

A model for a regional centre of nutrition education

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Food remains the most important natural environmental factor in our total well-being. Its production, distribution, and proper preparation are important elements often poorly understood in both developing and developed countries. The continuing problem of insufficiency of food and the ensuing malnutrition can be dealt with, however, only on a transdisciplinary basis. The organization of a successful model to overcome many of these difficulties is recounted here.

In the placid, temperate and beautiful valley of La Ermita lies the capital city of Guatemala, one of the Central American countries where the headquarters of many regional centres of these six mingling nations have been established. The Institute of Nutrition of Central America and Panama (known internationally as INCAP) was the first of these regional centres. Created in 1946 under the auspices of the Pan American Sanitary Bureau, regional office for the Americas of the World Health Organization, it was officially inaugurated in September 1949. The year 1966 marked the establishment of the School of Nutrition, which was the beginning of the first joint academic venture of INCAP and the University of San Carlos de Guatemala.

From the outset, the purpose of the school has been to serve the six Central American countries. The school has been able to develop, first, a curriculum of very high standard that was partially adopted by the first Latin American Conference on the Training of Public Health Nutritionist-Dietitians held in Caracas, Venezuela, in 1966. Today the curriculum is being followed by the twenty-four other schools of nutrition functioning throughout the continent. A second objective has also been achieved: the attainment of close, solid links between INCAP and its member countries.

As a further development of the original policy, and one that has definitely strengthened these co-operative activities, INCAP and the university established in 1971 the Centro de Estudios Superiores en Nutrición y Ciencias de Alimentos (Centre for Higher Education in Nutrition and Food Sciences) known as CESNA. This body regulates all of the academic programmes of INCAP, including that of the School of Nutrition, and promotes the development of new ones demanded by the needs of the various participating countries. Figure 1 shows the current organization of CESNA.

The relationship between the university and CESNA is made viable through a special inter-institutional committee integrated by representatives from each of the academic programmes of INCAP and the deans of the schools of chemical sciences, medicine, veterinary medicine, and humanities of the university, or their delegates. As shown in Figure 2, the School of Nutrition functions with the assistance of three committees: on admissions, curriculum and equivalencies.

■ Study-and-work curriculum

The curriculum (listed in Table 1) covers all areas related to the nutrition of the individual, the family and the community. First-year

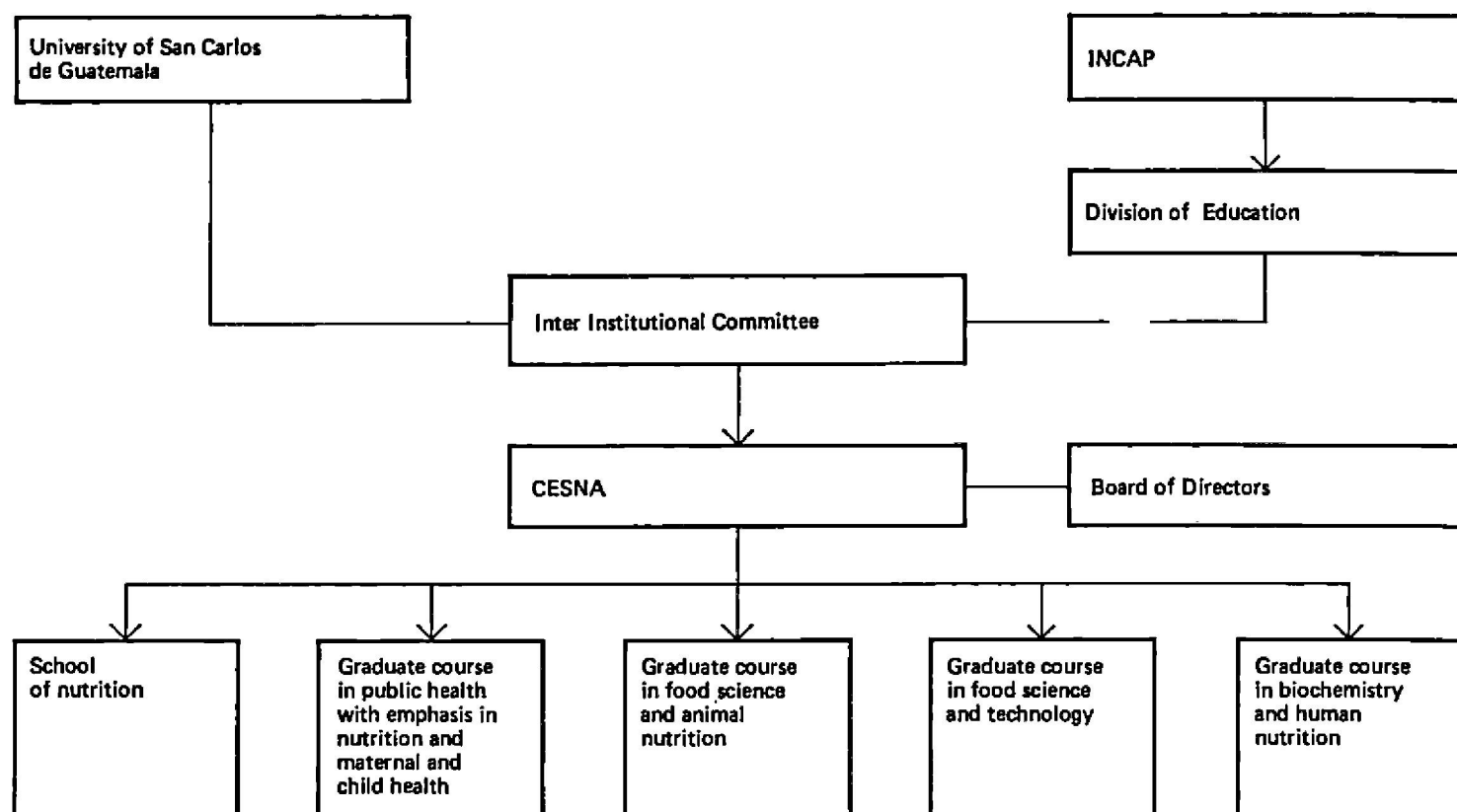


Fig. 1. Organizational chart of the Centre for Higher Education in Nutrition and Food Sciences (CESNA), at Guatemala City.

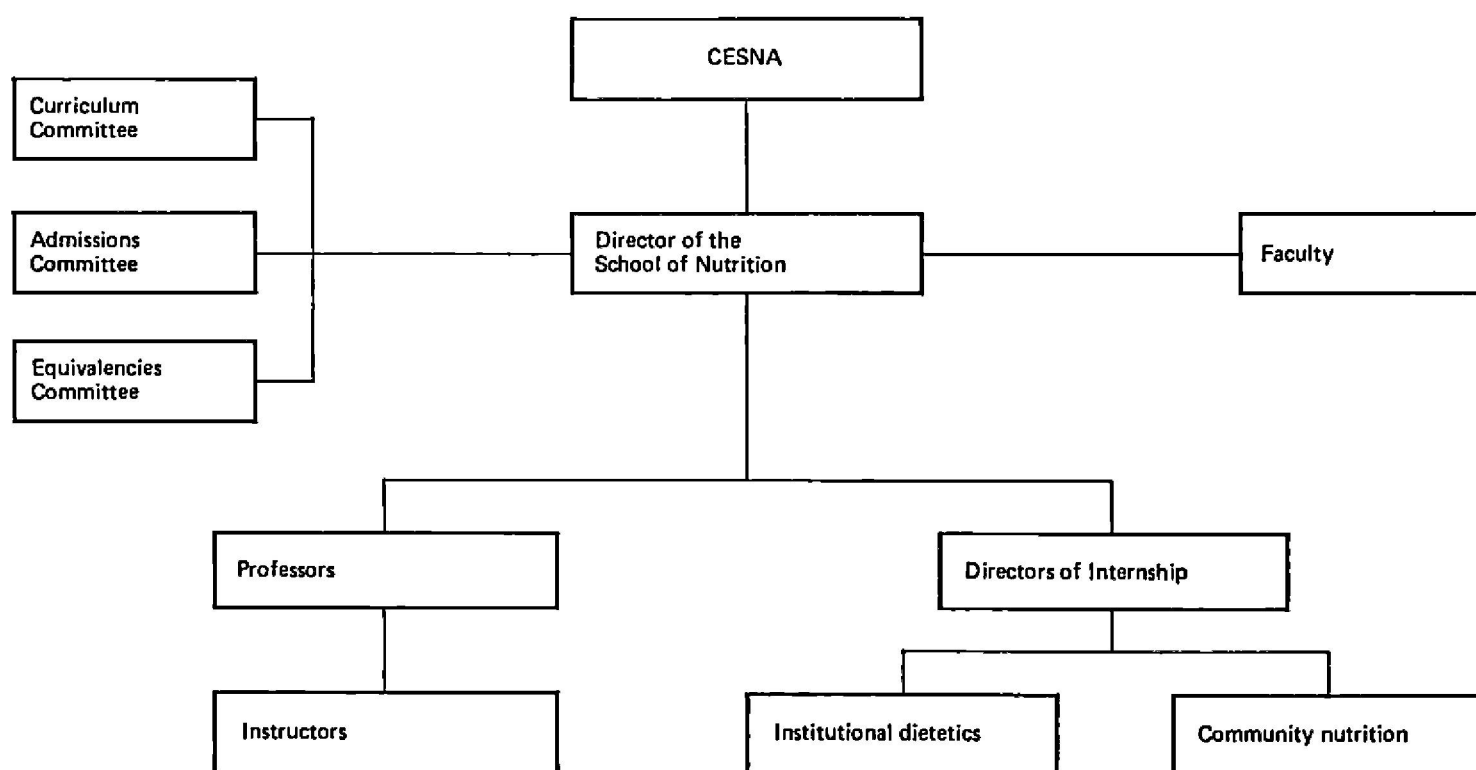


Fig. 2. Organizational chart of the School of Nutrition within CESNA.

Table 1. Curriculum of the School of Nutrition, Centre for Higher Education in Nutrition and Food Sciences (CESNA), University of San Carlos de Guatemala/INCAP

<i>First semester:</i> General physics; General chemistry; General biology; General psychology; Social psychology; Mathematics I; English I.	<i>Fifth semester:</i> Applied pathology; Epidemiology; Social anthropology; Food economics; Dietetics; Institutional feeding; Administration in public health; Community nutrition I.
<i>Second semester:</i> Analytical chemistry; Organic chemistry; Educational psychology; General education; Mathematics II; English II.	<i>Sixth semester:</i> Accounting; Diet therapy; Administration of food services; Community nutrition II; Communications and visual aids; Advanced seminars in nutrition.
<i>Third semester:</i> Microbiology and food hygiene; Food biology; Human biology I; Food selection and preparation I; Teaching methods; English III.	<i>Seventh semester:</i> Internship in institutional dietetics.
<i>Fourth semester:</i> Human biology II; Food technology; Food selection and preparation II; Basic nutrition; Statistics; English IV.	<i>Eighth semester:</i> Community nutrition internship.

courses deal with fundamental knowledge in the basic sciences. Second-year courses emphasize fundamental knowledge in nutrition. Courses included in the third year of studies provide students with the essentials required for the application of nutrition in programmes directed to the individual, the institution, and the community. The fourth year is dedicated to internship activities.

The school is open to all Central American citizens who have completed their high school education. In July of each year, around 150 applications are received from interested candidates, all of whom must take an entrance examination, a requirement for admission to the school. Approximately 15 to 20 per cent of these applicants meet the academic requirements, but not all of them have the financial means to cover their studies. INCAP offers annually to each of the six member countries two fellowships that enable two Central American recruits to complete the career of nutritionist-dietitian. Now, after the graduation of the first three groups of students, the participating countries have learned to appreciate what a well-trained nutritionist-dietitian is able to contribute to a nutrition programme. The countries involved are providing additional funds, therefore, to increase the number of fellowships available. At present, 40 per cent of the students

are covering personally the expenses of all or part of their way through school. A group of around twenty new students are registered annually, and the academic year runs from February to November.

Considering the actual needs of the different countries for well-trained nutritionist-dietitians and the availability of funds, the curriculum has been planned so that all the courses are completed during the first three years of study; this means a load of twenty 'credits', or four full courses, per semester. Yet the intensity of the programme does not deter students from taking advantage of a wonderful and exciting experience, the sharing of the best years of their lives with classmates from the other Central American countries. In fact, most of them seem to consider it a priceless opportunity.

There have been no cultural conflicts or clashes particularly difficult to resolve. Naturally, as happens everywhere in the world, we have witnessed the occasional touch of rivalry, the feeling of frustration when failing a course, nostalgia for the homeland, and so on. As time goes on, however, all of these problems eventually vanish. Faculty members are always willing to help in every way they can; the majority of these are in their early forties, and the generation gap does not really constitute a negative factor in our school.

Along with regular classes, educational experiences are carefully planned so as to include active participation of students in meetings, seminars and Central American congresses (Fig. 3). Visits to other institutions allow students also to observe various types of programmes, as well as to collect data for studies related to the subject matter of their regular courses. Public offices, hospitals, and institutional food services are the main sources of this kind of information.

■ Studies of schools, rural areas

Elementary and secondary schools, as well as institutions of higher education, are essential elements in the learning process. These serve both as subjects of inquiry and as fields of practice for the development of teaching abilities. Experiences in rural communities, on the other hand, are structured around the collection of familial and individual data for the completion of a well-rounded nutritional survey. An analysis of this kind includes not only the appraisal of the nutritional status and health habits of the population, but also takes into account prevailing socio-economic and cultural factors as determinants of food consumption.

The fourth year of studies is dedicated to internship work, as I have mentioned, in both the hospital and the community, with six months of experience in each field. This approach concentrates on the acquisition of community and institutional programmes, including the work up of a dietetic clinic. Implementation of the policy offers endless opportunities for practical experience in (a) the case of ambulatory patients requiring special diets and (b) food management instruction. During the internship period, special research projects for practical application are planned, accordingly, in these different areas of experience. Students must undertake, too, numerous teaching activities.

A unique characteristic of the school is the community nutrition programme. This places particular emphasis on the multidisciplinary, team approach which leads toward the solution of the community's nutritional problems. At a given demonstration site, senior students from the School of Nutrition, together with final-year students from the University of San Carlos' schools of medicine, dentistry, veterinary medicine, and social work, as well as from the National School of Nursing, work jointly in the planning, implementation and evaluation of specific programmes in surrounding rural vil-

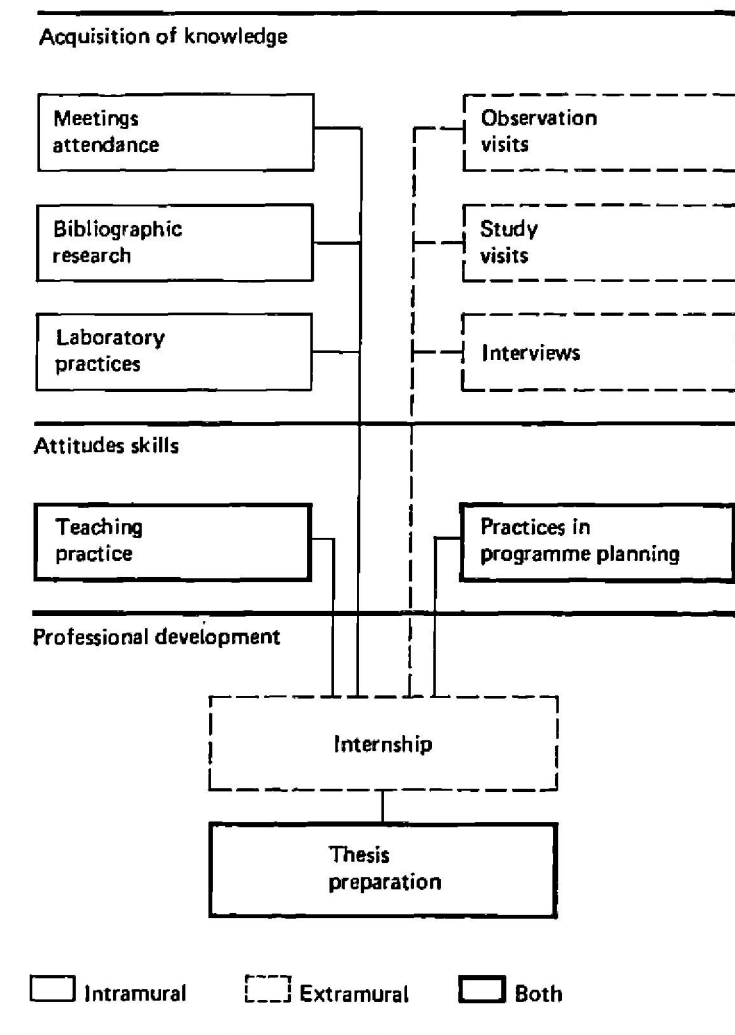


Fig. 3. Organic flow of the educational experiences offered to students of the School of Nutrition in parallel with their regular classes.

lages. These programmes are intended to improve the health and nutritional status of the population. The same project involves promoting availability of foods, teaching better nutritional practices, and providing adequate care through supplementary feeding programmes, day nurseries and patient care in general.

While acquiring basic nutritional knowledge and developing the necessary skills and attitudes to permit sound professional performance later, students find themselves immersed in the contagious spirit of INCAP: a scientific ap-

proach to problems, and a constant search for humanistic solutions. It is worth while mentioning that faculty members are also research workers: they thus bring to the class-room not only the newest knowledge and educational trends, but also an enthusiasm for inquiry and a state of awareness of the fruits of serendipity.

At the completion of the four-year curriculum, students are granted the degree of *licenciado*. This degree is equivalent to that of a university bachelor of science or a *licence*, with the added features of thesis preparation and internship as part of the academic requirements.

■ Placement of graduates

The school's first complete cycle of students was graduated in 1969. To the present, fifty students have completed their course work and thirty-nine of them have received their degree. With two exceptions, all of the school's graduates have returned to their own countries, where they work in hospitals, public health and social security agencies, private clinics, the food industry and universities. Governments and institutions continue to realize more and more the increasing need for nutritionist-dietitians, and in all countries there are vacant posts.

In a geographic area where in 1969 the number of active nutritionist-dietitians was only about thirty, the creation of the School of Nutrition represents today a permanent source of new professionals. Career opportunities are increasingly numerous, and the role of the nutritionist-dietitian in society is firmly gaining terrain.

The Central American Association of Nutritionists and Dietitians has been an important factor, in this respect, by providing a means for the establishment of professional goals. At the same time, the ties of friendship born of the sharing of mutual interests and objectives, the joy, the success (and failure, perhaps) have been positive experiences during the unforgettable four years the student spends at the school. This aspect of the educational process has proved to be an agglutinating factor that has helped strengthen the association's links with Central American countries.

The School of Nutrition is only one of the academic programmes of INCAP's Centre for Higher Education in Nutrition and Food Sciences. Today, graduate programmes in different fields of nutrition and the allied disciplines are also offered. Nutritionists, physicians, nurses, social workers, odontologists, biochemists, food tech-

nologists and food scientists can attend these courses. This is not all, as our institute also contemplates the organization (in the near future) of courses for anthropologists, sociologists, psychologists, economists, educators and programme planners—all of whom can and should play a special role in national efforts towards the attainment of their desired socio-economic conditions.

■ Rationalizing the food problem

Malnutrition is a problem of multiple causes for which there is not a single, universal solution. To deal with the problem, there is only one effective way: a multidisciplinary team approach. But, after all, food is the most important single environmental factor that affects the physical, mental and social well-being of people. As it is well documented elsewhere, the availability of foodstuffs *per capita* is continuously diminishing.

Learning and teaching how to produce better food through better means, and how to distribute, market, prepare and serve it adequately, as well as how to prevent its losses, how to reduce our needs for it, and how to use it efficiently, are becoming the responsibility of every professional in the world.

INCAP is fully aware of this fact, and through its School of Nutrition and the academic programmes offered by CESNA, the institute hopes that these efforts can—even on a reduced scale—help to achieve the goal that many regions of the world now consider to be of primary importance: the solution of their nutritional problems.

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TO DELVE MORE DEEPLY

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White House Conference on food, nutrition and health, final report. Washington, D.C., Government Printing Office, 1969. See p. 162: 'The intake of appropriate and adequate foods and their effective utilization by the human body is the cornerstone of human growth and development to provide the basis for the maximum fulfillment of each individual's potentials. . . .'