Chapter II

ORIENTATIONS AND PRIORITIES

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 componentsofpreinvestment 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

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 preferrable 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 curently 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 owning 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, where 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
TOTAL	114,830	100.00
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
TOTAL	35,580	100.00
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
TOTAL	33,060	100.00
Rehabilitation	4,620	14.0
New Infrastructure	28,440	86.0
in Order to Cover Current Deficit	18,355	55.5
For Population Growth 1993-2004	14,705	44.5

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
TOTAL	3,720	100.00
Rehabilitation	450	12.1
New Infrastructure	3,270	87.9
For Current Deficit	3,720	100.00

Sewerage and Excreta Disposal in the Rural Environment

42. The considerations with regard to rural drinking water are also applicable to this subcomponent.

43. The Plan proposes to link up 54 million rural inhabitants to adequate sanitary systems. The use of low-cost technology has been considered in the preparation of this proposal.

44. For rural sewerage systems and excreta disposal, the total proposed investment comes to approximately US$ 3.24 billion, which represents 2.82% of the component and 1.5% of the Regional Plan. Of this sum, 8.3% corresponds to the rehabilitation of existing infrastructure and 91.7% 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 5
SEWERAGE AND EXCRETA DISPOSAL
IN THE RURAL ENVIRONMENT

Category	Amount	Percentage
TOTAL	3,240	100.00
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 take 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 contant 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
TOTAL	7,620	100.00
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
TOTAL	64,480	100.00
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
TOTAL	**6,060**	**100.00**
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
TOTAL	3,420	100.00
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 below. 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.

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.

TABLE 11
HOSPITALS

Category	Amount	Percentage
TOTAL	55,000	100.00
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

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, if 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 possibile 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
TOTAL	1,200	100.00
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