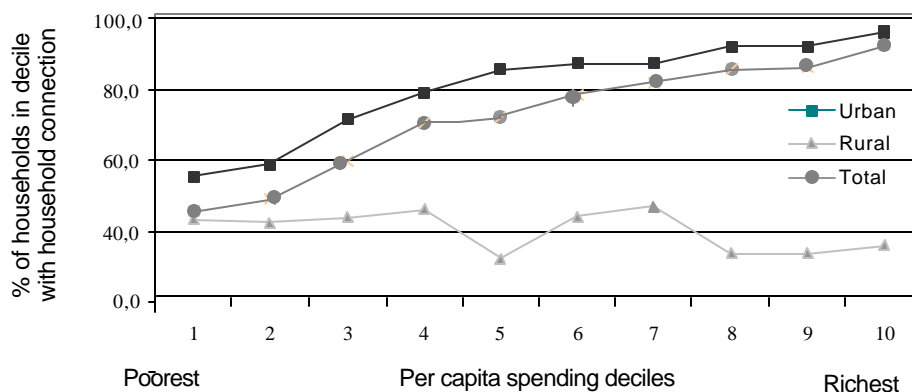
Despite the progress made in water and sanitation coverage, conditions persist in Latin America and the Caribbean that pose health risks for a significant percentage of the population. Indeed, 76.5 million people (15.4%) do not have water supply services and another 53.9 million (10%) have systems without household connections, which imply the need to collect the water, work that is usually done by women and children, and hazards to public health. Furthermore, 103.2 million inhabitants (20.8%) do not have access to sanitation and only 13.7% of the wastewater collected by sewerage systems covering 48.6% of the population receives treatment before it is discharged into watercourses. In addition, there are

major inequities in access. For example, the percentage of the population without water and sanitation services is five times higher in rural areas than in urban areas.

The study on inequities showed that the poorest families spend proportionately more on this service because of the cost of water and low family income. This situation is heightened in urban areas, where the percentage spent on water among the poorest families is 1.5 to 3.8 times higher than among the richest families. Furthermore, the inequity study showed that:

- Water coverage is greater for higher income families than for lower income families. The ratio is equal to or greater than 4 in four countries and is about 16 in one country.
- For similar spending (or income) levels, urban populations have better access to water than rural populations. In the case of Peru (Figure 1), even the poorest urban families have greater levels of household connection than rural families with the highest spending per capita.

Figure 1. Access to Household Connection by Deciles of Per Capita Spending in Peru, 1997



It seems reasonable that families with lower incomes and at a greater disadvantage in terms of the delivery of these services tend to utilize little water, are less able to maintain good hygiene, and suffer from more diseases linked with water and sanitation.

Despite the growth of large cities, a significant segment of the population in the Region lives in small rural or municipal areas, where there is also evidence of inequity. For example, a Colombian Ministry of Health Study indicates that 70% of that country's population has access to good quality water. However, this level of service covers only 17.5% of the

population in localities with 2,500 to 10,000 inhabitants and only 9.6% of the population in localities with less than 2,500 inhabitants.

Gaps in drinking water and sanitation coverage are also marked by other indicators of service quality in addition to the coverage indicator. In *Evaluation 2000*, 33 countries reported on the continuity of their urban water supply systems. Sixteen of these countries reported intermittent service. The lack of continuity constitutes a public health risk and inefficient utilization of the available infrastructure, with a negative impact on the image of the service and its economic viability.

Poor management of water resources, including untreated wastewater discharges, and limitations in the infrastructure for the treatment of drinking water contribute to deterioration of the quality of water distributed to users. In particular, the evaluation showed the persistence of limitations in the infrastructure for the disinfection of water for human consumption in some countries of the Region, where six of the countries with data show coverage ranging from 20% to 60%. There is a long road to travel in this area to improve coverage and efficiency and to guarantee their impact. Even developed countries are adapting their regulations and practices to improve application of the concept of multiple barriers and the heighten the impact of their treatment infrastructures to reduce the risks from microorganisms resistant to conventional disinfection processes.

The population covered by adequate systems for surveillance and control of water quality in particular, and drinking water and sanitation services in general, is very limited in urban areas and insignificant in rural areas. Fifty-two percent of the urban population in the Region of the Americas has effective water quality surveillance systems. This percentage falls to 24% in Latin America and the Caribbean, demonstrating the precarious situation of the population in these countries in terms of ensuring the quality of drinking water services.

3.3 Challenges and Prospects in the Current Drinking Water and Sanitation Situation

The great challenge in the Region is to achieve and maintain access to efficient, quality drinking water and sanitation services for the entire population. This poses a political, financial, and institutional challenge to the countries.

Increased water and sanitation coverage should be consistent with the uses of water in other sectors and areas of development. In this context, it is a strategic requirement that work be coordinated with environmental and development agencies.

The drinking water and sanitation infrastructure should be conceived, administered, operated, and maintained efficiently and costs should be consistent with service levels and the

users' ability to pay. Furthermore, when necessary, subsidy policies should be transparent, direct, and promote efficient use and the search for the economic sustainability of systems.

The adoption of methodologies leading to the development and appropriate use of innovative technologies continues to be a relevant challenge in efforts to secure more efficient and sustainable services.

In the context of the reforms in the drinking water and sanitation sector and in its efforts to improve the quality and efficiency of services, the role of the State must be strengthened in terms of its steering capacity, regulatory functions, and monitoring of service quality.

Timely and relevant information on the institutional and regulatory framework, methodologies and technology options, the quality of services, and costs is important for improving decision-making at all levels and for characterizing demand and securing responsible participation from the community and local institutions.

Human resources education at the management, professional, technical, and operational levels is also a challenge that must be taken up to improve the ability to meet the challenges indicated above.

4. Functions of Institutions Involved in Water and Sanitation

Organization and operations in the sector have not achieved adequate access to water and sanitation services for nearly one-quarter of the Region's peoples, placing limitations on their right to live in a healthy environment, their individual capacities, and their participation in development.

Health protection goes beyond safeguarding the quality of water for human consumption. Distributing good quality water in sufficient quantities, on a continuous basis and at accessible prices, requires services that are well organized, regulated and managed and have skilled human resources. Water quality standards and surveillance laboratories cannot make a significant contribution to improving service quality if service providers do not ensure good service and if coverage limitations and inequities persist.

To overcome these constraints, actions are needed to strengthen the sector so that it is able to exercise its functions better in the context of current trends in the Region. These functions include its steering role, regulation, and control of services and service delivery, as well as technical cooperation, information systems, and responsible participation on the part of society and local organizations.

4.1 *Role of the Ministries of Health*

Given how important these services are to health, health authorities play an important role in promoting, regulating, and monitoring their quality. As emphasized in the World Health Organization's report to a special session of the United Nations General Assembly in June 1997, the 21st century requires a new health system designed to foster partnerships—a system based on the health of the population and that anticipates events rather than reacting to them.

Drinking water and sanitation are central to the management of environmental health. In delimiting the responsibilities of the health authority and the specific roles of regulatory and service provider agencies, Ministries of Health should monitor and champion environmental health. The participation of Ministries of Health in this management includes objectives associated with public health, universal access to quality services, the reduction of inequities, and the search for sustainable human development. For example, Brazil's Ministry of Health considers water and sanitation among the principal external factors that determine health. In that country, US\$ 1.3 billion will be invested in basic sanitation over the next two years in municipios with fewer than 30,000 inhabitants (urban and rural), which are selected on the basis of health criteria and the Human Development Index.

In this context, Ministries of Health should exercise essential functions that include:

4.1.1 *Surveillance.* Includes monitoring and auditing of the quality of water for human consumption and of drinking water and sanitation services in general. Proper management of this information is essential for influencing decisions aimed at reducing risk factors, working as a team or influencing other health actors, other sectors, the communications media, and community organizations. These are local and national activities.

4.1.2 *Regulation.* Includes setting standards for quality, participation by the governing bodies of regulatory agencies, and promoting and ensuring adherence to the principles of public health and equity in access to and the use of drinking water and sanitation services.

4.1.3 *Coordination.* Includes interactive activities in terms of information, mass communication, internal relations, and relations with other sectors, aimed at overcoming limitations on quality or inequity in the provision of drinking water and sanitation services and in the search for healthy environments and sustainable human development.

4.1.4 *Development of Human Resources.* Includes activities aimed at safeguarding the education, quality, and working conditions of human resources and their contribution to the performance of institutional functions, in harmony with sectoral trends.

4.1.5 *Education and Hygiene.* Includes activities to promote and monitor education and hygiene, helping to qualify the demand and increase the impact of drinking water and sanitation services, improving their use and assessment.

4.1.6 *Prevention and Preparation for Emergencies and Disasters.* Includes capacity for analyzing the vulnerability of drinking water and sanitation systems and preparing contingency and emergency response plans.

Strengthening the capacities and competencies of the Ministries of Health, particularly in environmental health units at the different levels (national, regional, and local) is fundamental. Carrying out these functions will facilitate the organization of activities designed to overcome limitations and inequities in drinking water and sanitation, upgrade capacities, and guarantee the rights of the Region's inhabitants in the search for sustainable human development. The foregoing is integral to the management of the Ministries of Health through their involvement in epidemiological surveillance, participation and promotion, and development of public policies.

5. Technical Cooperation of the Pan American Health Organization

Current technical cooperation in drinking water and sanitation is guided by the principles of health and environment in sustainable human development. It includes concepts derived from Agenda 21 and embodied in the 1995 Pan American Charter.

PAHO's cooperation activities involve different areas relating to water and sanitation such as advocacy, sectoral planning and evaluation, legislation and regulation, and research and technology development. The scope of these activities varies; it may be regional, subregional, involve groups of countries or a single country and may affect urban and rural areas. Activities include relevant drinking water and sanitation topics such as conservation and protection of water resources, water and sanitation systems, water management and sanitation in housing.

PAHO's technical cooperation in drinking water and sanitation is carried out through different institutions, and there are special relationships with the environmental health offices in the Ministries of Health. Technical cooperation includes collaboration in planning and institutional development (e.g., institutional development programs for Brazilian state sanitation companies and for institutions providing drinking water and sanitation in Central America); standards and regulation (e.g., water quality standards); expert advisory services in environmental risk management (e.g., evaluation of the health impact of exposure to copper in water in Chile); information and intelligence (e.g., 17 analyses of the drinking water and sanitation sector in countries of the Region); forums for information exchange (e.g., annual meetings of environmental health directors). PAHO's technical cooperation is generally designed to strengthen capacities associated with essential functions and with other institutions involved in managing a country's environmental health, as well as Pan American exchange.

In implementing this technical cooperation, PAHO has different resources. Cooperation in health, water, and sanitation in sustainable human development involves many divisions within PAHO. For the sake of simplicity and to show the dimensions of the work carried out, the resources of the Division of Health and Environment provide an example. This division has professional staff and a wealth of technological know-how and information, including environmental health advisors and project consultants for 34 countries and territories, 30 specialized staff members at the Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS) in Lima, and 10 staff members at Headquarters who are responsible for managing the Division of Health and Environment.

To meet its objectives, the Division of Health and Environment has a regular operating budget and extrabudgetary resources for projects and programs. Technical cooperation benefits from teamwork with institutions and experts in the various countries. The collaboration based on the Shared Agenda signed by PAHO, the IDB, and the World Bank can be particularly important.

Finally, it seems important to recognize that to the extent that the new sectoral trends in the Region take effect, the strategies and products of PAHO technical cooperation may need to be revised in order to better respond to the needs of the countries, even incorporating new institutional, business, or community actors, whose responsible participation and decisions will be key to improving the coverage, equity, quality, and sustainability of water and sanitation services. In this context the importance given to the relationship between the health and environment sectors at the Meeting of Ministers of the Environment of the Americas, held in March 2001 in Montreal, Canada, is considered relevant.

6. Final Considerations

Based on the document and on the ideas and discussions that arose during its preparation, consideration has been given to four specific areas linked with sustainable human development. These areas include roles and responsibilities, essential functions, association, and information.

Distinguishing the roles and responsibilities of the health authority and the role of the steering entities and service providers, the ministries of health should monitor and advocate action to promote environmental health. This document suggests that the ministries of health should have roles and responsibilities linked to public health objectives in the management of water and sanitation. Based on the observations presented, it is considered important for the ministries of health to assume responsibility for and carry out activities that will help to meet

public health objectives and achieve universal access, quality services, and the reduction of inequities.

It is proposed that the ministries of health assume essential functions that include intelligence-gathering (policies, standards, and surveillance), regulation, association and negotiation, and training and direct interventions. Based on the analysis, it is felt that these functions should be exercised in coordination with the regulatory systems adopted by the countries, with the structure of their governments, and with the way in which these responsibilities are assumed within this structure. Proper exercise of these functions requires that competencies in the ministries of health be strengthened, particularly those of their environmental health teams. These functions, of course, have specific characteristics suited to the various levels of administration: local, regional, national.

It is suggested that the ministries of health are one of many actors in the management of water and sanitation in sustainable human development. It notes the importance of establishing relationships with the steering and regulatory agencies that oversee the delivery of drinking water and sanitation services, with the ministries of the environment and education, and with the productive sectors (agriculture, industry, energy, mining), and civil society. These relationships are expressed at the national and local level. Based on the analysis, relationships and collaboration with other sectors in efforts to improve the quality of drinking water and sanitation services are considered essential. This also has implications for the technical cooperation of PAHO, which should strengthen relationships with national partners in addition to the ministries of health, and with international partners, in order to enhance the possibilities of contributing to an improvement in drinking water and sanitation in the Region. PAHO should emphasize the strengthening of national capacities and mobilize technical cooperation both inside and outside the countries.

The Plan of Action issued by the April 2001 Summit of the Americas contains a proposal that the ministers of health and the environment meet to discuss areas of mutual interest and is evidence of the need to involve other sectors in the search for innovative solutions to the problems in health. This linkage should help to improve conditions for drinking water and sanitation services, create a knowledge base on the relationship between health and environmental degradation, have priority in the health and environment agenda of the Region, and contribute to and influence Rio+10.

The information summarized in this document presents evidence on the progress made in water and sanitation and on the limitations to which efforts should be targeted. During the preparation and discussion of the document the need for urgent actions geared to reducing constraints and inequities in the delivery of services and the conservation of water resources

was recognized. Also recognized was the importance of developing indicators that would better reflect their impact on health and sustainable human development. These indicators should include information on the quality of drinking water and sanitation service delivery, the use of these services, and behaviors with respect to hygiene. It should be possible to disaggregate this information in a way that will facilitate decision-making and more equitable management of water and sanitation resources and interventions in the countries.

Finally, to summarize, the ideas and discussions that have arisen from this document underscore the importance of drinking water and sanitation in the search for health and sustainable human development. This should be reflected in the action of the ministries of health, the technical cooperation of PAHO, and the joint work with institutions from other sectors in the national and international arena.

7. Action by the Directing Council

The Directing Council is invited to consider the annexed resolution recommended by the Executive Committee.

Annex



128th SESSION OF THE EXECUTIVE COMMITTEE

Washington, D.C., 25-29 June 2001

RESOLUTION

CE128.R10

HEALTH, DRINKING WATER, AND SANITATION IN SUSTAINABLE HUMAN DEVELOPMENT

THE 128th SESSION OF THE EXECUTIVE COMMITTEE,

Having considered document CE128/13, which presents:

- conceptual aspects on sustainable human development and the role of health, drinking water, and sanitation;
- evidence regarding the drinking water and sanitation situation, based on *Evaluation 2000*, conducted throughout the Region, and on the study of inequalities in household spending and use of water supply services in 11 Latin American and Caribbean countries;
- an analysis that holds that the deficiencies encountered in environmental health are inconsistent with the objectives of equitable human development that have been repeatedly adopted by the countries under different initiatives, including Rio 92 and the Pan American Charter on Health and Environment in Sustainable Human Development; and
- considerations on the challenges and prospects of the current drinking water and sanitation situation, the functions of the institutions involved in the delivery of these services, and the key role that the ministries of health can play in closing the existing gaps in access to and use of these services,

RESOLVES:

To recommend that the Directing Council adopt a resolution along the following lines:

THE 43rd DIRECTING COUNCIL,

Having considered document CD43/___ on health, drinking water, and sanitation in sustainable human development;

Recognizing the need for ministries of health to strengthen their capacities and competencies to take action that will help to overcome limitations and inequities in access to drinking water and sanitation services, within the framework of sectoral reform and the current trends in the delivery of drinking water and sanitation services and integrated management of water resources;

Taking into account that the technical cooperation activities of the Pan American Health Organization in drinking water and sanitation are guided by the principles of health and environment in sustainable human development and that the establishment of partnerships, strategies, and priorities benefits from timely and relevant information on coverage, quality, and equity in the delivery of these services;

Responding to the call made in Montreal in March 2001 by the environment ministers of the Americas and by the Government of Canada, and endorsed within the Plan of Action of the Summit of the Americas held in Quebec City in April 2001, urging PAHO and the United Nations Environmental Program (UNEP) to support the convening of a regional meeting between ministers of health and ministers of the environment;

Recognizing the importance of developing a knowledge base on the linkages between human health and environmental degradation, establishing priorities for moving the health and environment agenda of the Americas forward, developing an appropriate follow-up mechanism for ministers to keep track of progress and contributing to and influencing the World Summit on Sustainable Development programmed for 2002 (Rio+10); and

Considering the recommendation of the 128th Session of the Executive Committee,

RESOLVES:

1. To urge the Member States to:

- (a) strengthen the capacities with the ministries of health and their activities in environmental health, to fulfill their responsibilities, including drinking water quality surveillance and contributing to improve the quality of drinking water and sanitation services;
 - (b) promote and collaborate with other ministries or institutions in reforms aimed to improve coverage, quality, equity, and sustainability of drinking water and sanitation services, particularly in rural areas, small towns, and urban poor settlements;
 - (c) recognize the work of the countries and the technical cooperation of PAHO/WHO in *Evaluation 2000* on drinking water and sanitation in the Region and the study of inequalities in household spending and use of water supply services in 11 Latin American and Caribbean countries;
 - (d) participate actively in regional processes or activities preparatory to Rio+10 or in other activities within its framework, ensuring that health is well represented and identifying and promoting partnerships and priority activities that will facilitate progress in implementing the environmental health agenda, both in the Region and globally;
 - (e) participate in a joint meeting between health and environment ministers of the Americas in 2002 as part of a process to strengthen their capacity to effectively manage health and environment issues.
 - (f) promote actions and establish regulations to enable drinking water and sanitation services to contribute to environmental protection and conservation in the Americas.
2. To request the Director to:
- (a) continue technical cooperation with the countries to strengthen capacities in the ministries of health, assisting in their work with other sectors and collaborating with other national and international institutions and the development banks that are part of the Shared Agenda to reduce the health risks associated with limitations in coverage, quality, and equity in access to drinking water and sanitation services;
 - (b) continue to collaborate with the countries in regional processes or activities in connection with Rio+10 to promote and enrich partnerships that contribute to sustainable human development based on the health of populations;
 - (c) work with the UNEP and Canada to convene a meeting of health and environment ministers of the Americas in early 2002.