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RESEARCH PRIORITIES
FOOD AND NUTRITION PROGRAM

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I. INTRODUCTION

The Food and Nutrition Program (HPN) incorporates research as an essential component in most of the activities it undertakes or promotes at the country level, considering it: a) indispensable to reach its objectives; b) essential to achieve technical excellence in any level of complexity of its actions, and c) fundamental to improve the program's functions making it more effective within the health sector as well as in collaborative work with other sectors, organisms and institutions which also seek the solutions of the nutritional problems and their prevention. In these cases, research is considered an important uniting force through the stimulus that the joint acquisition, generation, dissemination, and application-evaluation of new knowledge generates. This agglutinating function of research becomes essential and is the object of special support given the fact that the field of action of the Food and Nutrition Program is in itself multidisciplinary and multisectoral.

The food and nutrition situation of various population groups in the countries of the Western Hemisphere depends on a series of macro and microeconomic, political, social and educational circumstances, of the production and availability of food and of the existence of various programs and services, particularly those related to health. The nutritional status of populations of the Hemisphere is also highly varied ranging from groups where specific and general nutritional deficiencies are predominant to those whose main problem is that of adult chronic diseases related to relative excesses of food intake and nutritional imbalances (obesity, diabetes, cardiovascular diseases, certain cancers, etc.). Nutritional deficiencies, relative excesses and imbalances occur in all the countries, and there are population groups where these conditions actually coexist. These groups are concentrated in slum urban areas, which in Latin America and the Caribbean area show the largest demographic growth, particularly in terms of adult population. This phenomenon of accelerated urbanization which is the result of profound social, economic and demographic circumstances in itself generates new human ecological situations, and modifies the demand for services and the lifestyle of populations affecting their health, food and nutrition in the processes transculturation. This growing population, demands new approaches to their food and nutrition problems while the underprivileged rural poor persist suffering the classical nutritional deficiencies. The mere persistence of these well-known deficiencies and the recognition of the fact that not all the members of apparently highly homogeneous societies are affected by them, bring out the need to carry out critical evaluations of our available knowledge in terms of their causality as well as of the measures which have been proposed to correct them.

In brief, the following is evident: a) that the food and nutrition problems are persistent and dynamic, demanding new knowledge for its effective solution and for the prevention of the unwanted consequences of poor food habits; b) that their solution requires effective joint approaches of different disciplines and sectors concerned with the persisting problems as well as with those emerging; c) that even when the health sector assumes its important role in seeking solutions to the food and nutrition problems, its efforts are totally ineffective or at least highly inefficient without the participation of other sectors, and d) that research, conceived in a multidisciplinary and multisectoral fashion is fundamental for the effective contribution of the food and nutrition component to the achievement of HFA/2000.

The Food and Nutrition Program of the Pan American Health Organization is privileged by having within its technical resources two subregional Centers which direct a significant part of their effort to research: The Caribbean Food and Nutrition Institute (CFNI) and the Institute of Nutrition of Central America and Panama (INCAP). These Centers, well recognized in their fields, serve their respective subregions in the areas of research, training and technical cooperation and serve as technical resources to the Regional Program. Their research and experience are particularly valuable in these terms and in their contribution to the global knowledge in food, nutrition and related fields. Given the magnitude of the research component of INCAP, its Director has prepared an independent document which will be discussed in the meeting of the Advisory Committee on Health Research. Appendix 1 summarizes the research activities of CFNI.

II. RESEARCH MODALITIES

HPN and the Centers CFNI and INCAP carry out problem-oriented research, that is, research aimed at solving the food and nutrition problems existing at the population level and at preventing those which are foreseen in the future, based on solid evidence and theory. Action-oriented research is part of this research modality.

Under this general frame of work, HPN and the Centers are involved in basic or fundamental research as well as in that considered applied and operational assigning to each modality its relative importance, given the circumstances and the characteristics of the problems being addressed. Research in food and nutrition involves different fields, from those purely biological (human, animal and agronomical) up to those purely agricultural, technological, economical, social or concerned with human resources, always with aims pertinent to the food and nutrition fields.

The levels of research and the sites of execution also vary widely including from relatively simple individual literature research up to collaborative studies involving different centers in various countries and covering community studies or investigations carried out in centers with metabolic hospital facilities, laboratories, animal facilities, experimental farms, pilot food technology plants, etc.

III. OBJECTIVES OF THE REGIONAL FOOD AND NUTRITION PROGRAM

The program objectives and its priority areas in technical cooperation (please see IV), are stated because they orient its research activity and that of the Centers, since the final aim of the research is to favor the achievement of the objectives of HPN.

A. General objective

Collaborate with the Member Governments in the identification, adaptation, development, application and evaluation of the appropriate methods for the promotion, achievement and maintenance of an optimal nutritional status of all the population.

B. Specific objectives

1. Promote and support measures aimed at improving the availability, intake and utilization of food as well at strengthening the practice of healthful food habits, particularly in the vulnerable groups (i.e., women in reproductive age, pregnant and lactating; children; populations in critical poverty; groups undergoing transculturation).
2. Promote and provide technical support to programs directed to significantly reduce protein energy undernutrition, specific nutritional deficiencies and malnutrition caused by relative excesses or imbalances in the consumption of foods and nutrients.
3. Support measures to strengthen institutional food services and those of dietetics and to implement optimum treatment and rehabilitation of patients with severe undernutrition or an evident risk of developing it, and of patients suffering other nutritional diseases or afflicted with processes which demand special diet therapy.
4. Provide technical and administrative support to the countries to enhance their national capability to solve their food and nutritional problems.

IV. PRIORITY AREAS IN TECHNICAL COOPERATION

The activities to be undertaken are grouped in three large priority areas, each one encompassing various lines of action. In the implementation of each of the areas the nutritional risk approach is applied, based primarily on community action. The administration of knowledge, with strong research and personnel training components are considered essential for their development.

A. Multisectoral food and nutrition policies, plans and programs

Given the multicausality of the food and nutrition problems and the dynamic interrelation of their determining factors, the dynamic intersectoral approach is indispensable for the success of the programs. This priority area involves the following lines of action:

1. Systems to improve the true availability of foods, considering the nutritional, social, economic, managerial and evaluation components.
2. Systems to improve the food intake, based primarily on food-nutritional and health education taking into account the population's behavior and the local capacities.
3. Food and nutrition diagnosis and surveillance based fundamentally on meaningful components for the community as well as for the different levels of action at the national and international spheres.
4. Food and nutrition interventions at the national level aimed at the prevention of specific nutritional deficiencies, fundamentally food enrichment and fortification programs.

B. Food and nutrition in primary health care and facilitation of the active incorporation of women in this process

The Regional Program responds to the Countries' requests and promotes the development of the food and nutrition components within the primary health care strategy, including all the levels of care. It also promotes the active participation of the community and other development sectors in the planning, implementation and evaluation of these activities, and it supports the establishment of a solid information base for the formulation of integrated plans which will facilitate the intersectoral coordination at all levels including those involved in national decision making.

Within this strategy, the programs actions are articulated and integrated in programmatic units with the other actions which health sectors undertake in the promotion, protection and rehabilitation of health, including adequate diagnosis and opportune treatment.

Given the fundamental importance of the active incorporation of women in food-nutrition-health activities within the context of development, special priority is given to actions directed to facilitate and to strengthen women's contribution in this field. In this respect, it is believed that in many societies at present the social value of women is underestimated and must be improved. Under present conditions women are often victims of discriminatory actions which handicap their health and nutrition.

Lines of action:

1. Promotion and technical strengthening of actions and programs directed to improve and safeguard the adequate food intake of mothers, children and other priority groups (food supply and distribution systems, food supplementation, breastfeeding, proper weaning practices, etc).
 2. Prevention, early diagnosis and adequate management, at the level of the community, of protein energy undernutrition and other nutritional diseases. This demands the improvement and utilization of meaningful indicators; the adoption of systems which will insure the proper availability and consumption of adequately prepared local foods; the organization of the community towards the implementation of surveillance systems; the establishment of appropriate nutritional rehabilitation schemes according to the communities' capacities, etc.
 3. Support the development of integrated educational programs in food, nutrition and health at the level of the community, considering the essential role that women play in these activities and the most appropriate means of communication given the local characteristics of the population.
 4. Strengthening useful systems for the diagnosis and management of nutritional diseases at different levels of health care from the simplest (community health worker, health post) up to the most complex (reference hospitals and services).
 5. Support institutional food services and dietetic services. The first include services in institutions, hospitals, industrial areas, etc.
- C. Strengthening of national and subregional institutions in food and nutrition

The program must promote and strengthen national and subregional technical bodies capable of solving the food and nutrition problems at the country and subregional level. This effort involves the development of institutions in the following lines of action:

1. Institutional management and action programs.
2. Research.
3. Training and continuing education of personnel in food, nutrition and allied sciences.
4. Technical cooperation and/or provision of services.

V. PRIORITY RESEARCH AREAS

A. Criteria for establishing priorities

As it was previously indicated, the fundamental modality of research which the Food and Nutrition Program and the Technical Centers (CFNI and INCAP) promote, is oriented to the solution of the relevant food and nutrition problems at the population level as well as towards the prevention of problems that are foreseen (preventive sense, anticipatory action). This type of research could be labeled as utilitarian and in this perspective, one of important criteria to define priorities would be that of the greatest efficiency of the project in correcting or preventing the given problem. This criteria could encompass research aimed at producing new technologies, at evaluating processes to increase their efficiency and effectiveness, at improving the use of available information, at optimizing the training and work conditions of the available human resources, etc. Other priority criterion could be the capacity of the research to generate concrete actions coupled with the precise evaluation schemes from which new knowledge can emerge (action-oriented research). Equally priority could be innovative research based on solid theory and knowledge within the framework already defined, focused in solving critical gaps of knowledge which hamper the solution of existing problems. This implies to give priority to research in less treaded areas.

Based on these considerations and on experience, the most important criteria to assign priorities in food and nutrition research are listed as follows:

1. The research is aimed at the solution of a relevant problem for the population in the Hemisphere. The problem is relevant when it has important biological or social consequences and, therefore, is recognized as such by experts in a country or a region.
2. The research is focused on fundamental aspects, the development of which can give origin to useful generalizable knowledge for the solution of one or several important problems or for their prevention. This approach will require innovative concepts and techniques and/or would address areas which have been relatively unexplored.
3. The research develops or evaluates appropriate technologies including considerations on the factors which could favor or hamper the receptivity and application of such technology.
4. The research demands or favors intersectoral and interdisciplinary collaboration. Ideally, it leads to intercountry collaboration.

5. The research promotes the development of local expertise. In other words, that it serves a training function by bringing local participants to a carefully supervised experience carried out with strict application of the scientific method and which will promote the creation and or strengthening of one or various centers of excellence in the country or countries involved in the research.

B. Prioritary research areas

1. Determinants of food practices and the care of groups at nutritional risk

It is widely recognized that small children and women (particularly during their reproductive age, pregnancy and lactation), are vulnerable to nutritional deficiencies as a consequence of their relatively greater biological nutrient demands, associated pathology, and/or the presence of discriminatory practices in terms of food and other resource distribution at the community and family levels. The biological and social negative factors can act synergistically creating more acute deficitary situations as, for example, in the case of pregnancy in adolescence or sickness in childhood.

The profound knowledge of what motivates and molds the decisions, practices and beliefs in the feeding and care of these vulnerable groups is indispensable for the generation of actions at the communities themselves which are beneficial, acceptable and persistent throughout time. In this sense, as example, the following projects could be considered:

- a) Analysis of the present status regarding the content and implementation of the food and nutritional components in primary health care.
- b) Development and evaluation of food and nutritional surveillance systems for the identification of children and women at risk and evaluation of related community level nutritional programs.
- c) Identification of weaning foods at reach for poor rural and urban communities, giving special attention to means to overcome practical problems in their use.
- d) Development and evaluation of educational contents and methods based on the knowledge, attitudes, beliefs and practices of the various groups which integrate a community (study of positive deviants in poor communities as the basis for action programs).

2. Systems to improve the availability and consumption of basic foods and nutrients in socioeconomically underprivileged households

One of the most serious causes of undernutrition is the disparity in the true availability of foods which acts particularly against the economically underprivileged households. This is made still worse by the often discriminatory intrafamilial distribution and consumption of foods which affects negatively small children and women in general and sick individuals in particular.

This area of knowledge must be solidly expanded to: a) enable the development of policies, plans and programs leading to increase food and nutritional security at the household and at the individual level within that household; b) favor the implementation of effective educational programs in food, nutrition and health; and c) identify and promote food and nutrition activities within the primary health care strategy and closely articulated with other programs of general development.

3. Mechanisms to evaluate interventions in the food and nutritional field

Very few interventions directed to modify food and nutrient intakes of general populations or of specific groups have been adequately evaluated in their intrinsic dimensions (coverage, economic aspects, operational aspects) and much less in their impact upon such populations. These applies not only to programs directly related to foods and nutrients but also to other interventions with expected nutritional impact in the social, educational and health spheres.

The need for information with the purpose of improving the effectiveness of these programs and of plans and policies related to them is very evident. Equally important is the information needed for the development of meaningful and practical surveillance and evaluation instruments.

4. Research in preventive nutrition

This research must lead to the design of alimentary interventions directed to populations with the purpose of preventing functional damage and short or long-term pathological processes caused or worsened by nutritional defects.

The dynamic nature of societies in terms of demography, ecology, socioeconomic factors, cultural aspects, lifestyle and diet demands new knowledge and adjustments in its application with emphasis on prevention. The population of the Western Hemisphere is particularly dynamic in characteristics which influence the present and future nutritional status of populations. One function of the research is to anticipate events and to provide the knowledge leading to the prevention or lessening of negative effects and/or to strengthen and optimization of positive effects

of such events. Some examples can clarify this concept: The food and nutritional impact of the massive rural urban migration must be anticipated; the nutritional and health deterioration in urban environments associated with socioeconomic changes leading to an increment in the prevalence of chronic nutrition-related diseases, must be prevented; the health and nutrition conditions of girls and women must receive early attention to prevent later risks related to their reproductive function; the development of new measures directed to the correction and prevention of specific nutritional deficiencies can have long-lasting preventive effects.

5. Definition of the needs for personnel in food-nutrition-health

It is essential to define, in terms of characteristics and numbers, the human resources required for the optimal function of primary health care systems and programs of general development.

Not enough is known of the functions of different human resources at the community level or at the level of support of communitary actions. This hampers an adequate planning of the necessary resources to optimize the function of professional and auxiliary personnel in health-food-nutrition. This knowledge is indispensable to be able to guide the training of such resources in the different formal and informal education programs.

VI. RESOURCES

The research efforts of the Food and Nutrition Program, including those of the Centers, will be strengthened by the implementation of a Regional Operative Network of Institutions in Food and Nutrition, integrated by institutions in the Western Hemisphere recognized by their excellence in research, training, information dissemination and technical cooperation and which, besides, approach the food and nutrition problems in a multidisciplinary and multisectoral fashion and have international experience.

The existence of the WHO/UNICEF Joint Nutrition Support Program (JNSP) provides special dynamism to the study of the food and nutrition components within the primary health programs in specific countries. The special purpose of this program is the documentation and careful evaluation of actions in food and nutrition within the normal systems of primary care, with emphasis on groups at risk. This program also promotes the eradication of endemic goiter and cretinism in the Andean Region.

Together with the unit of Nutrition of the World Health Organization, HPN also actively collaborates in the promotion and implementation of action-oriented research in nutrition through primary health care activities.

The resources for research in this Hemisphere will be also increased by the creation of an inventory of:

1. Human resources in nutrition and health, social sciences, education which work directly or indirectly in food and nutrition.
2. Institutions which carry out activities in food, nutrition and health.
3. Specific programs and projects in food and nutrition, including food production, technology and marketing, distribution systems, intake and biological utilization of foods.
4. Multisectoral dynamic systems of food and nutritional surveillance.

The active interaction between scientists and the personnel directly in charge of food and nutrition activities will be promoted emphasizing the multidisciplinary and multisectoral approach previously mentioned. This will widen the research base and will bring up pertinent research opportunities.

The training of personnel through formal and nonformal educational systems will be favored and special efforts will be made for the updating of service personnel in matters of food, nutrition and health.

Information dissemination directed to priority problems will be favored.

Community participation in food and nutrition actions within the ample concept of primary health care will be supported.

Extrabudgetary funds will be sought to support specific projects of interest to one or several governments in terms of single research projects or within collaborative multicentered research projects.

APPENDIX 1

RESEARCH IN THE CARIBBEAN FOOD AND NUTRITION INSTITUTE (CFNI)

I. BACKGROUND

Historically, the Caribbean Food and Nutrition Institute has given primary emphasis to providing technical cooperation to the countries of the Caribbean area, including training and updating of personnel in food and nutrition, cooperating with the countries in defining food and nutrition policies and carrying out community education. Although research has been a constant component of these activities and of those directed to the diagnosis and surveillance of the food and nutrition situation of the countries of the Caribbean area and of populations at risk, it has generally received less attention than that given to technical cooperation, education and training. In spite of this, CFNI has made significant contributions to the food and nutrition knowledge of the Caribbean area, which has had favorable repercussions in the subregion and beyond. The Institute has also been aware of the need for research, very much along the lines described for the Regional Food and Nutrition Program. Last year PAHO and CFNI convened a specific Scientific and Technical Advisory Committee (SAC) for the Institute which, after careful review of its activities, proposed a series of recommendations one of which states that, "CFNI should strengthen its research and evaluation role." CFNI's Policy Advisory Committee endorsed this recommendation.

II. PRESENT RESEARCH

Currently, its professional staff, which numbers only ten, is involved in lines of research of its own and is expanding its cooperation with other Caribbean institutions, primarily the University of the West Indies, and with other English-speaking institutions in Europe and North America. The research in progress can be grouped in the following categories, all within the modalities of problem solving and action-oriented (evaluative) research.

A. Intersectoral Food and Nutrition Policies, Plans and Programs

Within this area, efforts are directed towards:

1. Evaluating the roles of the food and nutrition councils and the reasons for their relative success or lack of it in the Caribbean territories.
2. Food and nutrition diagnosis and surveillance is being promoted within the action-oriented research modality.

3. Food marketing for better nutrition and policy implications is another specific line of research which is leading to the development of:
 - a) criteria for assessing food-price policies and food-subsidy policies;
 - b) a methodology for developing and refining food pricing, and
 - c) price policy guidelines for the protection of low-income groups.

B. Food and Nutrition in Primary Health Care and the Facilitation of Incorporation of Women in the Process

1. CFNI is conducting evaluative research in the area of mass-media communication and community education aiming at improving the food and nutrition components of all primary health care and integral development projects. Specifically, studies are in progress in evaluating the effect which the current deterioration of the economical situation of Jamaica, has had on the nutritional status of various urban and rural population groups; the health and nutritional status of women marketing agricultural produce in parroquial markets in Jamaica is also the subject of study.
2. Research in the nutrition of groups at risk, primarily in the area of breastfeeding and weaning is also proceeding.
3. Nutritional anemias is another area of research which has included the development of a simple hemoglobin screening device for use in primary health care posts.
4. The food and nutrition components of primary health care are also the subject of study within the philosophy of the Joint Nutrition Support Program (JNSP) of WHO/PAHO/UNICEF, which is proceeding at St. Vincent and the Grenadines and Dominica with the technical support of CFNI.
5. Research is proceeding on how intersectoral development and community participation can interact with quality of life in defining models to improve the effectiveness of health activities.

C. Strengthening of National Capabilities in Food and Nutrition

The research component in the training of local personnel is receiving greater emphasis with the purpose of improving the quality of the evaluation of food and nutrition activities within primary health care and integrated development projects (for example, in agricultural schools) and their impact on the population.