

Summary of USAID Health Activities
in Brazil

Purpose and over-all objective:

1. To assist the Government of Brazil to achieve as rapidly as possible a level of institutional competence commensurate with the type and magnitude of the health problems.
2. To assist the Government of Brazil in the creation of an effective and efficient self-supporting financial organ to handle the problems of water supply and sewerage systems.

Background:

Brazil, the fifth largest country in the World, has 92% of its land area of 3,286,270 sq. miles within the tropical belt. The population is concentrated along the Atlantic coast (Map I) and there are still large unpopulated areas in the interior.

In 1960 the population was roughly 70 million; today it is estimated to be about 90 million. This represents an annual increase of approximately 3.1%. Most authorities, however, believe it to be closer to 3.5%. Considering the low per capita income, with 53% of the population under 20 years of age and an average of 5.1 persons per family, improvement in the standard of living will be slow unless there is a decrease in the rate of population growth.

Twenty years ago nearly 70% of Brazil's population lived in rural areas or in small towns of less than 5,000 people. Today the urban population, approximately 55%, has increased tremendously and is growing at the rate of 6.4% per year while the rural population is increasing at a rate of only 1.6% per year (Table I).

The health problems in Brazil are enormous. Brazilians often refer to their country as one big hospital. Much of the illness is tied up with malnutrition or under-nutrition. The vicious circle of disease-unemployment-poverty-malnutrition-disease can be easily demonstrated in most parts of Brazil. Some of the major health problems are shown in the attached table of health indicators.

Infectious Diseases:

The single most important cause of illness and death is infectious diarrhea of children under 5 years of age. In Brazil this is due largely to insufficient water for human use and poor sanitation. The specific death rate from infantile diarrheas is about 100 times that of the U.S. (See table on health indicators).

Traditionally malaria has been a major cause of illness. It was estimated that there were 5 to 8 million cases a year before World War II; the efforts made to eradicate malaria have since reduced its prevalence to a very low point.

Tuberculosis, a major cause of illness and disability during the productive period of life, is 10 times as prevalent as in the U.S.

Many of the communicable diseases such as malaria, tuberculosis, Chagas' disease, smallpox and others are superimposed on wide spread intestinal worm and other parasitic infections. One of these, schistosomiasis, a worm disease carried by a snail, is prevalent in certain parts of the country, involving an estimated 8 million Brazilians. Due to the habits and unsanitary facilities of millions working in the rural agricultural areas of the North-East, these people are continuously reinfested and superinfested. Schistosomiasis, like hookworm, seldom kills but saps the strength and endurance of the afflicted. It also increases susceptibility to other diseases.

More than half the illnesses and deaths of Brazil are caused by infectious diseases, most of which can be prevented or cured by modern methods.

The shortage and maldistribution of health man-power, not only of doctors but of nurses and other ancillary or paramedical personnel, is very great. Studies are being made to devise more effective ways of preparing and employing health personnel. If the goals are to be met, a major push will be necessary to train personnel to meet the minimal needs of the great rural population of Brazil and, to a lesser extent the urban population.

In view of critical shortages of health facilities as well as health man-power, the principle of investment in the human qualities of vigor, energy, skills, activity, strength, hardiness, and up-and-at-it-ness makes sense. To a very real extent the slowness in development is a reflection of the high prevalence of illness, physical weakness, infirmity, fevers, tiredness, and "liver trouble". All of these negative attributes are preventable and we believe prudent investment in their reduction will unleash large amounts of natural energy to give the economic machine a healthy push.

The above are just some of the health problems. Brazil is making a major and praiseworthy effort to eradicate malaria and smallpox. More than 14,000 Brazilians are employed in teams organized to do house-spraying with DDT. Only the U.S. produces the quantity and quality of DDT necessary for this program. In past years the U.S. has made grants for malaria eradication purposes; now loans are being made to the Brazilian Government to secure U.S. commodities including DDT, and technical assistance. The results of this program of collaboration between USAID/B, PAHO and the GOB are of primary importance in the improvement of health conditions in Brazil. There are several other areas of progress such as medical and technical education, long range health sector planning, etc. each one of which could provide valuable background.

Planning and Evaluation Unit:

A planning and evaluation unit in the Ministry of Health has been established as a joint project with USAID. This is in response to one of the stated goals of the Alliance for Progress (See Resolution 1-b, Page 5 of the attached "The Charter of Punta del Este"). Since its inauguration, this Unit usually referred to as PAPPE, has sponsored multi-year planning in the Ministry, research in communicable disease control, especially schistosomiasis, a nutrition program, and has given an impulse to the teaching of preventive medicine in various medical schools especially in the Northeast. Funding is entirely Brazilian owned counterpart plus approximately US\$45,000 of Technical Assistance and US\$100,00 for Participants.

Research:

During the past 4 years, four research centers have been studying new drugs and molluscociding practices. A partial break-through has occurred as a result of this research (aided by Brazil-USAID counterpart grants) a new drug (Hycanhone) and efficient molluscocides will make control a near possibility.

Nutrition:

Since many of Brazil's health problems are related to malnutrition, steps have been taken to stimulate the formation of a national nutrition program. Under a project between the Planning Unit and the National Food Council, funds and personnel for coordinating maternal/child health programs and nutrition education programs are being provided and the project implementation is just getting under way.

The strategy is to support with technical assistance funds, technical consultants, and counterpart funds on a limited scale, the testing and development of a number of high-protein foods or food fortificants which, when produced commercially, can assist in increasing the protein intake of large nutritionally-vulnerable groups of the Brazilian population. Because there are already number of alternative products or processes in various stages of development, the effectiveness of the alternate ways of carrying out such a program must be measured. Therefore, while technical assistance through use of U.S. technicians under contract will be furnished, a primary effort will be made to study 1) the economic facts of life as regards the food habits of the poorer segments of the population, especially their consumption of cereal grains and other basic foods such as mandioca, wheat, corn etc. and 2) the relative merits of alternative methods of fortification in a number of research centers, both public and private. The specific foods and/or fortificants to be included initially are the following:

a) FPC (Fish Protein Concentrate) - A tasteless, colorless, odorless powder which can be added to all sorts of baked goods, soups, etc. at a very low cost. The Marine Research Institute, under Admiral Paulo Moreira da Silva, has developed a process to produce FPC from cheap fatty fish, such as sardine, abundantly available in Brazilian waters. The oil extracted - using ethyl alcohol, also abundantly available from sugar-cane - has potential value commercially and might even become an export item as it is used extensively in Europe for margarine. Thus the FPC would be a by-product, at extremely low cost, contributing to improved nutrition but also to economic development of the country.

A team of 5 technicians under PASA contract spent 2 weeks TDY in Brazil last September to survey local production methods and utilization of the product in school lunch program. They recommended input of new machinery to permit critical experiments prior to large-scale production. Technical assistance is needed to set up a new plant and supervise experiments recommended. Technical assistance also required for survey of oil situation, or financial resources if local competence is available.

b) Soy Milk (SOLEIN) - Mococa Dairy Company

This product is a combination of soy milk and cow's milk, providing 33% protein, and has been amply tested at the National Department of the Child, which then purchased a small quantity until its funds were cut back. It can be produced at cost lower than milk and could be widely utilized by assistential programs. Production is seriously hampered by lack of spray-drying equipment.

The factory has been visited by various AID/Brazil and AID/W technicians, including Dr. Sidney Cantor, Dr. Aaron Altschul and Dr. S. Weisberg more recently. It was also examined in depth by Swift & Co. under AID/W support-to-industry program.

In giving this product a high priority, it should be noted that enormous tonages (10,000) of U.S. powdered milk are brought into the country under the FFD program. As FFD phases out, local production of milk and/or milk substitutes will have to be increased. This product is an excellent milk substitute and can be produced at lower cost.

c) Soy Protein Isolate (SAMRIG)

A new plant, the only one in Latin America, is producing this product which contains 90-92% protein. It is currently producing only 1000 T per year although it can produce up to 4000 T. 90% of the product goes to São Paulo meat-packers as filler for hot-dogs; with needed improvement in production and biological value, it might be used as fortification for a series of basic commodities, including mandioca.

Although the chief engineer is to visit the U.S. for 2 months to see how to improve their process, they will still require some technical assistance to go into continuous rather than batch production in order to lower costs.

d) Lysine and Methionine - Synthetic amino-acids (AJINOMOTO)

Synthetic aminoacids raise the qualitative value of the proteins to which they are added. AJINOMOTO in São Paulo imports approximately 40-50 tons of these substances monthly, mostly for chicken-feed use, and would have to expand considerably before setting up a plant in Brazil would be economically feasible. However, as a good part of the machinery required and the raw materials used to manufacture another of their products, monosodium glutamate, in Brazil, are also usable for manufacturing amino-acids, they are investigating with Sudene possibilities for setting up a plant in the NE.

Lysine has been very successful in bread-enrichment in India and in Japan, and AJINOMOTO would like to start a project on wheat fortification in Brazil, perhaps with the Institute of Nutrition in Recife. It is also a high-priority possibility for addition to mandioca, which needs checking out. Basic surveys on trend in bread-consumption and on other wheat products are required, as well as funds for clinical testing of lysine-fortified products.

e) High-lysine Corn (Opaque-2) - Sementes Agroceres S.A.

This corn, with higher than normal lysine content bred genetically, was produced originally at Purdue and is being tested at Viçosa. Agroceres has begun to produce a hybrid variety commercially. Laboratory and clinical testing is needed to evaluate the nutritional value of this product as a food fortificant. ARDO is working with the production-end of this product, so input requested would be for testing as fortification.

f) Macassar bean flour - Institute of Nutrition, Recife

A high-protein flour being tested in Recife with apparently excellent qualities for food fortification. DNOGr. made extensive tests in its Children's Hospital and was extremely enthusiastic about its possibilities for the NE. It should be included in the project for further technical assistance and possible financial support to reach industrialization.

g) Tóru^{la} Yeast

This product, made by fermentation on sugar-cane waste is said to be extremely high in protein value and cheaper in cost than any of the foregoing. USAID knows very little about it, but the National Food Commission is extremely optimistic about its industrialization if financial assistance is forthcoming. This product is used in Guatemala and other parts of Latin America as one of the elements of Incaparina, and should not be overlooked in an evaluation of alternatives.

Each of the above, and undoubtedly other possibilities, may be good in itself. However, there is need to approach the development of the high-protein foods and fortification field with considerable caution to assure that alternative ways of achieving the goals are considered and measured. This project, therefore, is designed to bring together a number of separate initiatives and attempt to systematically and intelligently support those that appear to have the greatest merit, i.e. chance of succeeding. Built into the project, therefore, is an economic study on the consumption of several basic commodities, cereals, among the more nutritionally-vulnerable segments of the population.

Water for Human Consumption:

The problems of controlling water and filth-borne diseases has been amplified by the rapid growth of Brazilian cities where the provision of water and sewerage facilities has not kept pace with the expanded need for these basic services. To overcome these deficiencies and bring the cities of Brazil up to modern day standards a soundly based program has been launched.

The self-supporting financial system which has been installed with the assistance of USAID is based on the principle of making loan funds for water and sewerage improvements available to municipalities from a national revolving loan fund or from state revolving funds receiving loan assistance from the national fund. To qualify for such loans, municipalities must satisfy certain requirements, the most important of which are to provide funds for a fair share of project costs, establish an autonomous municipal water and sewerage authority, provide competent engineering services and maintain water rates at levels sufficient to cover all costs of operation, maintenance and repayment of the loan.

To date, a loan agreement for US\$15.4 million has been signed and is being implemented.

A second loan for sewerage systems especially in the NE, is under study. Considering the importance of safe water in the health sector, "it is the judgement of the Mission that capital investment in good water supply and sewerage systems is the most effective means of reducing the high rate of gastro-enteric diseases in urban populations".

Demographic Factors:

One of Brazil's major development problems is the rapid population increase mentioned above. At the current rate, (3% per year, see chart 1) the population will double in about 23 years. Clearly, a Brazilian policy that recognizes this is urgently needed. At present it is illegal to advertise contraceptive methods or to interrupt a pregnancy by any method, except for therapeutic reasons. Such interruption is a crime and is punishable by a prison sentence. However, it is not illegal to import, make use of, or to sell contraceptives. It is not illegal for qualified physicians to practice family planning by giving consultation to persons who seek advice. In the absence of a national policy such service is not available in public clinics. However, several organizations, associated with universities, do provide some services. One of these, BEMFAM, supported with International Planned Parenthood Federation funds, has been expanding its work and currently almost nine thousand women are being served in 30 clinics. This is clearly only a beginning since it is estimated that over six million women are exposed to risk of unwanted pregnancy.

It is estimated that there are over 5.2 million conceptions per year, and studies show that nearly 1.5 million of these terminate as induced or criminal abortions. Many of the women who have induced abortions develop infections and go to a public hospital for emergency treatment. They receive expensive drugs, transfusions and other measures. Such

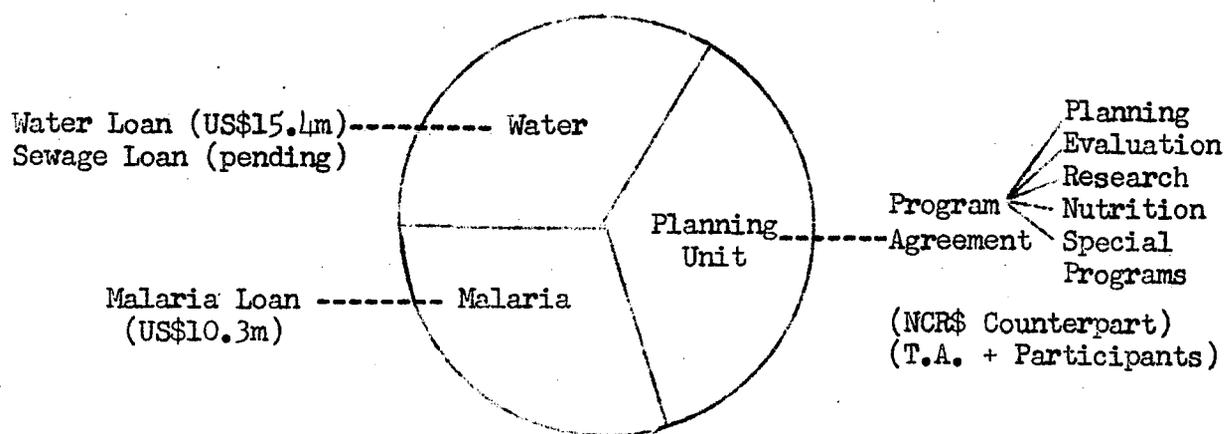
emergencies cause unnecessary maternal deaths, take up hospital beds and use commodities that are costly and in short supply. Abortions represent an enormous cost to the community and about 90% are preventable.

The U.S. has made development assistance available to other L.A. countries in the population, family planning and policy formulation areas but due to hypersensitivities of Brazilians, we have only provided a few fellowships and published material.

Summary:

The health sector can be considered in its simplest sense made up of three parts as shown in the following diagram:

Health Sector



MAP I

POPULATION DENSITY BRAZIL - 1960

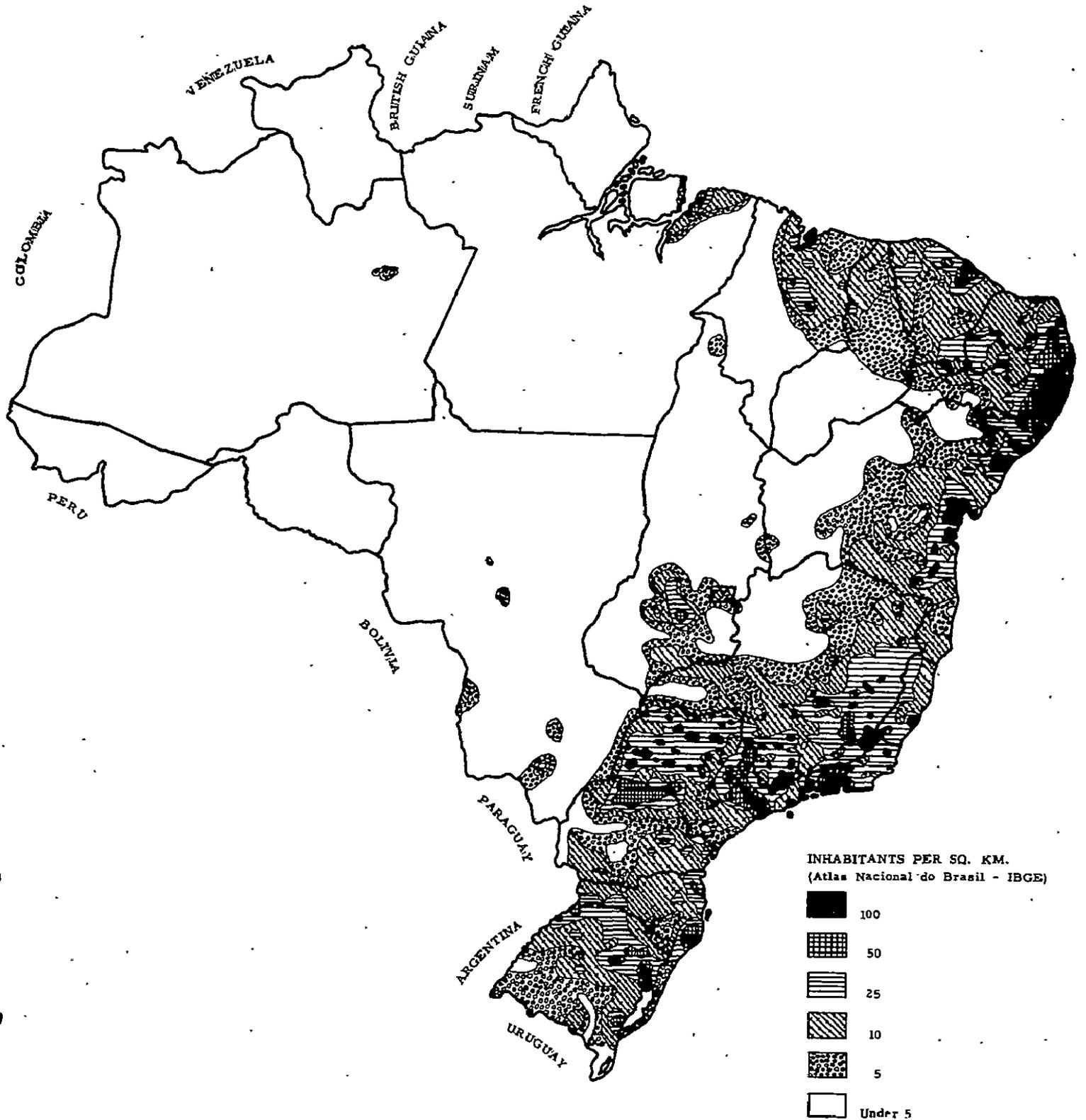


Table 1

Annual Geometric Growth Rate

Region	Urban		Rural		In groups of, at least, 10,000 inhab.	
	1940/50	1950/60	1940/50	1950/60	1940/50	1950/60
North	3,7	5,3	1,8	2,5	3,9	6,6
Northeast	3,5	4,8	1,8	1,0	4,9	6,4
Southeast	4,1	5,1	0,5	1,1	4,9	6,0
South	3,9	6,7	2,8	4,0	4,6	7,7
Center-West	4,7	9,4	2,9	4,0	6,7	14,0
BRAZIL	3,9	5,4	1,6	1,6	4,8	6,4

Sources: 1950 Demographic Census and Preliminary Synopsis of the 1960 Census.

Referência: "Demografia-Diagnóstico Preliminar" EPEA - pg. 83.

Table 2

Selected health indicators for Brazil,
Mexico, Denmark and the United States
in the years around 1964. *

INDICATORS	Brazil	Mexico	Denmark	USA
Infant mortality rate (per 1000 live births)	112	74,2	21,5	26,0
Average life expectancy at birth (in years)	54,8	59,6	72,0	70,9
Death rate for communicable diseases (per 100.000)	506	473,5	38,3	45,4
Death rate for infectious diarrhea in children of less than 5 years of age (per 100.000)	1.245	747,6	6,8	13,7
Death rate for tuberculosis of the respiratory system (per 100.000)	67	23,5	3,5	5,0
Death rate for measles (per 100.000)	14	18,0	-	0,2
Death rate for malignant neoplasms (per 100.000)	79	36,9	213,5	149,4
Death rate for coronary arterio- sclerosis (per 100.000)	99	14,8	239,0	304,3
Population Growth rates/yr	3,1%	3,5%	0,8%	0,8%

* Source: Saúde e Saneamento, Diagnóstico Preliminar, May 1966.

THE CHARTER OF PUNTA DEL ESTE

Establishing an Alliance for Progress within the Framework of Operation Pan America

TITLE I

Objectives of the Alliance for Progress

It is the purpose of the Alliance for Progress to enlist the full energies of the peoples and governments of the American republics in a great cooperative effort to accelerate the economic and social development of the participating countries of Latin America, so that they may achieve maximum levels of well-being, with equal opportunities for all, in democratic societies adapted to their own needs and desires.

The American republics hereby agree to work toward the achievement of the following fundamental goals in the present decade:

1. To achieve in the participating Latin American countries a substantial and sustained growth of per capita income at a rate designed to attain, at the earliest possible date, levels of income capable of assuring self-sustaining development, and sufficient to make Latin American income levels constantly larger in relation to the levels of the more industrialized nations. In this way the gap between the living standards of Latin America and those of the more developed countries can be narrowed. Similarly, presently existing differences in income levels among the Latin American countries will be reduced by accelerating the development of the relatively less developed countries and granting them maximum priority in the distribution of resources and in international cooperation in general. In evaluating the degree of relative development, account will be taken not only of average levels of real income and gross product per capita, but also of indices of infant mortality, illiteracy, and per capita daily caloric intake.

It is recognized that, in order to reach these objectives within a reasonable time, the rate of economic growth in any country of Latin America

should be not less than 2.5 per cent per capita per year, and that each participating country should determine its own growth target in the light of its stage of social and economic evolution, resource endowment, and ability to mobilize national efforts for development.

2. To make the benefits of economic progress available to all citizens of all economic and social groups through a more equitable distribution of national income, raising more rapidly the income and standard of living of the needier sectors of the population, at the same time that a higher proportion of the national product is devoted to investment.

3. To achieve balanced diversification in national economic structures, both regional and functional, making them increasingly free from dependence on the export of a limited number of primary products and the importation of capital goods while attaining stability in the prices of exports or in income derived from exports.

4. To accelerate the process of rational industrialization so as to increase the productivity of the economy as a whole, taking full advantage of the talents and energies of both the private and public sectors, utilizing the natural resources of the country and providing productive and remunerative employment for unemployed or part-time workers. Within this process of industrialization, special attention should be given to the establishment and development of capital-goods industries.

5. To raise greatly the level of agricultural productivity and output and to improve related storage, transportation, and marketing services.

6. To encourage, in accordance with the characteristics of each country, programs of comprehensive agrarian reform leading to the effective transformation, where required, of unjust structures and systems of land tenure and use, with a view to replacing latifundia and dwarf holdings by an equitable system of land tenure so that, with the help of timely and adequate credit, technical assistance and facilities for the marketing and distribution of products, the land will become for the man who works it the basis of his economic stability, the foundation of his increasing welfare, and the guarantee of his freedom and dignity.

7. To eliminate adult illiteracy and by 1970 to assure, as a minimum, access to six years of primary education for each school-age child in Latin America; to modernize and expand vocational, technical, secondary and higher educational and training facilities, to strengthen the capacity for basic and applied research; and to provide the competent personnel required in rapidly-growing societies.

8. To increase life expectancy at birth by a minimum of five years, and to increase the ability to learn and produce; by improving individual and public health. To attain this goal it will be necessary, among other measures, to provide adequate potable water supply and sewage disposal to not less than 70 per cent of the urban and 50 per cent of the rural population; to reduce the present mortality rate of children less than five years of age by at least one-half; to control the more serious communicable diseases, according to their importance as a cause of sickness, disability, and death; to eradicate those illnesses, especially malaria, for which effective techniques are known; to improve nutrition; to train medical and health personnel to meet at least minimum requirements; to improve basic health services at national and local levels; and to intensify scientific research and apply its results more fully and effectively to the prevention and cure of illness.

9. To increase the construction of low-cost houses for low-income families in order to replace inadequate and deficient housing and to reduce housing shortages; and to provide necessary public services to both urban and rural centers of population.

10. To maintain stable price levels, avoiding inflation or deflation and the consequent social hardships and maldistribution of resources, always bearing in mind the necessity of maintaining an adequate rate of economic growth.

11. To strengthen existing agreements on economic integration, with a view to the ultimate fulfillment of aspirations for a Latin American common market that will expand and diversify trade among the Latin American countries and thus contribute to the economic growth of the region.

12. To develop cooperative programs designed to prevent the harmful effects of excessive fluctuations in the foreign exchange earnings derived from exports of primary products, which are of vital importance to economic and social development; and to adopt the measures necessary to facilitate the access of Latin American exports to international markets.

RESOLUTION A.2

TEN-YEAR PUBLIC HEALTH PROGRAM OF THE ALLIANCE FOR PROGRESS

WHEREAS:

A mutual relationship exists between health, economic development, living standards, and well-being;

There is an agreement between the governments of the American states for the simultaneous planning of economic growth and social progress during the decade that began in 1960;

It is essential, for this purpose, that arrangements be concluded in advance for the preparation of national plans that contemplate the problems of primary importance to the societies;

Programs in process of execution should not be interrupted while these plans are being prepared, but should, on the contrary, be extended to other communities, and other plans having economic and social significance should be undertaken giving priority to emergency plans in some of the countries;

It is essential to coordinate the various activities that contribute to individual and collective well-being, not only in national plans but also in projects that are already being carried out and in those to be undertaken in the future;

The Group of Experts of the Organization of American States on Planning for Economic and Social Development in Latin America determined "that improvements (in health conditions) are desirable in themselves, that they are an essential prerequisite for economic growth, and that therefore, they must be an integral element in any meaningful development program for the region"; and

The Council of the Organization of American States recommended that governments, in planning and negotiating the financing of their economic development, should include public health programs essential and complementary to their economic programs, and also recommended the technical advisory services of the Pan American Sanitary Bureau for the formulation of such programs (Resolution VII, Second Meeting of the Special Committee to Study the Formulation of New Measures for Economic Cooperation),

The Special Meeting of the Inter-American Economic and Social Council
at the Ministerial Level

RESOLVES:

1. To recommend to the governments the following long-term measures for the prevention of diseases and the protection and recovery of health:
 - a. To prepare national plans for the next 10 years.
 - b. To create planning and evaluation units in the Ministries of Health, with appropriate representation at the national agencies for the over-all planning of economic development and social progress, to ensure due coordination.
 - c. To improve the collection and study of vital and health statistics as a basis for the formulation and evaluation of national health programs.
 - d. To give particular importance to the education and training of professional and auxiliary personnel to engage in activities related to the prevention and cure of diseases. To this end it will be necessary:
 - (1) To determine the number of experts required in the various categories for each activity or profession;
 - (2) To provide in-service training to present staff members, and progressively train a minimum number of additional personnel; and
 - (3) To expand or create the necessary educational centers.
 - e. To improve the organization and administration of national and local health services by combining the functions of prevention and cure; to obtain a better return from medical care services; to create the necessary services gradually; and to ensure financial accessibility to therapeutic agents and means for the prevention of disease.
 - f. To adopt legal and institutional measures to ensure compliance with the principles and standards of individual and collective medicine for the execution of projects of industrialization, urbanization, housing, rural development, education, tourism, and others.

- g. To make the best possible use of knowledge obtained through scientific research for the prevention and treatment of diseases.

2. To recommend that the governments carry out the following measures to take immediate effect:

- a. To complete projects that are now being executed, particularly those related to the control or eradication of communicable diseases, sanitation, nutrition, medical care, maternal and child care, health education, and other projects for the protection of health, giving due priority to the emergency programs of certain countries.

- b. To formulate projects for gradual development for the following purposes:

- (1) To supply potable water and sewage disposal for at least 70 per cent of the urban population and 50 per cent of the rural population during the present decade, as a minimum;
- (2) To reduce the present mortality rate in children under five years of age by one-half;
- (3) To eradicate malaria and smallpox from the Hemisphere and intensify the control of other common infectious diseases, such as enteric ailments and tuberculosis;
- (4) To make substantial improvements in the feeding and nutrition of the most vulnerable sectors of the community by increasing the consumption of animal or vegetable protein; and
- (5) To take measures for giving increasingly better medical care to a larger number of patients, by improving the organization and administration of hospitals and other centers for the care and protection of health.

3. To establish as a broad goal for health programs during the present decade an increase of five years in the life expectancy at birth of every person.

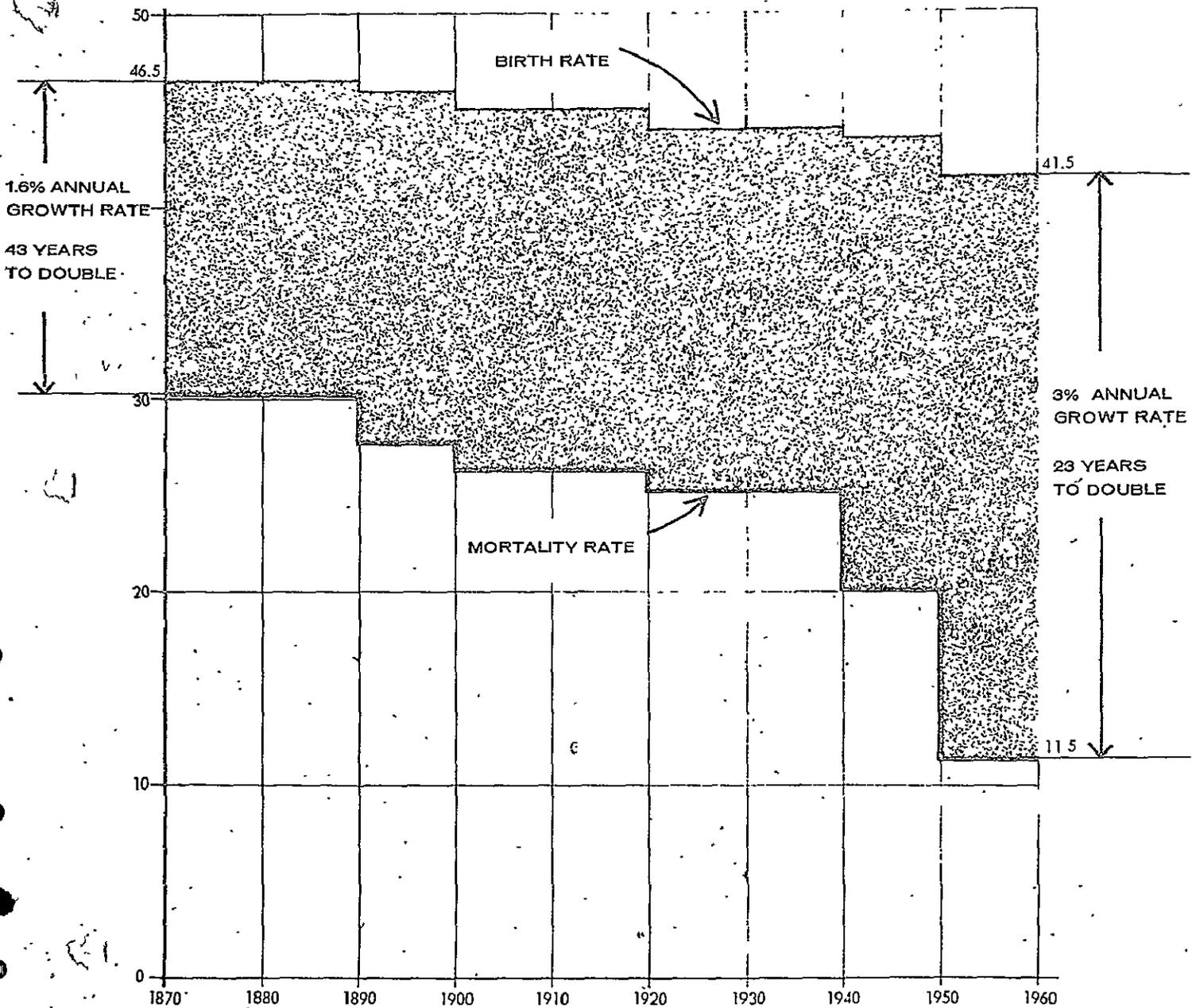
4. To recommend that governments, whenever they consider it advisable, utilize the technical advisory services of the Pan American Sanitary Bureau, Regional Office of the World Health Organization, in the preparation and execution of the aforementioned plans; and likewise to support the projects of that organization for establishing systems of health planning in the countries of Latin America.

5. To recommend, at the same time, the use of other means of technical assistance, whether multilateral or bilateral, available to the countries of this Hemisphere.

CHART I

DEMOGRAPHIC TRANSITION IN BRAZIL 1870-1960

NUMBER
PER 1000
INHABITANTS



Fonte IBGE Contribuições para o Estudo da Demografia do Brasil