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## **REGIONAL PLAN FOR INVESTMENT IN HEALTH AND THE ENVIRONMENT**

On various occasions the Governing Bodies of the Pan American Health Organization (PAHO) have discussed the effects of the economic crisis on health and the relationship between health and development. The outbreak and spread of the cholera epidemic in the Americas has made all the more apparent the poverty, underdevelopment, and generally deficient living conditions that prevail in the countries. PAHO, in response to these conditions in general and the epidemic in particular, has been supporting the countries in an effort to combat the spread of the disease and limit its impact on the countries affected through an emergency strategy.

At the same time, the Director of PAHO has alerted the Governing Bodies to the need for an unprecedented, long-term effort to bring about a recovery in the social sector, particularly in the area of health in the broadest sense of the term. The XXXV Meeting of the Directing Council of PAHO/WHO, informed of the general strategy proposed by the Organization to address the problem, approved Resolution XVII, which "requests the Director to prepare, in close collaboration with the member countries and other cooperation agencies, a long-term plan of investment in health and the environment for meeting the infrastructural requirements in those areas."

In fulfillment of this mandate and pursuant to the Declaration of Guadalajara of the I Ibero-American Summit, the Director, in consultation with the Governments and other cooperation agencies--particularly the office of the President of the Inter-American Development Bank and the office of the Regional Vice President for Latin America and the Caribbean of the World Bank--has taken steps to develop a proposal for the plan.

The document that follows describes the general proposal for the Regional Plan for Investment in Health and the Environment during the period 1993-2004. It is expected that this document will also be included as a specific proposal for discussion at the II Ibero-American Summit Meeting to be held this coming July, in Madrid, Spain.

The purpose of this proposal is to increase understanding of the situation of crisis and deterioration that currently characterizes both health infrastructure and the resources allocated for health care, as well as to initiate a discussion and review, at the national level, along the lines of orientation proposed. It also proposes an overall financing scheme based on the mobilization of internal resources while underscoring the importance of external assistance to bolster national efforts.

**II IBERO-AMERICAN SUMMIT OF PRESIDENTS  
Madrid, 1992**

**REGIONAL PLAN  
FOR INVESTMENT IN HEALTH AND THE ENVIRONMENT**

*Proposal for a Regional strategy and frame of reference  
for the formulation of National Plans of Investment  
in Latin America and the Caribbean*

*June 1992*

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## PREFACE

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When cholera broke out in Peru in January 1991 there had been no epidemics of the disease in Latin America or the Caribbean for almost a century. Within a few months it spread to other countries and cases occurred in places as far away from the initial focus as Argentina, Brazil, Chile, Guatemala, and Mexico. As of 8 June 1992, the Pan American Sanitary Bureau had received reports of 586,306 cases, 266,034 hospitalizations, and 5,129 deaths.

The cholera epidemic has had a strong impact on the economies of a number of the countries. Sizable losses have been registered in the tourism, agriculture, and fishing sectors, as well as terms of exports. The high social cost is difficult to estimate because no way has been found to assign a specific economic value to the loss of human life.

The presence of cholera has called attention to the consequences of a long-standing structural and economic crisis and to the enormous inequalities that exist in the Region. The epidemic is also a product of deterioration in the infrastructure and quality of drinking water supply, basic sanitation services, and health care.

After two decades of economic growth that did little to redress poverty, the economies of Latin America and the Caribbean suffered a considerable decline during the last decade. The gap relative to the industrialized countries of the world has become wider, and vast sectors of the population have joined the ranks of those already living in poverty and misery. Per capita gross domestic product and Regional consumption fell

by 8.7% and 12.6%, respectively, between 1980 and 1990. According to the Economic Commission for Latin America and the Caribbean, the Region probably has no fewer than 192 million people living in poverty and, of these, no fewer than 91 million are indigent.

Cholera develops, spreads, becomes epidemic, and finally becomes endemic when people live in substandard environmental conditions with no access to potable water and basic sanitation services and when health services are not equipped to respond adequately to the needs of the population at risk.

Today, in Latin America and the Caribbean, more than 130 million people do not have access to a safe water supply; 145 million lack sanitary sewerage and waste disposal systems; 300 million are contaminating waterways through the disposal of untreated wastes; 100 million, 90% of whom live in urban fringe areas, have no access to a refuse collection system; 240 million dispose of their refuse in conditions that are hazardous to their health and to the environment; and 160 million lack access to permanent direct health care services.

Firm political decisions and commitments must be made at the national and Regional levels to reverse these situations as soon as possible. Until this occurs, there will be no reduction in the high rates of morbidity and mortality from diarrhea and other infectious diseases. Millions of people, mainly children and the poorest segments of the population, will continue to become ill and die from preventable

risks and diseases. Cholera will become endemic, and other pathologies typical of poverty will emerge.

The countries of the Region have mounted a vigorous effort to control the spread of cholera and to prevent epidemics. Despite the severe constraints imposed by the economic crisis and the resulting adjustment measures, it has been possible to achieve satisfactory results. However, what has been done up to now is not enough.

In the face of this challenge, the countries of Latin America and the Caribbean, through the Pan American Health Organization, have proposed a strategy of action with two major components. In the short term, they have mounted an Emergency Plan, the general objectives of which are to combat cholera, reduce the risk of its spread, and limit its social and economic impact.

At the same time, they have proposed the formulation of a Regional Plan for Investment in Health and the Environment during the period 1993-2004. The Plan constitutes a Regional strategy, as well as a frame of reference for the countries and for international cooperation. It provides a common orientation for bringing about major reforms in the systems that are connected with comprehensive health care. The purpose of all this is to rebuild and extend the infrastructure and services that are linked to the protection and control of man's immediate physical and biological environment and to direct health care for the population. In this way it will be possible to cover both the deficits and demands that exist now and those that will emerge as the population grows over the next twelve years.

The Regional Plan for Investment should be the result of direct action by the countries. Its final formulation will emanate from the set of National Plans that the countries prepare. These should not be a limited and exclusive responsibility of the Governments or the countries. They should, at all times, be a responsibility that is shared on an ongoing basis by all sectors of the society and by all participants in the national political processes.

This first version of the Plan lays the basic foundations for initiating a process of dialogue and consensus between the countries of Latin America and the Caribbean. Ambitious but essential targets are proposed. Estimates are included for amounts of financing that might, at first glance, appear extremely high but ultimately are not beyond reach.

The present proposal is being formulated in the midst of crisis. The countries of Latin America and the Caribbean are undergoing a series of different crises which have multiplied and intensified the problems that are affecting them. However, there are hopeful signs that the Region is on the verge of an economic recovery. In these circumstances there is a moral duty to respond with proposals that correspond to the magnitude of the problems. The crises affecting the countries provide the opportunity to set in motion changes and reforms that are urgently needed and must no longer be put off.

This proposal is consonant with the principles contained in the Declaration of Alma Ata and those of the International Decade of Drinking Water and Sanitation, approved by all the countries of the world in 1978 and 1980, respectively. Moreover, it will contribute to the attainment of the goals established by the World Summit for Children.

## SUMMARY

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### I

More than 130 million inhabitants of Latin America and the Caribbean do not have access to a safe water supply. Some 145 million lack sanitary sewerage systems, 300 million are contaminating waterways through the disposal of untreated wastes, 100 million have no access to a refuse collection system, 240 million dispose of their refuse in conditions that are hazardous to their health and contaminate the environment, and 160 million lack access to permanent direct health care services. More than 90% of the industries in the Region discharge their wastes without any treatment whatsoever.

In addition, sanitation and health systems and services are currently in an extremely critical state. Physical infrastructure has deteriorated through lack of maintenance and replacement. Operating budgets have been slashed, which has further accentuated the inefficiencies in the management of limited resources. Curative forms of health care continue to predominate and absorb almost all of public and private allocations. Consequently, the products of these services and systems are of poor quality and many times do not contribute to solution of the highest priority problems.

It is therefore not surprising that cholera epidemics have occurred in the Hemisphere; neither is it surprising that there is an imminent threat that they will spread and that cholera will become endemic.

If the countries of the Region do not take swift action and work together to overcome the structural deficiencies that have given rise to diseases like cholera, there will be no reduction in the high rates of morbidity and mortality. Millions of people, mainly children and the poorest members of the population, will continue to become ill and die from preventable risks and

diseases. Cholera has set off an alarm. It is time to respond with effective actions that will correspond to the true magnitude and nature of the problems and will address their causes.

Drinking water, sanitation, and health services have become, in today's world, basic needs. When these needs are met only for certain social groups, a situation of injustice is created or perpetuated which cannot be indefinitely overlooked or disregarded.

### II

It has thus become urgent to rebuild the deteriorated infrastructure and cover current deficits, while at the same time introducing substantial reforms into the systems, institutions, and services. In this urgent task, investment can play an extraordinary role if it is channeled into strategic actions aimed at bringing about the achievement of reforms and the introduction of vital elements of social policy in a context of economic crisis.

When investment does not take place within a process of fully justified and urgent reform, but rather is simply put into a set of projects, even if they are technically sound, unsatisfactory situations may be perpetuated and obstacles and resistance to necessary change may be strengthened.

### III

The present Regional Plan for Investment should be understood as a strategy, a frame of reference, and a process.

As a strategy, it is intended to contribute to the achievement of indispensable reforms in

the systems and services intended to ensure the protection and control of the environment and provide direct health care services for the population.

As a frame of reference, it suggests priority areas for investment; proposes the need to define criteria of quality, productivity and efficiency; and presents alternatives for action that will be more effective than in the past. The countries--in accordance with their individual realities, potentialities, and limitations--will utilize this frame of reference to formulate their own National Plans of Investment and develop specific projects.

The Regional Plan is also a frame of reference for the international cooperation organizations and agencies--multilateral and bilateral, public and private. Their participation in the future development of this proposal, mainly at the country level, will facilitate the technical assistance and external financing that the countries require.

As a process, it will operate basically at the country level. This proposal is only an initial step, however, which is intended to spur, promote, and facilitate future action.

#### IV

In the drafting of this document, several broad guidelines for the reform of systems, institutions, and services have been continually borne in mind. These lines are: decentralization and social participation--which are indispensable for the development of local levels and the revamping of systems, from the peripheral levels to the intermediate and central levels--together with operational efficiency. On the basis of these lines, the document proposes a way of covering current deficits and of anticipating the needs that will arise as a result of population growth over the next twelve years.

The implementation of reforms begins with the effective integration of environmental protection and control activities with direct

health care for the population. Through the actions of people--within their families, workplaces, and grass-roots organizations--this integration will come about naturally.

Given an effective process of transfer of information, knowledge, skills, instruments, means, and responsibilities, people can adopt new lifestyles and hygiene habits; select, conserve, and properly utilize their food; control the quality and disinfect their water and reduce their consumption thereof; minimize the unsanitary elimination of excreta and solid wastes in the places where they live and work; control vectors; monitor the growth and development of their children; prevent or promptly diagnose prevalent diseases; initiate simple, effective, and safe treatments; and refer cases or problems on a timely basis to institutional health care or water and sanitation services.

Consequently, priority is assigned to self-care and to health centers and posts, and the latter are given the maximum possible decision-making authority, but only following a substantial reorientation. Principal responsibility for the aforementioned process of transfer, as well as supervision and technical advisory services--both concerning the protection and control of the environment and environmental hazards and direct health care for the population--is shifted to the health posts and centers. Water supply and other sanitation services and hospitals provide support at more complex levels.

Hospitals are not overlooked because currently a very high percentage of the population has no access to them and because the benefits of extraordinary scientific and technological developments can be utilized to full advantage only in hospitals. Otherwise, there would be no equity or universality.

#### V

In general, priority is given to the

rehabilitation of existing infrastructure, and it is considered that any extension thereof, through new works, should be complementary.

The proposal takes into account the importance of choosing appropriate technologies for utilization in different areas and at different levels of complexity within the systems. Emphasis is placed on maintenance, cost containment and recovery, and measures and mechanisms that will lead to maximum operational, economic, and social efficiency.

From a social standpoint, priority is given to the groups that are neediest and at greatest risk: urban fringe populations, pockets of extreme poverty, and rural populations. In the same connection, special areas of investment are proposed with a view to promoting grass-roots organizations; addressing the needs of women, indigenous peoples, and workers in their working environment; and providing the initial impetus for dealing with certain endemic diseases that can be prevented or controlled.

High priority is also assigned to institutional development, since this is essential in order to create the conditions and facilities that will allow the revamping of institutions and services; the establishment of information systems; the development of national capacity to lead reform processes; the strengthening of operating capacities for the management of systems, institutions, and services; and the creation of suitable conditions for the development of National Plans of Investment and specific projects.

## VI

Chapter I presents the rationale for the Regional Plan within a conceptual context in which health is the outcome of a complex variety of cultural, social, economic, and political factors. The magnitude and structural characteristics of the economic crisis affecting the countries of Latin America and Caribbean are also discussed.

Mention is made of the social and political hazards of economic growth that does not take into account the past accumulation of dangerous problems such as the increase in poverty and the accentuation of inequalities. This chapter proposes the urgent need for firm political decisions on the part of the Governments and the need for these decisions, in turn, to be solidly and continually supported by the entire society at the national level.

A conceptualization of health care is presented based on the principles of decentralization and social participation. It is recognized that everyone has the right to health and that systems for the protection and control of the environment and the provision of direct health care are fundamental and priority components of well-being. At the same time, as promoters and protectors of human capital, they are important contributors to social development.

This chapter also points out the new responsibilities of the modern State, which is decentralized and participatory, divested of excessive bureaucracy and streamlined, and, above all, is sufficiently capable of fulfilling its role of guidance, leadership, and facilitation of processes that will lead to economic recovery and social development.

Chapter II explains the orientations and priorities which, in keeping with the concepts covered in Chapter I, have served as a basis for the formulation of this initial proposal.

## VII

Chapter III discusses the structural content of the initial proposal of a Regional Plan for Investment.

Definitions are presented for the concepts of investment, infrastructure, preinvestment, institutional development, and health care. For purposes of the proposal, investments are considered to be the set of actions aimed mainly at strengthening national capacities, both for the preparation of plans and

projects as well as for the achievement of maximum operational efficiency in the management, administration, and operation of systems, establishments, and services. Some of these actions are also aimed at gaining a better knowledge of the national reality, as well as the sectors and systems that have to do with health care. Others are related to the need for continually updated information or to the formulation, at the national level, of orientations for bringing about system reform. Still others are actions that are necessary in order to achieve stable and ongoing political support or in order to create or strengthen technical-managerial expertise at all levels. Consequently, the concept of infrastructure cannot continue to be limited to the physical sense. Human resources—certainly the most crucial of all production factors—and, to a certain extent, managerial technology—which allows for effective management of the other factors—are also part of infrastructure.

The chapter also explains the limitations of the information utilized and provides the sources of that information and the criteria utilized to obtain the estimates, projections, assumptions, and other referential elements that have served as a basis for the calculations.

Finally, it contains an important warning to the effect that the criteria utilized and the values calculated should not, under any circumstances, be interpreted as standards that are proposed as part of the Regional Plan. It is underscored that every country—depending on its own reality and each specific project, and taking into consideration its particular characteristics and circumstances—will need to develop and utilize different criteria and values.

## VIII

The Plan is structured around six large components. For each component, subcomponents have been identified which correspond to priority areas of action. It is clarified that as a Regional Plan—i.e., as a strategy and frame of reference—the Plan covers a period of 12 years, from 1993 to 2004, but as national process, in the countries, it may go on indefinitely.

The total amount of investment for the six components, including financing costs, is on the order of US\$ 216.7 billion, based on the value of the dollar in 1990.

**TABLE 16**  
**TOTAL INVESTMENT BY COMPONENT**  
**AND FINANCING COSTS**  
(in billions of US\$, based on 1990 dollar value)

INVESTMENT COMPONENTS	AMOUNT	%
<b>TOTAL INVESTMENT</b>	<b>216.7</b>	<b>100</b>
<b>1. ENVIRONMENT</b>	<b>114.83</b>	<b>53.0</b>
Rehabilitation	16.23	7.5
Extension	98.6	45.5
<b>2. DIRECT HEALTH CARE</b>	<b>64.48</b>	<b>29.7</b>
Rehabilitation	16.97	7.8
Extension	47.51	21.9
<b>3. PREINVESTMENT</b>	<b>1.2</b>	<b>0.6</b>
<b>4. INSTITUTIONAL DEVELOPMENT</b>	<b>4.96</b>	<b>2.3</b>
<b>5. SCIENCE AND TECHNOLOGY</b>	<b>1.62</b>	<b>0.75</b>
<b>6. SPECIAL AREAS</b>	<b>4.0</b>	<b>1.85</b>
<b>INTEREST COSTS<sup>1</sup></b>	<b>25.61</b>	<b>11.8</b>

<sup>1</sup> Includes interest costs for all components.

Three possible sources of financing have been considered: internal financing, including the private sector and possible schemes of self-financing and cost recovery; external financing, including multilateral, bilateral, public, and private financing, as well as concessional and non-concessional financing; and external debt conversion. The amount of this possible total financing is estimated at approximately US\$ 207.6 billion, in terms of 1990 dollars.

TABLE 21  
POSSIBLE TOTAL FINANCING BY  
MAJOR SOURCES (1993-2004)  
(in billions of US\$, 1990 dollars)

Sources	Amount	% of GDP of Latin Am. & Carib. countries
Internal	143.5	0.82
External	63.0	0.36
External Debt Conversion	1.1	0.006
<b>Total</b>	<b>207.6</b>	<b>1.186</b>

The multilateral lending institutions have expressed an interest in participating more actively in social development. There are agreements and proposals to establish certain targets, in terms of channeling specific percentages of the financing they provide, for social projects.

It is therefore appropriate to propose that the industrialized countries assume a commitment that is not beyond their possibilities. They could make a commitment to apply at least 20% of the financial cooperation resources that they allocate to Latin America and the Caribbean for projects aimed at protecting and controlling the environment and providing direct health care for the population.

The countries are assuming 69.12% of the anticipated total financing.

Chapter IV proposes a strategy of action, stressing that the Regional Plan for Investment should be the expression of a firm political commitment by the countries of Latin America and the Caribbean and that it is necessary to build broad-based political support in the countries for the reform of systems, institutions, and services and the development of National Plans of Investment.

It points out that the countries should take steps to implement the Regional Plan, initiating national processes as soon as possible. Sectoral analysis will be required for this purpose, as will the formulation of policies to guide the reform of systems and institutions, training activities, and the preparation of National Plans of Investment and concrete projects.

It will then be necessary to activate mechanisms that will ensure that this first phase is indeed carried out. For this to occur, an indispensable and urgent instrument is the creation of a "Regional Preinvestment Fund," made up of multiple contributions from countries in the Region and donors outside the Region. This mechanism could be designed and overseen by the Pan American Health Organization.

The chapter concludes by calling for the formation of an Support Alliance, which would include the organizations and agencies that provide international cooperation. Through such an alliance it would be possible to offer the countries the necessary technical assistance and to facilitate immediate financing for preinvestments, institutional development, and the investments under other components and subcomponents of the Regional Plan.

## Chapter I

### HEALTH IN DEVELOPMENT AND INVESTMENT

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#### **The Economic Crisis**

1. The economic crisis that is currently affecting the countries of Latin America and the Caribbean is not a circumstantial phenomenon. It is an outgrowth of a long process of structural deterioration that has become increasingly evident during the second half of the present century.

In the context of progressive globalization of the world economy, the development models that had been adopted in the Region have proved inadequate to reduce the tremendous social inequalities. The countries have been incapable of responding in time and have failed to introduce the essential changes needed in order to adapt to social, economic, and demographic processes at the national level as well as new realities at the international level.

2. This situation became more acute during the 1970s, although it was masked by a heavy flow of capital and a consequent growth in external indebtedness. In the last 10 years it has reached crisis proportions, in the true sense of the term. National economies have become stagnant and poverty and misery have increased. Between 1970 and 1990 the ranks of the poor and indigent swelled by 77 million and 39 million, respectively. In addition, a process of progressive impoverishment has occurred in urban areas, where 60% of the poor now live in urban fringe areas. Social

expenditures have been deeply cut, and underfunded social services have deteriorated and become increasingly inefficient.

The countries have been obliged to implement drastic economic adjustment measures, which have not always been accompanied by the means needed in order to cushion their negative social effects.

#### **Social Development and Economic Growth**

3. The economic and social issues and the concept of development should therefore be seen in the context of a region in which socially and politically dangerous problems have been accumulating for some time. While it is urgent and essential to overcome the economic crisis as soon as possible and to initiate a process of sustained growth, this alone will not be enough.

Economic growth cannot be considered development unless the benefits that accrue from this growth are distributed equitably. The increase in poverty and the accentuation of inequalities may pose a major threat to continued growth and, worse still, may jeopardize the legitimacy, stability, and viability of the social systems and political structures that people the world over are currently endeavoring to defend and strengthen.

4. In order for economic growth to be stable and sustained, it must be accompanied by processes that will reduce poverty,

inequalities, and social injustice. This will require firm political commitments on the part of governments, coupled with solid and ongoing political support from national societies. The fundamental requirements for stability and continued economic growth are the existence of an effective pluralistic, decentralized, and participatory democracy, together with respect for the freedoms that make it possible for democracy to truly work.

In this spirit, there is a need to formulate proposals that will lead to greater equity in the distribution of the benefits derived from growth.

### **Health in Development**

5. In today's world, drinking water, sanitation, and health services have become basic needs. They are the key components of well-being, and, inasmuch as they protect human capital, they make a major contribution to development. When these needs are met for only certain social groups, a situation of injustice is created or perpetuated which cannot be overlooked or disregarded indefinitely.

6. The promotion and maintenance of a society's health depends on a broad range of economic, social, and political actions. However, health care is most directly linked to the protection and control of man's immediate physical and biological environment--including water supply, sewerage, refuse disposal, treatment of municipal and industrial waste, etc.--and to the provision of direct health care for the population--promotional, preventive, and curative activities carried out through

establishments and services at various levels of complexity within the formal institutional system, whether public or private. Moreover, people, either individually or through their primary social units--the family, the workplace, or grass-roots social organization--have a tremendous potential capacity, which has not yet been fully tapped, for protecting and controlling their environment and caring directly for their own health.

### **Protection and Control of the Environment**

7. Under the conventional sectoralization, functional division, and distribution of administrative responsibilities, the services that provide drinking water, sanitation, and environmental protection and control have come under the umbrella of various institutional sectors and systems, such as housing, public works, interior affairs, natural resources, human environment, or health. In general, services for rural areas have come under the health sector.

However, in practice there has been no effective coordination or complementarity of intersectoral and interinstitutional action. A good example of this is the lack of supervision and control over drinking water supply sources and over water quality between the source and the end consumers.

### **Health Care**

8. The so-called health sector--i.e., the health services--has gradually abandoned promotional and preventive actions in favor of medical and curative measures. Resources, principally financial, have been

channeled into large hospitals located in major cities. Coverage by the various institutions--public, semi-public, and private--has been circumscribed to certain population groups and these institutions have failed to achieve any coordination between themselves, each one functioning as in isolation from the rest.

### **Systems in Crisis**

9. Both systems are currently in very critical condition. The physical infrastructure has deteriorated through lack of maintenance and replacement, operating budgets have been cut, which has reduced operating capacity. The inefficiencies in the management of available resources has been accentuated. As a result, the services operate ineffectively and yield products of poor quality.

### **Reforms and Orientation**

10. In the face of this situation, it is urgent that major reforms be introduced in these systems, beginning with functional and effective supplementation of the systems and services that supply water and sanitation and direct health care for the population.

This process should be guided by three basic lines: decentralization, social participation, and operational efficiency. With these lines it will be possible to optimize the use of available resources and achieve, in a practical and progressive way, universal access to services, as well as social solidarity and equity.

### **Decentralization**

11. Decentralization is a sweeping political process, not an isolated administrative measure. It should be understood as an effective transfer of political power, which includes full decision-making capacity in regard to the use of economic, human, technological, and material resources, together with full responsibility for the results and consequences of any decisions that are taken.

This process of transfer must extend beyond the outer limits of formal institutions and reach the population itself, because only in this way will it be possible to achieve genuine social participation.

Such a process requires--without this being a contradiction--a strengthening of the central and intermediate levels in order to ensure unified national direction.

### **Social Participation**

12. Social participation is another broad political process which is fully expressed when genuine and effective decentralization takes place.

The population should have full capacity to make decisions about needs, demands, priorities, and ways of dealing with problems and results, and should therefore have primary responsibility for health care.

### **The Local Level**

13. The natural meeting point of these two processes is found at the grass-roots level of society and at the most peripheral

local level, toward which the decentralization process is directed and from which participation originates. It is at this level that environmental protection and control and direct health care become naturally integrated, and it is here that the values of universality, solidarity, and equity can be given full expression.

### **Operational Efficiency**

14. The disproportion between multiple, growing, and concurrent needs and problems and scarce and limited available resources has been a constant in all human societies. As a result, it is necessary to prioritize needs and problems with a view to consolidating and making better use of existing resources.

Nevertheless, in practice, this situation is either ignored or is not given sufficient importance. This is what occurs in many health systems and services. There has been a lack of an economic mentality and awareness among the leaders, managers, and operators. Factors external to the systems and services, including the interpretation of certain values and principles, have significantly influenced this behavior.

15. The economic and structural crisis that is affecting the countries of Latin America and the Caribbean, the adjustment measures aimed at overcoming it, the consequent cuts and loss of purchasing power in the budgets for social services, the deterioration of service infrastructure, and scientific and technological development are some of the factors that make it imperative to introduce policies, systems, mechanisms,

and measures to improve operational efficiency in the institutions and services. The progressive improvement of operational efficiency is a process that must be carried out strategically through a series of actions that extend far beyond the traditional mechanisms of administrative streamlining.

### **Articulation of the Two Systems**

16. Functional articulation of environmental protection and control systems with direct health care systems will lead to better joint use of resources at the same time that it minimizes duplications and gaps. To the extent that each system functions as an efficiently interconnected network, the mechanisms of referral and back-referral between the systems will lead to greater coverage at lower operating costs.

This articulation should not be limited to the formal institutional systems. Direct participation by the population is a form of double articulation--between the two systems, and between the people and their grass-roots organizations and the most peripheral levels of the formal institutional systems.

### **Maintenance and Control**

17. In the area of institutions and services there are operational standards that have been neglected, disregarded, or forgotten despite their importance. Ongoing maintenance, the control of physical and economic losses, and control over the use of services are factors that should always be taken into account in investment plans and proposals.

### **Efficiency in Demand**

18. The measures aimed at achieving operational efficiency have generally been limited to the delivery of services, little attention having been paid to the wide range of action possible in relation to demand. The centralist and non-participatory tradition of the systems has helped to condition negligent and indifferent behavior on the part of the population. Decentralization and social participation provide suitable channels and means for the population to make an active contribution to the rational use of services. This, in turn, enhances operational efficiency and effective cost containment.

### **Recover of Costs**

19. Practical mechanisms of cost recovery, conceived not only on the basis of economic criteria, sliding rate scales, and efficient collection systems permit more rational use of existing resources and the expansion of services, in accordance with the principles of universality, solidarity, and equity.

### **Reforms Originating at Peripheral Levels**

20. The three broad guidelines for reform will lead to systems different from those that have traditionally existed. Reforms should originate at the most basic local levels of systems and then extend from the peripheral to the central level.

The "peripheral level," as it is used here, refers to the functional and organic articulation of the most peripheral levels of the State--and of public and/or private

institutions--with grass-roots organizations. Based on this conception, the population assumes the role of principal protagonist. The formal institutional system must, therefore, reformulate its roles and responsibilities.

### **The Population and Self-care**

21. People--within their families, workplaces, and grass-roots organizations--cease to be passive objects without any responsibility for their own health care. They become active and responsible participants, both in terms of carrying out certain direct actions that affect them and their immediate environmental surroundings and in terms of their involvement in the management and operation of the peripheral services of formal institutional systems.

22. In order for people to become active and responsible participants it is necessary to reverse a historical process. The truth is that the formal institutional systems have progressively stripped the population they were intended to serve of all direct responsibility. In fact, many experiences involving so-called "community participation" have merely been a means of obtaining unpaid labor to carry out actions that were decided on unilaterally by institutional techno-bureaucracies.

If this process of alienation is to be reversed it will be necessary to establish an effective process by which to transfer pertinent and understandable information, solid and useful knowledge, adequate and assimilable skills, appropriate and adaptable instruments and means, and full and irrevocable responsibility. This process of

transfer should be carried out through innovative, but carefully designed, actions and mechanisms. Ongoing practical training, supervision--in the educational rather than the control sense--, and continuous technical support are effective tools for this purpose.

23. The content of the transfer process includes: lifestyles and hygiene habits; selection, care, and utilization of food; quality control and disinfection of water and reduced consumption thereof; minimization of the non-sanitary elimination of excreta and solid wastes from the places in which people live and work; vector control; monitoring of the growth and development of children; prevention and early diagnosis of prevalent diseases and initiation of simple, effective, and safe treatments; timely referral to formal health care and water and sanitation services, etc.

24. It is proposed that term "self-care" be used to refer to the development and application of the foregoing concepts.

There are always difficulties and dangers inherent in the use of terms, especially when these have been used previously to refer to different or apparently similar concepts and forms. In addition, if the concept is already well-known and a certain body of experience has grown up around it, the assignment of a new sense is liable to invite controversy and criticism. Nevertheless, this term has been chosen because it is the one that best expresses everything explained above.

### **Shared Local Responsibility**

25. In an effective process of decentralization the most peripheral layers of the State and the formal institutional systems--both public and private--are articulated, at the local level, with the various expressions of civil society, mainly grass-roots organizations. Any decentralist and participatory model obliges a substantial redefinition of the roles of the various social participants.

### **Decentralized and Participatory Local Government**

26. Local or municipal governments should be reformed as part of the indispensable modernization of the State. It is a fact that in many countries there continues to be a gap separating the population from the government at the local level. Governments at this level reflect and reproduce many of the defects and behaviors of central governments and the State in general in the sense that they tend to be centralized, authoritarian, bureaucratic, and non-participatory. Some of the reforms that will facilitate smoother operation and greater effectiveness of both environmental protection and control systems and direct health care systems need to take place at the level of local governments. Examples of such reform might include greater decentralization of local governments that cover very large geographical areas and/or populations, legislation concerning local governments that acknowledges this situation and proposes specific formulas, such as

"municipal delegates" or "municipal agencies," etc.

Local governments, thus decentralized, need to expand their decision-making components and advisory structures in order to incorporate representatives from the various traditional institutions of civil society and the grass-roots organizations, as well as from the technical levels of the formal institutional systems at the local, regional, or national level.

### **Integrated Local Health Systems**

27. Integrated local health systems should be established as the basic units within national health care systems. They should not be considered simply a level of care but rather the minimum political-administrative structure capable of responding to the health needs and demands of a population group, based on the levels that are deemed equitable and just in a given society. Local health systems incorporate a whole range of resources, from the least complex (lay midwives, health auxiliaries, etc.) to the most complex (hospitals of all types), without overlooking the health resources that social groups can offer. They are, then, articulated networks of services and resources, both institutional and from the community.

28. The most peripheral formal institutional elements of local health systems are the health posts and centers. These components are responsible for creating and maintaining the conditions that make self-care possible. The transfer of information, knowledge, skills, instruments, means, and responsibilities, as well as supervision and

technical assistance--both concerning the protection and control of the environment and environmental hazards and direct health care for the population--becomes the principal function of health posts and centers.

Water supply and sanitation services and hospitals--the latter as a component of the integrated local health system--provide support at more complex levels.

### **The New Role of the State**

29. In order for the principles of universality, solidarity, and equity to be upheld, especially in societies that are characterized by poverty, indigence, and tremendous inequalities, the active presence of the State is indispensable.

It is an irrefutable fact that the State in Latin America and the Caribbean has undergone a serious and dangerous process of deterioration. Growing centralization and bureaucratization, alienation and indifference to the needs and demands of the population, indiscriminate intervention in the ownership, management, and operation of systems and services, etc. have contributed to the inefficiency of the State and, to a certain extent, to a loss of legitimacy. As a result, the State needs to be reorganized and modernized and its role redefined at each of the levels at which it acts.

Such a redefinition is particularly essential in the area of responsibility for the systems that protect and control the environment and provide direct health care for the population.

30. Decentralization, social participation, and operational efficiency require a strong

State: one that is capable of fulfilling its role in terms of guidance and leadership, facilitation of economic recovery processes, and promotion of social development in the countries.

The State also has its own specific responsibilities, which include standardization, supervision and, in some cases, regulation and control of the actions of social participants in the processes of development. This onerous responsibility should be carried out mainly through mechanisms of negotiation and consensus.

### **Ineluctable Responsibilities of the State**

31. Health care for poor and indigent groups, as well as health care in areas for which other social groups are unwilling take responsibility, must ultimately be the ineluctable responsibility of the State.

In societies such as those in Latin America and the Caribbean, the State must play a very important role in the acquisition and channeling of financial resources if the principles of universality, solidarity, and equity are to be upheld.

### **Promotion of the Private Sector**

32. The private sector can play a more prominent and responsible role in health care. This is a complex sector that comprises a number of distinct systems. There is a nonprofit private sector, which includes lay and religious volunteer organizations, cooperatives, and entities that are linked to revenue-earning enterprises. There is also a for-profit sector, which is commercial, cooperative and includes the private practice of health professionals. All

of these are interrelated, in different ways and to different degrees, with the systems of the public sector and social security, which sometimes makes it difficult to know what approach to take in dealing with them. Some of them also have operational inefficiencies that need to be corrected.

33. As private-sector involvement is promoted, through well-defined and stable policies, the population groups that have the greatest purchasing power or those that are covered by social security can cease to be users of public-sector services. As far as drinking water and sanitation services are concerned, private enterprise can help to improve levels of coverage and quality of services, by virtue of its administrative flexibility, greater availability of credit, and institutional stability. Through different mechanisms, the private sector can intervene as a financial agent, owner, and/or total or partial operator of services and/or activities.

Financial incentives, tax credits, and other fiscal and economic measures, applied within regulatory frameworks in which rights and obligations have been clearly defined, can induce very positive social behavior by the private sector.

### **Nongovernmental Organizations**

34. Nongovernmental organizations (NGOs) and other voluntary forms of participation by civil society, should have a very important role and responsibility in the promotion and application of reforms in health care systems. In practice, they have demonstrated a great capacity and potential for promoting different and innovative solutions that can help to make the

principles and lines of orientation proposed herein a reality.

### **Reform as a Political Process**

35. The implementation of reforms is a political process. Although the reforms themselves are based on studies and interpretations of the reality in which they are to be applied, the decisions regarding their selection, definition, form and sequence of execution, follow-up, evaluation, etc., are basically political. Hence a reform process entails strategic and political management.

One of the essential elements in the conduct of a political process is the continuity of the support that backs up the decisions, at the time they are taken, as they are being executed, and, above all, in the face of the consequences they produce. It is thus necessary to achieve a consensus that expresses a commitment by the majority of national society. Building this consensus is an important aspect of political leadership.

### **Investment in this Context**

36. At present there is an urgent need in Latin America and the Caribbean to overhaul the deficient service infrastructure and expand it in accordance with national possibilities and in keeping with the principles of universality, solidarity, and equity.

37. Investments, when it is simply channeled into a series of projects, even if these are technically well designed, can serve to entrench situations that are considered unsatisfactory and negative. It can also reinforce obstacles and resistance to needed change. Something very different happens, however, when investment is part of a process of justified reforms. In this context investments become strategic actions that help to bring about reform, as well as vital strategic elements of social policy in a context of economic crisis.

## Chapter II

### ORIENTATIONS AND PRIORITIES

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#### **Strategy, Frame of Reference, and Process**

1. The concepts considered in Chapter I have served as a general orientation for the formulation of this initial proposal.

A "Plan for Investment" is formally a set of concrete projects, which should be consistent with the purposes, priorities, objectives, and targets of the Plan. There should be sufficient coherence between them so that they are justified within the whole and so that they mutually support and reinforce one another. These requirements can be applied strictly to the National Plans of Investment.

A Regional Plan--when viewed as a strategy, frame of reference, and process--has a different formation and structure.

#### **The Plan as a Strategy**

2. First, the Plan is a strategy designed to contribute to the achievement of indispensable reforms in the systems and services that protect and control the environment and provide direct health care for the population. It is much more than a set of investment proposals, although there is an urgent and undeniable need for the latter in Latin America and the Caribbean.

#### **The Plan as a Frame of Reference**

3. Second, the Plan provides a Regional frame of reference, within which certain priority areas are selectively pointed out for

investment. Criteria of quality, productivity, and efficiency are applied. More effective alternatives for action are presented. The countries, in accordance with their individual realities, potentialities, and limitations, will utilize this frame of reference to design their own National Plans of Investment.

4. Third, the Plan provides a frame of reference for the international cooperation organizations and agencies--multilateral and bilateral, public and private. Their participation in the future development and enhancement of the Plan, mainly at the country level, will contribute to better achievement of its strategic objectives. It will also serve to orient the participation of these agencies, both in terms of technical advisory services and approval of projects and the granting, channeling, and facilitation of the necessary external financing.

#### **The Plan as a Process**

5. Fourth, the Plan is a process, within which the present initial proposal is a first stage. The next stage will be the responsibility of the countries, with the support of the international cooperation organizations and agencies. The process is initiated on the basis of what has already been done by the countries with the benefit of considerable past experience. The Plan will not end in the year 2004; rather, it is intended to be an ongoing process, which

can be continually perfected and will be entirely the responsibility of the countries.

### **Decentralization and Participation**

6. The fundamental guidelines for reform described in Chapter I have shaped the formulation of this proposal. The priority given to self-care and to improvement of the decision-making capacities of health centers and posts, as the starting point for strengthening integrated local health systems, will contribute decisively to the realization of the processes of decentralization and social participation.

### **Operational Efficiency**

7. Many of the orientations and priorities contained in this proposal are intended to promote and strengthen the operational efficiency of systems and services.

The integration of actions to benefit the environment and people; the rehabilitation of existing physical infrastructure; the consideration of better structures and levels under recurring expenditures; the provision of advisory services, supervision, and support; the identification of alternative uses for physical capacity that cannot be rehabilitated; the emphasis on maintenance; the recovery of costs, etc. will all lead to more efficient and effective use of resources.

### **Integration of Actions to Benefit the Environment and People**

8. A constant orienting idea in the formulation of this proposal has been the

integration of environmental protection and control activities with direct health care for the population.

This integration will take place naturally in a context of self-care. People--within their families, workplaces, or grass-roots organizations--make no sectoral or institutional distinctions. In the care of their own health they also act without making such distinctions, changing their lifestyles and habits, modifying behaviors in the use of water and excreta and refuse disposal, preventing diseases, identifying environmental hazards, obtaining early diagnosis and treatment of common diseases, etc.

At the level of health posts and centers the necessary resources are available for training, supervision, and technical advice, as well as support for actions to protect and control the environment. These resources include the minimum instruments and materials required for self-care and laboratory equipment and facilities within the health posts and centers. The new responsibilities of the health posts and centers make it necessary to establish a close and permanent interrelationship between them and the water and sanitation services and other environmental institutions, creating practical mechanisms of referral and back-referral with them.

9. The integration of environmental protection and control activities with direct health care for the population is an important element of operational efficiency. It represents an optimum combination of promotional, preventive, and curative actions that can get to the root of problems. As a result, problems are not allowed to go

on and there is also a substantial reduction in complications, which might otherwise require costly treatments.

### **Rehabilitation of Existing Physical Infrastructure**

10. Before any new physical infrastructure is created, priority is given to the rehabilitation of existing infrastructure. If establishments or installations that are inefficient or out of service can be made to work or put into better condition, this will contribute decisively to operational efficiency. However, not all the installed physical capacity, in the area of direct health care for the population, should be rehabilitated. Such is the case, for example, with small hospitals that have few beds, where investments in equipment and instruments is not economically justified. In these cases it will be necessary to find an alternative use for these establishments that is in keeping with the lines of orientation for reform and the principles of universality, solidarity, and equity.

### **New Physical Infrastructure**

11. Although rehabilitation of existing infrastructure is to be given priority over the creation of new physical infrastructure, the latter cannot be overlooked altogether. Systems, as networks, require an adequate and optimum balance between their service components. It is necessary to cover existing deficits. Without new physical infrastructure, the principles of solidarity, equity, and universal access at all levels of complexity of the system could not be

upheld. Intolerable inequalities and social injustices would only be perpetuated.

### **Selection of Appropriate Technology**

12. One of the major incongruities and contradictions found in systems and services is the use of advanced and sophisticated technologies in some establishments while others suffer from a total lack of resources. The aggressive marketing of technological development--mainly applied to the diagnosis and treatment of certain diseases which are not necessarily prevalent or relevant--has conditioned, and not always positively, the orientation, operation, efficiency, continuity, and effectiveness of systems and services.

The importance of the selection of appropriate technology to be utilized in different areas and at different levels of complexity of the systems has been constantly borne in mind in the formulation of this proposal.

### **Structure and Levels of Recurring Expenditures**

13. Operational efficiency also depends on levels of recurring expenditures that will permit optimum proportionality between the factors of production. At present, the drastic reduction of current spending on materials, supplies, etc. prevents the efficient use of existing infrastructure and human resources, which consequently become idle.

### **Maintenance**

14. Emphasis is placed on maintenance, with express consideration of what portion of overall operating costs it should represent. It is necessary to prevent investments from being lost within a short period of time, as has occurred in the past as a result of inadequate or total lack of maintenance. The costs of this are too high, not only in terms of deterioration of the infrastructure but also in terms of inefficiency with regard to the quality and continuity of service production. Maintenance should be seen not as an isolated activity but as part of the operational management of efficient service-producing establishments. The countries have the responsibility to provide, within their budgets for recurring expenditures, specific and sufficient allocations for maintenance.

### **Recovery of Costs**

15. Certain elements are proposed that heretofore have been overlooked, forgotten, or considered to run counter to supposed ethical-social principles. For example, the provision of services indiscriminately and free of charge has been considered a social paradigm, while any system of cost recovery has been viewed as an antisocial proposal. Experience has shown, however, that the indiscriminate provision of free services does not always serve the poorest members of society or those who for cultural or educational reasons do not use services to the same extent as the most well-to-do and educated members. The lack of cost recovery schemes has contributed to the

progressive deterioration and the lack of maintenance and replacement of physical infrastructure. This, in turn, has led to the inefficiencies and deficiencies that today are affecting precisely the poorest members of society.

16. This proposal envisages, with regard to internal financing, the development of sliding scales of payment based on partial recovery of costs. The State, on behalf of the national society and fulfilling its ineluctable redistributive function, should contribute to the financing of services for groups who are unable to pay.

In the particular case of drinking water and sanitation, the entities that provide the services should operate on the principle of financial self-sufficiency. Here, also, the State, through transparent policies of differential subsidies, should cover access by well-defined population groups whose family economies do not allow them to paying the costs at even minimum levels of service.

In the case of direct health care, it is assumed that differential payments for certain services and by certain population groups can and should contribute to the financing of recurring expenditures in the public sector.

### **Solidarity and Equity**

17. Both self-care and the role of supervision and training performed by health centers and posts helps to strengthen and consolidate social solidarity at the local level and also, by projection, at the national level.

Greater effective access to systems and services and the decentralized and participatory operation of the peripheral

levels should lead to more equitable use and benefit from the resources assigned to health care. Equity supposes the prioritization of basic social needs. The Regional Plan is therefore selective, so that the areas of investment considered correspond to the following needs: drinking water, various forms of excreta and refuse disposal, the control of water contamination, peripheral services, and, above all, self-care.

### **Priority Population Groups**

18. Priority, in social terms, is assigned to the groups that are neediest and at highest risk: urban fringe populations, pockets of extreme poverty, and rural populations. Special areas of investment are proposed to benefit grass-roots organizations, women, indigenous peoples, workers' health, and the control of certain prevalent diseases.

### **Pre-Investment and Institutional Development**

19. The Regional Plan should be translated into National Plans of Investment and these, ultimately, should lead to concrete, economically sound projects. The Plan should not be reduced to the enunciation of a set of physical infrastructure projects that do not correspond to local needs, priorities, and operating capacities. For this reason, the components

of preinvestment and institutional development are included as targets for investment.

20. High priority is assigned and precedence is given to institutional development. This should not be understood as being limited exclusively to manpower training. It is also necessary to create the conditions and facilities that will allow the revamping of institutions and services, the establishment of information systems, the development of national capacities to lead reform processes, and the strengthening of operating capacities for the technical, administrative, and financial management of systems and services.

### **Urgency of Information Systems**

21. In the preparation of the Regional Plan due note has been taken of the true magnitude, absences, insufficiencies, and deficiencies in the information needed in order to comprehend the reality of the countries and be able to act with the least margin of error possible. Obviously, one of the major elements that needs to be considered in the context of institutional development, as well as for any program of preinvestment, is the establishment of information systems, with mechanisms that will allow for continuous updating. Otherwise, the formulation of plans and projects will be difficult, unreliable, and economically counterproductive .

## Chapter III

### THE REGIONAL PLAN

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#### I. GENERAL CONSIDERATIONS

##### A) DEFINITION OF CONCEPTS

###### Investments

1. The preparation of this initial proposal required the definition of certain terms in keeping with the concepts presented in Chapter I.

Investments are considered to be instruments for triggering, facilitating, strengthening, and contributing to system reform. Much progress has been made in this regard, mainly on the part of the multilateral lending institutions with operations in the Region. The concepts of investment have now been extended to include many actions in the area of institutional development and, in general, those related to the operational efficiency of managerial design, execution, and administration.

2. It is no longer possible to regard investments as exclusively physical projects and isolated actions out of context; it is not necessary that they be justified as concrete and specific responses to particular needs. Investments should correspond to and be in keeping with: national strategies for overall and/or sectoral development; policies that are clearly defined and geared to consolidating positive situations or changing

unfavorable ones; the reformulation of systems that are becoming socially and technically obsolete; and responses to knowledge about local, regional, and national realities on which they could have an impact.

Given the current crisis being experienced by the health care systems, is no longer possible to keep on doing what has been done in the past.

3. The present proposal considers investments to be a set of actions that are related mainly to the strengthening of national capacity, both for the preparation of plans and projects as well as for the attainment of maximum operational efficiency in the conduct, management, and operation of systems, establishments, and services. These actions may refer to: knowledge about national health care realities, sectors, and systems; the need for regularly updated information; the development of national-level orientations for system reform; actions necessary for ensuring stable and consistent political support; or the creation and/or strengthening of technical or managerial excellence at all levels.

### **Infrastructure**

4. According to this perspective, the concept of infrastructure can also no longer be limited to the physical realm.

Infrastructure also includes human resources--the most crucial element of all the factors of production--and, to a certain extent, the managerial technology that permits optimum exploitation of the other factors. In addition, administrative and technical management nowadays requires technological equipment, which should also be regarded as a typical form of investment.

### **Preinvestments**

5. Investments require proposals that are part of an overall plan. However, it is not desirable to formulate concrete national plans or investment proposals without first having taken certain prior steps that are indispensable, including: analysis of the sector, development of orientations for system reform, creation of political support to ensure the necessary decisions and continuity of the reforms, and formation of the capacity to draft suitable plans and projects. The validity, relevance, and appropriateness of the investments and the allocation of the corresponding economic resources all depend on these concurrent prior steps.

### **Sectoral Analysis or Studies**

6. It is recognized that in most sectors there is a lack of complete up-to-date knowledge of national realities. Thus it is necessary to create operating capacity in the countries for the acquisition of this

knowledge, which is indispensable for the efficient management of the actions that have been defined as appropriate responses to problems. This is especially true when such actions are to be taken in the context of reality through political processes that are complex, fluid, and difficult.

In the area of water supply and sanitation, this requirement has already been recognized, and several countries of the Region have established information systems for this purpose.

A sectoral analysis, study, or diagnosis is a prior and concurrent condition to the formulation of investment plans and the preparation of corresponding projects.

### **Institutional Development**

7. Technical and financial agencies already look upon institutional development as part of their investment in a concrete project because they want to ensure that there is capacity to implement the investment and, more important, to manage it afterwards with maximum efficiency and effectiveness. In the case of drinking water, it is a prerequisite for investment because otherwise the investment will not produce the result it was intended to and will fail to make the expected impact, and the resulting situation soon leads to deterioration and loss.

The establishment of information systems, the creation and/or strengthening of facilities for efficient management, especially when it is to be decentralized, and the improvement and development of human resources at all levels are the essential components of institutional development that will guarantee the implementation of

physical investments and facilitate the recovery of costs.

### Health Care

8. Certain terms in the area of health have been used deliberately and need to be explained.

The term "health care" refers to everything that directly or indirectly contributes to the promotion, protection, and restoration of health, especially if it is understood to be a state and situation resulting from the action of highly diverse cultural, social, economic, and political factors. However, there are two areas in which it is possible to act more directly in order to have an impact on the state and situation of health in the countries, namely the immediate physical and biological environment of humankind, and that of individuals. Hence one speaks of "promotion and control" of the environment and of "direct health care" for individuals. In Spanish, the term *cuidado directo de la salud* has been used in preference to the more familiar *atención de salud* because the latter denotes, by tradition, a relationship between a formal and responsible supplier and a passive and non-responsible recipient. Another term, "self-care," was introduced in Chapter I and has already been explained.

### B) INFORMATION USED

#### Limitations

9. The principal difficulty encountered in the formulation of this proposal has been the lack of information at the country level. Nor is all the information uniform,

systematically processed, reliable, or up-to-date. The situation is more serious with regard to direct health care for individuals.

There were fewer difficulties in the case of protection and control of the environment thanks to the availability of information from the International Drinking Water Supply and Sanitation Decade and the corresponding Regional Evaluation carried out by the Pan American Health Organization.

10. With regard to health posts and centers, there is very little information that is reliable and complete either at the country level or consolidated for the Region as a whole. There are problems in the comparison of terminology and definitions between countries and even within countries, and information is lacking on resources, budgets, production, beneficiaries, etc., and consequently there are no valid indicators for estimating costs, real coverage, impact, relevance, etc. The scant information that is available from a few of the countries is only partial, difficult to extrapolate, and inconsistent. Little is known about some of the subsectors, such as the private sector in its various forms and some of the public institutions that come under the Ministries of Health and Social Security.

11. It has been difficult to obtain up-to-date and reliable information on hospitals, especially with regard to size and geographical location. The information that is usually available is only for the countries as a whole, which does not show the

differences in availability to the population, since hospitals, especially the larger ones, are concentrated mainly in the large cities.

12. There were problems with the availability of information on water pollution from industrial effluent, and information in the area of solid waste is incomplete and lacks uniformity.

### **Sources of Information**

13. In all cases an effort has been made to use the most recent and reliable information, and only when information for the period 1988-1991 was not available was earlier information resorted to.

For most of the information needed in order to establish baseline criteria, especially with regard to direct care health services, reference was made to concrete investment projects--whether completed, under way, approved, or in the process of approval--in the countries.

14. For the population projections, preference was given to the United Nations low-growth hypotheses (see Annexes I and II).

In general, preference has been given to information from international agencies, especially those of the United Nations family. Some of the information came from the Economic Commission for Latin America and the Caribbean, the Organization for Economic Cooperation and Development, and other international, national, and private sources.

For the conversion of monetary values, the factors used by the World Bank have been applied.

## **C) CRITERIA USED FOR THE ESTIMATES**

### **Assumptions and Calculations**

15. In the preparation of this proposal it was necessary to consider a series of assumptions and make a number of estimates. Even though it is only a frame of reference and a first approximation which is largely strategic in nature, on the other hand it is also the first step in a regional process, and for this reason an effort has been made to consider assumptions and prepare estimates based on the most and the best information available.

### **Use of Average and Aggregate Values**

16. The proposal is expressed in average or aggregate values for Latin America and the Caribbean. However, the figures and estimates were prepared on the basis of information from 33 countries and several territories or else breakdowns of regional figures. Moreover, the information from the countries was further broken down: urban areas were differentiated from rural, and the former in turn were subdivided into residential areas, marginal areas, capital cities, and large urban metropolises of more than a million inhabitants.

### **Development of Criteria and Reference Elements**

17. Unit costs, ratio of physical capacity to population, theoretical access, and other reference elements were derived taking into account all the pertinent information available. For the most part the information

was taken from concrete investment projects in the countries. For each element, the different values were arranged in ranked order, the extremes were eliminated, and the middle range and mid-point average were obtained.

Thus the averages do not represent information for any one country in particular, nor are they average values for the Region as a whole. They merely constitute a working estimate based on real information from concrete projects.

18. In the specific case of hospitals, on the basis of the most reliable information--namely, concrete investment proposals for rehabilitation and re-equipment--it may be assumed for purposes of this preliminary regional approximation that 70% of the hospital beds located in capital cities and urban metropolises are found in hospitals with more than 150 beds and that in other locations 50% of the beds are in hospitals of at least 100 beds.

#### **Access to Services Delivery**

19. It would appear to be risky to work with coverage, especially when complete and reliable information is lacking regarding place of residence of the users or beneficiaries of the services. There are many distorting factors, especially in the area of direct health care for individuals: myriad institutions each with different systems and criteria for the registration of information, or without any system at all; different institutions and services overlapping in a single geographical area and acting on the same population groups;

cultural, economic, geographical, and transportation-related impediments to access; and confusing and theoretically vague criteria of potential or legal coverage in terms of effective satisfaction of demands or response to services offered, etc. In the particular case of protection and control of the environment, it was decided to avoid working with the concept of coverage and to use instead the concept of access to services, understood to refer to both the quantity and quality thereof. The services offered should be regular and reliable, and the quality of their product should be guaranteed.

20. Thus it is preferable to use the concept of theoretical or potential "access" to a specific set of services.

On the basis of the limited information and estimates available from the various international agencies, it has been assumed that there are varying degrees of access, depending on whether they are located in capital cities, large urban metropolises, urban residential areas, urban fringe areas, or rural areas; on the type of institutional system; and on the nature of the establishments and services.

#### **Visible and Hidden Deficits**

21. The deficit is the difference between the total population to be served or which has theoretical or potential access to services delivery, on the one hand, and the supply expressed as the amount of infrastructure available, on the other. This can be determined from a first glance at the data and is therefore referred to as a "visible deficit," unlike that which can only be ascertained from a further breakdown of the

same information. Work on the present proposal confirmed the fact that national averages mask not only heterogeneous characteristics and significant differences but also other deficits as well, which have been termed "hidden deficits." The total of visible and hidden deficits, added together, gives the "real deficits."

Criteria for estimating insufficiency, deterioration, and technical obsolescence were developed in order to elucidate the hidden deficits.

#### Hidden Deficits

This concept may be illustrated by three concrete examples:

- a) Country X has a national average hospital bed ratio of 1.38 per thousand population. The capital has 9% of the population and a concentration of 61% of the hospital beds, for a ratio of 9.26, whereas the rest of the country has only 39% of the beds for 91% of the national population and a ratio of 0.59. Assuming a referral ratio of 1 hospital bed per thousand population in this country, the national average does not show a deficit. However, the fact is that at least 3,430 new beds need to be provided for the rest of the country, which represents a full 27% of the total number currently available. This is a "hidden deficit."
- b) Country Y, in turn, has a national average ratio of 1.51 hospital beds per thousand population. The capital has 29% of the population and 54% of the hospital beds, for a ratio of 2.77, while the rest of the country has 46% of the beds with which to serve 71% of the national population, giving a ratio of 0.99. Assuming, again, a referral ratio of 1 hospital bed per thousand population, this country would not have a deficit, even in "the rest of the country." However, 38% of the beds in the capital are located in small hospitals and it would not make economic sense to rehabilitate and re-equip them. Hence it would be necessary to find an alternative use for them within the system. At the same time, 52% of the hospitals in the rest of the country are in a similar condition and very deteriorated owing to lack of maintenance and failure to replace equipment. This means that the ratio in the capital actually drops to 1.72 and in the rest of the country to 0.47, the latter figure implying the need for at least 8,110 beds, or 40% of the present combined total of those functioning efficiently and those that should be rehabilitated and re-equipped. This is also a "hidden deficit."
- c) In country Z, 45% of the population has access to drinking water supply through household connections. There would be no deficits for that population group. However, the supply is intermittent (available only three times a week), the quality of the water is poor, and in some areas it is polluted. This is another example of a "hidden deficit."

### Estimates in Real Terms

22. With the criteria and reference elements that were available or prepared for the purpose, it was possible to estimate the required investment in terms of physical infrastructure. In many cases the estimates, once they were prepared, were reviewed with professionals from different organizations with experience in the matter. The figures are expressed in thousands and have been rounded to one decimal place.

### Estimates in Monetary Terms

23. Calculations of the amount of investment required in monetary terms were derived from the real-term estimates, to which reference unit costs were applied, the latter of which had been derived from preparing the reference elements based on information from concrete investment proposals.

All the values are expressed in United States dollars at 1990 levels and the figures are shown in millions rounded to the nearest ten million.

### D) IMPORTANT WARNING

24. It should be stressed, in the context of the foregoing presentation, that the values calculated for the criteria, standards, and other reference elements should in no case be taken as standards proposed as part of the Regional Plan.

In practice, each country, in light of its own reality, and each concrete project, based on its particular characteristics, will have to develop and apply different criteria and values.

## II. STRUCTURE OF THE PLAN

### A) GENERAL ASPECTS

#### Components and Subcomponents

25. The plan is divided into six broad components: Physical Infrastructure for Promotion and Control of the Environment; Physical Infrastructure for Direct Health Care for Individuals; Preinvestments; Institutional Development; Science and Technology; and Special Areas.

For each of these components a set of subcomponents have been selectively identified. These correspond to areas of action that are considered to have priority.

#### Period

26. The Regional Plan covers the 12-year period from 1993 to 2004, although this period does not preclude further extension of the National Investment Plans in the countries. In view of the fact that the Plan is a Regional strategy, the idea in setting a fixed duration and a frame of reference is to promote, catalyze, facilitate, and provide technical support for national efforts. It also permits the orientation of cooperation between the countries and that of the international technical and financial agencies. For the countries, the process has no time limit.

#### Timetable

27. Solely for purposes of preparing the regional estimates and calculating recurrent costs and financing a timetable has been developed for the proposed investments,

with varying concentrations of physical and monetary resources at different times over the 12-year period. Thus, for example, preinvestments and investments in institutional development are concentrated on the first four years, although their activities, both under the Plan and beyond it, should be extended past 2004.

Investments in self-care begin in the first year. It is possible for investments in new peripheral services and hospitals to begin in the third or fourth year, but some of the countries have already developed projects that coincide with the orientations of the Regional Plan or can be rapidly upgraded to this point. Water supply and sewerage systems, on the other hand, date back to the International Drinking Water and Sanitation Decade of the 1980s.

### **Real Deficits and Population Growth**

28. Each of the subcomponents that involves physical infrastructure has been broken down into investments for meeting current deficits and the deterioration of existing resources, on the one hand, and those corresponding to the expected population growth in the Region over the period 1993-2004, on the other (see Annexes I and II).

### **Rehabilitation and New Infrastructure**

29. A breakdown has also been made in terms of whether the investments correspond to rehabilitation and re-equipment of existing infrastructure or to new infrastructure (see Annexes III and IV).

It should be emphasized that what is most important is to reorient services and

systems in terms of rehabilitation, re-equipment, and the new projects that need to be designed and adapted.

### **Uniqueness and Complementarity of the Components**

30. Even though the present proposal is a general preliminary estimate, each component and subcomponent has been considered from the dual perspective of uniqueness and complementarity. This is consistent with the concept that direct health care services for individuals comprise an integrated network and at the same time articulate with the components under the heading of protection and control of the environment. Similarly, there is an interdependence between preinvestments for institutional development and investments in physical infrastructure. Thus the parts of the whole are internally consistent, and in the case of some of the investments they might even have been placed, for equally valid reasons, under a different heading.

## **B) COMPONENTS OF THE PLAN**

### **1) PHYSICAL INFRASTRUCTURE FOR PROTECTION AND CONTROL OF THE ENVIRONMENT**

31. Among the areas for investment, priority has been given to drinking water and sewerage services, urban sanitation (solid waste), and control of water pollution from municipal and industrial wastewater.

These selected priorities do not mean that other environmental risks which may be regarded as critical at the national or local level, such as air pollution in some of the large cities, should be disregarded.

32. The investment proposed for this component comes to approximately US\$ 114.83 billion, which represents 53.0% of the total for the Plan. The subcomponents are: urban drinking water; urban sewerage; rural drinking water; sewerage and excreta disposal in the rural environment and water pollution from municipal and industrial wastewater; and solid waste disposal.

**TABLE 1**  
**PHYSICAL INFRASTRUCTURE FOR PROTECTION AND CONTROL OF THE ENVIRONMENT**

Subcomponents	Amounts	Percentage of the Subcomponent
<b>TOTAL</b>	<b>114,830</b>	<b>100.00</b>
Urban Drinking Water	35,580	31.0
Urban Sewerage	33,060	28.8
Rural Drinking Water	3,720	3.2
Sewerage and Excreta Disposal in the Rural Environment	3,240	2.8
Water Pollution	31,610	27.5
Solid Waste	7,620	6.7

### Urban Drinking Water

33. It is estimated that 69 million urban inhabitants are without access to safe water supply services or systems. Of this population, 18 million are located in urban residential areas and 51 million in urban fringe areas.

To these figures must be added the population which, although it is on record as being covered, receives supplies that are intermittent and of poor quality because the installations and equipment are out of order and performing in a substandard manner.

34. The Plan proposes to provide 152 million inhabitants with access to drinking

water, 75 million of which are located in urban residential areas and 77 million in urban fringe areas.

To facilitate this access, with priority to the urban fringe population, it will be necessary to apply appropriate technology, define different levels of consumption and services corresponding to guaranteed levels of quality, develop innovative organizational and participatory schemes, etc.

The quality of drinking water should be controlled and supervised throughout the processes of production, distribution, and storage by agencies or institutions other than the service companies themselves in order to guarantee compliance with the standards in effect in each of the countries.

35. For urban drinking water, the total proposed investment comes to approximately US\$ 35.58 billion, which represents 31.0% of the component and 16.4% of the Regional Plan.

Of this sum, 24.7% corresponds to the rehabilitation of existing infrastructure and 75.3% to new infrastructure.

It represents 55.9% to cover current deficits plus an allowance of 44.1% for population growth during 1993-2004.

**TABLE 2**  
**URBAN DRINKING WATER**

Category	Amounts	Percentages
<b>TOTAL</b>	<b>35,580</b>	<b>100.00</b>
Rehabilitation	8,800	24.7
New Infrastructure	26,780	75.3
For Current Deficit	19,890	55.9
For Population Growth 1993-2004	15,690	44.1

## Urban Sewerage

36. It is estimated that 89 urban million inhabitants lack sanitary means of wastewater and excreta disposal either through links to sewerage systems or by other conventional or nonconventional methods. This situation generates hazardous environmental conditions for the households involved.

Of this total, 20 million are located in urban residential areas and 69 million in urban fringe areas.

To this problem must be added the population that is currently making only sporadic use of the urban sewerage systems as a result of installations or equipment that are out of order or in discontinuous or only partial operation.

37. The Plan proposes to provide 165 urban million inhabitants with wastewater and excreta disposal, 74 million of which are located in urban residential areas and 91 million in urban fringe areas. Special importance is given to the use of lower-cost alternatives, more appropriate technology and design criteria, and social participation, especially in the urban fringe areas, which have the population at greatest risk.

38. For urban sewerage systems, the total proposed investment comes to approximately US\$ 33.06 billion, which represents 28.8% of the component and 15.3% of the Regional Plan.

Of this sum, 14.0% corresponds to the rehabilitation of existing infrastructure and 86.0% to new infrastructure. It represents 55.5% to cover current deficits

plus an allowance of 44.5% for population growth during 1993-2004.

TABLE 3  
URBAN SEWERAGE

Category	Amount	Percentage
<b>TOTAL</b>	<b>33,060</b>	<b>100.00</b>
Rehabilitation	4,620	14.0
New Infrastructure	28,440	86.0
<b>in Order to Cover Current Deficit</b>	<b>18,355</b>	<b>55.5</b>
<b>For Population Growth 1993-2004</b>	<b>14,705</b>	<b>44.5</b>

## Rural Drinking Water

39. It is estimated that 60 million inhabitants, categorized as either concentrated or scattered rural population, are without access to safe drinking water.

40. The Plan targets the rural population living in population centers of more than 100 inhabitants and proposes to link up 25 million people to safe water supply systems. In the smaller and more scattered populations the problems of water supply and environmental protection and control in general will be addressed through the self-care.

The Plan envisages the use of appropriate technology and community participation at all the stages in the process, especially the operational stage.

41. For rural drinking water, the total proposed investment comes to approximately US\$ 3.72 billion, which represents 3.2% of the component and 1.7% of the Regional Plan.

Of this sum, 12.1% corresponds to the rehabilitation of existing infrastructure

and 87.9% to new infrastructure.

Virtually 100% is to cover current deficits, since the rural population is not expected to increase at all during 1993-2004.

**TABLE 4  
RURAL DRINKING WATER**

Category	Amount	Percentage
<b>TOTAL</b>	<b>3,720</b>	<b>100.00</b>
Rehabilitation	450	12.1
New Infrastructure	3,270	87.9
For Current Deficit	3,720	100.00

**TABLE 5  
SEWERAGE AND EXCRETA DISPOSAL  
IN THE RURAL ENVIRONMENT**

Category	Amount	Percentage
<b>TOTAL</b>	<b>3,240</b>	<b>100.00</b>
Rehabilitation	270	8.3
New Infrastructure	2,970	91.7
For Current Deficit	3,240	100.00

### Water Pollution

45. The heading of water pollution includes the treatment of industrial and municipal wastewater prior to its discharge into watercourses.

Less than 10% of the wastewater from the urban population and industries of the Region is treated before it is released into watercourses.

Above and beyond the responsibility and/or capacity of the companies or services that operate the installations, the countries of the Region should make a commitment to address this critical situation and attack the problem jointly and simultaneously. It

should be recognized that the rectification of critical cases of pollution will take time. The problem of water pollution involves regulation that goes beyond local jurisdictions. The Plan proposes that the countries apply legislation that will regulate the use, conservation, and preservation of water resources at reasonable cost and it also calls for control agencies that are independent of any linkage with a particular sector of users.

46. It is proposed to provide wastewater treatment prior to discharge into watercourses for 188 million inhabitants. In order to make this investment feasible, the Plan has given consideration to low-cost technological alternatives or options both for use in conventional processes and in the simplified applications, with priority being given to stabilization ponds.

47. Although the risks and dangers posed by chemical substances and heavy metals contained in industrial wastewater must not be ignored, organic content (BOD) was the polluting factor used in the quantification of the investments in order to determine the equivalent urban population that will require wastewater treatment. Regular monitoring of polluted watercourses and control of effluents will be taken into account parameters that cover all contaminants and not just organic components. During the period it is proposed to treat industrial wastewater equivalent in organic content to that generated by a population of 186 million people. Consideration has been given to conventional and simplified treatment technologies, water-saving schemes, modification of industrial

processes and inputs, and the recovery of by-products. Fiscal measures and credit will contribute to the attainment of these objectives.

48. For municipal water treatment, the total proposed investment comes to approximately US\$ 16.57 billion, which represents 14.4% of the component and 7.6% of the Regional Plan.

Of this sum, 9.2% corresponds to the rehabilitation of existing infrastructure and 90.8% to new infrastructure.

Virtually 100% is to cover current deficits.

49. For the treatment of industrial effluent, the total proposed investment comes to approximately US\$ 15.04 billion, which represents 13.1% of the component and 7.0% of the Regional Plan.

No information was available for estimating the need to rehabilitate the existing infrastructure.

Virtually 100% is to cover current deficits.

50. Accordingly, the total investment proposed for water pollution is approximately US\$ 31.61 billion, with 95.2% of this amount for new infrastructure.

TABLE 6  
WATER POLLUTION

Category	Amount	Percentage
TOTAL	31,610	100.00
Rehabilitation	1,530	4.8
New Infrastructure	30,080	95.2
For Current Deficit	30,080	100.00

## Solid Waste

51. The analysis under this heading included the public cleanup, collection, transfer, and final disposal of refuse (solid waste). It is estimated that 103 urban million inhabitants are without access to trash collection services and that for 240 million these processes are contaminating the air, water, and soil, which helps to harbor vectors and generates social conditions that are typical of poverty.

52. The Plan proposes that 159 million inhabitants, principally (70%) in marginal urban areas be provided with adequate systems for the collection of refuse and solid waste and that sanitary conditions be provided for the refuse corresponding to 296 million. Technologies for collection and final disposal, community participation, and articulation between formal institutional services and grass-roots organizations are aspects that will make these estimated targets possible. It is proposed to use sanitary landfill as the fundamental approach.

53. For solid waste, the total proposed investment comes to approximately US\$ 7.62 billion, which represents 6.6% of the component and 3.5% of the Regional Plan. Of this sum, 7.35% corresponds to the rehabilitation of existing infrastructure and 92.7% to new infrastructure.

It represents 70.3% to cover current deficits plus an allowance of 29.7% for population growth during 1993-2004.

**TABLE 7  
SOLID WASTE**

Category	Amount	Percentage
<b>TOTAL</b>	<b>7,620</b>	<b>100.00</b>
Rehabilitation	560	7.3
New Infrastructure	7,060	92.0
For Current Deficit	5,360	70.3
For Population Growth 1993-2004	2,260	29.7

## 2) PHYSICAL INFRASTRUCTURE FOR DIRECT HEALTH CARE FOR INDIVIDUALS

54. Investment areas that have been given special priority are self-care and the peripheral services (health posts and centers) of the integrated local health systems.

Those services, which together with the hospitals belong to a network, are being reoriented in terms of their purposes, operation, and responsibilities.

While it would appear that priorities have not been ranked in a particular order, it cannot be otherwise, because the system is integrated and can only be effective to the extent that each of the component parts assumes new responsibilities. What is definitely very important and clear is that the system is being reformed from the periphery and relates directly to the people as individuals, who assume an active and a key role in their own health care.

55. The total investment proposed for this component is on the order of the US\$ 64.48 billion, which represents 29.7% of the total for the Regional Plan.

The subcomponents--divisions that facilitate presentation of the proposal but are not intended to break up the unity of the

system or its integrative function with respect to the population--are self-care; health posts and centers; and hospitals.

**TABLE 8  
PHYSICAL INFRASTRUCTURE FOR DIRECT HEALTH CARE FOR INDIVIDUALS**

Subcomponent	Amount	Percentage
<b>TOTAL</b>	<b>64,480</b>	<b>100.00</b>
Self-care	6,060	9.4
Health Posts and Centers	3,420	5.3
Hospitals	55,000	85.3

### Self-Care

56. In Latin America and the Caribbean at least 160 million people are without access to regular services, 35 million of them in urban residential areas, 45 million in the urban fringe areas, and more than 80 million in rural areas. The existing physical infrastructure is concentrated on the residential areas of the large cities and has deteriorated badly owing to lack of maintenance, obsolescence, and the poor state of the equipment. The quality of the services produced is low because, in addition to the foregoing factors, there is an imbalance in the utilization of available resources. Human resources represent between 65% and 90% of operating expenses, and, of the remainder, at least 30% is for drugs. In these circumstances, unless and until the system is reformed, any increase in operating expenses will be absorbed by salaries for personnel, who are very poorly paid.

57. The Plan proposes to deliver elements that will make it possible for the

entire urban fringe and rural population to take part in their own efficient and effective self-care and thus to facilitate their access to all levels of complexity in the integrated local health systems.

The investments are to be made in minimum elementary (though scientifically justified) equipment for protection and control of the environment, other forms of health protection, disease prevention, and early diagnosis and initial treatment of certain prevalent pathologies that can be easily managed. This equipment, together with the materials and inputs needed for its use, is to be made available in a module which is mobile (in the sense of that is not stationary or immovable) which can be taken from one place to another and installed in schools, churches, workplaces, community centers, or homes.

It is proposed to install a total of 592,600 modules, intended to benefit 296 million people.

58. For self-care, the total proposed investment comes to approximately US\$ 6.06 billion, which represents 9.4% of the component and 2.8% of the Regional Plan. Of this sum, 100% corresponds to new investment.

It represents 82.0% to cover current deficits plus an allowance of 18.0% for population growth during 1993-2004.

TABLE 9  
SELF-CARE

Category	Amount	Percentage
<b>TOTAL</b>	<b>6,060</b>	<b>100.00</b>
Rehabilitation		
New Infrastructure	6,060	100.00
For Current Deficit	4,970	82.0
For Population Growth 1993-2004	1,090	18.0

### Health Posts and Centers

59. It is considered that the combined visible and hidden deficits with regard to health posts and centers correspond to a current population of approximately 161 million inhabitants who do not have access to services of this type (32 million in urban residential areas, 47 million in urban fringe areas, and 82 million in rural areas).

60. Under the heading of health posts and centers, the Plan proposes to rehabilitate 15,400 buildings, re-equip 28,000, and build and equip 34,200 new ones. Of this last number, 29% are in urban residential areas, 39.1% in urban fringe areas, and 31.9% in rural areas.

In terms of covering the current deficits, 79.6% of the new infrastructure is located in urban fringe areas and in the rural environment.

61. For health posts and centers, the total proposed investment comes to approximately US\$ 3.42 billion, which represents 5.3% of the component and 1.6% of the Regional Plan.

Of this sum, 71.4% corresponds to the rehabilitation of existing infrastructure and 28.6% to new infrastructure.

**TABLE 10**  
**Health posts and centers**

Category	Amount	Percentage
<b>TOTAL</b>	<b>3,420</b>	<b>100.00</b>
Rehabilitation	720	21.1
New Infrastructure	2,700	78.9
For Current Deficit	2,440	71.4
For Population Growth 1993-2004	980	28.6

**Hospitals**

62. The distribution of hospital beds in the countries of Latin America and the Caribbean is very unbalanced. They are concentrated in the capital cities and the large urban metropolises.

They also vary widely in terms of size. Some of those with very few beds are inefficient and it would not make economic sense to equip them properly.

At the same time, some of those with a large number of beds are also inefficient because they contribute to the concentration of resources in certain locations and disrupt the proportion and balance that should be maintained within the services network to which they belong. An appropriate balance is essential to the smooth operation of integrated local health systems.

63. If a ratio of about 1.0 beds per thousand population is taken as a point of reference for areas in which there are no hospitals--only for purposes of this first approximation and in no way proposing or suggesting a standard--there would be a real deficit (visible plus hidden) in Latin America and the Caribbean of more than 300,000 beds, of which 80.3% would

correspond to "the rest of the country" (areas outside the capitals and large urban metropolises of more than a million inhabitants). The unbalanced geographical distribution of hospitals has resulted in a "surplus" that cannot be used to offset the deficits.

64. The Plan calls for the rehabilitation of 224,400 beds and the installation of new infrastructure equivalent to 340,200 additional new hospital beds. These figures would seem to contradict the priority that has been assigned to rehabilitation. Within the concepts of self-care and integrated local health services, understood to mean efficiently interconnected networks, by the year 2004 there would be a small but organized and effective supply capable of providing the entire population with access to different levels of complexity within the direct health care system for individuals.

**TABLE 11**  
**HOSPITALS**

Category	Amount	Percentage
<b>TOTAL</b>	<b>55,000</b>	<b>100.00</b>
Rehabilitation	16,250	29.6
New Infrastructure	38,750	70.4
For Current Deficit	46,980	85.4
For Population Growth 1993-2004	8,020	14.6

#### **A Ratio to be Handled with Care**

Whenever the problem of hospitals is studied and investment proposals are drafted, the ratio of "beds per thousand population" is invoked as a widely used point of reference and/or standard. However, when the information is not broken down, national averages are relied on which conceal hidden deficits and perhaps standards are proposed that can be dangerous on a national scale.

In the present proposal has been developed on the basis of a ratio of about one hospital bed per thousand population. If, instead, the international reference standards followed up until a short time ago had been applied, the investments and corresponding recurrent costs would have made the National Investment Plans totally unfeasible. Thus, for example, if a ratio of 2.5 beds per thousand population is applied in the case of those areas in which there are no hospitals, an additional US\$86 billion would be required in investments and US\$210 billion in recurrent costs.

65. For hospitals, the total proposed investment comes to approximately US\$ 55 billion, which represents 85.3% of the component and 25.3% of the Regional Plan. Of this sum, 29.6% corresponds to the rehabilitation of existing infrastructure and 70.4% to new infrastructure.

It represents 85.4% to cover current deficits plus an allowance of 14.6% for population growth during 1993-2004.

66. An analysis of the proposal for the entire physical infrastructure component of direct health care for individuals shows that 14.7% corresponds to direct care for individuals through the peripheral formal institutional services and 85.3% to hospitals. This would appear to be an imbalance which is inconsistent with the decentralized and participatory model that is being proposed. However, it should be kept in mind that the system as a whole cannot do without hospitals, especially for those populations which at present do not have any possible access to them. Even though maximum priority has been given to decision-making capacity in the peripheral ambulatory services, it is necessary to ensure that the entire population has the extraordinary

benefits of scientific and technological development at its disposal, which can only be situated within a hospital. Thus a new model is being sought in which the referral hospital is both highly complex and at the service of all.

### **3) PREINVESTMENTS**

67. The formulation of National Investment Plans and the drafting of fundable proposals in the countries are the concrete expression of fulfillment of the Regional Plan being proposed. In order for this to occur, it is essential that within each country there be adequate and regularly updated knowledge about national, sectoral, and local realities. It is necessary for national societies to become identified with political decisions as investments that are being implemented in accordance with the orientations for reform of the systems. Only in this way is it possible to gain access to external financing in all its forms.

68. Some of the investment areas that have been given priority are: the establishment of systems that will provide regularly updated information for sectoral

analyses, the formulation of orientations for reform, the development of national capacity for the preparation of National Plans of Investment, and the drafting of proposals that are concrete and fundable.

69. The total proposed investment for this component comes to approximately US\$ 1.2 billion, which represents 0.6% of the Regional Plan.

**TABLE 12**  
Preinvestments

Category	Amount	Percentage
<b>TOTAL</b>	<b>1,200</b>	<b>100.00</b>
Sectoral Analysis	250	20.8
Formul. of Orientations for Reform	300	25.0
National Capacity	350	29.2
Drafting of Proposals	300	25.0

### Sectoral Analysis

70. Within the countries, sectoral analyses will make it possible, inter alia, to identify the deficits in the infrastructure (in the broad sense sense of the term); to understand the organization, operation, and impact of institutions; and to have knowledge about the legal framework, operational and financial capacity, and the availability, location, and quality of the human resources available. Even though each country has its own special reality and is internally heterogeneous, it will be necessary to prepare some reference models in order to carry out the analyses. In this way the countries will be able to design their own models and at the same time it will be possible to make aggregate and regional comparisons. The sectoral analyses should not be detailed exercises that take

into account the needs of each possible project; rather. Instead, it is proposed establish systems and mechanisms for updating them on a regular basis.

71. For sectoral analysis, the total proposed investment comes to approximately US\$ 250 million, which represents 20.8% of the component and 0.13% of the Regional Plan.

### Formulation of Orientations for the Reforms

72. The investments should serve as means for facilitating major reforms in the systems, which should be in keeping with the principles and values set forth in Chapter I. At the same time, the orientations should have continuity, and thus they will require consensual political support. Moreover, the National Investment Plans should be the responsibility of the entire national society and not just of the Governments.

Accordingly, processes are proposed for achieving broad-based national consensus with the participation of all the political, professional, entrepreneurial, and grass-roots organizations of society.

73. The total proposed investment comes to approximately US\$ 300 million, which represents 25.0% of the component and 0.15% of the Regional Plan.

### Development of National Capacity

74. In order to proceed with formulation of the National Plans of Investment it is necessary to expand the countries' capacity as soon as possible through training and other means. It is desirable to obtain from

the start the participation of universities and other educational systems.

75. The total proposed investment comes to approximately US\$ 350 million, which represents 29.0% of the component and 0.17% of the Regional Plan.

#### Drafting of the Proposals

76. In order to facilitate the financial processing of the proposals and create a climate for the exchange of experiences, it is proposed to develop methodologies at the regional and national level that can be adapted to each country and to each type of project. These methodologies will make the training process more efficient. The formulation of concrete and fundable proposals will be a practical component of this training.

77. The total proposed investment comes to approximately US\$ 300 million, which represents 25.0% of the component and 0.15% of the Regional Plan.

#### 4) INSTITUTIONAL DEVELOPMENT

78. The efficient management of the investments and the operating capacity of the systems will depend on the strengthening, reorientation, and effectiveness of the institutions and services. The institutions should be adapted, modernized, and made more efficient in order to incorporate the changes, in terms of orientation and administrative, operational, and financial policies, that are being promoted under the Regional Plan. The investments in physical infrastructure, which come to 85% of the total amount of the Plan, are not in themselves enough to ensure the delivery of

services and/or benefits with efficiency and high levels of quality on a regular and steady basis. Thus institutional development is an indispensable prior component which must be given full priority.

79. Among the investment areas, priority is being given to the establishment and/or strengthening of information systems, the furtherance of means for facilitating decentralized and participatory management of the systems and services, development of a critical mass of human resources at all levels, and the provision of indispensable physical facilities for the effective functioning of advisory services and supervision within the systems.

80. The total investment proposed for institutional development is on the order of the US\$ 4,960 million. It represents 2.3% of the total of the Regional Plan.

TABLE 13  
INSTITUTIONAL DEVELOPMENT

Category	Amount	Percentage
TOTAL	4,960	100.00
Information Systems	2,560	51.6
Decentralized Management	230	4.6
Devel./Form. Human Capital	830	16.8
Supervision and Advisory Services	1,340	27.0

#### Information Systems

81. The efficiency, effectiveness, and impact of the systems and services depends on being able to have information that is pertinent, reliable, timely, and regularly updated. The functions and systems of planning, administration, operation, maintenance, and the like require information about installations, resources,

costs, rates, finances, beneficiaries, etc. The proposal includes equipment for the processing of information as well as for the installations and physical elements needed at all levels of registration and processing. In the case of drinking water, allowance has been made for the installation of macro and micro flow meters.

82. The total proposed investment comes to approximately US\$ 2.56 billion, which represents 51.6% of the component and 1.2% of the Regional Plan.

#### **Facilities for Decentralized and Participatory Management**

83. In order for it to be efficient and effective, decentralized and participatory management requires technological tools for communication and administrative and economic management both at the decentralized levels and, even more important, at the central and intermediate levels. This will ensure that national direction is not lost and that there is no pretext for a return to bureaucratic and inefficient centralism.

84. The total proposed investment comes to approximately US\$ 230 million, which represents 4.6% of the component and 0.1% of the Regional Plan.

#### **Development of a Critical Mass of Human Resources**

85. The formation and development of human resources with a view to achieving a critical mass in the systems and services that

will guarantee fulfillment of all the investment plans--an ongoing task--will require initial impetus at all levels, including investments for training (both recycling and regular updating), reorientation of resources, and the transfer of information, knowledge, and skills to individuals.

86. The total proposed investment comes to approximately US\$ 830 million, which represents 16.7% of the component and 0.4% of the Regional Plan.

#### **Facilities for Supervision and Advisory Services**

87. Among the important subjects for investment are the necessary inputs for transportation, communications, and monitoring in order to perform the tasks of advisory services and supervision, especially at the national, regional, and local levels of the formal institutional system.

88. The total proposed investment comes to approximately US\$ 1.34 billion, which represents 27.0% of the component and 0.6% of the Regional Plan.

#### **5) SCIENCE AND TECHNOLOGY**

89. Basic and applied research and adaptation of technology are elements that support the process of system reformulation. Accordingly, the Plan proposes to encourage the development of these elements and to improve the conditions under which research is carried out. It is expected to strengthen ties between science and technology, on the one hand, and the national and/or regional productive sectors, on the other, with a view

to orienting scientific production so that it is more closely in alignment with real demands.

90. Hence priority is being given to the adaptation of technology in accordance with the orientations for the reform of the systems, as well as support for basic research.

91. The total proposed investment comes to approximately US\$ 1.62 blion, which represents 0.75% of the total for the Regional Plan.

**TABLE 14**  
**SCIENCE AND TECHNOLOGY**

Category	Amount	Percentage
<b>TOTAL</b>	<b>1,620</b>	<b>100.00</b>
Adaptation of Technology	1,420	87.6
Basic Research	200	12.4

### Adaptation of Technology

92. The adaptation and development of technology in the environmental field refers to the problem of solid waste, the treatment of municipal and industrial wastewater, the solution of environmental problems in marginal urban areas, recycling and reduction of waste, technology for economizing water, substitution of inputs or products used in the industrial process, recovery and utilization of by-products, etc. The area of direct health care for the population includes the development of simplified technologies for the early

diagnosis of prevalent diseases, particularly those that are infectious/contagious, water-borne, and conditioned by poverty; the development of alternative types of care that will reduce the number of hospitalizations and shorten hospital stays; the introduction of changes in the functional architecture of health establishments in order to facilitate their new roles in a decentralized and participatory system; etc.

It is proposed to support and strengthen existing capacity in specialized institutions at both the national and regional levels.

93. The total proposed investment comes to approximately US\$ 1.42 blion, which represents 87.6% of the component and 0.65% of the Regional Plan.

### Support for Basic Research

94. It is proposed to give initial impetus both to the development of basic research and to the process of training researchers in academic centers of excellence. The continuity of this impetus would come under the responsibility of the education sector and the national institutions for the promotion of science and technology.

95. The total proposed investment comes to approximately US\$ 200 million, which represents 12.4% of the component and 0.1% of the Regional Plan.

### 6) SPECIAL AREAS

96. The investments in the five previous components are designed to support comprehensive health care for the benefit of the great majority of the population in Latin

America and the Caribbean area. They cover nearly all the fields and areas related to the health problems that are most prevalent and have the greatest negative impact on the social groups which are most in need. However, there are critical areas that must be promoted, strengthened, and prioritized in a spirit of affirmative action.

97. Priority has been given to the promotion of grass-roots social organizations; women; maximization of the potential of the Indian peoples in the Americas; urgently needed improvements in the pockets of extreme poverty in large urban metropolises and the more severely depressed rural areas; conditions in the workplace; disinfection of water supplies that currently fail to meet minimum standards of bacteriological quality; and the imperative need to control certain prevalent diseases.

98. The total proposed investment comes to approximately US\$ 4 billion, which represents 1.85% of the total for the Regional Plan.

**TABLE 15**  
**SPECIAL AREAS**

Category	Amount	Percentage
<b>TOTAL</b>	<b>4,000</b>	<b>100.00</b>
Grass-Roots		
Organiz.	300	7.5
Woman	250	6.2
Indian Peoples	250	6.2
Groups in Extreme Poverty	300	7.5
Workers' Health	200	5.0
Disease Control	2,550	63.8
Water Disinfection	150	3.8

### **Promotion of Grass-Roots Social Organizations**

99. The feasibility, efficiency, and effectiveness of the model proposed in the Regional Plan depend on a special effort to promote grass-roots social organizations. These organizations have a fundamental role in self-care and its articulation with the integrated local health systems; in the functional integration of systems for protection and control of the environment and for direct health care; and in the reformulation of local governments as a step toward modernization of the State.

100. The total proposed investment comes to approximately US\$ 300 million, which represents 7.5% of the component and 0.14% of the Regional Plan.

### **Women in Health and Development**

101. Women play a major role in health and development. They are in fact agents of health, as well as key elements in self-care. The presence of women in grass-roots social organizations has been decisive in the emergence of these groups as new means of survival and development.

102. The total proposed investment comes to approximately US\$ 250 million, which represents 6.2% of the component and 0.11% of the Regional Plan.

### **Indian People**

103. For historical, cultural, ethnic, and economic reasons, the population groups corresponding to Indian peoples have

harbored pockets of poverty and discrimination. At the same time, these peoples have tremendous positive potential to offer, since they owe their very survival to the conservation of their values of solidarity and equity. The Inter-American Indian Institute has made progress toward creating the conditions for the effective utilization of investment resources and has prepared proposals and concrete projects based on the same lines of orientation as those contained in the Regional Plan.

104. The amount of the proposed investments is on the order of the US\$ 250 million. It represents 6.2% of the component and 0,11% of the Regional Plan.

#### **Groups Living in Extreme Poverty**

105. It is essential to accelerate the improvement of living and health conditions for those who reside in urban shantytowns and the more severely depressed rural areas. Accordingly, special investments are needed for these groups.

106. The total proposed investment comes to approximately US\$ 300 million, which represents 7.5% of the component and 0.14% of the Regional Plan.

#### **Workers' Health**

107. Workers' health is an area which in the past has failed to receive indispensable investments for the improvement of conditions in the workplace. This is an area that deserves special consideration because it is one in which investments will have an extraordinary economic impact, especially

on the resource economy, once actions aimed at prevention and promotion are taken. Ergonomic planning of the workplace helps to prevent accidents and diseases that are very costly for companies and social security systems (specialized medical care, prolonged hospitalization, the passive costs of incapacity, disability, death, etc). Since the National Investment Plans must be the responsibility of society as a whole, it is felt that the private commercial sector must be able to finance investment proposals in this area to a large degree, or at least be able to facilitate their financing.

108. The total proposed investment comes to approximately US\$ 200 million, which represents 5.0% of the component and 0.1% of the Regional Plan.

#### **Disease Control**

109. The investments proposed for the control of certain specific diseases deserve special consideration.

One of these categories is diseases preventable by vaccines. The cost of developing and producing these preparations is high, and sometimes this type of investment is not sufficiently attractive to companies in the biologicals industry, or it may be out of the question for research centers, even in industrialized countries. Yet the cost-benefit of these investments can be extraordinary.

Similarly, there are other diseases which, because of their epidemiological characteristics, do not offer sufficient economic incentive to warrant investigating, developing, and producing the diagnostic and therapeutic bases that are required for

mass decentralized use.

In addition, there is the broad area of diseases conditioned by socioeconomic factors such as poverty for which the availability of adequate means of treatment can prevent subsequent resort to care at high levels of complexity, with considerable savings in the corresponding operating expenses.

Also proposed are mechanisms that will contribute to the reorientation of control measures for the major endemic diseases in light of current knowledge, which will require initial investments to permit continuity in the control of these diseases.

110. The total proposed investment comes to approximately US\$ 2.55 billion, which represents 63.8% of the component and 1.18% of the Regional Plan.

### **Water Disinfection**

111. Water supplies that fail to meet minimum standards of bacteriological quality is a problem that demands to be addressed on an urgent basis. In addition to the efforts that the countries need to undertake in the medium and long term (to build, rehabilitate, and correctly operate their disinfection plants), it is important to establish a short-term (3-year) disinfection program in both urban and rural areas with participation by the community and the laboratories responsible for control.

112. The total proposed investment comes to approximately US\$ 150 million, which represents 3.8% of the component and 0.07% of the Regional Plan.

### **7. TOTAL INVESTMENTS PROPOSED**

113. The total investments proposed for the Regional Plan in this first approximation--including financing costs--is on the order of US\$ 216,700 million.

**TABLE 16**  
**TOTAL INVESTMENT BY**  
**COMPONENTS AND FINANCING**  
**COSTS**  
(in millions of 1990 US\$)

INVESTMENT COMPONENTS	AMOUNT	%
<b>TOTAL INVESTMENT</b>	<b>216,700</b>	<b>100</b>
<b>1. ENVIRONMENT</b>	<b>114,830</b>	<b>53.0</b>
Rehabilitation	16,230	7.5
Extension	98,600	45.5
<b>2. Direct health care</b>	<b>64,480</b>	<b>29.7</b>
Rehabilitation	16,970	7.8
Extension	47,510	21.9
<b>3. PREINVESTMENTS</b>	<b>1,200</b>	<b>0.6</b>
<b>4. INSTITUTIONAL DEVELOPMENT</b>	<b>4,960</b>	<b>2.3</b>
<b>5. SCIENCE AND TECHNOLOGY</b>	<b>1,620</b>	<b>0.75</b>
<b>6. SPECIAL AREAS</b>	<b>4,000</b>	<b>1.85</b>
<b>INTEREST<sup>1</sup></b>	<b>25,610</b>	<b>11.8</b>

<sup>1</sup> Interest on the total for all the components

### C) RECURRENT COSTS AND FINANCING

#### 1. Financing Costs

114. Since internal financing comes from multiple sources, including the Governments' fiscal deficit, income from taxes, loans, etc., and since information is not available on the degree to which these various sources finance spending on health and the environment, no estimate has been made of the cost of internal financing.

External financing is subject to various interest rates. An analysis of the possible financing structure by source and type gives, as an initial estimate, an annual weighted average of about 7.5%.

**TABLE 17**  
**CAPITAL COSTS (1993–2004)**  
(in millions of 1990 US\$)

TYPE OF INFRASTRUCTURE	CAPITAL COSTS <sup>1</sup>		
	Amortization	Interest	Total
<b>GRAND TOTAL</b>	<b>4,660</b>	<b>24,030</b>	<b>28,690</b>
<b>SUBTOTAL FOR THE ENVIRONMENT</b>	<b>3,420</b>	<b>16,120</b>	<b>19,540</b>
DRINKING WATER AND SEWERAGE	2,260	10,650	12,910
WATER POLLUTION	930	4,400	5,330
SOLID WASTE	230	1,070	1,300
<b>SUBTOTAL FOR HEALTH CARE</b>	<b>1,240</b>	<b>7,910</b>	<b>9,150</b>
SELF-CARE	120	750	870
HEALTH POSTS AND CENTERS	60	410	470
HOSPITALS	1,060	6,750	7,810

<sup>1</sup> Estimated only for financing from external sources, which represents 30% of total investments in physical infrastructure  
Interest rate of 7.5% payable in 20 years including a 5-year grace period  
The cost indicated is only for the period 1993-2004

## 2. Recurrent Costs

115. The burden of recurrent investment costs during the period of the Plan and thereafter has been considered a very important factor throughout the preparation of this proposal. The reforms to the systems, the types and forms of investments selected, and other technical aspects have a

significant bearing on the burden of recurrent costs. In addition, repeated comments have been made on the importance of preventive maintenance and timely replacement so that the value of the investments is not lost and the services can continue to operate efficiently and effectively.

**TABLE 18**  
**OPERATING COSTS (1993–2004)**  
 (in millions of 1990 US\$)

TYPE OF INFRASTRUCTURE	OPERATING COSTS		
	Operation and Maintenance	Depreciation	Total
<b>GRAND TOTAL</b>	<b>109,870</b>	<b>34,930</b>	<b>144,800</b>
<b>SUBTOTAL FOR THE ENVIRONMENT</b>	<b>26,560</b>	<b>21,430</b>	<b>47,990</b>
DRINKING WATER AND SEWERAGE	11,300	13,280	24,580
WATER POLLUTION	7,830	6,100	13,930
SOLID WASTE	7,430	2,050	9,480
<b>SUBTOTAL FOR HEALTH CARE</b>	<b>83,310</b>	<b>13,500</b>	<b>96,810</b>
SELF-CARE	5,180 <sup>1</sup>	4,680	9,860
HEALTH POSTS AND CENTERS	10,390	1,070	11,460
HOSPITALS	67,740	7,750	75,490

<sup>1</sup>In addition to this monetary cost, there is a non-monetary cost represented by volunteer work or contributions which is estimated at US\$ 29.35 billion.

#### D) FINANCING

116. In order to meet current deficits and at the same time keep up with population growth through the year 2004, it will be necessary to have an ongoing process for matching up technically justified proposals with economically feasible funding. This process usually occurs in a relatively asymmetric context, since the needs and demands are by definition much greater than the availability of resources, especially financial resources. Proposals and financing must also be politically viable.

In the preparation of this first approximation of the Regional Plan, the process has been carried out in parallel: on the one hand, the needs and deficits have been studied, as well as proposals that respond to the orientations for reform, and, on the other hand, amounts have been estimated and possible sources of funding have been suggested. In addition, some exercises have been undertaken to

analyze economic feasibility.

117. Three different sources of financing were studied:

- a) Internal financing, including the private sector and possible self-financing and cost recovery schemes;
- b) External financing, including multilateral, bilateral, public and private, concessional and non-concessional; and
- c) Conversion of external debt.

##### 1) INTERNAL FINANCING

118. Per capita expenditures and investments in drinking water and sanitation and in health services (public sector, social security, and private sector) declined during the 1980s relative to previous decades. During that same period, per capita GDP in Latin America and the Caribbean also experienced a decline.

As a consequence of the economic

adjustment measures introduced in the countries, it is estimated that in the 1990s, and even more so in the first years of the new millenium, the aggregate GDP for Latin America and the Caribbean will see an increase estimated today at an annual average of 4.2%. In these circumstances, it is considered that it is by no means exaggerated, much less out of the question, to assume that during the period 1993-2004 it will be possible to return to 1970s levels of per capita spending and investment. Accordingly, it is feasible to estimate that during the 12 years of the Plan there may be internal financing on the part of the countries and from various sources amounting to 0.82% of the aggregate GDP for the countries of Latin America and the Caribbean.

119. Annex V presents the methodology and the assumptions used in order to calculate internal or national financing. This would come from four principal sources:

- a) The public sector, including the Ministries of Health, other ministries and institutions, and public companies and agencies that invest in protection and control of the environment and health care for the population;
- b) Social security systems, institutions, and agencies, for the part that refers to health services;
- c) The private sector, including business enterprises, volunteer organizations, etc., which invest in environment and health; and,
- d) Self-financing, based on cost recovery systems that are designed with both economic purposes and social goals in mind.

120. On the basis of projected investment patterns for each of those sources, it is possible to estimate a total amount for internal financing for the period 1993-2004 on the order of US\$ 143.5 billion.

TABLE No. 19  
INTERNAL FINANCING BY SOURCES (1993-2004)  
(in millions of 1990 US\$)

Source	Amount	% GDP of ALC
Total	143,500	0.82
Public Sector <sup>1</sup>	70,000	0.40
Social Security	26,250	0.15
Private Sector	29,750	0.17
Self-financing	17,500	0.10

<sup>1</sup> Ministries of Health and Institutions of Sanitation and Environment.

## 2) EXTERNAL FINANCING

121. According to World Bank projections, GDP in the industrialized countries is expected to increase during 1993-2004 by an average of 3% each year. From this it may be assumed that it is also possible to return to the levels of lending that the industrialized countries extended to Latin America and the Caribbean during the 1970s for water supply and sanitation and health services.

External financing is granted bilaterally or through multilateral systems or mechanisms. In both cases the disbursements are made under "Official Aid for Development" (OAD) and so-called "Other Disbursements." The OAD route is used for "concessional" credits at very low interest rates which are payable over long periods and have a several years' grace period. Other disbursements are "non-concessional," representing loans that are

usually at near-market interest rates and payable in 10 or 20 years with shorter grace periods.

122. The projections of possible external financing, by form and modality, were estimated first with respect to the GDP of industrialized countries and then calculated relative to percentages of GDP for Latin America and the Caribbean. On this basis, external financing is estimated to be on the order of US\$ 63 billion.

TABLE 20  
EXTERNAL FINANCING, BY SOURCE  
AND MODALITY (1993-2004)  
(in millions of 1990 US\$)

Source and Modality	Amount	% GDP <sup>1</sup>
Multilateral	31,500	0.18
Bilateral	31,500	0.18
<b>Total Sources</b>	<b>63,000</b>	<b>0.36</b>
Non-concessional	53,700	0.31
Concessional	9,300	0.05
<b>Total Modalities</b>	<b>63,000</b>	<b>0.36</b>

<sup>1</sup> Conversion to percentage of aggregate GDP for the countries of Latin America and the Caribbean

123. If the industrialized countries were to meet the commitment that they themselves assumed several decades ago to contribute 0.7% of their GDP for cooperation with the developing countries, the 1970s levels of lending and donations would be doubled. At present only Denmark, France, Norway, the Netherlands, and Sweden have met or surpassed this target.

124. It has been virtually impossible to make a serious estimate of the contributions that could be expected from nongovernmental organizations (NGOs) as sources of external financing. It is known

that in the industrialized countries both the governments and the private sector contribute to the financing of the NGOs, but there is no way of determining how much is included in the calculations above. Information is lacking on NGO expenditures for water, sanitation, and health services.

### 3) CONVERSION OF EXTERNAL DEBT

125. So far only one country in Latin America and the Caribbean has elected to convert its external debt for investments in health, drinking water supply, and sanitation, with very small amounts that represent only 0.085% of its long-term external debt (see Annex V).

If 0.25% of the external debt of Latin America and the Caribbean could be converted into investments in environment and health, the resulting financing could amount to as much as US\$1.1 billion for the period 1993-2004. A possible mechanism might be an arrangement with the Club of Paris to reduce interest rates on public debt in exchange for a commitment from the Governments to invest the equivalent of that reduction in priority areas proposed in the present Regional Plan.

### 4) TOTAL POSSIBLE FINANCING

126. The study of all the sources of financing leads to the conclusion that for the period 1993-2004 an aggregate amount on the order of US\$ 207.6 billion would be feasible.

TABLE 21  
TOTAL POSSIBLE FINANCING BY  
MAJOR SOURCES (1993-2004)  
(in millions of 1990 US\$)

Sources	Amount	% of GDP for LAC
Internal	143,500	0.82
External	63,000	0.36
External Debt Conversion	1,100	0.006
Total	207,600	1.186

### SENSITIVITY ANALYSIS

127. One hypothesis would propose not only to recover 1970s levels of investment but also to compensate for what was failed to be invested in the 1980s. Another hypothesis would assume that the growth of GDP in Latin America and the Caribbean for the period 1993-2004 would only average 3% a year instead of the 4.2% figure adopted in the proposal. In the first case the possible financing would come to about US\$234.5 billion. In the second case it would be reduced to approximately US\$191.7 million.

*The lending multilateral institutions are interested in participating more aggressively in social development. There are agreements and proposals for the establishment of certain targets—in terms of channeling specific percentages of their credits—for social projects.*

*It is therefore appropriate to suggest that multilateral and bilateral international funding agencies and the industrialized countries assume a commitment that is not far from their possibilities. They should make a commitment to apply at least 20% of their financial cooperation resources for Latin America and the Caribbean to projects for protection and control of the environment and direct health care for the population.*

## Chapter IV

### STRATEGY OF ACTION

*The Regional Plan for Investment is the initial proposal for promoting a process in the countries of Latin America and the Caribbean. Its aim is to facilitate the definition of common purposes and concrete actions with a view to achieving, in the areas of protection and control of the environment and direct health care for the population, the principles of universality, solidarity, and equity. It is a process that will be carried out at the national level and will be the inalienable responsibility of the countries themselves.*

#### **A Political Commitment**

1. The Regional Plan for Investment, as a strategy and frame of reference that will guide the formulation of the National Plans of Investment, should be the expression of a firm political commitment on the part of the countries of Latin America and the Caribbean. This commitment cannot be limited to the Governments. The magnitude of the proposal and the effort that it will require will make it necessary to seek all possible forms and means of building a solid and stable base of political support.

#### **Building Political Support in the Countries**

2. It is indispensable to achieve the active participation of all those who make up the national society in each country, while at the same time promoting, facilitating, and strengthening such participation through joint action by all the countries.

The Pan American Health Organization and the international development and lending agencies, institutions, and organizations which have some link to the areas of protection and control of the environment and direct health care for the population should contribute

effectively to the formation and consolidation of this base of political support.

#### **Strategic Actions**

3. The Regional Plan of Investments must be developed with the direct participation of the countries and other international cooperation agencies.

This first version will serve as a foundation for the initial political commitment, on the basis of which a set of strategic actions can be designed and carried out. Some of these actions are discussed below.

#### **The National Plans of Investment**

4. The National Plans of Investment will be a concrete expression of the countries' political commitment. They will constitute a strategic action that will further the process. They will also strengthen and contribute to achievement of the objectives of the Regional Plan for Investment. The National Plans will make it possible to adapt, where necessary, existing investment proposals or formulate new ones that respond to the orientations and priorities. It is essential to begin developing national

capacities in the countries for the formulation of these Plans and the subsequent development of concrete projects.

### **Institutional Development and Preinvestment**

5. Institutional development is an area of action in which the countries can get started immediately by rechanneling and/or strengthening the resources that at present are being utilized for training activities, improvements in managerial systems, etc.

The preinvestment component of the Regional Plan also includes actions aimed at guiding institutional development.

### **Regional Preinvestment Fund**

6. In order for the countries to be in a position to implement the Regional Plan, they need to initiate, as soon as possible, several processes at the national level. These include sectoral analysis, training, the formulation of policies to guide the reform of systems and institutions, and the preparation of a National Plan of Investment, the development of concrete projects, etc.

It will then be necessary to activate mechanisms that will ensure that this first phase is indeed carried out. An indispensable and urgent instrument is the creation of a Regional Preinvestment Fund, made up of multiple contributions from the countries in the Region and donors outside the Region. This mechanism could be designed and overseen by the Pan American Health Organization.

### **Orientations for Reform**

7. The countries can assume, as early as possible, the responsibility for making the Regional Plan for Investment viable through actions aimed at achieving the commitment and mobilization of the most significant and important participants in their national political circles. The objective is for the content of the orientations to become a consensual component of a National Project in each country. The orientations for reform outlined in this proposal should be debated at the national level by all sectors of public opinion and, especially, by the grass-roots organizations. Only in this way will they have the political viability and indispensable continuity that is required by undertakings of such scope and duration.

### **Creation of National Commissions**

8. Multisectoral and representative National Commissions should be created, as should technical teams. Their purpose, inter alia, would be to complete, correct, and/or refine the information utilized for the preparation of this first version of the proposal; carry out various studies; confirm the validity of certain referential assumptions, criteria, and standards; and analyze the feasibility of the Regional estimates of internal financing. Regional and subregional meetings for the purpose of exchanging experiences and information and seeking international support for national efforts would facilitate and strengthen the work of the National Commissions.

### **Building on Existing Activities**

9. The countries are already carrying out activities that are related to the proposed Regional Plan. These should be taken advantage of, either by reorienting them, when necessary, or by intensifying and expanding them, if this is strategically more expedient. It is not a question of starting from scratch or waiting until the National Plans are completely formulated. The minimum needs that must be met have already been identified and it is urgent to respond without delay.

### **A Support Alliance**

10. To complement the actions at the national level an alliance of international cooperation agencies and institutions should be formed. In this way it will be possible to provide the countries with the technical assistance that will enable them to achieve the objectives outlined above, while at the same time channeling and/or facilitating the financing needed immediately for preinvestment and the development of the components or subcomponents of the Regional Plan.

The magnitude and implications of the Plan, the political commitment required from the countries, and the formation of this alliance are factors that will make it necessary to formulate new strategies of support for the countries and redefine the roles that should be played by international cooperation.

*In the face of the different crises affecting the countries of Latin America and the Caribbean, there is a moral duty to respond with proposals that correspond to the magnitude of the problems. These crises offer the opportunity to promote and facilitate changes and reforms that are urgently needed and must no longer be put off.*

*In these circumstances, the Governments and all segments of society in the countries of the Region, the international agencies, and the industrialized countries should act together. A solution must be found to social problems that are currently affecting millions of people in this part of the world—problems such as malnutrition, environmental conditions that make it impossible for people to attain even a minimum standard of living, and lack of access or failure to use the simple and low-cost technologies that are available. A way must be found of preventing people from dying unnecessarily and prematurely.*

*Nevertheless, it is not just the lives of these hundreds of millions of people that are at stake but the values that will form the basis for the construction of a universal society in which peace will prevail, the prerequisites for which are solidarity and justice.*

**POPULATION AND ACCESS TO DRINKING WATER SERVICES AND SANITATION  
LATIN AMERICA AND THE CARIBBEAN, 1992 and 1993 - 2004  
(population in millions)**

CATEGORIES	1992			2004	1993 - 2004		
	Total	Assumed to be Served	Assumed to be Unserved <sup>1</sup>	Total	Population Increase	To be served during the period	Population to be Served under the Plan
URBAN DRINKING WATER	333.3	266.5	66.8	427.8	94.5	161.3	145.4
Urban	216.6	199.1	17.5	278.1	61.4	78.9	71.2
Urban Fringe	116.7	67.4	49.3	149.7	33.1	82.4	74.2
URBAN SEWERAGE	333.3	246.7	86.6	427.8	94.5	181.1	158.0
Urban	216.6	197.4	19.2	278.1	61.4	80.6	70.5
Urban Fringe	116.7	49.3	67.4	149.7	33.1	100.5	87.5
RURAL DRINKING WATER	126.2	66.9	59.3	121.2	(5.0)	54.3	27.4
SEWERAGE AND EXCRETA DISPOSAL IN THE RURAL ENVIRONMENT	126.2	37.9	88.3	121.2	(5.0)	83.3	55.0
WATER CONATMINATION							
Municipal Drains	333.3	33.3	300.0	427.8	94.5	394.5	188.0
Industrial Wastewater							175.0 <sup>2</sup>
SOLID WASTES COLLECTION	333.3	233.3	100.0	427.8	94.5	194.5	152.0
Urban	216.6	205.8	10.8	278.1	61.4	72.2	62.4
Urban Fringe	116.7	27.5	89.2	149.7	33.1	122.3	89.6
FINAL DISPOSAL	333.3	100.0	233.3	427.8	94.5	327.8	285.0

<sup>1</sup> The term "Assumed to be Unserved" includes the population currently without service plus the population that is being served but suffers from interruptions and unreliability of service.

<sup>2</sup> This table includes the population equivalent of the contamination of water of industrial origin measured in terms of biochemical oxygen demand utilized for the estimate of the corresponding investments.

SOURCES: Evaluation of the International Decade of Drinking Water and Sanitation 1981-1990; Sept. 1990. Pan American Health Organization.

Other Sources: IBRD, IDB, EPLAC, CELADE, PAHO, etc.

**POPULATION AND ACCESS TO DRINKING WATER SERVICES AND SANITATION**  
**LATIN AMERICA AND THE CARIBBEAN, 1992 and 1993 - 2004**  
(population in millions)

CATEGORIES	1992			2004	1993 - 2004		
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URBAN SEWERAGE	333.3	246.7	86.6	427.8	94.5	181.1	158.0
Urban	216.6	197.4	19.2	278.1	61.4	80.6	70.5
Urban Fringe	116.7	49.3	67.4	149.7	33.1	100.5	87.5
RURAL DRINKING WATER	126.2	66.9	59.3	121.2	(5.0)	54.3	27.4
SEWERAGE AND EXCRETA DISPOSAL IN THE RURAL ENVIRONMENT	126.2	37.9	88.3	121.2	(5.0)	83.3	55.0
WATER CONATMINATION							
Municipal Drains	333.3	33.3	300.0	427.8	94.5	394.5	188.0
Industrial Wastewater							175.0 <sup>2</sup>
SOLID WASTES COLLECTION	333.3	233.3	100.0	427.8	94.5	194.5	152.0
Urban	216.6	205.8	10.8	278.1	61.4	72.2	62.4
Urban Fringe	116.7	27.5	89.2	149.7	33.1	122.3	89.6
FINAL DISPOSAL	333.3	100.0	233.3	427.8	94.5	327.8	285.0

<sup>1</sup> The term "Assumed to be Unserved" includes the population currently without service plus the population that is being served but suffers from interruptions and unreliability of service.

<sup>2</sup> This table includes the population equivalent of the contamination of water of industrial origin measured in terms of biochemical oxygen demand utilized for the estimate of the corresponding investments.

SOURCES: Evaluation of the International Decade of Drinking Water and Sanitation 1981-1990; Sept. 1990. Pan American Health Organization.  
Other Sources: IBRD, IDB, EPLAC, CELADE, PAHO, etc.

**INVESTMENTS IN PHYSICAL INFRASTRUCTURE OF THE ENVIRONMENT, 1993 - 2004**  
**POPULATION TO BE SERVED AND INVESTMENT COSTS**  
 (population in millions, in terms of 1990 dollars)

CATEGORIES	TOTAL	POTABLE WATER URBAN	SEWERAGE URBAN	POTABLE WATER RURAL	SEWERAGE RURAL	WASTE TREATMENT		SOLID WASTES	
						MUNICIPAL	INDUSTRIAL	REFUSE COLLECTION	REFUSE DISPOSAL
<b>POPULATION TO BE SERVED</b> (in millions)									
TOTAL		145.4	158.0	27.4	55.0	188.0	175.0 *	152.0	285.0
URBAN		145.4	158.0	27.4	55.0	188.0	175.0	152.0	285.0
Urban		71.2	70.5					62.4	
Urban Fringe		74.2	87.5					89.6	
RURAL				27.4	55.0	188.0	--	--	285.0
<b>INVESTMENT COSTS</b> (billions US\$)									
TOTAL	114.83	35.58	33.06	3.72	3.24	16.57	15.04		7.62
Rehabilitation and re-equipping	16.23	8.8	4.62	.45	.27	1.53	**		.56
New works to cover current deficits	65.945	11.09	13.735	3.27	2.97	15.04	15.04		4.8
New works to respond to population growth	32.655	15.69	14.705	--	--	--	--		2.26

\* Population equivalent measured in terms of biochemical oxygen demand.

\*\* No information available.

**INVESTMENTS IN PHYSICAL INFRASTRUCTURE  
OF DIRECT HEALTH CARE FOR THE POPULATION, 1993 - 2004  
PHYSICAL WORKS (in thousands) AND INVESTMENT COSTS (in billions)**

CATEGORIES	Total	Self-care	Health Posts	Health Centers	Hospitals *
<b>PHYSICAL WORKS</b>					
<b>TOTAL</b>		592.6	47.6	14.6	804.7
<b>URBAN</b>					
Urban		340.2	19.7	5.7	
Urban fringe			15.7	5.0	
In capital cities					118.5
In LUCs > 1M **					133.7
In the rest of the country					552.5
<b>RURAL</b>		252.4	12.2	3.9	
Rehabilitation and re-equipping			22.0	6.0	417.2
New works to cover current deficits		485.8	16.2	5.4	307.3
New works to respond to population growth		106.8	9.4	3.2	80.2
<b>INVESTMENT COSTS</b>					
<b>TOTAL</b>	64.48	6.06	2.0	1.42	55.0
<b>URBAN</b>					
Urban	8.58		.63	.45	7.5
Urban Fringe	12.43	3.48	.75	.54	7.66
<b>RURAL</b>	43.47	2.58	.62	.43	39.84
Rehabilitation and Reequipping	16.97		.44	.28	16.25
New Works in Order to Cover Current Deficits	37.42	4.97	1.0	.72	30.73
New Works in Order to Respond to the Population Growth	10.09	1.09	.560	.42	8.02

\* In hospital beds.

\*\* Large Urban Conglomerations of more than one million inhabitants.

## FINANCING THE PLAN FOR INVESTMENT

### I. METHODOLOGY

1. In the analysis of financial feasibility of the Regional Plan for Investment, three possible sources of financing were independently considered and studied: a) internal financing, including the private sector and possible schemes of self-financing and cost recovery; b) external, multilateral, bilateral, public, and private financing; and c) external debt conversion.

2. An attempt was made to obtain information from the countries and from Latin America and the Caribbean as a whole, as well as from the industrialized countries and multilateral lending agencies.

Different macroeconomic variables were tested, only the most significant of which were utilized. Others had to be ruled out because they varied in relation to the preceding variables, as in the case of Gross Domestic Savings and Gross Domestic Investment.

#### A. INTERNAL FINANCING

3. With regard to internal financing, calculations have been based on the Gross Domestic Product (GDP); size of the overall government and the central government; public spending; expenditure on investment in health by the public sector (Ministries of Health, Social Security) and the private sector; as well as public investments in water and sewerage. The principal sources of information have been the World Bank, International Monetary Fund, United Nations, ECLAC, IDB, and PAHO. In order to maintain a certain consistency in the assumptions and calculations preference has been given to the information from the World Bank.

It has been necessary to work with several assumptions, especially with respect to projections for 1991 and 1992 and for the period 1993-2004.

It is considered that the size of the public sector and of overall government; public spending on the infrastructure of water, sewerage, and health services; the relative size of the public, social security, and private subsectors; and spending on Social Security—all expressed in percentages of GDP—will remain constant during the period 1993-2004. According to available information, the periods 1971-78, 1973-80, and 1977-80 have been used as bases.

4. The calculations for internal financing were made in accordance with the following reasoning:

a) The percentage represented by total public spending, in relation to the Gross Domestic Product of the countries of Latin America and the Caribbean, is, on the average, 27,77% annually<sup>1</sup>.

b) The percentage represented by public spending on health services, in relation to total public spending, is, on the average, 5.64% annually<sup>2</sup>.

c) The percentage represented by investments by the public sector in the infrastructure of health services, in relation to public spending on health services, is, on the average, 8,10% annually<sup>3</sup>.

d) On the basis of the preceding values public investment in the infrastructure of health services represents, on the average, 0.1268% of the GDP annually.

e) Spending on health by the private sector and social security vis-à-vis the public sector is 1.33 and 1.18 to 1.00. <sup>4</sup> Assuming, conservatively, that the investment behavior of social security is proportionally similar to that of the Ministries of Health, and that of the private sector is only 50%, investments in health by social security and the private sector represent, on the average, 0.1481% and 0.0840% per year, respectively, of GDP.

f) To the foregoing it is necessary to add prospective estimates of self-financing, on the basis that payment for health services would represent only 7% of current spending on health services by the public sector (discounting central and regional expenditures for administration). If 25% of this figure is utilized at the local level in recurring expenditures, 55% for small local investments and institutional development, and the remaining 20% as source for a National Investment Fund (compensatory, in order to guarantee the principles of solidarity and equity), self-financing would represent an average 0.0428% annually of GDP<sup>5</sup>.

g) The total of internal financing of the health sector then is, on the average, 0.4017% annually of the GDP of the countries of Latin America and the Caribbean.

h) The percentage represented by investments by the public sector in water and sewerage, in relation to Gross Domestic Product, are, on the average, 0.548% annually<sup>6</sup>.

i) The preceding amount includes external financing, which represents 25.7%. Consequently, national investment is reduced to 0.40% of GDP<sup>7</sup>. This last figure can, in turn, be broken down into a proportion of 65% public financing, 21% private, and 14% self-financing or costs recovery, which represent, in relation to GDP, 0.260%, 0.084%, and 0.056%, respectively.

Self-financing in the environment would come principally from the drinking water sector and would be utilized in part for new investments.

j) Finally it would be necessary to assume that the countries are already investing in preinvestments and institutional development, although in national and sectoral accounting no specific figures appear. A preliminary estimate, on the basis of partial information, yields 0.0183% of GDP, which is distributed proportionally among the national sources.

k) Adding together the previous estimates of internal sources gives a total average investment in health and the environment, during the 1970s, of 0.82% of GDP annually.

4. In accordance with projections of the World Bank, it was assumed that the GDP of Latin America and the Caribbean would undergo an increase of 4.2% annually in the period 1993-2004<sup>8</sup>. Based on this rate of growth, investment capacity could return to 1970s levels.

5. As a result, the aggregate GDP of the Latin Americas and Caribbean countries for the period 1993-2004 would be on the order of the US\$ 17.5 trillion. Applying to this amount the same percentage of 0.82%, internal financing for the present Regional Plan for Investment would be on the order of US\$ 143.5 billion.

Table A of this annex shows the percentages of GDP and the corresponding amounts.

## B. EXTERNAL FINANCING

6. With regard to external financing, information has been utilized from OECD and the World Bank.

The calculations have been made considering what the industrialized countries have contributed, multilaterally and bilaterally, to investments in drinking water and sewerage and health services in Latin America and the Caribbean during the period 1973-1980<sup>9</sup>. This information covers the disbursements made through "Official Development Assistance" - ODA (concessional) and the so-called "Other Disbursements" (non-concessional)<sup>10</sup>. Similar to what was done with internal financing,

these disbursements have been related to the aggregate GDP of the industrialized countries. The amounts obtained have been converted into percentages of the GDP of the countries of Latin America and the Caribbean.

7. It is assumed that the percentages allocated to water and sanitation and health services for Latin America and the Caribbean will be maintained in the future. Adding to this the new World Bank policy to invest at least 25% of its resources in the social sectors, the allocation of funds from the industrialized countries to multilateral sources, and for health and sanitation, would rise from 8.5% to 10%<sup>11</sup>. In addition, it is assumed that the increase in GDP of the industrialized countries in 1991 and 1992 will be 1.7% and it will be 3.0% from 1992 onward<sup>12</sup>. It is thus possible to estimate that for the period 1993-2004 there would be an availability of resources from these sources on the order of the US\$ 63.0 billion. This corresponds to 0.360% of the GDP of the countries of Latin America and the Caribbean.

## C. EXTERNAL DEBT CONVERSION

8. In regard to external debt conversion only one country (Ecuador) has carried out conversions of external debt for health, drinking water, and sanitation, with a sum of US\$ 12.0 million and US\$ 14.0 million in 1990 dollars for the period 1989-91<sup>13</sup>, i.e. an average of US\$ 4.0 and 4.5 million per year, respectively. This represents only 0.085% of the country's long-term external debt<sup>14</sup>. The only estimate possible based on current practices in transacting these projects and the possible percentage of debt of conversion for health and the environment, is a total amount on the order of US\$ 360 million for the Latin American and Caribbean countries during the period 1993-2004.

Investment financing through external debt conversion would require, like many of the estimates of financing from all sources, political commitments and agreements between the Governments of the countries and creditors, along with the modification of existing legislation and international procedures. If only 0.25% of the external debt of the Latin American and Caribbean countries—three times the percentage in the case of Ecuador—could be converted to investment in health, this would represent an amount on the order of US\$ 1.1 billion.

## D. SENSITIVITY ANALYSIS

9. It is possible to calculate the financing that would be available using other hypotheses: If the level of recurring expenditure and capital were

that of the 1970s plus the difference between this level and that of the 1980s, the result would be an annual recurring expenditure on health of:

$$5.64\% + 0.42^{15} = 6.06\%$$

Thus, annual capital expenditure is:

$$8.1\% + 2.6\%^{16} = 10.7\%$$

These percentages replace those mentioned above, (4.b and 4.c) and are utilized in the same way. It is assumed that contributions to the environment from external sources and through debt conversion remain the same, and thus 1.3391% of GDP of the Latin American and Caribbean countries would be utilized for investment, which represents \$234.3 billion.

10. If the GDP of the Latin American and Caribbean countries grows by 3% per year instead of 4.2% during the period 1993-2004, GDP would be on the order of \$ 16.163 trillion. Doubling the percentage of the GDP shown in Table A (1.1861%) yields total financing on the order of the \$ 191.7 billion.

ANEXO V

**TABLE A: FINANCING PLANNED FOR THE REGIONAL PLAN OF INVESTMENTS IN HEALTH AND THE ENVIRONMENT, 1993 - 2004**  
**in billions US\$, 1990 dollar values**

SOURCE	ENVIRONMENT		HEALTH		TOTAL	
	% of GDP	AMOUNT billions of 1990 dollars	% of GDP	AMOUNT billions of 1990 dollars	% of GDP	AMOUNT billions of 1990 dollars
<b>NATIONAL</b>						
Public sector <sup>1</sup>	0.260	45.5	0.1268	22.2	0.4000	70.0 <sup>2</sup>
Social Security			0.1481	25.9	0.1500	26.2 <sup>2</sup>
Private sector	0.084	14.7	0.0840	14.7	0.1700	29.75 <sup>2</sup>
Self-financing	0.056	9.8	0.0428	7.5	0.1000	17.5 <sup>2</sup>
Sub-total	0.400	70.0	0.4017	70.3	0.8200	143.5 <sup>2</sup>
<b>EXTERNAL</b>						
Multilateral	0.1332	23.31	0.0508	8.89	0.1840	32.2 <sup>3</sup>
Bilateral	0.0148	2.59	0.1612	28.22	0.1760	30.81 <sup>3</sup>
Concessional	0.0222	3.89	0.03125	5.47	0.05345	9.36
Non-concessional	0.1258	22.01	0.18080	31.64	0.30660	53.65
Sub-total	0.148	25.9	0.21205	37.11	0.3600	63.01 <sup>3</sup>
<b>DEBT CONVERSION</b>						
	0.0032	.570	0.00291	.510	0.00611	1.08 <sup>3</sup>
<b>TOTAL</b>	<b>0.5512</b>	<b>96.47</b>	<b>0.6167</b>	<b>107,920</b>	<b>1.1861</b>	<b>207.59<sup>3</sup></b>

<sup>1</sup> Includes Ministries of Health and institutions concerned with sanitation and the environment.

<sup>2</sup> 2. When the investments explained under point 4(j) of this annex, the total contribution of the public sector rises from \$67.7 to \$70.0 billion, that of social security from \$25.9 to \$ 26.25 billion, that of the private sector from \$29.4 to \$29.75 billion, and that of self-financing from \$17.3 to \$17.5 billion, and the total of the figures under the columns "environment" and "health" does not correspond exactly, for national sources, to the figures in "total" columns.

<sup>3</sup> To facilitate presentation, the figures shown in the tables on pp 42-42 of the text have been rounded off.

## II. REFERENCES AND EXPLANATIONS OF METHODOLOGY

1. Government Finance Statistics Yearbook, International Monetary Fund (IMF) 1991, shows that during 1984-1988, central government spending represented 24.4% of GDP. "Social Public Spending in South America in The Eighties", ECLAC, publication LC/R 961, p.21, shows that central government spending represents 88% of the overall government spending in 8 countries of South America covering 88.4% of the total population of that subregion, during the period 1977-86; public spending represents 27.77% of GDP.
2. Government Finance Statistics Yearbook, IMF, 1991.
3. "Gasto Público Corriente y Gasto Público de Capital, ECLAC Publication LC/R 962, 1990, pp. 48-53.
4. "Financiamiento de la Atención a la Salud en América Latina y el Caribe, con focalización en el Seguro Social," MESA-LAGO (Carmelo), World Bank, 1989, p.33, "Social Spending in Latin America", GROSH (Margaret), World Bank, 1990, p.9, and World Bank, "El Financiamiento de los Servicios de Salud en los Países en Desarrollo," 1987, p.17. According to these 3 documents, the health public sector, social security, and the private sector spent, respectively, 28.5%, 33.5% and 38% of the total expenditure on health.
5. Total current expenditure by the public sector on health represented 1.1562% of GDP during the period 1973-80. Of that, 81.9% represents current expenditure and 85% of this expenditure corresponds to establishments. 7% of this expenditure is recovered through the cost recovery systems and 75% of the recovered amount is channeled into investment and institutional development. The 7% is based on estimates of Ch. GRIFFIN, "User Charges for Health Care in Principle and Practice," World Bank, EDI Seminar Paper No. 37, 1988, p.21. See also D. De FERRANTI, "Paying for Health Services in Developing Countries," World Bank, PHN Technical Note, 1984, p.11.
6. "Latin America and the Caribbean Region, Water Supply and Sewerage Sector", Proposed Strategy, World Bank, 1988, p.23. (The figures from this source cover the period 1971-1978 and were converted to 1990 values for purposes of the estimates)
7. "Decenio Internacional del Abastecimiento de Agua Potable y Saneamiento: Informe sobre la marcha de los trabajos en la Región," OPS, 1987, p.20.
8. By using the 1990 GDP of the Latin American and Caribbean countries given in World Bank Selected Economic Data, 1991, adjusted to 1990 values, and projecting to 1993 based on growth rates of 2.32% for 1991, 2.28% for 1992, and an average of 4.2% annually from 1993 onwards, on the basis of World Bank, World Development Report, 1990, p. 16, the figure of \$17.5 trillion for the period 1993-2004 is obtained.
9. OECD, Geographical Distribution of Financial Flows to Developing Countries, 1975, 1980, 1985, and OECD, Development Cooperation, 1987 to 1991.
10. US\$ 4.27 billion annually through ODA and US\$ 28.06 billion annually from other disbursements, which represent 0.0348% and 0.2287%, respectively, of the GDP of the industrialized countries. These percentages applied to the projected GDP of the industrialized countries during the period 1993-2004 represents US\$ 6.67 billion annually in ODA and US\$ 43.81 billion annually in other disbursements.
11. Official communiqué from the Vice President for Latin America and the Caribbean of the World Bank to PAHO, in which he mentions that the World Bank intends to increase its contribution to the social sectors to 25% of its total loans, which would signify a doubling of the financing to these sectors (see World Bank Annual Report 1991, p.181). The percentage that the World Bank provides to the health sector of the Latin American and Caribbean countries would therefore increase from 6% to 12%, and the contribution of all multilateral sources to the health sector could rise from 8.5% to 10%.
12. OECD, Projections mentioned in a communiqué, 1992, and, World Development Report, World Bank, 1990, p. 16.
13. "Conversión de deuda externa para proyectos de desarrollo en Salud," Case study from Ecuador, Troy, Solorzano, Vallejo, OPS, 1991.
14. World Bank, World Debt Tables, 1991-92, Vol. 2, p. 118, show the long-term external debt of Ecuador in 1990.
15. Government Finance Statistics Yearbook, 1991, show that the central government spent 5.13% of its annual resources on health during the period 1981-88. The difference between the amount spent in the 1970s vis-à-vis the 1980s is 5.64% - 5.13% = 0.51%. It is assumed that this difference is also valid for 1989 and 1990. Thus, 0.51% x 10 years + 12 years = 0.42% per year. The 0.42% is added to 5.64%, yielding 6.06%.
16. ECLAC, LC/R. 962, pp. 48-53, shows that investment in health was 8.1% during the 1970s and 5.0% during the 1980s. The difference of 3.1% x 10 years ÷ 12 years = 2.6%, which added to 8.1% gives 10.7%.