

*executive committee of  
the directing council*



PAN AMERICAN  
HEALTH  
ORGANIZATION

*working party of  
the regional committee*

WORLD  
HEALTH  
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MULTINATIONAL CENTERS

INSTITUTE OF NUTRITION OF CENTRAL AMERICA  
AND PANAMA (INCAP)



***THE INSTITUTE OF NUTRITION  
OF CENTRAL AMERICA  
AND PANAMA***

INCAP

1949 - 1974

## INSTITUTE OF NUTRITION OF CENTRAL AMERICA AND PANAMA

A. Background

The Institute of Nutrition of Central America and Panama (INCAP) was set up in 1946 by a decision of the Governments of the six countries of the Central American Isthmus (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama), with the valuable support of the Pan American Sanitary Bureau and the W. K. Kellogg Foundation.

The succeeding three years were devoted to structuring the future Institute and forming the initial group of scientists to man it. It was officially inaugurated in September 1949 and went into operation in the same year, with headquarters in Guatemala City.

The mission entrusted to INCAP was to achieve three essential objectives: to study the nutrition problems of the population of the area; to seek ways and means of solving them; and to provide Member Governments with advice and cooperation in applying the measures best calculated to solve those problems.

By common agreement, the six Member Countries of INCAP asked the Pan American Sanitary Bureau to take charge of the administration of the Institute. As a result, the Bureau appointed Dr. Nevin S. Scrimshaw to be Director, at the same time appointing him Regional Consultant in Nutrition, since at that time PASB had no specific nutrition program. Thus from the outset, although its main focus was cooperation with the six Governments of the Isthmus, INCAP was also concerned with the nutritional problems of the entire Region.

During the early years, the Institute devoted its attention mainly to a study of the nutritional problems of the Central American area, their nature and extent, their consequences, and the factors responsible for them. As it delved more and more deeply into the basic problems, a start was made on concentrated research programs designed to seek possible ways and means of solving them that would be applicable within the social and economic conditions in the countries. Indeed, INCAP's basic philosophy has always been to help the countries to solve their problems on the basis of their own means, and using their own resources.

Although the Institute was originally set up as a technical research and advisory organ, it very rapidly became evident that the countries did not have specialized personnel at the various levels essential to the development of their implementation programs. Hence teaching activities were also introduced with a view to helping train the national personnel needed urgently at all levels.

From the outset likewise, it became evident that even though INCAP had been set up as a public health body, it would have to extend its range of action to embrace the problems more adequately and to operate in the nutrition field on a sound basis. Thus little by little it began to take in as part of its studies and other programs matters more closely related with agriculture and stockraising, education, economics and other activities akin to nutrition and feeding.

Today, in 1974, as it completes its 25th year of operation, INCAP is a multidisciplinary technical body concerned with research, advisory services and teaching in nutrition and food sciences. It has a body of highly skilled professionals with great experience in their various fields of specialization. What is more, its work has earned it international renown.

#### B. The Structure of INCAP Today

INCAP today has seven technical divisions: Agricultural and Food Sciences, Physiological Chemistry, Biomedics, Growth and Development, Microbiology, Food Control and Analysis, and Statistics, all these mainly concerned with research, plus two executive divisions, Applied Nutrition, and Education, the former being responsible for directing and coordinating advisory services and cooperation with the Member Countries, the latter for organizing and directing the Institute's teaching programs. The work is in the hands of a total of 58 professionals covering the following disciplines: general medicine, pediatrics, public health, gastroenterology, physiology, human nutrition, dietetics, biochemistry, microbiology, agronomy, food technology, animal nutrition, physical and social anthropology, sociology, economics, psychology, pedagogy, statistics, communications and librarianship. Its technical and service staff number 240, in other words the total INCAP staff strength is 298.

#### Research Programs

The Institute's research programs include the following areas: ways and means of improving or making more efficient use of the types of food normally consumed in the zone, mainly staple grains such as maize, rice and beans; more rational use of new sources of food available or potentially obtainable in the countries, either directly for human nutrition or indirectly through animal feeding; means of making use in animal feeding of agricultural by-products not used at present; the establishment of minimal nutritional requirements and ways and means of satisfying them from the foodstuffs available; food enrichment; and problems related to food contamination. INCAP also carries out studies of methods for achieving more accurate or easier diagnoses of the nutritional status of individuals or population groups than are available at present. It carries out epidemiological studies on the various factors contributing to the different forms and types of malnutrition, including food practices, infections, concurrent socioeconomic and cultural factors, etc.; and it investigates the effect of these factors on the growth and development

of the fetus and the child, the effects of chronic malnutrition on the working capacity of the adult and, in the case of mothers, on the development of the fetus. Other items are the role of malnutrition in infant morbidity and mortality and the best types of treatment for the different forms and types of malnutrition. Finally, it carries out operational methodology studies in various areas related in one way or another with the research programs mentioned.

For carrying out its research programs, INCAP has spacious laboratories adequately fitted out with modern equipment and installations. It also has an experimental farm for agricultural and stockraising study; a pilot plant for food processing; nine field stations for on-the-spot epidemiological studies in rural communities with different ecological and sociocultural conditions; a clinical center; a laboratory for work physiology; livestock pens; and many other facilities, especially facilities for experiments with rats, poultry, pigs, dogs, ruminants and monkeys.

#### Teaching Programs

The Institute's teaching programs are carried out with the support of the San Carlos University of Guatemala, which also confers degrees on the graduating students. In general, INCAP's academic work comprises: a School with a four-year curriculum for training nutritionist-dietitians to the level of Bachelor degree (licentiate), and four postgraduate-level courses leading to Master's degrees in public health with special reference to nutrition and maternal and child health; food sciences and animal nutrition; food sciences and technology; and biochemistry and human nutrition. The tutorial type of in-service training programs which were a feature of INCAP's teaching activities in the early stages are also continuing, in light of the individual needs of students in the various areas of competence of the Institute.

The School of Nutrition mainly serves the six Member Countries of INCAP, but through PAHO it also deals with requests from other countries desirous of taking advantage of its academic programs. The postgraduate programs are available to interested professional workers from anywhere in the Region of the Americas and from other parts of the world as well.

#### Advisory Services Programs

INCAP's advisory services to the Member Countries are given mainly to ministries of health. Nevertheless, INCAP also cooperates with the ministries or other agencies in the agricultural and educational sectors, the national planning offices and other official or private bodies, national or international, interested in nutrition or whose activities are connected with nutrition.

The areas on which INCAP gives advice can be summarized as follows: diagnosis of the food and nutrition situation; incorporation of nutrition into health sector service programs; incorporation of nutrition into educational

programs at all levels, and nutrition education for the population generally; treatment for the various grades and forms of malnutrition; supplementary feeding programs; and the organization and functioning of the dietetic services of hospitals and other institutions. Other areas are food enrichment; control of food quality; in-service training of personnel; animal nutrition; development of new foods or improvement of existing foods; nutrition research; and the formulation and establishment of national food and nutrition policies.

While INCAP does of course restrict its direct advisory services to the six Central American countries, it nevertheless cooperates fully with the Pan American Health Organization's regional nutrition program. Its professional staff answer requests for advice within their special fields from the other countries of the Region--for example, over the past two years, nine members of the Institute's staff have provided direct advisory services in the following countries outside the Central American area: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Haiti, Jamaica, Mexico, Peru, Uruguay and Venezuela. The services rendered involved a total of 23 visits.

The Institute's library is a valuable resource and tool for all its service programs, teaching and research. It is regarded as one of the most comprehensive specialized libraries in the Region. It regularly receives over 500 journals and has about 8,000 books, more than 9,000 bound volumes of periodicals, and a valuable collection of reprints now numbering more than 23,000. It also subscribes to the main scientific reviewing and abstracting services, and has a large collection of photographs, slides, documents of interest to international and regional bodies, booklet series, etc.

### C. Principal Achievements

The following are some of the most important achievements of INCAP during its 25 years of uninterrupted work: production of an original methodology for applying the principle of food fortification (iodization of crude, moist salt using potassium iodate, and vitamin A fortification of sugar; development and practical application of the principle of combinations of products to obtain highly nutritive foodstuffs at low cost (Incaparina); nutritional improvement of traditional foodstuffs by means of new technologies or the use of local raw materials (maize and vegetable food pastes); utilization of local products and development of better livestock-rearing methods (use of cottonseed flour for feeding pigs and poultry and new methods of artificially feeding calves and raising cattle in the stall); development and application of nutritional diagnosis methods (creatinine/height index, survey method); development of new concepts in the epidemiology of nutritional deficiencies (relationship between nutrition and infection); valuable contributions to a better understanding of the pathology and treatment of protein-calorie malnutrition in children and its multiple effects (importance of the chronic, mild or moderate forms; effects on fetal growth, on infant mortality and morbidity, on the physical and mental growth and development of the child, and on the physical working capacity of the adult). Other achievements include the development of principles and materials for food education purposes and

for teaching nutrition at various levels. As a result of these and many other contributions, INCAP has created a new outlook on nutritional problems and ways and means of coping with them which is crystallizing its views on the formulation of national food and nutrition policies.

Up to the present, the results of INCAP's work have been made known through a total of 1,541 scientific articles published in periodicals of recognized standing and in eight monographs which have been widely distributed. It has also prepared a series of technical documents which have proved useful throughout the entire Region of the Americas. These include the Food Composition Table for Use in Latin America; a Table on the Composition of Grass, Fodder and other Foodstuffs in Central America and Panama; and daily nutritional recommendations for Central America. It has also produced five books and contributed long chapters to volumes and textbooks by other scientists and bodies. Apart from this, it is constantly making available facilities and advice needed for the preparation and publication of university theses, etc. As of the present time such theses number more than 170.

As already said, INCAP has contributed to the training of large numbers of professionals. As may be seen from the attached map, a total of 1,456 students from all parts of the world, but mainly from the Americas, have passed through the Institute's teaching facilities, most of them for the purpose of undertaking specialized studies.

#### D. Financing

INCAP has three main sources of finances: (1) the basic budget; (2) substantial grants from the Pan American Health Organization; and (3) funds from outside sources, in the form of grants and contracts. Its basic budget consists mainly of the annual quota payments of its six Member Countries, amounting at present to a total of \$250,000. There is also an item for miscellaneous income earned by the Institute from the sale of certain products from its experimental farm and for certain services rendered. These sums amounted in 1973 to \$108,258. PAHQ's contribution to the financing of the Institute consists of an item in its Regular Budget designed to pay for a group of INCAP officials included in the payroll of the Pan American Sanitary Bureau. In addition, since 1966, in accordance with a resolution adopted by the Directing Council of the Organization at its annual meeting in 1964, and in recognition of the services rendered by the Institute to the countries of the Region outside Central America, PAHO also makes a direct grant under its budget in support of INCAP's programs. In 1973 the overall contribution of the Organization to the INCAP budget was \$549,829. The remainder of its budget (totaling \$3,099,849 in 1973) is made up of funds granted by various official or private agencies in grants and contracts. These bodies include the United States National Institutes of Health (NIH) and the Agency for International Development (AID); the W. K. Kellogg Foundation, the Research Corporation, the Josiah Macy, Jr. Foundation, the Ford Foundation, and the Rockefeller Foundation (all of the United States of America); the International Development Research Center of Canada; the Nestlé Foundation of Switzerland, PAHEF and others.

The present state of INCAP's finances can be seen from the following summary table:

INCAP Budget, 1973  
(by source of funds)

Quota contributions of Member Countries	\$ 250,000
Miscellaneous income	108,258
PAHO/WHO contribution	549,829*
Grants and contracts	2,191,762
<b>Total</b>	<b>\$ 3,099,849</b>

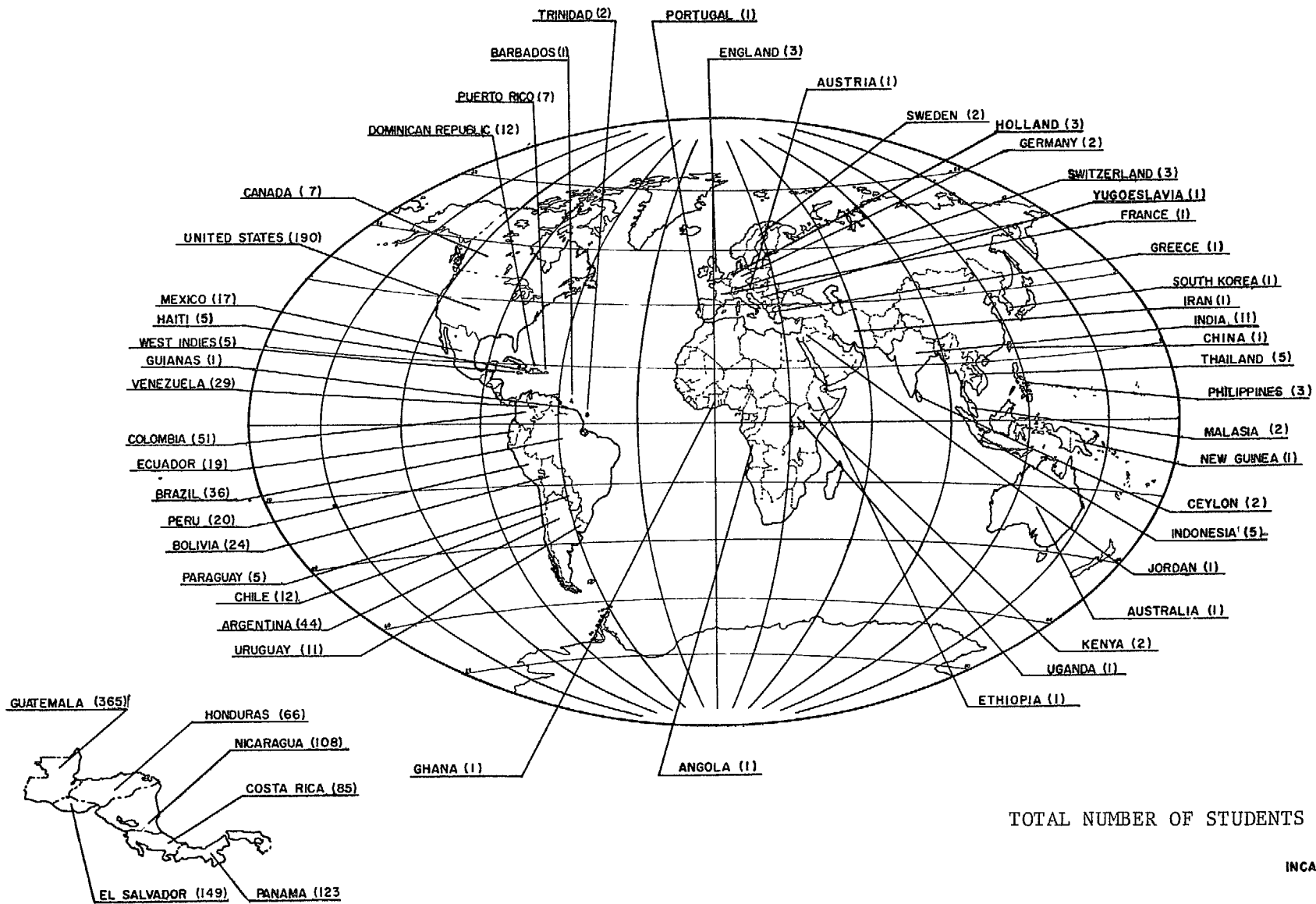
\*Including WHO's contribution of \$51,968

It should also be mentioned that the Government of Guatemala, where the Institute is located, has made a substantial contribution by constructing the main buildings housing the INCAP headquarters. Equally important is the donation of land and other facilities for INCAP's field work.

In conclusion, it should be pointed out that the financial situation of INCAP, with over 70 per cent of its total budget coming from unpledged funds which have to be obtained by requests on an annual basis, is a very precarious one. On the one hand, this demonstrates the confidence and interest shown in INCAP's work at the international level; but on the other hand it creates insecurity and limits INCAP's capacity to program over the long term. Nevertheless INCAP maintains its position solidly and has succeeded in making constant progress and improvements over the 25 years of its lifetime, thanks mainly to the faith and devotion of its body of professional and other workers and the support it has received from its Member Countries and the Pan American Health Organization.



NUMBER OF STUDENTS BY COUNTRY OF ORIGIN TRAINED IN INCAP  
UP TO DECEMBER 1973



TOTAL NUMBER OF STUDENTS 1,456

INCAP 74-516