The present Situation Analysis is integral and complements the Situation Analysis defined by SDE in its BPB 2004-2005 (BPB.02 Form).

### Basic Sanitation Situation Analyses

**1 Situation - Population, health, services**

**Population.** In the second half of the 20th Century the population of the Americas grew from 400 million to 800 million inhabitants. According to CEPAL (Pinto da Cunha, 2002), by year 2000 South and Central America, Cuba, Haiti, Jamaica, Mexico, and Dominican Republic amounted to 75% of urbanization. Argentina, Brazil, Colombia, Mexico, and Peru recorded the highest rates of population and growth during the 1950-1990 period. The topic of rural population is very important, mainly in Central America, where 35% of the population lives in rural areas. Percentages above this value are found in Haiti (65%), Guatemala (61%), El Salvador (54%), Costa Rica (52%), Paraguay (45%), Jamaica, and Panama (44%), Honduras (41%), Nicaragua (44%), Bolivia (38%). Whereas it is a slow process, the total population and its urban fraction are increasingly growing in LAC. The Assessment 2000 (PAHO, 2001) showed that during the 1990s the population grew from 429 to 497 millions.

According to CEPAL, by the mid 1990s there were 14,028 municipalities in 19 Latin American countries and 74% had less than 20,000 inhabitants. For example, in Bolivia, population of 575 localities (89% of the total) range between 250 and 5,000 inhabitants; Colombia 870 municipalities (80%) have less than 12,000 inhabitants; in Mexico, 198,311 localities have less than 2,500 inhabitants and are 26% (25.7 millions) of the national population. These localities do not have the benefits of the economies of scale of the big cities and that is reflected in the service delivery limitations. Perez et al. (2002) stated that such limitations may be due to political, institutional, financial, technical, participative, environmental, and sanitary aspects.

In short, whereas urbanization and marginality-related problems in big cities and metropolitan areas are a significant issue in Latin America and the Caribbean, it is also important to take into account the phenomena related to rural areas and small cities and their possible relations with bigger cities in the delivery of basic sanitation services. Rural and urban populations include inhabitants with different levels of marginality and the economic growth of the Region does not benefit them.

**Health.** The lack of basic sanitation services is directly related to the occurrence of waterborne diseases in human populations. Some water-borne diseases include cholera, hepatitis, and diarrhea. Vector-borne diseases include malaria, dengue, yellow fever, and Nile virus fever.

The assessment of the occurrence patterns of cholera and mortality by acute diarrheal diseases in the Region shows a decrease of the number of cases during the last decade. It is important to take into account, however, that these diseases are still a problem, mainly with diseases in rural areas. During 1991-1997 was observed during 1991-1997 was reverted when cases reported in 1998 exceeded 3.2 times of cases reported the previous year. Whereas 73.1% of these cases occurred in Peru and Ecuador, Guatemala, Honduras, and Nicaragua in relation to 15. In Peru and Ecuador, this situation may be due to El Niño phenomenon and in Central American countries, it may be due to the Mitch Hurricane.

Vector-borne diseases are also a public health problem in the Region, where 44,519 case dengue and 1.14 millions of cases of malaria were reported in 2000 (Health situation in
Americas, 2002). It is important to point out that the burden of water-borne and vector-borne diseases not only affect the health public system but also lead to work and school absenteeism and lost of incomes.

Some segments of the population are more vulnerable to diseases related to the lack of sanitation services. Urban-marginal and rural areas usually do not have these services. Lack of knowledge on hygiene practices and the inadequate management of water and wastes for control characterize these areas. Besides, malnutrition and the limited medical services may modify the severity and even the likelihood of dying owing to these conditions.

Children are especially vulnerable. They drink more water than an adult does in proportion to their weight; which involves the entrance of a greater quantity of organisms present in water. Since the body of a child is still developing, his/her organs are more vulnerable to the adverse consequences that the agents of water may cause.

In 2000, PAHO reported that the mortality rate in children under five ranged between 7 to 101 deaths per 1,000 live births, with an average of 38 deaths per 1,000 live births for the Region (Health Situation in the Americas: Basic Indicators 2002). This rate is higher than the rate reported in industrialized countries, where the average rate that year was 6 per 1,000 live births (We the Children, Meeting the Promises of the World Summit for Children, 2001). Diarrheic diseases are one of the main causes of mortality in children under five in the Region. In 2001, these diseases caused virtually 8% of the deaths for this age group, for an estimated of 39,000 deaths (Special Program for Health Analysis and Program on Communicable Diseases, 2001). WHO has estimated that 90% of diarrhea cases worldwide in children under five are due to environmental factors (Children in the New Millennium, 2002).

Lack of basic sanitation services is an environmental factor that represents a health risk especially among the most vulnerable. It has been pointed out that mortality rates in children under five are lower in countries where the coverage of drinking water supply is greater (Figure 1). Also, mortality rates in children are lower in countries of the Region where sanitation coverage is greater (Figure 1). The improvement of environmental sanitation services will therefore contribute to achieve the goal of reducing by two-thirds the under-five mortality rates.

Considering the health consequences alluded to above within the context of sustainable development, it is imperative that natural water resources be protected. It is not only sufficient to provide the quantity of water required but also to ensure that the quality of the water is adequate for the uses already mentioned, i.e. potable water, irrigation, recreational, among other uses, without adverse health consequences in an economic and practical manner. Herewith lays the direct link between the protection of water resources and basic sanitation. The quality of water resources is basis for determining the level of wastewater treatment required. In LAC however, municipal, industrial and agricultural wastewaters are discharged without adequate treatment. The contamination of groundwater resources is in general not reversible economically. Besides, there is the problem of quantity reduction of suitable water sources for human consumption due to contamination, over exploitation, and competition.
Correlations between the coverage of water and sanitation and child mortality rate in Latin America and the Caribbean

Fuentes: We the Children, 2001
Informe Regional sobre la Evaluación 2000, 2001
Situación de la Salud en las Américas: Indicadores Básicos, 2002

Services. According to data and information based on the Assessment 2000 in Americas, currently with a population of 497.3 million people, 84.59% of the population l drinking water services, either with connection or easy access to a public standpipe. This means 76.5 million people (15.41%) do not have access to some form of safe drinking water. There is added fact that around 53.9 million people (10.86%) get water through systems defined as "e
access” that represent a significant health risk, mainly for the most vulnerable populations, such as children and the elderly.

In addition, it is estimated that in Latin America and the Caribbean more than 219 million people, representing 60% of the population served through house connections of drinking water, served by systems with intermittent operation. Considering that control, health surveillance, and quality certification for these systems are almost nonexistent, they are a permanent risk for users. It is observed that the population served by inefficient systems in terms of continuity frequently use health care services owing to diarrhea and other water-related diseases.

A study conducted by CEPIS in 1994 estimated that only 59% of the population of Latin America and the Caribbean received disinfected water regularly. In 1995, 23 countries of Region notified that the majority of the people living in urban communities received water according with WHO guidelines for drinking water quality. However, the same does not occur in rural areas.

In Latin America and the Caribbean only 241.3 million people, 48.6% of the population, connected to conventional sanitary sewerage systems and 151.9 million people, 30.6% of population, are served by on site sanitation systems, such as latrines, septic tanks, among others.

It is estimated that 103.2 million people, 20.7% of the population of Latin America and Caribbean, do not have wastewater and excreta disposal systems, of which 37.0 millions, 10.1%, correspond to urban areas and 66.1 million, 50.4%, to rural areas. Lack of wastewater treatment continues to be one of the most serious sanitary problems in the Region, especially in Caribbean. The Assessment 2000 indicates that only 13.7% of the wastewater collected by sewerage systems is treated.

At the regional level, there are several critical issues still not solved. Some of them are insufficient political support of the governments to sectoral institutions, lack of sanitary awareness in the population, urgent need to change methodologies and criteria to finance wastewater treatment facilities, inadequate environmental policies, institutional deficiencies, and the need of technical standards for waste disposal and treatment.

The Region generates daily more than 360,000 tons of household refuse, with an decreasing content of biodegradable wastes and more hazardous residues (insecticides, paints, disinfectants, batteries, etc.). The collection coverage in the majority of medium cities ran between 50 and 70%, while in many periurban areas of large and small cities, as well as in towns, collection services are even more deficient or in many cases they do not exist.

It is estimated that more than 70% of the waste is disposed of in open dumps, watercourses, in the streets or are used as swine food. Less than 30% of the waste goes to sanitary or controlled landfills.

In the majority of the cities hazardous wastes (from hospitals and industries) are hand jointly with municipal waste and its final disposal is done in open dumps (3,600 t/d of hospital wastes are estimated, of which more than 600 tons are dangerous).

More than 100,000 families are dedicated to informal waste recycling in open dumps. They work in unhealthy conditions and represent more than 300 thousand people, of which nearly 3 are children.
Situation - Institutional aspects

The organization and operation of the sector has not ensured adequate access to water sanitation services for nearly a fourth of the population in the Region. Health protection goes beyond safeguarding water quality for human consumption. Distributing water of good quality, continuity and at accessible prices requires a well-organized, regulated and administered sector, high-level human resources. Water quality standards and surveillance laboratories cannot contribute significantly to service quality improvement if water utilities do not guarantee good operation: maintenance of their installations and if limitations of coverage and inequities are not solved.

To overcome these limitations, actions are required aimed at strengthening the capacity performance of the institutions according to current trends in the Region. This includes decentralization and participation of the private sector, NGOs, and grassroots organizations.

The role of the ministries of health. Health authorities play an important role in promotion, surveillance, and regulation of water and sanitation services. As pointed out in World Health Organization report to a special session of the United Nations General Assembly, June 1997: “The 21st century requires a new health system that favors alliances based in the health of the population foreseeing events rather than reacting to them.”

Distinguishing responsibilities of the health authority and the specific role of sectoral institutions, the ministries of health should monitor and advocate basic environmental sanitation. The participation of the ministries of health includes objectives associated with public health, universal coverage of services, abatement of inequities, and search for sustainable human development. It includes the Essential Functions.