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FINANCING OF THE HEALTH SECTOR

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I. BACKGROUND

At their meeting held at Punta del Este, Uruguay, from 12 to 14 April 1967, the Presidents of America took the following decisions on educational, technological, and scientific development and intensification of health programs, as set forth in Chapter V of their Declaration:

> "1. To expand, within the framework of general planning, the preparation and implementation of national plans that will strengthen infrastructure in the field of health.
>
> 2. To mobilize internal and external resources to meet the needs for financing these plans. In this connection, to call upon CIAP, when analyzing the health sector in national development programs, to take into account the objectives and need indicated.
>
> 3. To call upon the Pan American Health Organization to cooperate with the Governments in the preparation of specific programs relating to these objectives."

In the special resolution (Chapter XXVII) of the final report of the Special Meeting of the Ministers of Health of the Americas, held in Buenos Aires, Argentina, from 14 to 18 October 1968, it was recommended that "Governments consider the possibility of constituting a fund that would be devoted exclusively to health programs, in the form of long-term credits at low interest rates." The Pan American Health Organization was asked to study the feasibility of this proposal.

In the Final Report of the XVIII Meeting of the Directing Council of the Pan American Health Organization, XX Meeting of the Regional Committee of the World Health Organization, held in Buenos Aires, Argentina, from 21 to 25 October 1968, it was agreed to include "the 'Financing of the Health Sector' among possible topics for future technical discussions."

In compliance with these decisions the Pan American Health Organization has prepared a document covering the specific questions that led to the "Financing of the Health Sector" being proposed as a topic for the Technical Discussions.

With a view to guiding the discussions of so broad and complex a subject, this document covers the general topics that need to be dealt with if basic problems are to receive adequate treatment and the feasibility of such solutions as are proposed is to be determined.

It takes into account both the above-mentioned considerations and the need to adopt a comprehensive approach to the problem of financing the health sector, with a view to the various aspects of the problem being examined in the context of their interrelations as well as the relations between the health sector and other sectors.

II. SUMMARY AND CONCLUSIONS

The financing of the health sector in the various countries of the Americas is one of the most complex problems of the area, and requires methodical analysis and research if a solution is to be found.

The common characteristics of the problems can be more easily identified if the countries are first classified according to their level of development. In the same way the characteristics of the health sector structure point up the financial problems inherent in it, deriving from its institutional rigidity and lack of coordination, inappropriate methods for evaluating programs, the influence of political structures, the institutional make-up of the sector, as well as the determination of institutional priorities and consequent misallocation of resources. The harmonization of the objectives of the institutions of the sector with those of economic and social development policy, is another factor that must be taken into account.

Financing problems are affected by the structure of the health sector and the importance in each country of its component institutions.

The heart of the problem is to determine methods by which health institutions and agencies may be financed, with special reference to actual and new sources of funds and ways of attracting them.

From this point of view a distinction must be made between the public and private subsectors since they have different sources of funds and different financing mechanisms, both internal and external. This permits an over-all view of the various factors involved in the financing problem and possible solutions.

An examination of methods, sources, and mechanisms used in financing the public subsector points to the need to improve strategies for obtaining and redistributing more public funds for the health sector. In the private subsector it is necessary to keep a continuous watch on relative proportion of individual contributions to health by individuals whose income is such as to allow them to provide for their own health care so as to determine if this trend can be made use of to increase and expand the activities of the public subsector.

Because of the distinction between internal and external financing it is advisable to make a detailed study of such aspects as "the capacity of the countries to absorb new financial resources", bearing in mind their

installed capacity, manpower utilization and administrative efficiency in achieving optimum combinations of these factors. It is also necessary to define the "optimum internal effort" that must be made before further funds are sought. At present this aspect is of great importance since it is one of the conditions or requirements for the allotment of further public funds or for the award of loans.

Once the condition that the use made of existing resources must be improved is met, the obvious need to increase the amount of money channeled to the sector calls for a careful study of the possibilities of making transfers of funds within the health sector or between sectors as well as of the factors hindering the generation and mobility of resources of the kind, in the amount, and at the pace required to satisfy the growing needs of the health sector in most of the countries in the Americas.

Originally purely economic considerations -- involving traditional incentives of a market economy -- underlay the establishment of most international financing mechanisms and the formulation of financial policies of governments and private institutions. Subsequently the more developed countries adopted certain arrangements in consideration of the situation and needs of the less developed countries which, although primarily economic, included social objectives that sometimes required appropriate modifications in the conditions for loans.

However, even now external financing does not keep pace with the increasing needs, nor is it such as to foster social policy and, in the social sphere, health activities.

Multilateral mechanisms for financing the public sub-sector lack sufficient flexibility for adequate response to requirements of the subsector. An exception is the mechanism for financing water and sewerage systems which, because they provide for pay services, are in a better credit position and are therefore the preferred field for foreign investments.

Because of the problems involved in quantifying the results of health programs and the slow maturation of the benefits of planning and of more efficient administration, it is difficult to see the changes brought about in the short term in the productivity of institutions, and thus national agencies responsible for preparing budgets find it difficult to rank the needs of the sector in a proper order of priority.

Future prospects depend on the "optimum internal effort" that can be made on taxation, monetary, and credit changes tending to increase the proportion of public funds in the gross domestic produce and their allocation to the health sector; on institutional coordination: these are essential for defining and implementing priorities, for making a proper distribution of the funds assigned to the sector, and for increasing the number of communities to be covered.

Unified health insurance schemes or other similar systems may be a way of solving the problem of financing the health sector, provided local conditions are favorable.

With respect to external resources it is clearly necessary to expand and redirect the present system of financing in the light of the needs and the capacity of less developed countries to repay loans. For that purpose a study must be made of the likelihood of obtaining loans to enable economic and social goals to be achieved simultaneously, of establishing a specific regional fund for financing health activities, and of making greater use of and reorienting existing financial mechanisms.

Each country will of course have to find its own solution to the problem of the internal and external financing of the health sector, taking into account its own conditions and the potential capacity of its internal structures.

CONCLUSIONS

The problem of financing the health sector must be examined in the light of the economic and social development of the countries.

An increase in the external and internal financial resources available to the sector depends on the programming and instrumentation of the "optimum internal effort" for institutional coordination; definition of priorities; maximum use of existing resources and the consequent achievement of optimum productivity; optimum coverage of communities; and "the capacity to absorb additional funds".

An increase in the internal financing of the health sector depends on improving ways and means of mobilizing money for that sector, through:

- taxation policy
- monetary and credit instruments
- national health insurance schemes
- channeling of private funds through the banking system.

In order to expand the framework of external financing and reorient it more in accord with the needs and the capacity of developing countries to repay loans, methodological studies must be made of the possibility of obtaining external funds for achieving economic and social goals and of establishing a specific regional fund for health purposes, and to stimulate flexibility in credit policy and external assistance on the part of existing international financial institutions.

III. FINANCIAL PROBLEMS INHERENT IN THE INSTITUTIONAL STRUCTURE OF THE HEALTH SECTOR

Since the health sector in the countries of the Americas is usually responsible for a great variety of functions and services, this paper deals generally with institutions providing services in the health sector, from the standpoint of the source and scope of the funds allotted to them in the various groups into which the countries of the Americas have been classified for the purpose of this study.

It should be borne in mind that the present health services of each institution in the health sector are the result of the historical development of the countries of the Region, the examination of which is outside the limits of this working paper. However, a full understanding of the past events that account for today's institutions and their basic functions may indicate the lines along which likely projections of the present situation might be made.

Institutional structure

In each of the countries of the Americas the makeup of the health sector varies according to the mix and the importance of the component institutions which include:

Ministries and departments of health
Social security institutions
Other decentralized public or semi-private agencies
Other public and semi-private agencies which provide health services in addition to their specific services
Private institutions and private practice of medicine

The national importance of the various public and private institutions mentioned above varies considerably. They are classified on the basis of their functions, their areas of influence, the communities they serve and their human, financial, and material resources.

Institutional rigidity

The present health sector structure in each country cannot be quickly changed because of the rigidity of most of the institutions and the length of time needed to introduce fundamental changes. The present institutional rigidity in the health sector also persists because of lack of interest in setting up programs and policies better adapted to the increasing needs of a growing population.

In dealing with problems of financing the health sector, it is essential to ascertain the trends shown by the sector components: those that will persist unchanged, those that will grow more pronounced, be

modified or wane. So far, in a few countries the ministries of health and social welfare, of the social security systems, of water and sewerage authorities, and of other components of the sector are known to have separate plans. However, only a very small number of countries have national health plans that enable us to estimate the total funds needed for the sector.

Communication and information

One of the problems to be faced in making an estimate of total funds needed and their distribution by institution is the lack of communication between overall and sectoral planners.

Very rarely do planners in the public sector provide information or receive it since few countries have any faculty for that purpose and nobody is responsible for doing so; such information as is obtained is usually incomplete, reflecting the lack of institutional coordination. Yet this information is of vital importance for correlating overall needs with population growth, national and international health policies, and for fitting them into comprehensive development plans which are not always known to all components of the sector.

National priorities

There is thus a pressing need for studies enabling a national selection to be made of the institutions and agencies in the health sector that should be strengthened, bearing in mind the needs of the country for establishing the priorities for assessing available funds since part of the funds flowing to the sector cannot be controlled because of their mandatory or voluntary nature.

Quantification of financial needs

It is obvious that at present very few countries can estimate the amount of money they need for health purposes or specify how much should be assigned to each subsector and its institutions.

Few countries have paid sufficient attention to the long and short term programming of health institutions that reflects national priorities, particularly the allotment of public funds and their use.

Other factors of importance have been the lack of systematic interinstitutional evaluations of health programs and the absence of studies to determine the optimum distribution of imports producing the goods and services needed by health sector institutions.

Because of the lack of information available in most of the countries of the Americas, it is not at present possible to estimate the amount of money the health sector needs except in the case of sewerage and water services and, in some countries, of hospitals.

Increasing needs and costs

There is general agreement that health institutions need more money if they are to fulfill their purposes.

It is also widely acknowledged that the cost of providing the corresponding goods and services is increasing, as is the importance of such goods and services in the allocation of public resources and in the family budget. A further burden is the necessity of expanding health programs to keep pace with the growth of the population without lowering the present level of satisfaction of health needs.

For individual consumers using private health facilities, the lag in increasing incomes in the face of rising costs and prices of goods and services means that a greater proportion of income must be earmarked for medical care. Therefore they will tend to demand more subsidized services or collective systems of health care.

Relations between economic development and the institutional structure

In the less developed countries the majority of the population can afford only rudimentary health care, with the result that the services must be almost entirely provided by the state. In some cases employers also provide their workers with certain health services, especially occupational health services. Charity institutions provide health services for indigents.

Because of the small size of the national budget in these countries the allotments for ministries of health and other subsidized agencies are insufficient, with the result that operations are unsatisfactory and a lack of continuity in the flow of funds leads to haphazard, fragmented, unsatisfactory programs. The situation is aggravated by the coexistence of various health services systems, as well as uneven and unsatisfactory development of those systems; as a result, only the urban areas are provided with services.

> "As new patterns of health service organization evolve in a country the old patterns do not necessarily die out. Instead, they usually continue to operate with respect to certain sectors of the population or certain diseases. There thus exists in most countries a variety of health service schemes operating side by side. Traditional healers and schemes based on religious charity are supplemented by newer schemes based on social insurance or general control by the government. The proportion in which these schemes exist differs greatly among countries, but in the great majority there is a mixture. In a few countries, as

we shall see, the various component schemes have been integrated with a view to developing unified systems of health service." 1

In the more developed countries social security systems tend to become important for workers who are gainfully employed in specified economic activities. Because of mandatory bipartite or tripartite financing, a considerable amount of money is collected from various segments of the population and used to protect the persons covered by the section.

More money is available for health sector financing in developed countries. Since public authorities have larger funds, they can assign more public funds, and thus give greater impetus to the programs of the decentralized public and semi-private agencies whose main activity is the provision of health services. Because of higher levels of income, free private institutions or charity institutions can obtain more money through private contributions. Likewise the universities in these countries also have funds with which to establish hospital services and to promote personnel training.

All countries, regardless of their level of development, experience excessive fragmentation of services and institutions, lack of coordination, poor delimitation of functions, overlapping in some areas of influence and some communities and/or total absence of services in others, and consequently inefficient resource utilization.

Even in the more developed countries in the Region there is an increasing trend for the governments to have to pay a sizeable and increasing portion of the total costs of medical benefits in order to cover those segments of the population that are unable to contribute directly or indirectly to the financing of the established systems.

IV. INTEGRATION OF THE FINANCING OF THE HEALTH SECTOR INTO THE PROCESS OF ECONOMIC DEVELOPMENT

In most of the countries planners at the sectoral level are not sufficiently aware that the activities of the various sectors together have direct or indirect effects on the political and social needs of the population, in a given society.

As a result there are a number of problems related to the delimitation of fields and activities and to the pressures exerted by the various groups that are contending for priority at all levels.

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1. Roemer, Milton I. The Organization of Medical Care Under Social Security (International Labour Office, Geneva. 1969), ps. 8 and 9.

As a rule, proposals put forward by institutions are not well enough researched to justify their incorporation into sectoral or regional policies, which call for the following:

- Harmonization of the health policy with that for the over-all development of the country.

- Evaluation of the activities of health sector institutions. Assessments of targets and rates of desired growth of operations broken down by health sector institutions.

- Analysis of the principal bottlenecks or the constraints inherent in the activities of health sector institutions.

- Total funds earmarked and their distribution by institution.

- Critical inputs and skilled manpower needed.

- Money needed to satisfy the needs of the health sector according to an order of priority derived from sectoral policies.

These requirements cannot be met unless the health plan provides for institutional coordination and the plan is prepared in the light of the over-all national development.

It is difficult to select appropriate sector objectives and to harmonize them with the general economic development when the sector relates to social services such as health, because the relationship between increases in levels of development and increases in the necessary health activities is not known.

This important correlation is usually based on correlations between the level of economic development, generally expressed in financial terms, and the importance routinely attributed to health.

Often there is competition rather than co-ordination between the policies chosen. Problems relating to policy decisions are connected not only with formulation of objectives (usually improved levels of living and extension of health care and service coverage) but also with the choice of resources and the procedures for obtaining them.

Consequently if the health institutions are to increase their contribution to health sector programs and to a general development policy, they must have a hand in defining the economic, political, and social content of these programs within the framework of national policies or of the institutions themselves. They should also be responsible for estimating the impact of policies adopted on other sectoral policies.

It is impossible to satisfy the desires of the subsectors and of all the institutional components involved in the sectoral plans and programs. Concessions to some mean concessions to others. Nor is it possible for all the resources required to be selected independently, since there are restrictions and pressures from various bodies and activities in each subsector that compete for resources.

An analysis of intra- and intersectoral coordination would make it possible to assess the extent to which the various institutions actually contribute to the health sector programs and the limitations of their presence in the same service area. This assessment would tend to reveal overlavish coverage of some sectors of the population, the result of duplications and overlapping, while others would be found to be without even minimum services. A very important aspect of this assessment would be that of the actual impact of the direct and indirect charges and benefits received by the various sectors of the population.

Although advances have recently been made in the method for quantifying relations between economic and social phenomena, it has so far not been possible to measure the relationship between the rate of economic growth and the pace at which a social policy must be implemented, including health policy, or the amount of resources that can be allocated. Furthermore, many activities are intended to satisfy the specific needs of each country and cannot be expanded at the same rate as economic growth.

A minimum public health target for a community appears to depend not only on the rate of economic development but also basically on the amount of resources available, the final amount of which is usually determined by budgetary considerations and the importance attributed to public health.

In view of the fact that social targets take longer to achieve than other types, alternatives have been established, starting with a minimum alternative which theoretically should not mean departing from the level of satisfactions already achieved for economic, political or social reasons. It has sometimes been necessary to restrict or limit some of the institutions of a sector in order to achieve vital advances for larger groups of the population.

Some Causes of Sectoral Bottlenecks

Resources already earmarked

Investment programs which usually call for implementation periods longer than a planned fiscal year, determine a part of the resources already earmarked. The other part is fixed by the level and structure of the operations determined by health policies. The impossibility of mobilizing these resources earmarked for other purposes means considerable rigidity in the line of the sectoral policy.

The rate of increase in the prices of the health sector inputs, the level of salaries and personnel policies and of other consequent costs are also important factors in fixing the amount of resources already earmarked. In the same way a decisive factor is the increase in the demand for health service in most of the countries under consideration.

Critical inputs and qualified personnel required

A characteristic of developing countries is their external dependence and their low level of industrialization. Consequently the growth of health sector activities may be affected by critical inputs required for various activities especially if they are imported goods such as various types of equipment, drugs, and construction materials, etc.

The availability of the elements mentioned could be subject to an analysis both to determine priorities for their alternative use and to ascertain the possibilities of supply by national producers in order to determine their financing and effects on the balance of payments. If the inputs are produced domestically, and the volume of production is limited in relation to the demand, a study might be made of how to obtain some competitive advantages by using them for social purposes.

With respect to the need for qualified personnel, the shortage of physicians, paramedical personnel, technical and auxiliary personnel is well known as is the cost to a country of training personnel for specific health activities fields. While other factors may make for an expansion of activities, the lack of trained personnel is a factor restricting the rate of growth of some of the components of the sector since on occasion these compete among themselves for the personnel required.

The health sector characteristically occupies a place at the macroeconomic level; all other sectors, by their very nature, have specific interrelations at selected horizontal cross-sections that determine the development of all the other sectors. In this situation the health sector and consequently the various health institutions and agencies acquire an extraordinary importance in the development of human resources.

As the health indicators and the methods for quantifying activities at the global and sectoral levels improve, and more reliable and prompt information is obtained about the over-all effects of government activities on the actual distribution of income and the distribution of direct or indirect charges and benefits among the various sectors and regions of the country, a more reliable basis will be laid for defining more appropriate health budget policies in the context of over-all development.

Financing and investment requirements in the health sector bearing in mind total needs and their ranking

In most of the countries of the Region the prospects for change in the present distribution of income and levels of living of the economically active population, especially of that portion of the population

engaged in primary activities, show that considerations for the selection of the above-mentioned objectives for the health sector tend to be prolonged, while expansion and extension of the programs to segments of the population still without health services, particularly those in rural areas, will be essential and urgent. The granting of funds to the sector must permit more effective redistribution through the execution of the programs adopted.

The tendencies underlying this prospect are: an accelerated rate of population growth, and an insufficient increase in the rate of economic development in relation to that of population growth. These tendencies are reinforced by the slow growth of agricultural productivity and the concentrated distribution of income. Mention must also be made of the reduction of the net flow of capital from the more developed countries to the developing countries.

Although the general conditions mentioned are widely known, it is important to take into account their trends both because of their importance to the availability of total resources for the health sector and because of the fact that altogether they create a fundamental problem characterizing the socio-economic framework within which it is intended to achieve financing for the development of the present programs of health institutions.

In this framework are the constraints or bottlenecks which may be very important to the development of health programs and to the capacity to absorb new resources in various developing countries of the area. The specific characteristics of each country will determine the selection of the means or instruments as well as the financing required.

In this context the fundamental problems of financing the health sector are first of all the total amount of internal and external resources that can be channeled through the various mechanisms to this sector and the various ways in which they can be distributed among the various component institutions.

Of no less importance are the problems relating to decisions taken at the national over-all planning level with respect to consideration of the health sector in programs and policies for accelerating the over-all development of a country.

The most complex aspects for analysis and discussion of the most important problems (such as the determination of the level of fiscal resources and the amount of them that will be devoted to covering the budgets of the ministries and departments of health, contributions to the social security system and to other decentralized and semi-private public organizations in which health activities are carried out) are in the field of public finance.

An additional problem is how to distribute the various health programs among the various action levels of the public, central , regional and local sectors and financial supplementation among them. One of the problems that deserves special attention is that of the discretional powers in the disposition of funds at the various levels, with centralized supervision; or the centralized disposition, control, and supervision as a whole. Another is the continuity required for the flow of funds to accomplish the programs selected.

The expansion of state activity in the health field has had a number of implications for public finances, even in more developed countries. This expansion has been a positive factor in accelerating the development of the health sector. The increase obtained both in the national product and per capita income has made it possible for governments and individuals to increasingly participate in health costs. It is interesting to note that the rate of growth of outlays and activities of the public sector has been greater than that of private health outlays.

The administration of health services has differed according to government structure. Sometimes it is associated with education and social welfare at a centralized level where policies and national and regional budgets are decided. Sometimes state, provincial or departmental governments not only have a hand in administration and financing but also define their own systems. Federal systems have also been developed as systems of payments or transfers, which generally flow from the central government to the periphery, although the funds may also flow in the reverse direction. As a rule, the local levels within a federal government system are not self-supporting, their deficits being augmented by transfers from state and federal governments. There are few countries in which the three government levels have well-defined and coordinated spheres of action that obviate overlapping in their service areas and consequent wastage of resources.

Some countries have developed various systems of voluntary health insurance which fail to cover the lowest income groups. Even the systems based on contributions by the population and subsidies from the governments have encountered serious difficulties in extending their coverage to indigent groups because of the lack of contributions.

In all countries, independent of their stage of development, the nature of the health services constituting individual and collective benefits to satisfy social needs has led to increasing participation of state activity in producing them and in determining, according to present needs and available resources, the kinds and amount of services with which the population is provided.

Actual transfers by governments to the health sector through the ministries of health and social welfare, social security systems, and other subsidized agencies occupy an important position, and in some

countries constitute large amounts of financial resources rising to considerable percentages of the total budget of the public sector. This means that the total contributions to the various health agencies and institutions, although they differ by reason of the particular forms of financing and by the relative value of the state contributions of the private sector, receive fundamental consideration in the priority of financial resources, both public and private, which is established for the general development of the country.

In addition to health services provided by social security systems, the transfers made through the cash benefits which must be valued and programmed, are extremely important. This should make possible a more accurate projection of the actual costs and benefits which the various population sectors support and receive.

Potential for increasing resources

The amount of financial resources to be channeled to the health sector will depend upon the main objectives of government activity with respect to the stabilization and acceleration of development, maximization of efficiency in the use of funds, and changes in the distribution of income. These are basic considerations in deciding on the amount of funds to be assigned to the various agencies and institutions in the health sector for a specified period since they determine limits both for transfers, current allotments, and expansion of resources.

The public sector will more accurately base its decisions on channeling resources through established mechanisms to the health sector if it has the data to ascertain the objectives pursued by the various components of the sector, the consistency or complementarity of those objectives; alternative ways of achieving them, estimates of the economic and social cost of achieving each objective, and the effect upon and benefits for the other sectors.

Lack of communication and therefore of coordination of health sector institutions, lack of proper information, and pressure to achieve priority positions may result in inconsistency in the partial goals or in the subordination of some to others in such a way as to prevent their integration with the common objectives which must characterize the sector in its orienting function and in decision-making in the field of public finances for health activities.

Programming of health sector investments

Investment programs to extend and replace the health infrastructure in the countries of the Region generally are not defined in terms of financial availabilities; they do not provide for organizational resources, manpower, material resources, and budgetary funds of the institutions necessary to cover the cost of equipping, operating and maintaining that

infrastructure; nor are they based on the maximization of benefits for the population.

The situation noted may lead to incomplete investment programs, with consequent pressure, arising from unsatisfied demand for health services on the part of certain groups, and immobilization of resources that reduce the allotment for other purposes in the sector itself or of other activities at the national level.

V. SOURCES AND METHODS OF MOBILIZING RESOURCES FOR FINANCING HEALTH SECTOR INSTITUTIONS

The sources and methods of mobilizing internal and external resources for the health sector are defined by their positions in the public, semi-public or private sector. Consequently the sources are found in public budgets; in individual incomes or in the income of private undertakings; in the means for mobilizing resources in the field of national and international public finance; and in methods of mandatory financing of social security systems and in methods of motivation which promote individual preferences and the decisions of businessmen to pay or contribute to private services.

The great variation of position of the health sector in the countries of the Region and the structuring of institutions and functions corresponding to them is summarized in a table[1/] showing current methods of financing health institutions. They show different arrangements in the countries depending on economic, political and social conditions. This table attempts to identify the characteristics of the specific cases systematized.

This analysis does not pretend to encompass all the implications of so complex a problem or to include all the possible variations in financing methods used in the Region. It only emphasizes the general characteristics which make it possible to define basic systems, the usual ways in which they are presently applied, and the potential factors that might be developed in order to satisfy the growing financial needs of the health sector.

Financing schemes

There are several approaches to the problem of financing the health sector. In the table the first part includes a classification of the basic health sector institutions (Column 1), methods of internal financing (Column 2), sources of internal funds (Column 3), mechanisms for mobilizing internal resources (Column 4), sources of external funds (Column 5), mechanisms for mobilizing external resources (Column 6).

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1. See Table 1.

COMPARATIVE TABLE OF BASIC SYSTEMS

OF FINANCING THE HEALTH SECTOR - 1969

1 Basic components of sector	2 Method of financing	3 Sources of internal resources	4 Mechanisms for mobilizing resources - internal	5 Sources of external resources	6 Mechanisms for mobilizing resources - external
1.1 Ministries and departments of health; national health services	2.1 Budgetary indirect	3.1 Fiscal capacity of productive structure; budgetary considerations. Monetary and credit policies	4.1 Public finance techniques at national, regional, local levels	5.1 External assistance of international agencies	6.1 General internal loans policy and external assistance of international financing agencies
1.2 Social security institutions	2.2 Mixed: Tri- or bipartite, indirect and direct; mandatary, capitalization, distribution	3.2 Budgetary capacity of state sector and ecomic capacity of employers and of contributors covered	4.2 Legislation and financial and administrative policy with respect to coverage of risks, population covered, and geographical extension	5.2	6.2
1.3 Other public decentralized and semi-private institutions, including universities and medical schools	2.3 Mixed: Budgetary and private contribution; indirect or direct	3.3 Fiscal capacity of contributory population and of the private sector affected	4.3 Techniques of public finances and for motivating the private sector, at various levels	5.3 External assistance of international agencies	6.3 General internal loans policy and external assistance of international financing agencies
1.4 Water and sewerage authorities	2.4 Mixed: Budgetary indirect and direct sale of goods and services	3.4 Budgetary considerations of the public sector and economic considerations of users	4.4 Budgetary techniques and structure of quotas for users of services	5.4 External assistance of international agencies and long term pay projects	6.4 General internal loans policy and external assistance of international financing agencies
1.5 Other public and semi-private agencies providing health services in addition to their specific functions	2.5 Mixed: Budgetary at national level, indirect and direct	3.5 Budgetary and internal considerations	4.5 Internal budgetary techniques and motivation of public sector	5.5 Foreign aid of international agencies	6.5 General internal loans policy and external assistance of international financing agencies
1.6 Private institutions (Red Cross); private medical care and charity hospitals	2.6 Mixed: Public subscriptions and direct payment for services or free services	3.6 Private. Public subscriptions and philanthropic funds	4.6 Psychological motivations: individual value, cost-benefit, cost-effectiveness	5.6	6.6

Methods of financing (Column 2)

In the health field the method for financing the public subsector is basically indirect and by the state. It may be mixed in semi-official or semi-private agencies, and participation in the public budget, whether complete or partial, is determined by the pertinent legislation with arrangements specified by the public authorities in the various countries.

Sources and mechanisms for mobilizing internal resources for institutions in the public subsector (Columns 3 and 4)

Institutions in the public subsector are primarily financed by public funds. The amount of budgetary funds assigned to these institutions is determined by national considerations. The various elements influencing such decisions are:

Availability of funds

- fiscal
- monetary
- credit

Order of priority of national problems and determination of objectives for planning purposes

Transfer capacity and redistribution policies

- between sectors
- within sectors
- between areas
- between time periods
- tied

Potential capacity for increasing funds

Availability of funds

Usually national budget estimates are compared with the availability of government resources.

The increasing adoption of program budgets tends to integrate long term health planning activities in the public sector and the planning of specific activities in consideration of the annual budget. This has

meant greater interest in improving methods for evaluating costs and benefits of the programs proposed. Cost-benefit analysis and cost-effectiveness analysis with respect to the application of health programs is a broad field for research which may contribute to the proper location of the sector in the scale of priorities of national resources for budgetary purposes.

In some countries there is an awareness of certain shortcomings in program planning budget systems because of lack of data for evaluating the quality of those budgets. Consequently the need to supplement quantitative analyses with additional information is becoming general.

Generally speaking, health activities present certain difficulties for these considerations at the national budget level because of the collective nature of part of the goods and services produced; of the continuity of the financing which calls for the execution of its programs and the multiplier effects of the benefits produced by them over various years. Despite the fact that they are tangible, these are not quantifiable and extend beyond the annual period generally used for estimating costs and benefits in government budgets. The budgets suffer from certain constraints both in application of cost distribution criteria and in winnowing of benefits.

Ranking of problems at the national level

The amount of government revenue assigned to the health sector poses a number of problems arising out of the national interest and attributed to health services, and from the need to make a proper distribution of resources in accordance with activities and administrative capacity of the various levels of the political structure, various productive sectors and various health sector institutions.

The budgets for health institutions are rarely based on the overall objectives of the sector, in consideration of their value in sectoral and global planning.

There are serious problems in determining the order of priorities and the distribution or specific application of programs of the various health institutions - such as lack of statistical information and its proper analysis, and difficulty in making quantifiable evaluation of program results. Even though considerable advances have been made in this field, improvement in the method of correlating phenomena or the important variables is still a broad field for research.

There is the problem of establishing the necessary mechanisms for achieving institutional distribution of resources that will guarantee their supervision and evaluation. Furthermore, the channeling of funds to various components of the health sector must be analyzed in the light of considerations of total policies adopted to promote the development of a country.

In most of the countries of the region there is insufficient budgetary flexibility to allow changes to be made that are needed to increase the efficiency of various health activities. And in most of the countries no incentives have been set up to encourage efficient use of the money available.

Monetary policies

Monetary policies chosen to increase the availability of money through the central bank can present serious problems both for developing countries and for developed countries because they unleash inflationary tendencies which are difficult to control and which have considerable impact as a causal factor in another series of economic phenomena. However, in some countries they have enabled the channeling of resources to accelerate specified activities in the field of social policy: in housing for low income groups and in food programs for low income groups.

Credit policy

Credit policies that may be adopted to increase the amount of money available for the health sector involve partial transfer of the financial burden from present to future generations and require measurement to estimate the actual capacity of these to pay. Nevertheless, this instrument can be very useful in satisfying present needs in terms of expected development if it is applied to a set of carefully established priorities.

Transfer capacity and redistribution policy

It is important to determine a country's capacity to make the transfers required by income redistribution policy to be implemented through welfare programs in general and health programs in particular.

Obviously the health services delivered to beneficiaries of various public programs increase the real income of the recipients. If progressive fiscal measures collect and transfer the money coming from the social strata that pay higher rates of taxes to those with lower incomes, the transfers may constitute serious limitations if they reduce the possibilities of accumulating investment capital or increase the cost of the factors of production in countries whose basic development goal is to modernize their productive structure.

Lack of resources in the face of the multiplicity of urgent needs makes it necessary to choose one of several alternative ways of increasing funds and to examine the possibility of those transfers that will optimize benefits, which is a constant challenge to public administration.

Studies of the actual economic capacity of various productive sectors based on a knowledge of the effective retributions to factors of production in conjunction with current levels of prices may provide

important additional data for determining the burden of the direct or indirect charges, fiscal or otherwise, which specified sectors already bear. In the same way those studies may provide very valuable additional information for defining and determining the possible margin for a restructuring of taxation, for the evaluation of probable reactions and effects of transfers in the various sectors of the population.

The capacity to make transfers through the fiscal structures and policies in some of the countries of the Region, their degree of progressiveness and their impact on actual effects, the advances achieved in incorporating them into integrated policies and the level of the fiscal resources in relation to the gross national product indicates the possibility of increasing the efficiency of mechanisms for adding to available resources and the redistributory effects of transfers. It is unlikely that this can be achieved to the extent, and with the speed, needed for solving the general financial problems of developing countries and especially for satisfying the expanding health needs.

Redistributive effects between and within sectors

The redistributive effect achieved through mechanisms essentially supplementary by nature to fiscal policy which is generally located in all components of the health sector, and especially in social security systems, clearly acquires an additional dimension if its benefits are realized in relation to the structuring and taxation efficiency and in the light of their combined effects on income, consumption, investments, and social welfare. Fiscal policy may be aimed at depressing or stimulating one or the other, depending on the general development policy of the country. A problem common to most of the countries in this Region is the need simultaneously to achieve various economic objectives such as internal capitalization; to increase investment and the strengthening of consumption markets; stabilization of price levels and real wages policies; as well as a broad social policy in education, health, housing and nutrition with consequent pressure on the availability of resources.

This implies a selection of priorities to be defined in terms of the policies adopted and the magnitude of the internal pressures exercised by different sectors and their component institutions.

So far there are no accurate studies for determining to what extent the various health sector institutions contribute to general development policies and which should be given preference in the assignment of financial resources. Nor have estimates been made of the resources used or of the quality or efficiency of goods and services produced by the various health institutions in relation to the magnitude and needs of the populations benefitted.

Transfers between time periods

The possibility of deferring current payment for the production of goods and health services by means of credit facilities may also mean the transfer of payment from one generation to another. This is the case of investments in installed capacity in the sector which has been initiated by earlier generations, received, enjoyed, and perhaps paid for in part by present generations who in turn increase investments in infrastructure by transferring the burden to future generations. They will also receive the legacy of all investments made in earlier periods and will only pay a part of the deferred cost and another, proportional portion of the current investments decided upon.

Transfers between territories

The proportional part of the budget assigned to the public health subsector for production of health services poses a set of problems relating to allocation between various levels of a country's political and economic structure which may coincide with certain territorial subdivisions.

The most difficult problems arise in federations in which the central level of federal, state, departmental, or provincial power is separate from that of municipalities or localities.

Public finances tend to incorporate among their objectives a basic redistributive or compensatory policy for local economic capacity. However, not all countries have established mechanisms which ensure the application of resources obtained by central and/or state governments to the programs and services it is intended to develop at the third level of municipalities and localities, leaving a considerable part of the marginal population to benefit from redistributory budgetary policy oriented at the centralized level. In some cases funds are allotted to specific programs and activities which directly benefit the population of smaller localities.

In all the countries the services to be channeled through the public subsector should reach national coverage with respect to comprising all the territory and all the population.

Because of their nature, certain functions will be carried out by central authorities who can achieve the integrated approaches required. But the characteristics of most direct health services show not only the advisability but also the need of being produced and administered at the local level where there is a better knowledge of the ways of solving problems. This is one of the most cogent arguments for the decentralization of certain health functions.

In social security systems the geographical distribution of resources depends on the number of members and the local dues collected. In some

cases a compensatory policy is applied by means of which the surpluses arising from operations in certain regions are transferred to deficit areas.

International health programs are one of the most efficient means for transferring interterritorial incomes in which frontier limits tend to disappear in order to achieve effective utilization based on the principles of solidarity and on community of interests of the American peoples in obtaining their health goals.

Tied transfers

Other financing mechanisms consist of transfers, subsidies, and tied grants. In this type of transfer the recipient body happens to put up an equal contribution of its own funds and to earmark it for carrying out activities previously decided upon. The conditions governing these financial contributions may mean that the recipient body becomes responsible for applying them and can exercise its discretion with respect to the guidelines issued by the central authority.

This transfer mechanism differs from the common practice of earmarking specific tax incomes for purposes or activities determined in the same way, which, because of the dynamic nature of health problems, usually becomes an important constraint in the optimum allocation of resources.

Another type of tied transfer, although uncommon, is that which is made as an incentive to internal efficiency in the recipient agency. The amount of the transfer is proportional to the level of productivity. When obtained, this type of tied subsidy can function as a mechanism for supplementing the distribution of fiscal income.

Methods of compulsory financing of social security institutions

Most of the national, state, or provincial social security systems have three sources of financing: contributions from the state; from workers; and from employers. These contributions are mandatory. These systems may also have two sources of income, as for example in the case of state or parastate undertakings and decentralized agencies. Bipartite systems have been established on the basis of a collective contract providing for social security by means of a labor contract with the undertaking, or of the undertaking with its employees. The direct or indirect nature of financing depends upon the share of the undertaking in the public budget and its proportion in the total financing.

With respect to the financial organization of social security schemes it is also advisable to distinguish between long and short term financing by type of the branches of insurance.

Short term. Short term insurance is for sickness, maternity, or occupational hazards. That of maternity is usually based on a system of

simple distribution and generally is an additional social security reserve to take up fluctuations in income and outlays. Occupational hazard is preferably financed by a system of distribution of constituent capital in which a balance is established between income and outlay during the financial period, the constituent capital for benefits in the year being charged to annual outlays. There is also a mixed system of capital distribution of pensions for permanent invalids and survivors and a simple sharing of other grants.

Long term. For long term insurance or invalidity, old age, and survivors' pensions use is made of various financing systems, ranging from that of a standard half allowance or collective capitalization and various mixed systems up to that of distribution.

Sources and methods of mobilizing resources of social security institutions (Columns 3 and 4)

That part of the health sector consisting of social security institutions receives part of its resources from public funds in form of subsidies or contributions in accordance with the appropriate legislation. In the case of a national system with a tripartite financial basis the state of contribution is fixed in the light of specified criteria for the participation of the three sectors.

General financing or the number of the sources of total resources channeled to this component of the health sector will depend on both internal and external factors. Internal factors are, first, the organization of social security systems with respect to the relations existing between their structures and juridical, administrative, and financial functions, and the degree of coordination between the various schemes which may coexist in a country. As appropriate relations are achieved, the finances of social security schemes improve. Other internal factors are methods of coverage (whether they cover in full or in part the contingencies that affect the insured person and his dependents) of policies adopted with respect to geographical extent (predominantly urban sectors and the proportion of their protection given to rural communities). The policies adopted with respect to coverage and geographical expansion will undoubtedly be based on concepts, methods and specific programs adopted by the various social security systems in accordance with the degree of development achieved by them.

External factors are difficult to classify because they arise in the internal structure of the system and their application to external conditions is conditioned by the modalities of the specific reality with external medium of application. This is clearly shown where the structure of allowances is determined internally by class and by degree of risk assigned to the various economic activities which will undoubtedly depend on elements in the external medium of the systems such as the nature of the productive apparatus, the activities covered, the proportion of the

work factor in them and the number of workers employed, their wage levels, their geographical concentration or dispersion, the efficiency of the administration of the social security system for labor-management membership and for the collection of dues. Also of importance are other incomes resulting from the internal capital policy and investment of reserves and gifts and private contributions.

Insofar as social security systems operate more efficiently for large sectors of the population as supplementary mechanisms for redistributing income, being identified with the redistributive goals of other policies adopted at a national level, the resources channeled to those institutions will be justified.

Of course when social security systems are uncoordinated, problems of integration, coordination and administration are reflected in their finances and less use is made of the resources involved and there is a consequent reduction in the productivity and extent of benefits.

A less complex method of financing is that in bipartite social security systems such as those organized for specified groups of workers and for members of specified trade unions or various workers' organizations. It is important to ascertain whether the share of any of the parties receives a contribution of public funds in which case the above-mentioned considerations in connection with financing of the public health subsector are valid.

With respect to the direct contribution of the beneficiaries it is essential to clear up the relative importance of the charges for social security at various levels of income.

Methods of financing the private subsector (Column 2)

Methods of financing institutions in the private subsector may be mixed with respect to the form of individual or collective direct payment of the incomes received from the private sector.

Sources and mechanisms for mobilizing resources

The contributions, fees, or direct payments made by individuals in exchange for specified private or semi-private health services depend on personal considerations reflecting scales of preferences, particular interests, the availability and knowledge of existing services with respect to those that are required and the quality of them. Depending on the size of the need and degree of urgency for medical care it is deemed desirable to use specified services and to pay for them in part or in whole within individual or family budgets, bearing in mind possible alternatives with respect to the estimation of the relative costs this will mean for the individual and the benefits that he believes he will receive.

Anticipating that he will need medical services in some undefined future, a person may spontaneously and regularly contribute to certain private institutions and pay in advance in part or in whole for the cost of the services of particular interest to him. Also certain groups or associations of private medical practitioners in various specialties join together to offer a wide range of medical care services which are supported by the payment of regular quotas of their associates.

This type of financing sometimes brings money to health areas or activities which are not always those considered to be national health problems and results in the pledging of resources and the reduction of their total responsibility for the sector.

Source of external resources (Columns 5 and 6)

In most countries the public health subsector is the channel for jointly carrying out certain health programs financed by international agencies and by their own governments.

It is, therefore, of great interest to examine the multinational mechanism for redistributing income at the international level by means of the financing and the conduct of health programs.

The institutions in this subsector may make bilateral or multilateral loans for the financing of their investments in the construction of hospitals and other facilities for providing preventive and curative medical care and for installations, instruments and equipment for the education and training of personnel and other related purposes.

Some decentralized and semi-private agencies (including universities and medical schools) which for the purposes of this paper are considered to belong to the public subsector are also in a position to receive external funds for the financing of their health programs, especially for conducting health programs of international interest.

VI. EVALUATION OF THE OPERATIONAL CAPACITY TO ABSORB ADDITIONAL FUNDS

The notion of "capacity to absorb" additional funds when applied to the health sector may be interpreted as the aggregate of prerequisites which must be fulfilled in order for a country to be able to use an increase in funds intended for increasing investment in the best possible way in the health sector. The notion covers all those elements which are required, other than capital, to increase the production of goods and services in the health field. The aggregate of factors is defined in relation to the particular situation in each country which generally is associated with the conditions of the health sector infrastructure.

In the same way capacity to absorb is related to the manpower needed by health plants and its anticipated growth or the knowledge of the level

and rate of growth in the training of specified personnel by groups and in relation to the balance which must be established between the provision of various types of personnel, and the various types and optimum sizes of health units.

In order to evaluate the productivity and capacity of absorption it is essential to have methods for measuring levels of efficiency in administration, accounting, and financing and the volume and quality obtained in the production and distribution of goods and services. In light of those factors the "optimum internal effort" is defined.

Clearly attempts must be made to achieve optimum use of investments in various components of the health sector with the most rational use of manpower and the adoption of modern techniques of administration and finances and better coordination and integration of the functions derived, in order to increase the quantitative and qualitative level of the goods and services produced by the component sector institutions. Once optimum possible solutions for achieving optimum productivity with internal resources have been exhausted, it will then be legitimate to seek additional capital. In that situation an attempt to increase the level of funds needed to obtain an increase in the goods and services desired may be justifiable.

For this reason it was of great interest for each country to explore the degree of efficiency in the utilization of its health plant, manpower, equipment and materials at a specified time in order to determine the level of the optimum internal effort being made before attempting to channel additional financial resources for the sector. The efforts of a country must tend to achieve by means of all possible techniques the best utilization of existing resources and the provision of additional factors needed for maximum utilization of new capital contributions.

Optimum utilization of health sector resources in a given period may depend on factors beyond the control of the sector. The existence of communication or transportation networks in the areas of application, the number and level of the education and training institutes, psychological attitudes of acceptance, resistance or rejection of those that give and those that receive services and goods, other geographical, climatic, demographic, cultural, economic and political factors may accelerate, impede or hinder optimum use of resources in the health sector and will have to be considered in evaluating the internal effort being made or which it is intended to achieve.

The countries in this Region are aware that economic and social progress is a responsibility of their peoples and that the achievement of national and regional goals will basically depend on the effort made by each country. This results in greater cooperation, coordination, and harmonization of policies and programs, both national and international, which are considered essential for supplementing their own effort, for the mobilization and optimum use of national resources.

At the present time most of the international financing institutions, whether bilateral or multilateral, are making priority in the award of loans or foreign aid dependent upon the maximum internal effort realized or in process of realization, absorption capacity, and the interest and effectiveness with which planning is being applied at all levels of the national governments.

VII. PLANNING OF SOME FEASIBLE PROPOSALS FOR EXPANDING THE FINANCIAL BASES OF THE HEALTH SECTOR

External Financing

The deterioration to be observed in the conditions of external financing received by the underdeveloped countries from the most advanced countries in the Region shows how urgent it is to review these conditions in order to determine possibilities of modifying them.

The growing need for resources needed by those countries for achieving sustained general development particularly for their health goals shows the advisability of reviewing external financing mechanisms in order to supplement and activate the potentiality of their internal resources.

In the 1960's, data relating to the gross national product in the less-advanced countries in the Americas show that the average rate of growth was about 5 percent. The rate of increase in imports, investment, and public service needs, especially health needs, was in many cases greater than the increase in the national product and implies an additional internal effort in order to increase resources. The usual mechanisms employed are increases in exports, in domestic saving, and in tax revenue. However, at the present time, for most of the countries the world market conditions for their traditional exports are such that future expansion seems unlikely. With respect to an increase in private savings it does not seem likely with the present pattern of income distribution and the present level of income for most of the segments of the population that there will be any significant private internal capitalization. On the other hand, there is a positive difference in the public sector, between the rate of increase in current income and expenditure, which has meant an increase in the funds available to the central governments for some of their infrastructure investments. However, the general rate of national saving in the Region tends to decline.

Some idea of the potential capacity of the internal effort may be gathered from the fact that 93 per cent of the gross regional investment was financed with domestic savings, even though investment has declined as has the flow of foreign aid.

Notwithstanding the fact that tax income shows a slightly higher tendency than the gross national product, and an increasing proportion of it is accounted for by income tax, it is unrealistic to expect the solution

of problems of health sector financing, in the size and with the rapidity needed, through fiscal reform because of the problems involved in implementing and administering such reform.

Financial assistance requirements for the purpose of the health sector will vary depending on the stage of development of the countries. Those at the least advanced levels generally need more technical assistance in planning the development of their sectoral activities and in evaluating the maximum "internal effort" they can achieve; as well as in determining the capital contributions needed in relation to the "capacity of internal absorption of the sector".

As the countries make progress, they may find themselves in a situation where they have less need of foreign technical aid since such aid is not needed when local technical knowledge increases. As for the need for capital these countries are in a better condition to repay the loans offered on more commercial terms than before.

There is no doubt that all the countries are becoming increasingly aware of their participation in greater or lesser extent in world development and of their responsibility to contribute to it according to their possibilities.

It is also clear that changes have been introduced into the concept of the kind of development desired by the countries, of the narrow limits of nationalism and of the purely economic field having been left behind as the idea of interdependence of the economic and social structures of a country and of the interdependence of countries themselves has spread.

This is shown by the international financing agencies that have been set up and the attitude of governments today to national and regional planning.

Most of the international financing mechanisms were clearly set up to satisfy the need for foreign funds of developing countries, at a time when economic objectives were given first priority at the expense of social policy and its financial requirements.

As for the capacity of the various countries it has been shown that in a good number of them the potential is greater than the present use of funds, and is capable of being increased by a greater internal effort coupled with appropriate financial and technical assistance from abroad.

Because of the recent hardening of the general conditions for external financing it is advisable to examine it in the context of the internal prevailing conditions both in the capital providing countries, since these conditions affect their "offer", as well as in the requesting countries, since they determine the actual requirements and the capacity to absorb and repay. By means of analysis of the conditions in the donor and

requesting countries it will be possible better to adjust the availability and conditions for resources in international capital markets and in financing and external aid policies.

One of the problems involved in policies of long term foreign aid for health programs both for countries that provide it and for those that receive it is the fact, stated above, that there is no satisfactory way of measuring progress achieved through financing health programs and the effectiveness of the short term partial successes. The results and changes desired in certain institutions, in the population structure, in productivity, in health and welfare of the population, usually require relatively long periods before they manifest themselves.

Even in some of the more advanced countries, with high incomes and national products, the amount of foreign aid allocated as a percentage of the gross national product is declining. The factors responsible for this change in foreign aid policy include balance of payments, redistribution of income, inflation, unemployment, etc. These problems indicate internal situations which may be used to impose restrictions on foreign aid to the less developed countries. Consequently, it is important to diversify possible sources of capital for the purpose of development and to find practical ways of actually transferring resources from most appropriate sources and on conditions compatible with the long-term needs of the countries in the Region and in particular health needs.

The following basic criterion tends to govern the need for greater inter-American financial cooperation for health purposes, supplementary to the internal effort as defined above:

- That the funds constitute a net transfer in appropriate amounts in a sustained fashion and are awarded in accordance with priorities fixed by national health plans and policies which have been incorporated into general development policies of the country.

In the same way the expansion of inter-American multinational financial cooperation for the achievement of health goals of the various countries will be achieved in accordance with the programs of the countries.

With respect to a situation in which the use of credits is tied on such conditions that the capacity to pay and the internal effort of lesser developed countries is exceeded, it is deemed advisable to consider the possibility of creating new effective mechanisms for liberalizing external credit with appropriate rates of interest, repayment periods, kind of currency for repayment, grace periods, amounts needed by the various components of the sector, taking into account the specific nature of the production of goods and services and also the pluri-annual nature of some of their projects and programs.

For that purpose it has been thought advisable to use some additional mechanisms which for the most part do not involve rates of interest lower than those prevalent in the international capital market, preferably short or medium term loans, repayment in hard currency, and certain economic activities considered to be financially sound.

The proposal to set up a regional fund for the financing of health sector investment requires an analysis to determine how it is to operate on bases different from those of the present machinery for the award of credits, with a new direction based on the actual financing needs of the sector and its present limitations in operating in a satisfactory way.

The fundamental problem in the creation of a regional fund is the constitution of its resources or how to determine the contributions of each country and the establishment of a mechanism for awarding conditions which are not governed by market incentives for the repayment of the credits granted. For this purpose it is important to analyze the ratification and use made of the provisions of the special drawing rights of the International Monetary Fund and the possibility of expanding the resources of other existing mechanisms which have special funds awarded on more favorable conditions for general development goals including health goals, and the exploration of new sources and mechanisms.

It is clearly advisable that financing be multilateral with a view to achieving international distribution of resources, based on principles of solidarity aimed at assisting the less affluent countries, and that both the donor and the recipient countries review their internal fiscal, monetary and credit measures so as to recommend those considered more appropriate in accordance with their own conditions both for contributions to funds and for the repayment of the loans obtained.

In the same way it is advisable to study the viability of adopting financing mechanisms which permit the achievement of two types of objectives simultaneously. One, economic, which must be paid back and others of a social nature which are attractive for certain capital exporting countries that wish to increase the export of certain goods which may be required by the recipient countries who are desirous of promoting their health policies. In this recent type of credit operations, having sectoral support by means of which certain agencies have awarded loans for the partial financing of capital costs planned by ministries of education in some countries in this area, the institutions receive an open line of credit in a bank in the donor countries which constitutes an available asset for which right of disposition is transferred to the central bank of the recipient country; this bank in turn makes available to the institution involved the equivalent sum in local currency to be spent locally. The additional advantage of this type of operation is that it alleviates the balance of payments situation by increasing the availability of foreign exchange for financing the import of specified goods agreed upon beforehand.

These external financing mechanisms could be used for strengthening the health infrastructure and for manpower development. It is important to continue the systematic investigation of the possibility of developing or using these mechanisms for the financing of the health sector.

Internal financing

With respect to new arrangements that may be adopted in direct and indirect mechanisms for mobilizing internal funds, these fall in the field of public finances and the private sector.

In the first place it is important to examine to what extent it is possible to increase taxes without affecting the necessary incentives in specified activities for the development of the country. In the same way it would be interesting to make studies to determine the possibility of assigning the product of certain special taxes for financing the health sector.*

Further studies should be made to ascertain to what extent it is possible to encourage or promote the expansion of the present direct contributions and new indirect contributions, such as those that can be channeled through the banking system which can direct to certain activities a proportion of the saving deposits which already show a tendency to increase in these countries. The central bank could issue instructions to the effect that a percentage of those funds shall be earmarked for social loans on special repayment conditions. The feasibility of such mechanisms for fostering housing for low income groups and for programs has already been demonstrated in one country in the area. This type of central bank regulation affects the amount of the debit of savings accounts in that it is represented by loans for housing for low income groups with mortgage guarantee, or by mortgage bonds intended for loans of the same kind.

In order to strengthen food programs, it is possible to earmark the amount of the debit of savings account in the way indicated, awarding credits to some organization responsible for maintaining prices to producers and consumers of certain foodstuffs in accordance with the food policy adopted.

Another internal solution aimed at making optimum use of the resources available for the health subsector in line with the idea of achieving optimum internal effort is that of coordinating the health, welfare, and social security activities carried out by the secretariats, departments of state, decentralized agencies and undertakings belonging

*Do not confuse with special taxes earmarked for certain health goals or programs which mean constraints that may make it necessary to continue certain programs at a fixed cost level, even though their justification or priority has expired.

to federal governments, and those of other bodies engaged in health activities in whose financing the state participates.

For this purpose some countries have coordinated social security institutions with ministries of public health and social welfare and others have established unified national health services coordinating all the agencies and bodies in the public or parastate sector engaged in health activities.

Problems connected with this effort to obtain better investment and administration of the resources of the public sector devoted to health purposes is related to the level of the quality of the services and the goods produced, with respect to the superiority of those provided by one institution as opposed to another and the areas or sectors of the population they serve. This in turn creates financial problems in determining how the available resources are to be channeled and used.

In some countries social security institutions have been considered best fitted for collecting financial resources because of their mandatory nature and because they already have mechanisms for collecting quotas.

In other cases there is a unified national health service financed with resources from the national budget which takes institutional distribution into account in accordance with the estimates presented in which the importance and requirements of the agencies and bodies included in the public health sector have been considered.

To assess the feasibility of setting up a unified national health service it is necessary to make a thorough and detailed analysis of the problems involved in financing and coordinating public health, welfare, and social security activities. Some countries have already set up committees of study groups to study the problems involved in the institutional coordination of the sector and their specific mechanisms for their implementation.

As these studies contribute to the achievement of more consistency in the coordination of activities aimed at achieving an extension of services to broader sectors of the population with better quality and more efficiency, support will be given to the desirability of unified health plans, based on national policy aimed at maximum utilization of the national resources available for achieving sectoral goals within the context of the total requirements for general development.

Annexes

I. FINANCING SANITARY ENGINEERING PROJECTS

1. The problem
2. Objectives and goals
3. Needs for investments: projection for 1971
4. Sources of funds
5. International credit agencies
6. Lending policies
7. Procedures for loan application and administration
8. Technical assistance
9. PAHO's role in financing sanitary engineering projects

1. The problem

Even though the title of this paper covers the broad spectrum of sanitary engineering projects, its comments will be directed mainly to the outstanding problems in this sector: water supply and sewage disposal. The countries themselves have established a list of priorities in the long row of public utilities needs, recognizing that water supply should come first, for it is generally accepted that "a safe and adequate water system is, in most instances, the single most important measure which can be taken to prevent disease and at the same time to improve the standard of living of people."

Figures for December 1968 show that of a total population of 265,989,000 in Latin America, 44 percent was served with water by house connection or easy access and 22 percent of the population was connected to or had easy access to sewage disposal systems. There remains a high incidence of morbidity and mortality due to enteric diseases, most of which are considered to be water borne.

Very few countries are building new water and sewerage systems or are expanding existing ones at a rate higher than the rate of growth of the population. As pointed out in the WHO Chronicle of September 1968, "although it is difficult to produce statistical evidence in support of this statement, the experience of the governments and agencies concerned indicates that today more people are in need of an adequate water supply than a few years ago."

An awareness of the problem is evident, particularly in the rural areas where the situation as a whole is becoming more difficult every day. At the same time, sanitary engineers are conscious of the availability of the technological tools to solve the problems. Efforts are being developed to simplify, standardize and increase the rate of construction of new systems in the rural environment, so that in the near future more people will be served in less time with smaller investments. However, water supply and sewage disposal technology is but one aspect of the manifold complex involved in national, regional or local programs.

Dr. Abel Wolman, the eminent professor of the Johns Hopkins University, recently commented on the basic ingredients of any successful sanitary engineering program:

Manpower
Money
Management
Motivation

He thus simplified what is normally considered the seven pillars of water supply and sewage disposal: technology, administration, management, financing, legal, economic and social aspects. If any of these supports fail, the program will be endangered.

2. Objectives and goals

The general objective of the program in Latin America is the provision of the benefits of water supply and sewage disposal services to the greatest number of people at costs which are in balance with the social and economic realities of the people served. Mr. Harold Shipman, Chief Engineer of the Water Supply Division, Public Utilities Projects Department of the World Bank has said: "As a long range objective, it would seem reasonable to suggest that in every country of the world, all people should have access to a source of safe water for drinking, cooking and personal hygiene and that the disposal of body and household wastes should be by methods which are neither injurious to the public health nor destructive to the environment. Ideally, this would mean potable water piped to each home, and with each home equipped with plumbing which is connected to sewerage systems that conduct the liquid waste to treatment plants for ultimate disposal or re-use. It is obviously impractical to establish a goal of 100 percent on-premises water service in urban areas for any time in the foreseeable future on a global basis. It is equally unrealistic to expect that each house can be equipped with inside plumbing connected to public sewers."

Each country should set its own objectives and goals, now that the end of the Alliance for Progress Decade is close. In doing so, it will be necessary to take into account the existing limitations in manpower, the financial and economic restraints and, above all, the operational capacity of the institutions which have the responsibility of the programs.

3. Needs for investment

The following figures are approximate. They represent a rough estimate of the capital investments needed in the field of water supply and sewage disposal for Latin America during the next 2-1/2 years. According to approved investment programs of the Latin American countries of this

Hemisphere an annual expenditure of 600 million dollars would produce the following results by the end of 1971:

Population served	Water	Sewerage
Urban	71%	42%
Rural	23%	3%
Total	49%	25%

In other words, 1.5 billion dollars should be spent by the Latin American governments in the next 30 months to build new water supply and sewage disposal systems, as well as to maintain and expand existing ones. Of this amount, 1,350 million dollars will go to the urban areas and 150 million to the rural communities. It is interesting to compare these staggering figures with those of the recent past. In the year 1962, 300 million dollars were spent; in 1966, 1967 and 1968 an average of 240 million dollars was used by the countries in their water supply and sewage disposal programs. National funds amounted to 150 million dollars every year and 90 million were provided annually by international credit institutions. If the same proportion prevails in the next 2-1/2 years, then the countries will have to provide each year 375 million dollars of their own national funds and 225 million dollars will have to come from international credit agencies. This means that financial operations will have to be stepped up substantially, both at the national and at the international levels.

It is also of interest to point out that in the last 3 years, 44 percent of funds for urban water supply and sewerage disposal were provided by international multilateral agencies, whereas international credit for rural programs corresponded to less than 11 percent of the total expenditure of the countries in this area.

4. Sources of funds

Even though very accurate figures are available for loans and credits of international multilateral credit institutions in the field of water supply, data is incomplete or inadequate for credits and loans of national governments, suppliers, bilateral agencies, states and municipalities. In most cases water authorities maintain a good record of funds generated from services rendered to the consumers. This is but a minor part of the money used by the institutions in their new programs.

The different government levels and suppliers make up the highest percentage of funds used in the water supply and sewage disposal programs, the central government being normally the most important contributor to the financing of the program. Fortunately, as noted by the IDB, "Current revenues of central governments have expanded at a faster rate than the Region's gross domestic product, indicating an increased capacity in the countries to mobilize domestic resources."

Statistical data about the contribution of bilateral financing sources is not complete. It is generally believed, however, that they represent a large share in the funds available for construction and expansion of water supply systems. Also it is expected that the multilateral investment agencies will absorb greater commitments in the near future, perhaps becoming more important than the bilateral agencies as sources of credit.

5. International credit agencies

The Interamerican Development Bank (IDB) is the outstanding international credit institution in the water supply field. The Bank was established in December of 1959. The first loan was made to Peru to finance the water supply system of Arequipa. Between 1961 and the end of 1968, 420 million dollars were provided by the IDB to finance 75 projects in Latin America. Twenty-two member countries sponsor this agency, whose main objective is to promote and orient, with its own capital and with resources from other sources, the investments which will stimulate, individually or collectively, the economic and social development of its member countries.

The World Bank and its affiliate, the International Development Association, are specialized self-supporting agencies of the United Nations. Their main purpose is to assist the economic development of the 100 member countries and, in doing so, raise the standards of living of the people. The Bank's main activities, besides loans for projects, are technical assistance and advisory services. The Bank is the executing agency for United Nations Development Program financed projects.

The Agency for International Development and the Export-Import Bank are institutions financed by the U.S. Government. AID promotes multilateral trade, technical assistance and economic development. EXIMBANK assists in the financing as well as in the export-import activities of U.S goods and related services.

Other international institutions such as the Canadian International Development Agency, UNDP, UNICEF and CARE have participated in water supply and sewerage programs of the Western Hemisphere with loans, grants and donations.

6. Lending policies

The following is a summary of the lending policies of IDB, WB, AID and EXIMBANK:

6.1 Interamerican Development Bank. The Bank makes loans to governments of its member countries, to any of their political sub-divisions or autonomous agencies, and to private enterprises within member countries.

It helps finance public and private projects which make a direct contribution to the economic and social development of the countries. In evaluating the projects it finances, the Bank considers the multiplier effects on the general economic activities of the country concerned, the assistance the project renders toward national development, the impact resulting on the balance of payments by replacing imports or increasing exports, the expansion of employment and the economic integration of the region. The Bank extends loans only for projects in which the borrower has made or will make a substantial investment from its own funds. Usually, this is one-half of the project cost, unless special circumstances justify a smaller portion. It does not finance projects which can be financed from private sources on reasonable terms, nor does it make loans for the purpose of purchase of established enterprises, for investment of corporate shares, for balance of payment purposes, for working capital or to suppliers. Its policy does not allow it to make loans for projects to increase the supply of basic commodities which are in world surplus.

6.2 World Bank and IDA. The lending operations of the World Bank are conducted on the basis of three main principles: first, that the borrower will be in a position to repay the loan; second, that the project to be financed is well designed and will be well operated; and third, that the project will be of such benefit to the economy as to justify the investment required. Economic analysis is at the core of the Bank and IDA operations. The Bank's economic analysis is a continuous process based on work at head office, visits to borrowing countries to gain first hand knowledge of their economics, and frequent contacts with the government and other officials. Before making a loan, the Bank satisfies itself that the borrower will be able to service the debt. The main consideration in arriving at a judgment on that question is the country's foreign exchange situation, because Bank loans are made and must be repaid in currencies other than that of the borrower. It also makes a general appraisal of the merits and priority of the proposed project. If satisfied on these points, the Bank investigates the project in detail, the plans for its design and construction, the economic and financial returns expected, and the provision for management when it comes into operation. The Bank seldom lends the total amount needed for a project. It normally limits its financing to the foreign exchange costs involved in the purchase of goods and services. Most local costs, often more than half the total, are met by the borrower out of other resources.

6.3 Agency for International Development. The lending policy of AID is based on the following criteria:

a) Financing unavailable from other sources.
b) Demonstration of economic and technical soundness of the project.
c) Contribution to the economy of the country.
d) Demonstrations of self-help by the country.
e) Effect on U.S. economy and balance of payments.

Loans are made in U.S. dollars or local currency to the Governments, which, in turn, relend the funds to national institutions. Whenever the cost of the project is above US$100,000, feasibility and technical studies should be made by U.S. consulting engineering firms or local firms associated with American enterprises.

6.4 Export-Import Bank. Basically the lending criteria of the EXIMBANK call for a reasonable prospect of repayment on the terms agreed upon. This means an extremely flexible policy, which can be adjusted to each case. Funds provided by the EXIMBANK are intended to supplement and not to compete with other financing sources. Governments and their agencies or corporations which have the support of the national government are eligible for loans.

7. Procedures for loan application and administration

7.1 Interamerican Development Bank. Upon receipt of an inquiry or request for a loan, the Bank enters into discussions with the borrower to develop the economic feasibility of the project, its position in priority for lending within the country, the size of the loan required, the total estimated cost of the project, including local cost and foreign exchange cost and the general viability of the entire operation. The project and the borrower are analyzed in complete detail by the Bank's staff or by specialists employed for this purpose. A complete review of the project is prepared by the staff of the Bank for the President for his action. If he approves, the project is referred to the Board of Executive Directors for action. The Board consists of seven members, one of whom is a representative of the United States of America. If the Board approves the project a definitive loan contract is then negotiated with the prospective borrower; the contract is finally signed and goes into effect. The amortization period for these loans varies from 12 to 15 years for certain ordinary capital industrial projects, up to 25 to 30 years for social development projects, which include the projects in the field of water. The interest rates on these loans vary from 2-1/4 percent for certain of the soft loans up to 7-3/4 percent in certain of the ordinary capital loans.

7.2 World Bank and IDA. There does not exist a uniform pattern in the procedures for loan application and administration in the World Bank. Nevertheless, there are standards which were established by the Bank as a consequence of the experience accumulated. These are described in the following paragraphs.

a) Exploratory discussions and preliminary investigation. Normally the Bank discusses informally with the prospective borrower the possibilities of a new loan, indicating the information needed concerning the economic situation prevailing in the borrowing country and also those pertaining to the project.

The processing of a loan request is a two-step procedure: first, the Bank studies the economic situation and prospects of the borrower, and the relation of the project under consideration to the economic needs and potentialities of the country. Then a critical examination of the engineering, financial and other aspects of the project is performed, having in view the establishment of appropriate conditions for the loan. Staff specialists or consultants are called upon to make a critical examination of the technical aspects of the project, as well as of the plans for the financing of the part of the project which should fall within the responsibility of the borrower.

b) Formal negotiations. Once the exploratory discussions are performed and the preliminary investigations are translated into a satisfactory project report, the Bank informs the borrower of its readiness to start formal negotiations for the loan. These procedures are then carried out by the staff which, in turn, advise the Executive Directors of the progress made. If the negotiations lead to an agreement about the project, the terms and conditions of the loan, all supporting documentation is submitted to the Executive Directors, together with the recommendation of the President for approval.

Several months pass before the borrower is able to effect the first disbursement. During this period the borrower must comply with a series of prescribed conditions.

7.3 Agency for International Development. There are no established procedures for loan requisites. Normally, the AID Mission in the countries selects projects which could lead to a loan, if they are considered to be self-financing. Also, the borrower must be able to satisfy certain organizational requirements before the loan application is studied. Loans are made to Governments, which, in turn, relend the money to institutions.

A loan paper is prepared by the engineering staff of AID which originates a feasibility study. This paper is reviewed by a Loan Committee consisting of the Deputy Director, the Economic Advisor and the Engineer. Economic benefits of the project are evaluated by the Committee, bearing in mind its impact on the country's development. A summary of the loan paper is then sent to Washington with the recommendations of the Mission, for study and comments. The document is then revised by the Bureau of Engineers on its technical aspects, by economists and financial analysts. The Central Loan Office approves the application which is returned to the country with suggested changes. If the borrower agrees with the terms of the draft agreement, it is formally signed. Before the first disbursement, several conditions must be fulfilled by the government and the borrower.

7.4 Export-Import Bank. A direct contact is established between the EXIMBANK and the prospective borrower, leading to a series of discussions on the proposed loan application. All pertinent information related to the loan must be prepared and submitted to the Bank by the borrower, until a final

agreement is reached on the condition of the loan. The borrower participation in the project is expected to be of the order of 40 percent, often accompanied by a guarantee of repayment from a responsible guarantor.

The procedures for loan administration are similar in all lending institutions. They imply the disbursement of loan funds only when expenditures are made for specified goods and services. It is then possible to follow each item financed, from the determination of the specifications and the placement of an order, to the delivery of the item and its actual use in the project. Records are required on the progress of the project through periodical reports prepared by the borrower. These reports cover the advance in engineering activities, in placing of contracts for goods and services, their manufacture and delivery, as well as the course of expenditures in the project. Both physical progress and actual expenditure are plotted in relation to original working schedules and cost provisions.

Information submitted to the lending agencies by the borrower is supplemented by visits of the credit institution's staff. The main objective of these periodic visits is to have a direct contact with the work being done, to examine the accounting records and observe the use and maintenance of goods and equipment. Special attention is given to the administration and management of the project. Changes in the specifications and construction schedule are made according to needs and must be mutually agreed upon.

8. Technical assistance

Some years ago Mr. Eugene Black, former President of the World Bank, said: "Our experience continues to confirm that shortage of capital is not the only, and indeed not the principal obstacle to more rapid economic progress in less developed countries. Inexperience and lack of trained manpower at every level are even more serious handicaps. I believe that the lending activities of the Bank and its affiliate, the International Development Association, can be carried out successfully only if they are accompanied by a major program of technical assistance and training."

The World Bank and the Interamerican Development Bank render technical assistance to their member countries in three fields:

a) Technical assistance for specific projects. These activities involve:

- Cooperation in pre-feasibility studies and project preparation.
- Know-how and technical information in the development of projects
- Establishment or improvement of operational procedures to increase the productivity of the institutions

responsible for the projects financed by the credit agencies.

b) Special studies and promotion

- Analysis of the economic development of countries, and studies of national, sectoral or specific plans.

- Identification of problems and establishment of priorities.

- Evaluation of projects financed by the Bank.

- Support to national planning agencies.

c) Training

- Support to training programs sponsored by other international organizations and/or national institutions.

- Special courses offered by the Bank.

The Agency for International Development operates in the field of technical assistance for specific projects and training, even though it does not offer courses of its own.

8.1 IDB financing of technical assistance. Technical assistance activities may be part of a loan contract, or may be the object of a separate agreement. The Bank contributes to the financing of technical assistance with resources which may be: reimbursable, non-reimbursable, mixed, or of contingent recuperation.

Reimbursable technical assistance costs should be paid by the borrower. In the non-reimbursable type of technical assistance the borrower has the responsibility of covering local costs. This type of technical assistance is exceptionally used by the Bank whenever the economic situation of the borrower calls for a grant.

The mixed type of technical assistance involves one part which is reimbursable and another non-reimbursable.

Technical assistance of contingent recuperation involves a non-reimbursable operation subject to the contingency that if the technical assistance leads to the signature of a loan contract, then the cost of the assistance is included in the loan, thus becoming a reimbursable technical assistance.

Technical assistance operations whose cost is below $50,000 are relatively simple. They constitute the bulk of PAHO's activities in the field of institutional development, in collaboration with the borrower.

8.2 Technical assistance, World Bank and International Development Association

In the recent past very few Latin American countries had an office responsible for the preparation of a framework of development plans and capable of appraisal of proposed projects within such a framework. The World Bank has performed an important role in changing this situation through technical assistance.

Many countries have requested and obtained the advisory services of the Bank to collaborate in the formulation of long-range development programs. The basic criteria adopted in the preparation of development plans can be summarized in three points:

a) An estimation of the order of magnitude of those investments the country can undertake with available resources.

b) The establishment of priorities for public investment in the different economic sectors.

c) The adoption of economic and financial policies as well as of administrative procedures needed for the success of the program.

Normally the Bank pays the salaries of its staff assigned to the missions, and 50 percent of the cost of hired consultants, travel and living expenses of the members of the group outside the country. It is the country's responsibility to defray the costs of half of the consultant's fees and local expenses.

Another important aspect of the technical assistance provided by the World Bank to its member countries is the creation of development banks in a number of member countries. As a net result of this type of assistance, the problem of mobilization of local capital has been substantially simplified. The Bank maintains a close relationship with specialized agencies of the United Nations, particularly with the UNDP, collaborating in the pre-investment studies which normally precede the financing of the projects.

9. PAHO's Role in Financing Sanitary Engineering Projects

A summary of the problem, objectives and goals in the field of water supply and sewage disposal has been presented. Estimates for the expenditures in the near future, sources of funds and lending policies of international credit agencies were briefly covered. Now, what is PAHO's role in the financing of the projects?

At the project level PAHO/WHO engineers are helping the nationals in the identification of new projects, as well as in the normal activities related to the disbursement of loans already approved. Informal contacts

with the local credit institution's representatives or technical missions must be maintained to provide our personnel with intimate knowledge of the projects and also an acute perception of the Bank's and the client's attitudes. Frequently, supplemental technical assistance is needed by the country, either in the preliminary studies or during the construction phase. The project engineer should inform the Zone and, if the situation justifies it, ask for specialized short-term consultants.

At the Zone level, a collaboration in the overall planning, be it national, regional or local, a continuous evaluation of the progress of the projects and again a close association with the credit institution's officials is expected.

The Washington Office has an excellent working relationship with the international lending institutions which have, as a common characteristic, a heavily centralized structure. This means that most decisions, especially those related to financial, technical, administrative and managerial aspects of the loans and its related activities are taken in Washington. Also, changes in internal procedures, policies and general operational patterns are instantly detected by our Central Office which, in turn, informs the Zones.

This duality of actions of PAHO, as a collaborating agency with both borrower and with credit institutions, invests the Organization with the responsibility of becoming a catalyst of actions which may result in unquestionable benefits to the countries.

II. FINANCING OF RURAL WATER SUPPLIES

1. Water supplies in rural areas: present situation

Domestic water supplies are essential for the health and economic and social wellbeing of communities. In addition they constitute an essential element in programs for reducing infant mortality and increasing life expectancy.

The future structures of the rural areas of Latin America and those of the urban areas cannot be abandoned to their fate. The satisfactory economic and social development of a country depends on the same attention being paid to the most fundamental problems of the rural areas as is presently given to the most complicated problems confronting man in cities. So far this has not been done, and as a result there is an accumulation of unsatisfied needs in rural areas. This situation is obvious in the case of rural water supplies. To overcome the lag in rural water supplies and to bring things into reasonable balance by the end of the period of the Decade of the Alliance for Progress, it will be necessary to adopt new special measures.

In the Charter of Punta del Este the Governments of Latin America fixed for themselves a worthy goal: to supply, by 1971, drinking water and sewerage facilities for not less than 70 percent of the urban population and not less than 50 percent of the rural population.

Great strides have been made towards the achievement of these goals. In the first half of the Decade, progress made in urban areas has kept abreast of the targets set. However, the rural program is much less advanced. The disparity between the progress made in the rural areas and that in the urban areas is not surprising. Logistic problems in the matter of supply and financing are much more difficult to solve in rural communities. Nevertheless, there are new techniques of organization and financing, modern materials and improved methods of construction, better means of transport, etc., which, if properly used, could overcome the above-mentioned obstacles.

Between January 1961 and January 1968, more than 1.25 billion dollars were pledged for water supplies and of that amount about 214 million was earmarked for rural areas. To date, about 22 million persons have benefitted in the rural areas. As a rule, a community is considered to be rural if it has less than 2,000 inhabitants, although in some countries a different figure may be used.

The great difference in the growth of urban and rural population is noteworthy. Thus in 1961 the urban and rural populations were about equal (50 percent); by 1965 the urban population was 52 percent and the rural population 48 percent; and by 1971 they were 57 percent and 43 percent respectively.

By 1967 about 19 percent of the rural population had been supplied with water service. To achieve the targets set forth in the Charter of Punta del Este, that is to say 50 percent of the rural population by 1971 (60 millions), approximately 40 million persons inhabiting some 55,000 rural communities must be supplied with water service in the near future. This ambitious goal cannot be achieved unless an ambitious effort is made, unless all our experience is put to the task and new methods are applied. Tables I, II and III show the situation of the rural and urban populations of Latin America with respect to water supply, as well as the funds earmarked for those services, rates of growth, and the situation in countries in relation to the targets of the Charter of Punta del Este.

In addition to examining the background to the rural water supply problem and the progress made so far, this document points to the need for a more concentrated effort in the Rural Water Supply Program and discusses the establishment and operation of revolving funds as a method of financing these systems. Revolving funds will be primarily used to make loans to communities for the construction of water supply systems and, subsequently, when those systems are self-financing, for making improvements in the rural community.

WATER SUPPLY IN LATIN AMERICA - 1968

(Population in millions)

Country	Date of Information	Urban						Rural				
		Pop.	Population Served*					Pop.	Population Served*			
			Home Conn.	%	Easy Access	Total	%		Home Conn.	Easy Access	Total	%
Argentina	Dec.'68	17.10	11.30	66	0.90	12.20	71	6.50	0.46	0.20	0.66	10
Barbados	Jun.'68	0.12	0.09	81	0.02	0.12	100	0.14	0.02	0.12	0.14	100
Bolivia	Oct.'68	1.27	0.30	24	0.63	0.93	73	3.39	0.00	0.02	0.03	1
Brazil	Dec.'68	48.54	22.24	46	-	22.24	46	42.36	-	2.00	2.00	5
Chile	Dec.'68	6.90	3.90	57	1.78	5.68	82	3.15	0.12	0.12	0.24	8
Colombia	Dec.'68	10.72	6.70	63	2.10	8.80	82	9.16	1.60	2.80	4.40	48
Costa Rica	Dec.'68	0.55	0.49	88	-	0.49	88	1.08	0.66	-	0.66	61
Cuba	Jun.'66	5.02	3.84	77	0.65	4.49	90	2.93	1.77	-	1.77	60
Dominican Republic	Dec.'68	1.37	0.72	52	0.22	0.94	68	2.65	0.06	0.16	0.22	8
Ecuador	Dec.'68	2.19	1.03	47	0.51	1.54	70	3.59	0.10	0.19	0.29	8
El Salvador	Sept'68	1.10	0.72	65	0.16	0.88	79	2.18	0.55	-	0.55	25
Guatemala	Dec.'68	1.67	0.67	40	0.77	1.44	86	3.31	0.00	0.32	0.32	10
Guyana	Dec.'68	0.21	0.20	97	0.01	0.21	100	0.51	0.17	0.02	0.18	36
Haiti	Jul.'62	0.39	0.12	31	0.05	0.17	44	4.29	0.05	0.08	0.13	3
Honduras	Dec.'68	0.63	0.36	57	0.23	0.59	93	1.78	0.07	0.13	0.19	11
Jamaica	Mar.'68	0.53	0.51	97	0.01	0.52	99	1.37	0.40	0.56	0.96	70
Mexico**	Dec.'68	26.94	17.30	64	4.00	21.30	79	20.92	0.60	3.10	3.70	18
Nicaragua	Dec.'68	0.71	0.32	45	0.80	0.62	87	1.12	0.03	0.03	0.07	6
Panama	Jul.'68	0.64	0.52	81	0.06	0.57	89	0.74	0.03	0.11	0.14	19
Paraguay	Dec.'68	0.81	0.13	16	0.01	0.14	17	1.42	-	0.05	0.08	6
Peru	Sept'68	5.62	2.50	44	1.09	3.59	64	6.65	0.04	0.05	0.09	13
Trinidad and Tobago	Dec.'68	0.34	0.28	81	0.06	0.34	100	0.68	0.25	0.38	0.63	92
Uruguay	Dec.'68	2.45	1.83	75	0.21	2.03	83	0.59	0.02	0.04	0.06	10
Venezuela	Dec.'68	6.27	4.33	69	1.94	6.27	100	3.51	1.79	0.30	2.09	60
TOTAL		142.08	80.38	56	15.70	96.08	68	123.90	8.77	10.81	19.58	16

* Data based on a study completed in December 1968 by PAHO with the assistance of local engineers.
** Rural Mexico - July 1967

No. II

FUNDS EARMARKED FOR THE CONSTRUCTION OF WATER AND SEWERAGE SYSTEMS IN LATIN AMERICA

January 1961 - January 1968

SITUATION AS AT 1 JANUARY 1969

International Loans:

Interamerican Development Bank	(AID)	(IBD)	$ 425,315,100	(a)
Agency for International Development		(AID)	99,112,600	(a)
World Bank		(IBRD)	38,300,000	
Export-Import Bank		(EXIMBANK)	30,508,355	
Total International Loan			$ 593,236,055	
National Funds - including counterpart funds			874,790,000	
		Total	$1,468,026,055	
Number of beneficiaries (urban and rural)	65,500,000			

(a) Includes loans approved and loan agreements already signed

Notes: 1) Of the total funds ($1,468,026,055) $1,219.7 million are for urban areas and $248.3 million are for rural areas.

2) A small percentage of the total was used for sewerage services.

No. III

RATES OF POPULATION GROWTH IN TWENTY-ONE AMERICAN COUNTRIES

Country	Period	Annual Rate of Growth		
		Total	Urban	Rural
Argentina	1947-1960	1.8	3.2	0.3
Brazil	1950-1960	3.1	6.5	2.1
Canada	1951-1961	2.7	...	...
Chile	1952-1960	2.8	5.9	-0.2
Colombia	1951-1964	3.2	...	...
Costa Rica	1950-1963	4.0	4.5	3.8
Dominican Republic	1950-1960	3.5	9.0	2.6
Ecuador	1950-1962	3.0	6.6	2.0
El Salvador	1950-1961	2.8	5.8	2.3
Guatemala	1950-1964	3.1	...	...
Honduras	1950-1961	3.0	8.1	2.5
Jamaica	1943-1960	1.5	4.0	0.9
Mexico	1950-1960	3.1	5.2	2.3
Nicaragua	1950-1963	2.6	5.9	1.9
Panama	1950-1960	2.9	5.1	2.0
Paraguay	1950-1962	2.6	...	...
Peru	1940-1961	2.2	5.7	1.3
Trinidad and Tobago	1946-1960	2.9	...	...
United States of America	1950-1960	1.7	...	...
Uruguay	1908-1963	1.7	...	...
Venezuela	1950-1961	4.0	8.1	1.4

Source: Patterns of Urbanization in Latin America.
J. D. Durand and C. A. Pelaiz, Milbank Memorial Fund Quarterly, Vol. XLIII, No. 4, 1965

This financing mechanism has three main objectives: first, to stimulate the water supply program in rural communities and accelerate construction during the second half of the Decade of the Alliance; secondly, to strengthen community organization and to develop community participation as much as possible and, thirdly, to establish in each country a self-financing mechanism.

One of the most promising aspects of the Rural Water Supply Program is the enthusiasm and the efficiency with which communities are facing up to their responsibilities. The population has recognized the value of domestic water service. As a result it wishes to have this service and is prepared to pay for it.

2. Evolution of financing methods

Rural water supply in Latin America is evolving as a result of various factors which define its importance in the socio-economic development of the country.

Among these factors are the recognition of its importance in improving health, the establishment of increasingly efficient administrative agencies for dealing with the problem, the setting of targets, the planning of programs, more rational utilization of individual and government resources, use of methods and facilities for providing water under more rational and appropriate conditions and, no less important, the gradual acceptance of the idea that water must be paid for by the consumer.

In this evolution, financing methods have reached a point where the appearance of new sources of funds, together with the traditional community contribution, make it possible to properly finance the services.

The usual methods of financing are these:

2.1 Direct contributions by the governments as the sole source of funds, without the community participating in the cost of construction or in operating or maintenance costs.

This method makes it possible to supply water from public standpipe. This type of water supply is considered a responsibility of the government and consequently no payment by the consumer is required.

2.2 Direct contributions by the governments to cover the total cost of the works: in this case the organized community is responsible for the operation and maintenance of the system and collects water rates from consumers. By this means it is possible to supply domestic water service to persons who want it and who undertake to pay for it; the remainder of the population use public standpipes, which usually supply water free of charge.

2.3 Direct contribution of the government to cover most of the cost the works: in this system the community and the local government authorities establish a body with legal personality through which the community makes direct contributions in cash, in addition to materials, manpower or a combination of them, to the cost of constructing the system. At the same time water rates are collected for the operation and maintenance of the system.

This method encourages house connections and establishes the administrative basis for a better service.

2.4 Direct contributions from the government and the community to cover part of the cost of the works and external loans, granted on favorable terms, to supplement these costs. This method is characterized by the establishment of water rates covering the repayment of the debt, operating and maintenance costs, and in some cases, depreciation costs and costs of extensions.

This is feasible because of the formulation of national plans for supplying rural population with water supplies with broad and realistic objectives as well as of the policy adopted by credit institutions for participants in these plans.

The four methods mentioned above are not arranged in any logical sequence nor do they indicate different stages in the financing of rural water supplies.

The description of the first three methods shows that the consequence of the lack of participation of the community to be benefitted in the financing of the works has been that the possibility on the part of the government to construct new water systems in the face of an increasing demand for services is restricted. To make matters worse, communities are not responsible for the operation of their own services; which means that the government has to supply part of the funds for that purpose so that the amount intended for the expansion of water supply plans is reduced.

The fourth method is free of most of the above-mentioned shortcomings but is not able to solve one fundamental problem, namely, that of ensuring the ready availability of independent funds earmarked exclusively for water supplies, thus ensuring appropriate and permanent attention to the problem.

Self-sufficient financing must be the goal of a program for establishing proper water supply services if there is a true desire to deal with the problem and to give it a complete and final solution. There is reason to hope that this ambitious goal can be achieved by setting up revolving funds.

3. Use of revolving funds as a self-financing mechanism

3.1 Advantages

A revolving fund as a financing mechanism established for specific purposes is of enormous importance in supplying water, especially to rural communities, since, when it is well conceived, it can ensure the execution of the proposed plans.

Among the advantages of a national revolving fund are these:

a) It is a feasible and practical way of putting into effect ambitious plans, as is shown by the effectiveness of revolving funds in other fields.

b) It appreciably reduces economic pressures on government budgets since it fosters greater participation by the communities to be benefitted in the financing of those services and thus creates a favorable atmosphere for rural water supplies in government circles.

c) It makes it possible to fend off many of the influences that frequently impede the proper execution of programs.

d) Its mode of operation confers greater independence, within the framework of legal and administrative rules, on the activities of a water supply plan.

e) It creates in the communities that benefit from a national revolving fund a sense of cooperation and responsibility in solving its own water supply problems and for other localities.

3.2 Financing

To ensure the achievement of the above-mentioned goals, a series of special measures must be taken at the time the revolving fund is set up.

With a revolving fund the repayments of loans from the fund, plus the interest, cause it to continually expand and thus make it possible to extend further loans. The speed with which it develops and the volume of the revolving fund depends primarily on:

- The conditions on which the money to establish the fund is obtained.

- The conditions set by the fund for loans to communities.

The idea of revolving funds for financing public improvements is not new. However, their use for financing water supplies is recent and a novelty for most Latin American countries. The national revolving fund is a means and not an end and its success is governed by a number of conditions.

Since the rural communities in a given country or region vary in size, population, economic conditions, organization, etc., it is necessary to take these variations into account in selecting the method or the most appropriate combination of methods of financing in a given situation. Thus money for financing rural water supplies may be forthcoming from gifts and grants in addition to loans.

Meanwhile it is both necessary and desirable for water supply services to be self-sustaining and gradually to become self-financing as a result of the collection of the water rates. If the operating possibilities of the revolving fund are not fully understood, it may become a simple building fund without the advantages of a revolving fund proper.

For a building fund the government has to continue indefinitely to supply money for the construction of water supply systems. By means of a national revolving fund a government may be able gradually to reduce its contributions as income from repayment of and interest on the loans return to the fund and increase it. In this way after a few years the fund no longer needs any money from the government and can be self-financing.

In the early years after the establishment of a revolving fund it must sustain a proper rate of growth by capital input, in the form of loans and/or subsidies or gifts.

How much time and how much capital is necessary depends on a number of factors, including the scope of the program of works, kind and conditions for the capital obtained (loans or gifts) and the conditions on which the fund lends its money to communities.

Since it is difficult and takes time to change the economic and social conditions of the communities, it is necessary to adapt the system of financing to the capacity of the communities it is intended to serve, in order to ensure full use of the national revolving fund.

The following conditions must be satisfied if a national revolving fund for financing rural water supply systems is to be successful:

a) The existence or establishment of an agency with legal powers enabling it to apply or enforce the method of operation established.

b) That body must have experience in designing, constructing, operating, and maintaining all rural water supply services.

c) Design standards must be established for rural water supplies and must adapt the socio-economic conditions of the community to be benefitted with the needs of the services in the rural environment.

d) Planned methods of construction must be used so as to ensure that maximum use is made of resources in the time periods agreed upon.

e) Loans for setting up a national revolving fund must be granted at a minimum rate of interest (not more than 3.5 percent), with a maximum period of repayment (20 to 25 years) and a suitable period of grace (5 years).

f) The national revolving fund will make loans to communities that meet specified conditions in order to cover a percentage of the cost of the systems. This percentage will be fixed by the agency administering the fund in consultation with the communities concerned and in the light of a study of their economic conditions. The rural community must submit evidence of its capacity to bear part of the cost of the project.

g) The borrower (community) must have or organize a cooperative, area board, or similar agency, with legal personality, that is capable of operating, maintaining and administering the service and has legal powers to collect the water rates established.

h) To protect the loans made by the national revolving fund against the effects of inflation, tariffs must have a built-in currency correction expressed as a percentage of the local minimum wage or based on the consumer price index. These rates will not normally exceed five percent of the family income, must cover the repayment of the loan to the fund and the interest on the loan plus the cost of operating, maintaining, and administering the system.

i) Provision must be made for the maximum number of house connections and these should preferably be installed during the construction of the system either as the direct participation of consumers or by financing them jointly with the construction by means of a loan.

4. Economic and financial aspects of revolving funds

A revolving fund is a flexible mechanism that can be suitably adapted to financial schemes in keeping with the particular conditions of most of Latin American communities. By this means it is possible to install water services that otherwise would be difficult or impossible and, in addition, to achieve self-financing, an essential step toward the solution of the financial problem common to Latin American countries.

The revolving fund operates at two levels, which are analyzed in detail below:

- Local level: this involves the financing of each system by using national and local resources and a loan from the revolving fund.

- National and/or regional level: at this level revolving fund financing operates propitiously, arising out of national resources or international resources or a combination of both.

It is important to emphasize that the success of the revolving fund depends on the existence of the greatest possible number of consumers and of the prompt payment by them of the water rates established, which should be fixed bearing in mind the socio-economic characteristics of the community. Of course, these rates must cover the payment of debt service (capital and interest), the costs of administration, operation and maintenance of the water supply system and the formation of a fund for improvements and extensions.

The number of consumers can be increased by properly promoting the water supply and by offering advantageous conditions for inhouse connections. These conditions should include financing of the cost of connection to the system and the possibility of having different types of connection (meters, regulators, public standpipes, etc.) so that water service is accessible to all the economic strata in the community, which pays for the consumption of water on favorable terms.

SOME CONSIDERATIONS ON THE FINANCING OF NUTRITION PROGRAMS AND FOOD POLICY

A national food and nutrition policy has been defined as "the formulation of a series of measures which will tend to assure an optimal nutritional status for the entire population by means of an adequate food supply and appropriate patterns of consumption; such a policy being established as an integral part of national social and economic development plans and carried out in a coordinated manner through sectoral programs."* A policy of this kind will cover such areas as food production, storage and distribution; food processing marketing; food import-export patterns; feeding programs and nutrition education, and the monitoring of population nutrition status.

It is clear, therefore, that the implementation of a food and nutrition policy implies a wide range of financial investments in many different areas, depending on the complexity of the policy and the extent to which government intervention may be required to produce change. It should be borne in mind, however, that the application of policy measures may bring about direct economic advantages in terms of trade, as well as the indirect advantages derived from improved health status.

The promotion of production of priority foodstuffs may require government financing in various forms: guaranteed prices, contract production, subsidization of agricultural inputs (seeds, stock, fertilizer, equipment, etc.) agricultural credit systems, crop storage facilities and others. These however do not represent open-ended investments as they tend to permit the accumulation of capital at the local level, with consequent benefits to the economy. Provision of adequate food storage facilities alone can reduce food losses that sometimes run as high as 25 per cent of cereal crops in some areas. A direct economic return on investment is therefore guaranteed as well as providing an increased food supply and reducing price fluctuations due to periodic scarcity.

Investment at the level of transportation and distribution implies heavy commitments in development of road, rail and fluvial systems. The use of these, however, is not limited solely to food products and thus only a fraction of the investment can be considered as directly related to food supply and nutrition. In many situations, however, public spending in this category is essential for the improved distribution and marketing of available food supplies.

In the majority of countries of Latin America, the implementation of an effective food and nutrition policy will require considerable

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*Report of Technical Group on Food and Nutrition Policy in Latin America, May 1969. PAHO, Washington, D.C.

investment in the food processing industry and related research in food technology.

A well-developed industry of this kind can make maximal use of food produced by converting periodic surpluses into stable products for the consumer market. The development of a food industry will provide a guaranteed market for internal production, will generate employment opportunities, and will provide safe and stable products at reasonable prices. The development of this type of industry becomes an increasingly important area of investment with present rural-urban migration patterns which produce a change from a subsistence food supply to a purchased food supply in urban markets.

Today many countries of Latin America are importing foodstuffs which they can replace through internal production. At the same time many countries with problems of malnutrition are exporting essential foodstuffs for lack of an internal market. The export of essential foodstuffs, however, is not usually the result of a decline in internal markets but rather represents industries built up specifically for external markets. Careful examination of current food export-import patterns combined with judicious use of incentives and restraints could generate substantial savings of hard currency credits presently being used for purchase of food on the international market.

At the level of consumption, the provision of supplementary feeding programs for vulnerable groups will require substantial government investment. In the initial stages, however, much of the cost of such programs can be absorbed by agencies such as the World Food Program and bilateral food assistance projects. Investment in pre-school, school and institutional feeding programs may appear open-ended; however, substantial returns may be expected in terms of improved health, educational capacity and physical work production as a result of the prevention of nutritional disease and the improvement of nutritional status of these groups.

The foregoing represent, in general terms, the areas of investment that may be involved in applying a national food and nutrition policy. Naturally it is impossible to standardize the type and scale of investment required as this will vary from country to country, and with the goals and objectives of each policy.

The direct investment of the health sector in this field is relatively minor in cost, but of fundamental importance. The health sector will be responsible for periodic evaluation of population nutrition status which will require household surveys on representative samples of the population at intervals of three to five years, with analysis and publication of the results. The necessary specialized staff, transportation facilities and data analysis equipment must be budgeted on a permanent basis. The system of budgeting for food supplementation programs will vary from

from country to country according to the agency designated. Without question those aspects involving pre-school children and pregnant and lactating women will be best handled through local health services and may require additional staffing at the auxiliary level. School feeding programs and other institutional activities (worker's canteens, etc.) will best be organized and budgeted by the corresponding agency, i.e., education, social welfare and others.

The costs of establishing the organizational unit which will formulate and evaluate food and nutrition policy is minimal. Existing specialized staff from participating agencies will devote the required time without any significant increase in outlay.

In summary, the investments required to implement an effective national food and nutrition policy are considerable; however, they are not without substantial economic returns both in cash and in kind. Saving on food storage losses and food import purchases, for example, represent direct economic benefits, while increased employment and productivity especially in rural areas may be expected to result from the increased production of essential foodstuffs for guaranteed markets. The expected improvement in the level of health of the population, especially in the vulnerable groups, resulting from improved nutrition will represent permanent and substantial savings in expenditures on medical care and rehabilitation.

One of the unique benefits to be derived from investments in the food chain and human nutrition in Latin America is that the natural resources exist in abundance, as does the potential market which could give rise to a favorable and progressive economic evolution for large sectors of the population.

CLASSIFICATION OF 22 AMERICAN COUNTRIES

The attempt to work out a classification of American countries as a frame of reference for the presentation of the document on the financing of the health sector is justified by the marked differences between the countries in levels and characteristics of development. It is easier to interpret the economic and social indicators usually employed in such analyses if they are used to construct development profiles that provide a graphic presentation of the essential characteristics of the countries. The reason for this attempt at a classification of American countries was the need to group them according to similar characteristics and to form sufficiently homogeneous groups to facilitate analyses at the regional level of the complex problems involved in the financing of the health sector and of possible ways of solving them.

1. Procedure

Many difficulties are involved in this type of comparative evaluation: the data needed are incomplete and sometimes exist for only a few countries and for different periods. The information is not only unreliable but, in some cases, varies very much from one country to another and its interpretation is thus exceedingly difficult. In addition, data are defined and collected in a variety of ways.

In addition to these problems inherent in the available information there is another essentially methodological problem, namely, the difficulty in evaluating the overall situation in the country on the basis of an analysis of a great number of indicators of different kinds.

The classification used is that employed by Vekemans and Segundo.* This method must be improved. However, for the time being it may be used as a guide.

It is based on the definition of the different characteristics of a country, taking into account socio-economic indicators as a whole instead of examining them independently.

Initially the scale in which the indicators are expressed was adjusted so as to make them comparable and to facilitate their interpretation. The scales were adjusted in such a way that all the indicators studied were expressed in round figures from 1 to 10, 10 representing the best situation and 1 the least favorable.**

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* R. Vekemans and J.L. Segundo, "Ensayo de tipología socio-económica de los países latinoamericanos". UNESCO, 1962.

** It is very difficult to determine on sight, for example, whether a life expectancy at birth of 50 years is in accordance with, or in contradiction to a gross domestic product per capita of 300 dollars a year or 4 beds per 1,000 inhabitants.

The procedure used for adjusting the scale is described in Attachment IA.

The next step was to calculate the average for the country of the adjusted values obtained. Clearly this is an arbitrary procedure since equal weight is given to all the indicators used. But it was deemed preferable not to use weighting factors because sufficiently objective data were lacking.

The averages obtained were ranked in decreasing order and the magnitude of the difference obtained by subtracting each average from the following average was studied.

The greatest differences were used to divide the countries into different groups; the small differences were considered variations between countries belonging to the same group.

2. Classification indicators: discussion

The selection of the indicators for classifying the countries was primarily determined by the availability of sufficiently homogeneous variables for the largest number of countries. To obtain the most reliable data it was necessary to omit indicators that are obviously important for the purposes in view, such as health expenditures, because of their unavailability and lack of comparability (see Table A).

The indicators chosen, therefore, were grouped as follows:

2.1. Health level and structure

The indicators selected were life expectancy at birth, percentage of deaths from infectious and parasitic diseases, and the percentage of deaths of children under five years of age, because they are considered, despite the unreliability of registration, to be the best summary of the structures and levels of health in most of the American countries.

2.2 Health sector resources

The indicator chosen here was the number of doctors per 10,000 inhabitants and of beds per 1,000 inhabitants, because these indicators are easy to define and have a high correlation. The available indicators of expenditures were omitted for the reasons already given.

2.3 Educational factors

The number of students enrolled in higher educational establishments as a percentage of population in the age group 20-24 years was used because

it is considered the best expression of the differences in the level of education in the various countries when related to the percentage of illiterates over 15 years of age.

2.4 Other related factors

Availability of proteins was included despite its unreliability as an indicator, because it is the only one available, although an indirect one, of the nutritional state of the countries. Urban population as a percentage of total population, an indicator worked out by ECLA, was used because it best summarizes the complex elements involves in urbanization.

2.5 Economic factors

The gross domestic product per capita, despite the difficulty in interpreting it and the lack of comparability among countries, was used since it is the only generally used pointer available that indicates the level of development of the countries. The percentage of the economically active population in the manufacturing sector was considered a sufficiently reliable exponent of the structure of development of the countries.

2.6 Population structure

The percentage of population under 15 years of age was considered the best exponent of the population structure in the Americas.

2.7 Total population

Total population was not used among the indicators but as additional information for the sole purpose of making it possible to evaluate the number and proportion of the region's population included in the various groups of countries representing different levels of economic and social development (see Table B).

3. RANGE OF VARIATION OF INDICATORS IN THE 22 COUNTRIES BEING CLASSIFIED

TABLE A

	INDICATORS	Range	
		Maximum	Minimum
Health level and structure	Life expectancy at birth (1969)	71.0	46.0
	% deaths from infectious and parasitic diseases	38.6	4.9
	% deaths in children under 5 years of age	58.6	13.0
Health Resources	Doctors per 10,000 population	14.9	0.7
	Beds per 1,000 population	6.4	0.7
Educational factors	Enrollments in higher educational establishments % population in age group 20-24 years	12.6	0.2
	% illiterates over 15 years of age	95.0	8.6
Other associated factors	Proteins inhabitant/gram/day	94.0	47.0
	% population with water in hourse	62.3	0.3
	Urban population (as % of total)	61.3	5.1
Economic Factors	Gross domestic product per capita	891.0	95.0
	% economically active population in manufacturing sector	35.5	6.6
Population Structure	% population under 15 years of age	47.9	28.6
	Total population	88.1	1.1

4. Groups

The twenty-two countries studied which together have a population of 262.4 million persons, were distributed into the seven groups shown in Table B.

CLASSIFICATION OF TWENTY-TWO LATIN AMERICAN COUNTRIES

NUMBER OF COUNTRIES, POPULATION IN MILLIONS,

AND POPULATION IN EACH GROUP (%)

TABLE B

GROUP	NUMBER OF COUNTRIES	POPULATION	
		In millions	%
I	2	26.4	10.4
II	4	20.2	7.7
III	4	60.4	23.0
IV	4	123.9	47.2
V	4	14.8	5.6
VI	3	11.7	4.5
VII	1	5.0	1.9
Total	22	262.4	100.0

5. Classification

For an analysis of the classification of the 22 countries, see Tables No. 1 and No. 2.

TABLE NO. 1

CLASSIFICATION OF 22 COUNTRIES OF THE AMERICAS
LEVEL OF SOCIO-ECONOMIC INDICATORS, BY COUNTRIES, FOR EACH GROUP
ECONOMIC AND SOCIAL INDICATORS FOR 22 COUNTRIES OF THE AMERICAS, SHOWN ON ADJUSTED SCALE

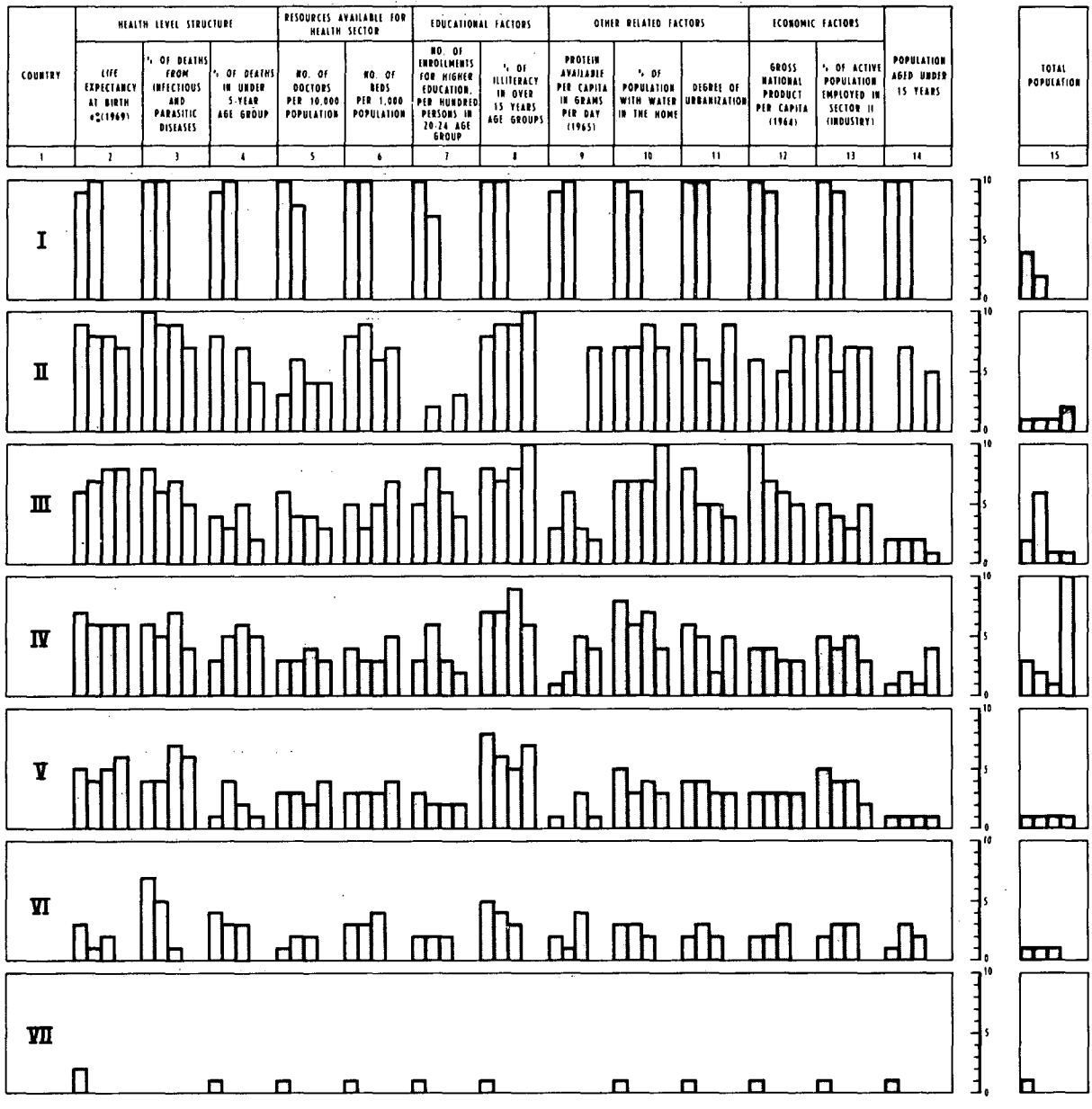

TABLE NO. 1

CLASSIFICATION OF 22 COUNTRIES IN THE AMERICAS

LEVEL OF SOCIAL AND ECONOMIC INDICATOR BY DEVELOPMENT GROUPS

GROUP	COUNTRY	Health Level and Structure			Health Sector Resources		Educational Factors		Other Associated Factors			Economic Factors			Total population
		Life expectancy at birth (1969)	% deaths from infectious and parasitic diseases	% deaths in children under 5 years of age	No. of doctors per 10,000 population	No. of beds per 1,000 population	No. of enrollments in higher education % of pop. in age group 20-24	% of illiterates over 15 years	Available proteins Inhab./gram/day - 1965	% population with water in home	% urban population	Gross Disposable Product per capita 1964	% economically active pop. in Sector II (manufacturing)	% Population under 15 years of age	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I	1	9	10	9	10	10	10	10	9	10	10	10	10	10	3
	2	10	10	10	8	10	7	10	10	9	10	9	9	10	1
II	3	9	10	8	3	8	-	8	-	7	9	6	8	-	1
	4	8	9	8	6	9	3	9	-	7	6	-	5	7	1
	5	8	9	7	4	6	-	9	-	9	4	5	7	-	1
	6	7	7	4	4	7	4	10	7	7	9	8	7	5	2
III	7	6	8	4	6	5	5	8	3	7	8	10	5	2	2
	8	7	6	3	4	3	8	7	6	7	5	7	4	2	6
	9	8	7	5	4	5	6	8	3	7	5	6	3	2	1
	10	8	5	2	3	7	4	10	2	10	4	5	5	1	1
IV	11	7	6	3	3	4	3	7	1	8	6	4	5	1	3
	12	6	5	5	3	3	6	7	2	6	5	4	4	2	2
	13	6	7	6	4	3	3	9	5	1	2	3	5	1	1
	14	6	4	5	3	5	2	6	4	4	5	3	3	4	10
V	15	5	4	1	3	3	3	8	1	5	4	3	5	1	1
	16	4	4	4	3	3	2	6	-	3	4	3	4	1	1
	17	5	7	2	2	3	2	5	3	4	3	3	4	1	1
	18	6	6	1	4	4	2	7	1	3	3	3	2	1	1
VI	19	3	7	4	1	3	2	5	2	3	2	2	2	1	1
	20	1	5	3	2	3	2	4	1	3	3	2	3	3	1
	21	2	1	3	2	4	2	3	4	2	2	3	3	2	1
VII	22	2	-	1	1	1	1	1	-	1	1	1	1	1	1

TABLE NO. 2

CLASSIFICATION OF 22 COUNTRIES IN THE AMERICAS
AVERAGE LEVEL OF SOCIAL AND ECONOMIC INDICATORS IN EACH GROUP

COUNTRY	HEALTH LEVEL STRUCTURE			RESOURCES AVAILABLE FOR HEALTH SECTOR		EDUCATIONAL FACTORS		OTHER RELATED FACTORS			ECONOMIC FACTORS		POPULATION AGED UNDER 15 YEARS	TOTAL POPULATION
	LIFE EXPECTANCY AT BIRTH e_0^o(1969)	% OF DEATHS FROM INFECTIOUS AND PARASITIC DISEASES	% OF DEATHS IN UNDER 5-YEAR AGE GROUP	NO. OF DOCTORS PER 10,000 POPULATION	NO. OF BEDS PER 1,000 POPULATION	NO. OF ENROLLMENTS FOR HIGHER EDUCATION, PER HUNDRED PERSONS IN 20-24 AGE GROUP	% OF ILLITERACY IN OVER 15 YEARS AGE GROUPS	PROTEIN AVAILABLE PER CAPITA IN GRAMS PER DAY (1965)	% OF POPULATION WITH WATER IN THE HOME	DEGREE OF URBANIZATION	GROSS NATIONAL PRODUCT PER CAPITA (1964)	% OF ACTIVE POPULATION EMPLOYED IN SECTOR II (INDUSTRY)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I														
II														
III														
IV														
V														
VI														
VII														

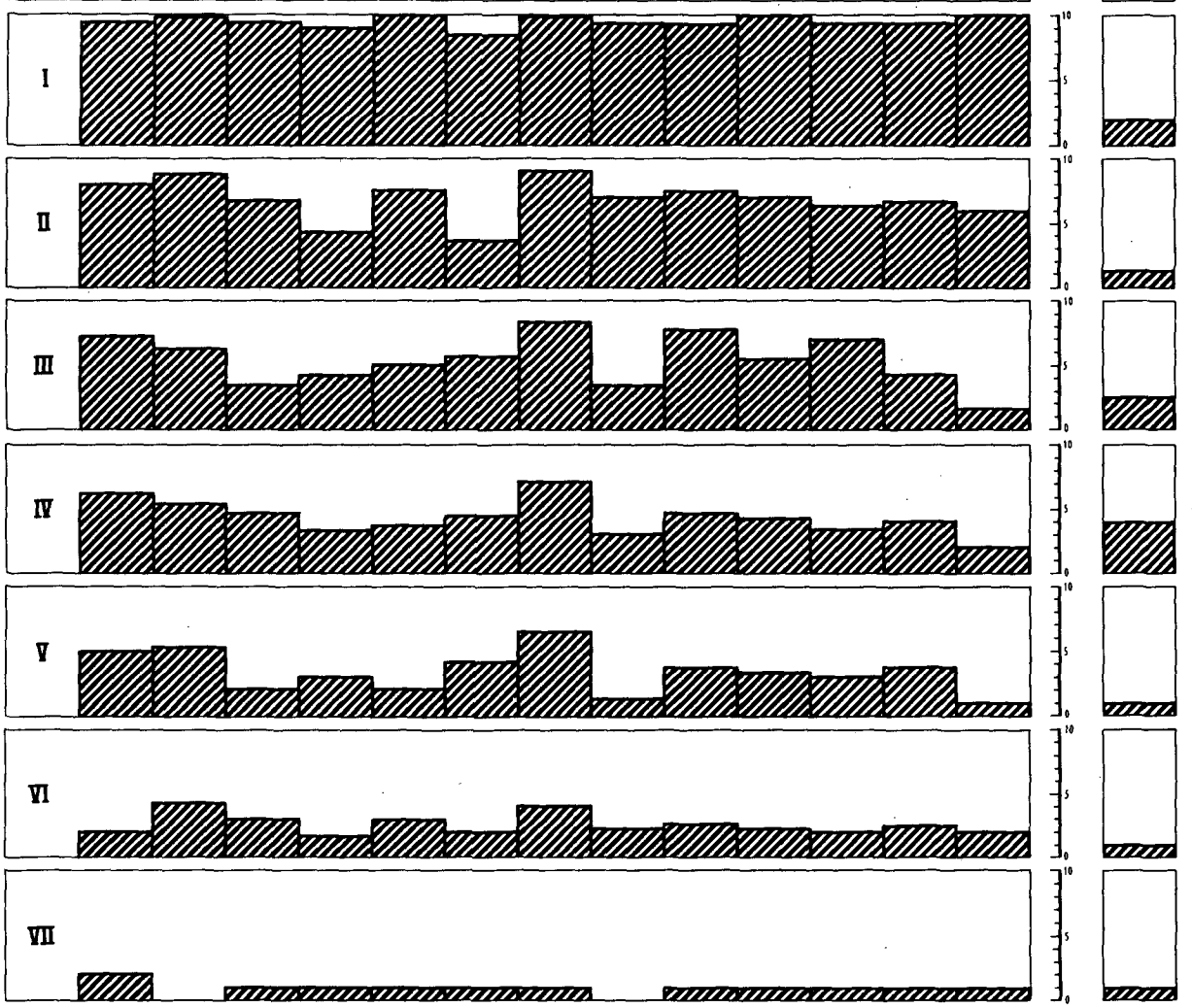

TABLE NO. 2

CLASSIFICATION OF 22 COUNTRIES IN THE AMERICAS

AVERAGE LEVEL OF SOCIAL AND ECONOMIC INDICATOR IN EACH GROUP

GROUP	Health Level and Structure			Health Sector Resources		Educational Factors		Other Associated Factors			Economic Factors		% population under 15 years of age	Total population (millions)
	Life expectancy at birth (1969)	% deaths from infectious and parasitic diseases	% deaths in children under 5 years of age	No. of doctors per 10,000 population	No. of beds per 1,000 population	No. of enrollments in higher education % of pop. in age group 20-24	% of illiterates over 15 years	Available proteins Inhab./gram/day - 1965	% population with water in home	% urban population	Gross Disposable Product per capita 1964	% economically active pop. in Sector II (manufacturing)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I	9.50	10.00	9.50	9.00	10.00	8.50	10.00	9.50	9.50	10.00	7.50	9.50	10.00	2.00
II	8.00	8.75	6.75	4.25	7.50	3.50	9.00	7.00	7.50	7.00	6.33	6.75	6.00	1.25
III	7.25	6.50	3.50	4.25	5.00	5.75	8.25	3.50	7.75	5.50	7.00	4.25	1.75	2.50
IV	6.25	5.50	4.75	3.25	3.75	3.50	7.25	3.00	4.75	4.50	3.50	4.25	2.00	4.00
V	5.00	5.25	2.00	3.00	3.25	2.25	6.50	1.67	3.75	3.50	3.00	3.75	1.00	1.00
VI	2.00	4.33	3.33	1.67	3.33	2.00	4.00	2.33	2.67	2.33	2.33	2.67	2.00	1.00
VII	2.00	-	1.00	1.00	1.00	1.00	1.00	-	1.00	1.00	1.00	1.00	1.00	1.00

CLASSIFICATION OF 22 COUNTRIES IN THE AMERICAS

SOCIAL AND ECONOMIC INDICATORS

COUNTRY	Health Level and Structure			Health Sector Resources		Educational Factors		Other Associated Factors			Economic Factors			Total population (millions)
	Life expectancy at birth (1969)	% deaths from infectious and parasitic diseases	% deaths in children under 5 years of age	No. of doctors per 10,000 population	No. of beds per 1,000 population	No. of enrollments in higher education % of pop. in age group 20-24	% of illiterates over 15 years	Available proteins Inhab./gram/day - 1965	% population with water in home	% urban population	Gross Disposable Product per capita	% economically active pop. in Sector II (manufacturing)	% population under 15 years of age	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Argentina	68.	6.6	19.7	14.9	6.1	12.6	8.6	86	62.3	57.7	891	35.5	29.6	23.6
Bolivia	46.	23.5	46.6	2.9	2.1	2.4	67.9	47	14.5	19.6	185	13.1	42.5	4.4
Brazil	61.	26.8 *	38.8 *	4.0**	3.2*	2.3	50.9*	62*	23.0*	28.1	307	13.1	42.2	88.1
Colombia	62.	21.1	49.2	4.4	2.7	2.7	37.3	49	46.5	36.6	364	19.2	46.9	20.7
Costa Rica	67.	24.5	52.4	4.7	4.5	4.2	15.7	54	60.6	24.0	492	18.7	47.9	1.7
Cuba	67.	9.2	23.9	8.9	5.5	3.0	22.1	-	41.4	35.5	-	20.4	34.8	8.0
Chile	62.	15.6	41.1	5.8	4.3	4.7	16.4	80	40.5	54.7	691	26.2	39.6	9.3
Dominican Rep.	59.	21.7	56.8	6.2	2.7	1.6	40.1	50	16.0	18.7	267	11.8	47.5	4.1
Ecuador	56.	27.1	57.7	3.3	2.3	2.8	32.7	50	25.4	26.9	310	18.8	46.5	5.6
El Salvador	56.	16.4	49.9	2.2	2.3	1.3	52.0	58	22.7	17.7	328	17.2	46.8	3.2
Guatemala	49.	38.6	49.3	2.5	2.6	1.6	70.6	62	12.1	15.5	329	14.2	46.1	4.9.
Haiti	49.	-	58.6**	0.7	0.7	0.2	95.0	-	0.3	5.1	95	6.6**	47.0	5.0
Honduras	50.	15.8	44.0	1.6	2.0	1.7	55.0	53	13.2	11.6	208	10.3	47.0	2.4
Jamaica	65.	9.9	27.9	4.9	4.0	-	18.1	-	50.6	24.8	427	25.8	-	1.8
Mexico	63.	20.5	45.5	5.2	2.2	9.6	34.6	73	40.5	29.6	579	17.8	46.2	47.3
Nicaragua	54.	26.8	41.9	4.2	2.3	2.1	50.4	-	16.8	23.0	265	15.3	47.3	1.9
Panama	65.	18.1	36.8	5.3	3.2	6.9	26.7	58	38.2	33.1	568	13.6	44.3	1.3
Paraguay	60.	16.3	34.1	6.0	2.2	3.5	25.7	66	6.1	15.9	262	18.5	46.5	2.3
Peru	59.	24.0	37.7	4.7	2.2	7.2	39.4	55	33.4	28.9	399	17.4	44.9	12.8
Trinidad and Tobago	69.	7.9	25.1	3.9	5.3	-	26.2	-	38.9	55.7	540	29.0	-	1.1
Uruguay	71.	4.9	13.0	11.4	6.4	7.9	9.7	94	53.7	61.3	804	29.8	28.6	2.8
Venezuela	61.	14.3	41.5	7.8	3.3	5.6	34.2	60	42.8	47.3	854	19.9	45.3	10.1

* Only State of Sao Paulo

** Esti[illegible]

ANNEX IA

PROCEDURE FOLLOWED

1. The scales of the variables were made homogeneous by converting the original scale of each variable into a new scale, which covers the range of the original scale and is divided into ten equal intervals. In each case 10 represents the most favorable condition and 1 the least favorable.

2. Construction of the adjusted scale

2.1 Recorded range of the variables: It goes from the minimum to the maximum value recorded.

2.2 Size of the interval: It is equal to 1/10 of the total range, its accuracy not being greater than the original value recorded. In approximating the higher figure was always taken.

Examples: a) Recorded range : 10.3 - 35.5

Actual range : 10.25 - 35.55

Total size : 35.55 - 10.25 = 25.30

Size of interval : 2.6

b) Recorded range : 10.0 - 35.5

Actual range : 9.95 - 35.55

Total size : 35.55 - 9.95 = 25.60

Size of interval : 2.6

2.3 Origin of scale: The mid point of the scale was preferably used as the origin. That is to say, efforts were made to ensure that the limit between intervals 5 and 6 coincided with the mid point of the observed range obtained by halving the sum of the upper and lower limits of the range. When this was not possible, the following procedure was followed: If the upper figure of the half range was odd, it was used as the upper limit of interval 5 and if it was even, it was used as the lower limit of interval 6. When negative limits were obtained by using this origin, then origin 0 was used.

3. Classification

The arithmetical mean of all indicators (in the adjusted scale) of each country was computed.

The averages were arranged in order of magnitude and the first finite difference was computed.

Notoriously high finite differences were used to differentiate the groups.