THE ROLE OF THE PUBLIC HEALTH DEPARTMENT
IN THE IMPROVEMENT OF NUTRITION

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for the Technical Discussions
1. **Nutrition: Whose Responsibility?**

There is no doubt that malnutrition and deficiency diseases represent an important public health problem and consequently are a responsibility of the health service. However, the very nature of the problem differs from most of the problems with which we are confronted in public health. Although the epidemiology, the clinical aspects and the therapy of malnutrition are certainly health problems, its prevention, goes far beyond the present activities of the health services.

We know that malnutrition is the consequence of inadequate intakes of essential nutrients due largely to low production and low consumption of food, particularly so-called protective food. Food production, however, largely depends on agricultural and economic conditions, and planning and consumption, as well, depend on many factors, among which are scarcity of food (usually accompanied by higher prices, often beyond the economic capacity of the poorer strata of the population), religious or social prejudices, and unawareness of the nutritive value of various foodstuffs.

Most differences of opinion have centered around what can be accomplished in the field of nutrition by the public health services. Whereas some people claim that public health is well able to cope with nutrition problems as regards epidemiology and prevention, others maintain that its sphere of action is too limited and that it is in agriculture and economics that the ultimate solution is to be sought.

Not infrequently the authorities are inclined to consider that the solution of the problem of malnutrition is the responsibility of the health services, as is the prevention of other diseases, and even that health or nutrition education is the solution to the problem. They believe that when people realize the value of the right kind of food, they will start to consume it. This might be so in a highly developed, industrialized country, where most of the population do not produce their food but purchase it in the market and where, with the high purchasing power and high level of general education, it is relatively easy to influence people by means of modern education techniques - through the press, radio, television, etc., - and to re-orient them towards sounder nutrition habits, particularly if this does not involve higher expenses. However, in the South-East Asia Region, where up to 95% of the population live in rural areas and depend on farming for their subsistence, and the great majority produce their food themselves, consuming, for economic reasons and lack of suitable markets, mostly what they personally produce, it is doubtful whether the mere awareness of the nutritive value of any particular foodstuffs would create a motivation strong enough to induce them to change the pattern of food production and food consumption, under the present economic conditions. A more comprehensive approach has therefore to be made.
We may say that, although the consequences of inadequate diet create an important public health problem, the solution must be primarily a socio-economic one. This concept enables us to discuss the responsibilities more adequately.

2. The Responsibility of the Public Health Department

2.1 Establishment of a Nutrition Department

The magnitude of the problem can be fully assessed by examining the health status of the people. It is obvious that the health services will be responsible at the technical and administrative level for defining the scope and nature of the problem and for planning pertinent preventive measures. The carrying out of these measures, however, has broader implications, requiring suitable health as well as socio-economic measures.

The assessment of the nutritional status of the population, which is usually made by using vital statistical, clinical, laboratory and anthropometrical methods, should be organized by the Public Health Services. They demand adequately trained personnel and laboratory facilities. Creation of a nutrition department, under the public health services, would therefore be the first step in organizing nutrition activities in a country. This department should be responsible for the collection of data through nutrition and dietary surveys, the analysis of hospital and maternal and child health service records, and the study of food habits of the population. In South-East Asia many countries have already organized nutrition departments, the activities of which vary according to the number of trained personnel and the financial and organizational support given.

The comparison of the results of nutrition surveys with the data on food consumption will make it possible to clarify causal relationships between malnutrition and food intake, often, however, not without additional research. Therefore the organization of services for public health nutrition should be equipped and staffed for research as well.

Simultaneously with establishing the nutrition department in the Ministry of Health, a unit concerned with food production, processing, preservation, distribution and utilization should be organized in the Ministry of Agriculture.

2.2 Establishment of a National Technical Advisory Committee

The collection and analysis of data from which it will be possible to assess the nature and magnitude of the problem will therefore be mainly the responsibility of the health services. On this basis, actual programmes for improvement and prevention may be planned.

In most of the developing countries of South-East Asia, the national authorities have planned food production, but because of post-war economic difficulties their main concern has been how to provide
enough calories for the rapidly growing population. The production of protective food has thus been neglected in official planning, although occasionally stimulated at the local level through agricultural extension work. It is an encouraging fact that the authorities seem to be increasingly aware of the adverse effect of malnutrition upon the economic and social progress of a country and now feel obliged to take action. This is the right moment for the Public Health Department to step in. By providing data which indicate what particular nutrients are missing from the people's diet, the Public Health Department will be of great help to the agriculturists, in influencing the production of the right type of foods which are rich in the missing nutrients and which can be grown locally. Different social and religious habits will have to be taken into consideration when recommending new types of foods, and this calls for increased educational activities. Finally, this work should be made a part of the pattern of rural development of each particular country (e.g. the Community Development Programmes).

This complex task could be tackled efficiently through a Technical Advisory Committee - a co-ordinative nutrition body set up at the governmental level, consisting of representatives of the different agencies concerned. The Public Health Nutrition Department should provide the facts on the nutrition situation in the country which would serve as the terms of reference for such a committee, and should also have the responsibility for advising it on food production and nutrition education. The proposed Advisory Committee could be composed of suitable representatives of the Ministries of Agriculture, Education, Economic Affairs and Public Health, selected for their technical knowledge. These three components - the Department of Nutrition of the Health Ministry, the Food and Agriculture Department and the Technical Advisory Committee - would provide the basis for organizing nutrition programmes within a country.

2.3 Establishment of a National Food and Nutrition Commission

Further activities might be developed in two directions: (1) by constituting a "National Food and Nutrition Commission", and (2) by the horizontal expansion of a nutrition programme to be carried out mainly by (a) the local public health services, (b) the schools (elementary, secondary and special), and (c) the agricultural extension services.

The National Food and Nutrition Commission is the body that determines food policy. It would seem superfluous to go into too much detail about its functions and responsibilities, as these have already been repeatedly defined at international meetings, particularly those of FAO. But what should be pointed out here is that its functions are completely different from those of the Technical Advisory Committee previously referred to.

Such a National Food and Nutrition Commission would be in a good position to define the country's nutrition policy, and, moreover, could be instrumental in furthering the development of an agricultural
economy that takes into account the nutritional needs of the country's inhabitants. It has been observed that such national commissions tend to have too large a membership. There would appear to be no evidence that this practice leads to better results than can be achieved with a small but well chosen body. The Commission's vitality will be in direct relation to the activities developed by the Departments of Nutrition and Food and Agriculture and by the Technical Advisory Committee.

2.4 Horizontal Extension of Programmes at Local Level

The country-wide, horizontal extension of a minimum nutrition programme which can be carried out by the local public health, education, and agricultural extension services needs to be carefully planned by the Technical Advisory Committee. Consideration should be given to the following points in drawing up plans for local health services:

1. The means by which local health staff may define the scope and nature of the nutritional problems in their area of work. Some vital statistics and anthropometric and clinical data would help them in this task.

2. The supplementary feeding programmes needed for mothers and children, and the local organization of such programmes.

3. The need for suitable periodic supervision of the nutritional status of mothers and children, and methods of obtaining such supervision.

4. The methodology and content of a programme of minimum education in nutrition as part of general health education.

5. The co-operation of health centres with agricultural extension services, community development services and other services in matters affecting local food production policy, and the content of nutrition education in the programmes carried out by these services.

These five points, if well developed and practically applied, could produce satisfactory results, when extended, at least in areas where suitable health centres exist.

Special attention should be given to the organization of nutrition departments in medical schools and in schools of public health and to the teaching of nutrition in medical schools, schools of basic nursing, in-training courses for auxiliary personnel, teachers' training colleges, social services, etc. The teaching of nutrition should be integrated into the basic curriculum for training each professional category.

The same policy should also be pursued with regard to schools of home economics, agricultural extension schools and vocational schools generally, as well as agricultural, veterinary, and other related schools.

Programmes to teach elementary nutrition in primary and secondary schools as well as supplementary feeding programmes for school-children should be organized.
It may be noted that no reference has been made to nutrition specialists for work in the rural areas of the country. This is precisely what characterizes this first stage - namely, that nutrition activities can be extended horizontally throughout the country with the personnel that is already available in the public health, education and agricultural services. Nutrition should be a part of their normal duties.

Obviously, so broad a plan - although in itself not complicated - will have to be phased and extended progressively and, in large countries, by sectors. But the important point is to ensure that in a relatively short time there is an awareness of nutrition problems in every locality and that a start is made on programmes in the three fields of health, education and agricultural extension, without prejudice to more intensive plans to be implemented at later stages.

2.5 Decentralization of Activities of the National Department of Nutrition

A further stage from the public health point of view would consist of the incorporation of nutrition into the public health services of the appropriate administrative sub-division of the country. In other words, this would be the start of the decentralization of the activities of the national department of nutrition.

A public health nutritionist should be assigned to the regional, state or provincial public health services, to play the role of adviser to the Chief Medical Officer of the area on all matters relating to nutrition. He would have the following functions:

(a) To study the economic, agricultural, social, cultural, and health problems in the area.

(b) To give advice on and supervise the programmes to be carried out in the public health services, and to co-ordinate them with the programmes in education and in agricultural extension.

(c) To be responsible for the in-service training of local personnel.

(d) To evaluate the programmes.

It would be advisable if the areas chosen were those where integrated public health programmes had already been organized and agricultural extension and community organizations services set up.

Consideration should also be given to the addition of dietitians to the staff of hospitals and other welfare institutions.

3. Summary

To recapitulate the scope of activity of the Public Health Department in the field of nutrition, it could be summarized as:

(1) Direct responsibility for defining the nature and magnitude of the problem by carrying out nutrition and dietary studies and related research activities.
(2) Organization of programmes of applied nutrition in the public health services such as in the maternal and child health services.

(3) Formulation of hospital diets.

(4) Training of public health and medical personnel.

(5) Responsibility for advising governmental and public organizations on various problems related to nutrition, primarily in devising national food and nutrition policy.

(6) Collaboration in an advisory capacity with other agencies with respect to such other activities as:

   (a) School-meal programmes,
   (b) Institutional feeding, and
   (c) Nutrition education and training.
DETAILED SUGGESTIONS FOR A DEPARTMENT OF NUTRITION

1. Functions of the Department of Nutrition

In most countries the functions of a Department of Nutrition are as follows:

1.1 Research

Research activities have, in fact, usually been restricted to laboratory work, especially food analyses and special studies on subjects sometimes far removed from those that are of interest to public health. However, the dietary surveys made deserve to be mentioned. There are three areas of paramount importance in research:

(a) Epidemiological research - to learn the nature and extent of nutrition problems in the country. Such research includes studies on the prevalence and incidence of nutritional diseases and disorders and their seasonal variations, availability of food in different areas, individual and family consumption, and the infectious factors that determine or precipitate nutrition problems, as well as the economic, social, cultural, and geographical factors involved.

(b) Methodological research - to improve and, where possible, to simplify methods of evaluating nutritional status and feeding problems. It would not seem advisable for public health staff not specialized in nutrition to use the same methods that are employed by nutrition experts.

(c) Research on preventive methods to be applied - such as the development of new sources of protein, food enrichment, educational methods, etc.

Additional types of research may be desirable.

1.2 Organization of Programmes of Applied Nutrition

The Department of Nutrition should stimulate the organization of and define the content of programmes for the improvement of the nutrition of the population, on the basis of the directives of the Technical Advisory Committee and the National Food and Nutrition Commission.

1.3 Supervision and Evaluation of Programmes

Every executive agency has its own programme of supervision and evaluation. However, in view of the technical aspects of nutrition, the staff of the Department of Nutrition must necessarily participate in such activities, preferably in co-operation with the supervisory staff of the general programmes.
1.4 Training

The Department of Nutrition should provide guidance on the content of the teaching, which should naturally be in accordance with the nutrition policy of the country. Not infrequently, teaching programmes depart completely from the principles underlying local or national nutrition policy.

2. Structure of the Department of Nutrition

The structure of the Department of Nutrition will depend on the functions assigned to it. If the functions are similar to those described above, the establishment of the following units or sections might be envisaged:

2.1 For Research

The following units or sections:

- Statistics and Epidemiology
- Dietary Surveys (including staff for studies on economic and cultural factors involved in diet)
- Clinical Nutrition (including physiology and pathological anatomy)
- Biochemistry
- Food Technology

If resources permit, other units might be added, for example, on bacteriology, animal experiments, social anthropology, etc. In countries with limited resources several units could be combined.

The staff of these units could form the field teams for epidemiological surveys.

2.2 For Applied Nutrition Programmes (including supervision and evaluation)

The following sections:

- Education in Nutrition (in close co-operation with health education, agricultural extension courses, and primary and secondary schools)
- Supplementary Feeding Programmes (health centres, schools, industrial canteens, etc.)
- National Nutrition Programmes (including food enrichment, etc., with a unit for liaison with the Ministries of Agriculture, Economic Affairs, etc.)

2.3 For Training

The following, according to the programmes formulated:

- The Library
- General Services
DETAILED SUGGESTIONS FOR A TECHNICAL ADVISORY COMMITTEE

This committee would be purely technical and would collaborate with the staff of the Department of Nutrition in planning programmes and in establishing co-ordination with the other ministries at the technical rather than the policy-making level, to enable the Department to widen its sphere of action and to formulate guidelines for the work to be done by the agencies concerned. The establishment of the Technical Advisory Committee should precede that of the National Food and Nutrition Commission whose functions, structure, and status would differ completely from those of the Technical Committee.

1. Activities

The Technical Committee would concentrate on the following activities:

(1) Establishment of technical standards relating to the science of nutrition and its practical applications;

(2) Establishment of standards for the methods and content of teaching programmes in nutrition education;

(3) Establishment of the principles to govern the national food policy to be approved by the National Food and Nutrition Commission.

2. Composition

The Technical Committee might consist of three types of advisers for these functions:

(a) Nutrition experts, who would participate in the technical aspects of research programmes and activities. These advisers could be university professors or specialists of recognized standing.

(b) Advisers on aspects of education in nutrition, who could be representatives of the Departments of Health Education, primary and secondary education, and agricultural extension services.

(c) Advisers on agricultural planning as related to nutrition, who would be chiefly agricultural engineers and economists.
DETAILED SUGGESTIONS FOR A NATIONAL FOOD AND NUTRITION COMMISSION

1. National Food and Nutrition Commission

Briefly, the National Food and Nutrition Commission would formulate directives for the following:

(1) Policy on agricultural production, which includes:
   (a) Study of the present situation and indication of the additional data required for a sound agricultural plan;
   (b) Indication of consumption goals, in the light of the economic and agronomic factors, purchasing power, etc., and the nutritional needs of the population;
   (c) Indication of the measures that could be used by executive agencies to attain the desired goals.

(2) Policy on food preservation and distribution, which includes:
   (a) Study of the present situation and indication of the additional data required;
   (b) Indication of the food storage policy to be applied;
   (c) Refrigeration;
   (d) Transport and communications;
   (e) Markets.

(3) Policy on food industrialization, which includes:
   (a) Study of the present situation and indication of the additional data required;
   (b) Indication of areas requiring special attention or government aid - among others, milk products, fish, etc.;
   (c) Bases for legislation on food additives;
   (d) Bases for legislation on food hygiene.

(4) Policy on food enrichment, which includes:
   (a) Salt iodization;
   (b) Water fluoridation;
(c) Enrichment of cereals;

(d) Enrichment of other foods.

(5) **Policy on international trade**, which includes:

(a) Present status and the additional information required;

(b) Policy on customs duties, in the light not only of the protection of national industry, customs revenue, the political advisability of certain treaties, but also of their effects on prices and hence on the consumer;

(c) Policy on imports, regarding import of basic foods and luxury food items.

(6) **Social and economic policy**, which includes:

(a) Relationship between economic development and food supply of the population;

(b) Control of basic foods, and food prices;

(c) Feeding, under employer-worker agreements.

(7) **Policy on food consumption**, which includes:

(a) Education of the consumer: the influence of commercial advertising and the means of controlling and modifying it when necessary;

(b) Utilization of certain food surpluses.

(8) **Financing of nutrition improvement programmes**, which includes:

(a) Budgets for these programmes in each Ministry;

(b) Means of increasing funds for these programmes.

(9) **Co-ordination of nutrition activities**, which includes:

(a) Means of achieving such co-ordination at the national, regional and local levels.

Needless to say, this limit is far from complete: its purpose is merely to show how heavy a responsibility the Ministry of Health has in the active operation of such Food Commissions.
NUTRITION PROGRAMMES AT THE LOCAL LEVEL

The purpose of our particular approach to this aspect of the problem is to suggest the responsibility of local health services in the guidance and execution of nutrition programmes at the local level; it is in no way intended to delineate the area of responsibility of each of the agencies involved. It is obviously necessary to approach the problem of nutrition as a whole, at all levels, but it is important for the public health worker to accept his responsibility in a field in which public health work has barely begun and where his prestige in the community can exert considerable influence. The same could be said of the agriculturalist or the home economics teacher.

This section will deal only with those programmes in which the public health worker can exert direct or indirect influence to improve the nutrition of the inhabitants of the geographical area in his sphere.

1. Definition of the Problem in the Area

This is a typical activity of public health workers. However, the co-operation of other local agencies will be essential, especially with regard to the availability of food and the food production potentialities in the area. It will therefore be necessary at the local level also to co-ordinate the activities of the health, agriculture, and education agencies, among others, at the start. There is also a primary need to establish nutrition survey methods that can be used by non-specialized local staff, since the local staff may not always have the help of technical staff when making surveys.

2. Medical Care of Malnourished Populations

Apart from treatment in hospitals, there are probably other means for nutritional recovery that are not so expensive and that educate at the same time; the so-called nutritional rehabilitation centres can serve this dual purpose.

3. Supplementary Feeding Programmes

These include programmes:

(a) For mothers and children, at health centres;

(b) For school-age children;

(c) For other groups (industrial and rural workers, etc.)
It must be pointed out that the purposes of the so-called supplementary feeding programmes are not always the same, and therefore that public health services should define the objectives of such programmes as clearly as possible. Even though they all have one common feature, namely, education in nutrition, the emphasis in some is placed on nutritional rehabilitation, in others on really supplementing the diet at home, and in still others on simply substituting one meal for another.

4. Periodic Surveillance of the Vulnerable Section of the Population, e.g., Children

There are certain periods in a child's life when he needs suitable surveillance by public health workers with regard to nutrition and feeding habits. The weaning period is undoubtedly the most important of these.

In addition, it is also important to supervise the families, especially those who have children as patients at the clinic who show manifestations of severe malnutrition. It is quite possible that for every case of severe undernourishment several other cases of evident undernourishment will be found in the home.

5. Investigation of Infectious and Parasitic Factors

Studies have been made on the relationship between malnutrition and infant diarrheas and, although these studies have not been as wide and as thorough as the problem requires, it is obvious that the two are frequently associated. Environmental sanitation measures, especially the provision of pure drinking water, could reduce the incidence of diarrheas and of consequential malnutrition at the same time. These measures are also justified by the effects of certain intestinal parasites on the nutritional state.

Suitable medical care for children with infectious diseases such as measles, whooping cough, etc., would prevent large numbers of cases of induced malnutrition.

6. Education in Nutrition

A vast amount of literature is available on suggested methods and contents of such programmes, which constitute one of the fundamental means of promoting adequate nutrition and preventing nutritional diseases.

It is in this sphere that the co-ordination of the efforts of local agencies is most needed. In addition to carrying out specific education programmes for mothers, families and communities, public health workers can stimulate education in nutrition in the schools of agricultural extension agencies. A common objective and common content, based on the prevailing local culture, could become the leading theme of such educational programmes.
Public health workers could make a valuable contribution to the training of other local staff and could take part in the training organized by agricultural extension and other agencies.

7. **Food Production at the Local Level**

Once the local dietary deficiencies are known, public health workers should suggest to the agricultural extension agencies some of the ways in which food production could improve family diets. A discussion between the two might lead to a clear definition of the advantages of such a policy. A public health worker concerned with the nutrition problems of his geographical area can be instrumental in assisting agricultural agencies to obtain sufficient funds to institute a policy of supervised credits, or to organize experimental farms or other similar schemes. A joint report, drawn up by the agricultural agencies and the public health services, is more likely to lead to the grant of such funds than an individual request from one agency.

8. **Food Preservation**

The advantages of establishing a suitable food preservation policy that includes food storage and industrialization are obvious. Public health workers can, and should, participate in this activity, not only because of its health aspects but also for its purely nutritional and economic aspects.

9. **Markets**

Traditionally, public health programmes have been concerned with the health aspects of markets and slaughterhouses. The cooperation of markets and slaughterhouses to ensure better utilization of food products might also prove useful in improving the nutrition of the population.

10. **Social Welfare Programmes**

Public health workers know that improved nutrition of the population is an indivisible part of the health programme, which, in turn, is an indivisible part of the social welfare of the community. The participation of public health workers in the nutrition programme is not an end in itself, but primarily a means of obtaining a higher general living standard for the population. A public health worker's function would, therefore, not be complete were he not to take an active part in community organization and development programmes, and in promoting food production and consumption co-operatives - in a word, in everything that represents the community's desire for improvement.

The programmes to be carried out by a public health worker are sufficiently extensive to permit him to take part in collateral programmes; indeed, the very presence of the public health worker in such programmes of wider scope may be all-important in helping the community to realize its aspirations. The co-operation of the public health worker does not necessarily imply direct guidance or execution of the collateral programmes; but it does imply leadership and help in a community which is seeking the moral and material well-being of each of its inhabitants by increasing its own resources.