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SUGGESTED OUTLINE FOR USE BY COUNTRIES IN DISCUSSING
 THE IMPORTANCE OF NATIONAL AND INTERNATIONAL
 FOOD AND NUTRITION POLICIES FOR HEALTH DEVELOPMENT

In preparation for the Technical Discussions at
 the Thirtieth World Health Assembly, 1977

A discussion on the responsibilities of the health sector

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1. INTRODUCTION

1.1 Background

"The importance of national and international food and nutritional policies for health development" was selected by the Executive Board in June 1975¹ as the theme for the Technical Discussions at the Thirtieth World Health Assembly in 1977.

This decision reflects a number of current concerns. Recently, and especially following the World Food Conference in November 1974, there has been a considerable interest in problems of world malnutrition which has led to a reappraisal of the measures necessary to deal with it. At the national level, the roles of different sectors in reducing malnutrition - health and agriculture especially - have been reviewed in the broader context of overall development planning and policy formulation. The need for a new approach to intersectoral planning has emerged in which individual sector plans are an integral part of an overall strategy.^{2,3} The inclusion of this topic on the agenda of the World Health Assembly Technical Discussions provides the opportunity to review these problems as they relate to the health sector in practical detail at national and international levels.

It is hoped that the discussion outline will help governments review the above subject in a way relevant to their own planning and allow effective collation and appraisal of their responses as a sound basis for the World Health Assembly Technical Discussions. Thus, the outline poses a number of questions for discussion and it would be helpful to receive answers to those that appear relevant to each country. Comments and criticisms on the relevance of questions would be most valuable and desirable. Additional questions and comments referring to general or particular country situations would also be welcome. Forms accompanying this document are intended to be helpful for the representation of responses but not to inhibit them.

1.2 Objectives of discussion outline

This discussion outline is intended to assist in:

- (i) stimulating and structuring discussions in Member countries about the nature of their own nutrition/health problems and the steps necessary to deal with them;
- (ii) reviewing both nationally and internationally the health sector's role in improving nutrition/health status within the multisectoral development plan;
- (iii) focusing the discussion among Member countries to achieve the hoped for international exchange of experience and response.

1.3 The wider context of food and nutrition planning

Health sector planning regarding nutrition needs to be seen within the context of, and integrated with, overall multisectoral food and nutrition planning. A recent document from FAO,² to which close reference is invited, provides the perspective for this, summarized briefly in the following quotation:

¹ WHO Official Records No. 228, 1975, p. 7, EB56.R9.

² Food and Nutrition Planning by Joy, L. J. & Payne, P., Nutrition Consultants Reports Series No. 35, FAO (Rome), 1975.

³ Food and Nutrition Strategies in National Development, Joint FAO/WHO Expert Committee on Nutrition, Ninth Report, (Rome), 1974.

"Previous approaches to food and nutrition planning appear to have regarded it as rather secondary to the major task of planning economic development. Not until the country's economy was soundly established might one afford to divert resources on any scale to improving nutrition. True, cheap food was necessary to rapid industrialization and a malnourished labour force was unable to achieve high productivity. But the contribution to development made by improving the nutrition of the unemployed, the underemployed or those engaged in primitive technologies could not be seen to be great.

Insofar as there was planning for food and nutrition beyond planning for overall development, it largely took the form of, first, planning for adequate food supplies, second, planning for voluntary family planning, third, planning to improve the distribution of food to the malnourished especially through applied nutrition programmes and, fourth, planning to encourage people to improve their feeding habits including, perhaps, encouraging them to grow nutritious foods.

This view of food and nutrition planning has failed to contain the problem of malnutrition which in many countries threatened to grow to - or has already reached - alarming proportions. What we now perceive is that, first, strategies previously adopted to maximize economic growth have aggravated rather than diminished the problem of malnutrition; second, that no amount of food supply would ensure adequate diets for those people with inadequate means for their own subsistence; third, that voluntary family planning does not succeed among those whose living levels are so low that they are malnourished; fourth, that applied nutrition programmes cannot have more than a marginal and transient impact on the problem of maldistribution of food and, fifth, that there may be severe limits to the improvement of feeding habits among those who cannot afford to eat properly.

Where the core of the problem of malnutrition is among those who are displaced from an adequate subsistence on the land and who are not absorbed into adequately remunerative employment, the central thrust of food and nutrition planning must be to reduce displacement from the land and increase employment. Thus, while food supplies may need to be increased, what is important is that increased output should not be achieved by means which aggravate displacement while failing to increase productive employment. In general, planning for development needs to plan to secure that the increase of productivity deriving from new capital, technology and skill accrues to the poorest in the community. To the extent that it fails in this, development will result in the aggravation of the relative, and even the absolute, poverty of the poor.

Thus, food and nutrition need to be not secondary to overall development planning but central to it in the sense that a prime objective of planning needs to be the sustained reduction of malnutrition. It is argued here that the application of this criterion to planning leads to important differences in development strategies and programmes. It also puts into a new perspective the approach to applied nutrition programmes and to food planning."

Furthermore:

"The concept of planning offered here is simply a concept of government: government in the adaptive control of policies and programmes in the light of the experience of implementation and government in the process of purposive, routinized, decision-making at strategic, tactical and executive levels."¹

While this outline does not of itself go into great detail about nutritional requirements, it will be noted that great changes have occurred in the understanding of this subject, particularly in the approach to utilize our knowledge about human requirements, that is, in the interpretation of the latter for purposes of policy formulation. On these and other matters, we have quoted or referred to works regarded as helpful reading in conjunction with this outline and its questions.

¹ Food and Nutrition Planning, by Joy L. J. & Payne, P., Nutrition Consultants Reports Series No. 35, FAO (Rome), 1975.

1.4 Pervading themes

Three fundamental themes predominate in this outline:

- (a) Malnutrition is seldom present alone.
- (b) Malnutrition is usually one aspect of a syndrome of ill-health which also includes other disease conditions. Thus, improved nutrition will not alone restore and sustain health; nor can health be restored and sustained without adequate nutrition.
- (c) Usually, the personal disease syndrome is itself only one aspect of a more complex social syndrome characterizing the group afflicted and related to society at large. Again, nutrition/health services alone cannot produce a healthy social environment; but neither is a healthy social environment possible without their adequate provision.

However, to ask relevant questions rather than refine answers to irrelevant questions is yet a more pertinent and universal theme. Thus, the aim of this outline is to formulate questions through which nutrition/health problems are defined so that policies and programmes can be properly identified.

2. DEFINING THE PROBLEM AT THE NATIONAL LEVEL

2.1 Responsibility of the health sector

Detailed analysis of the causes and effects of nutritional deprivations - on the individual, on the community, and on the country's economy - is an essential starting point in coordinating food and nutrition planning. The health sector has to play an important part in such a diagnosis, through its own efforts linked with those of other sectors engaged in related assessments.

2.2 Typical problem statements

Many statements about national nutrition problems which have been produced by nutrition institutes or presented in national plan documents are less helpful than they might be, often because they fail to use available evidence to define the problem in a way which would be most useful for policy and programme formulation. Typically such statements cover:

- (a) the national or regional availability of foodstuffs - mostly expressed in terms of per capita availability of calories and nutrients;
- (b) estimates of the numbers of those affected by specific nutrient deficiencies;
- (c) broad definitions of the affected groups.

The above observations seem too succinct to be of value and could be misleading; yet pertinent and timely information may be available or readily secured.

2.2.1 Estimates of food and nutrient availability

Increase of total food supplies alone cannot lead to a significant improvement in the food intake and the nutrition status of the malnourished, though they could nevertheless be regarded as a necessary step towards this goal. But the chief indication of the importance of improving food supplies is high food prices in relation to earnings rather than an estimate of per capita food availability. We must remember, however, that malnutrition exists in rural as well as urban areas, that high food prices may mean rural prosperity, and that food price movements may not harm or benefit all alike.

Earlier attempts to relate nutrient supplies to per capita requirements commonly seemed to show that there were countries where there was not enough to feed everybody adequately. Food balance sheets have been prepared for many countries, derived from "food supply/utilization accounts". These translate estimates of foods available in a country during a specific period into available nutrients per capita,¹ and have led to the question: "How much do supplies have to be increased in order to eliminate malnutrition?" One answer was that supplies would need to be increased by the total of the individual deficiencies in food intake, and this in turn led to assessment in size and amount of inadequate food intake. As a result, in the particular case of proteins, much attention was given to ways of closing the "protein gap", the gap between total needs and total protein available. However, in recent years estimates of protein requirements have been considerably reduced,^{2,3} and this has shown that in most countries there is enough in total to meet everybody's protein, calorie and most essential nutrient needs.

2.2.2 Estimates of prevalence and degree of nutrient intake deficiencies

Attention was given to food intake surveys, which supplied estimates on the prevalence of specific nutrient deficiencies. Thus, to statements about average calories or grammes of protein per capita available from food supplies, were added statements about the percentage of the population estimated to have calorie and protein, or other nutrient, intakes below some target figure - usually the WHO/FAO recommended allowances. Together with a further estimate of the average deficiency, it was thus possible to calculate the quantity of food grains, etc. needed to supplement deficient intakes so as to bring them to a level of adequacy.

However, it is now clear that simply to increase food supplies by the amount so calculated does not ensure the elimination of malnutrition. The prime objective is to ensure that food should be available to the people who need it. But this need is not to be interpreted as a diagnosis of food marketing inefficiency. And while, again, it may reveal the need to increase the overall food supply, we are faced with two questions: "Who needs extra food?" and "What needs to be done to ensure that they receive it?".

2.2.3 Identification of "vulnerable groups"

Clinical and epidemiological experience indicates that where malnutrition exists it is conspicuous among infants, children, and pregnant and nursing mothers. Our knowledge of nutritional requirements shows that nutrient requirements per unit of body weight are greater in these categories of the population than in others. The concept of "vulnerable groups" developed and became the apparently universal answer to the question "Who needs extra food?" but it is not a satisfactory answer for the purposes of practical policy and programme formulation. It is true that some statements improve its usefulness by adding that the problem is most serious among low income families and perhaps, in certain specific regions. Food intake surveys provide information about the food consumption of households. What they commonly show is that some households have low food intake, and further investigation is likely to reveal that malnourished mothers and children are found mostly in such households. The concept of families at risk would be therefore more useful than taking all the individuals of a given age or physiological state (children and mothers). Within these families, special attention should be given to the vulnerable individuals.

¹ Agricultural Commodity Projections, 1970-1980, Vol. II, FAO, Rome, 1971.

² Energy and Protein Requirements, Report of a Joint FAO/WHO Ad hoc Expert Committee, (1973), WHO Technical Report Series No. 522, Geneva.

³ Energy and Protein Requirements, Recommendations of Joint FAO/WHO Informal Gathering of Experts, (1975), PAG Bulletin, Vol. V, No. 3, New York.

2.3 Criteria for useful problem statements

If problem statements are to be useful for planning purposes, they must elucidate the different components of the national nutrition problem. The population groups therefore need to be defined so that they are relatively homogeneous with regard both to the problem they have in common and to their likely response to specific policies or programmes.

There is a tendency for the way in which the problem is defined to suggest the measures that are appropriate. Thus, a statement that malnutrition affects 20% of the population, especially infants, pre-school children, and pregnant and lactating mothers, suggests the need for measures for these groups rather than for their families or communities, and does not indicate which mothers and children are affected. The groups identified (infants and pre-school children, pregnant and lactating mothers) may not be homogeneous and may need to be subdivided or redefined for the purpose of identifying appropriate measures to tackle their problem. Thus, there may be considerable differences in problems and needs of mothers and children as between:

- (a) recently arrived migrant families in an urban slum;
- (b) poor farming communities; and
- (c) nomadic communities adversely affected by development programmes which have disturbed the nomadic grazing cycle.

Clearly, brief statements of national nutrition problems can only present an overall non-detailed view, but they should be seen as summaries of a more detailed analysis of the national problem. Not all countries have access to complete data on the components of their problem. If they have only an approximate assessment of the numbers malnourished they have little on which to base any policies or programmes. A particular population group needs to be identified as having the same problem in order to be treated by the same measures, before effective action can be taken. The likelihood of any one measure meeting the needs of all the malnourished is slight.

QUESTIONS

1. What analysis of the nutrition problem has been made in your country? How has the overall problem been divided into its component parts?
2. What categories of people are defined as having nutrition problems? Does this constitute an effective categorization? Is there an attempt to analyse changes in the extent and nature of malnutrition and its prevalence among different categories of people? Is your problem getting worse or better? What are the major factors causing these changes?
3. What data are used in the analysis (e.g. food supply and utilization accounts; intake surveys; anthropometric data; morbidity statistics, etc.)?
4. Draw up an inventory of available evidence on the nature and extent of the nutrition problem. Include statistical surveys, routinely collected statistics and qualitative accounts; nationwide studies as well as studies on regions, communities or even family case studies. (Relevant information may be found in the work of others besides nutritionists and medical workers.)
5. In what way could the definition of your national nutrition problem be improved? What data or analysis would be necessary for this? How far could existing data be used in improving the definition of the problem? (This question might best be answered together with the questions under chapter 3.)

3. DEFINING THE PROBLEM AT THE COMMUNITY LEVEL

3.1 Diagnostic frame of reference

In defining the problem at the community level, it is convenient to have a frame of reference as to how and why malnutrition problems arise.

All diseases have a prepathogenic period in which several factors combine to predispose to the emergence of the disease. Once the disease has started (pathogenic state), there is a period of physiological and metabolic change before symptoms become evident (preclinical stage). These can usually be measured if we know what to look for. At a further stage, clinical symptoms emerge with successive manifestations from non-specific symptoms, to specific illness and to permanent damage and death. Fig. 1 presents these ideas diagrammatically for nutritional diseases.¹

Within this framework, the various methods of nutritional assessment are placed in their proper perspective. Determination of food availability in relation to population needs (food balance sheets), dietary surveys, socioeconomic studies or other environmental factors affecting the nutritional status of a population, are parameters of the prepathogenic stage. In other words, they indicate whether or not conditions conducive to the development of nutrition problems are present, but they do not actually assess the problem.

Biochemical methods are particularly useful for preclinical diagnosis, and in the clinical stages, have confirmatory value. Anthropometric, clinical and morbidity data are important tools in assessing the problem in clinical stages. Anthropometric studies can help to evaluate the damage resulting from previous nutritional deficiencies which may no longer have been present when the study was conducted. Mortality rates provide data related to the final expression of nutritional disorders.

To be most useful for planning purposes, a complete statement of national nutrition problems would require, in addition to an adequate interpretation of the information provided by these methods, a functional classification of the nutritionally deficient population based on spatial, ecological, socioeconomic and demographic characteristics of the population.²

3.2 The evidence

3.2.1 Casual observation

Nutritional problems in a community can be detected through a series of studies and precise assessment of the situation. However, prior to systematic inquiries, casual observations can reveal useful information regarding the nutrition status of the community. Much can be judged from the "tip of the iceberg". Data on height and weight related to age, commonly available from clinics or schools, can provide some indication of the existing situation. Morbidity data and other observations about the general condition of a community - environmental sanitation, quality of drinking-water, dietary pattern, access to health care, and generally, the extent of poverty - can provide strong supporting evidence of the nature and extent of its nutritional problem.

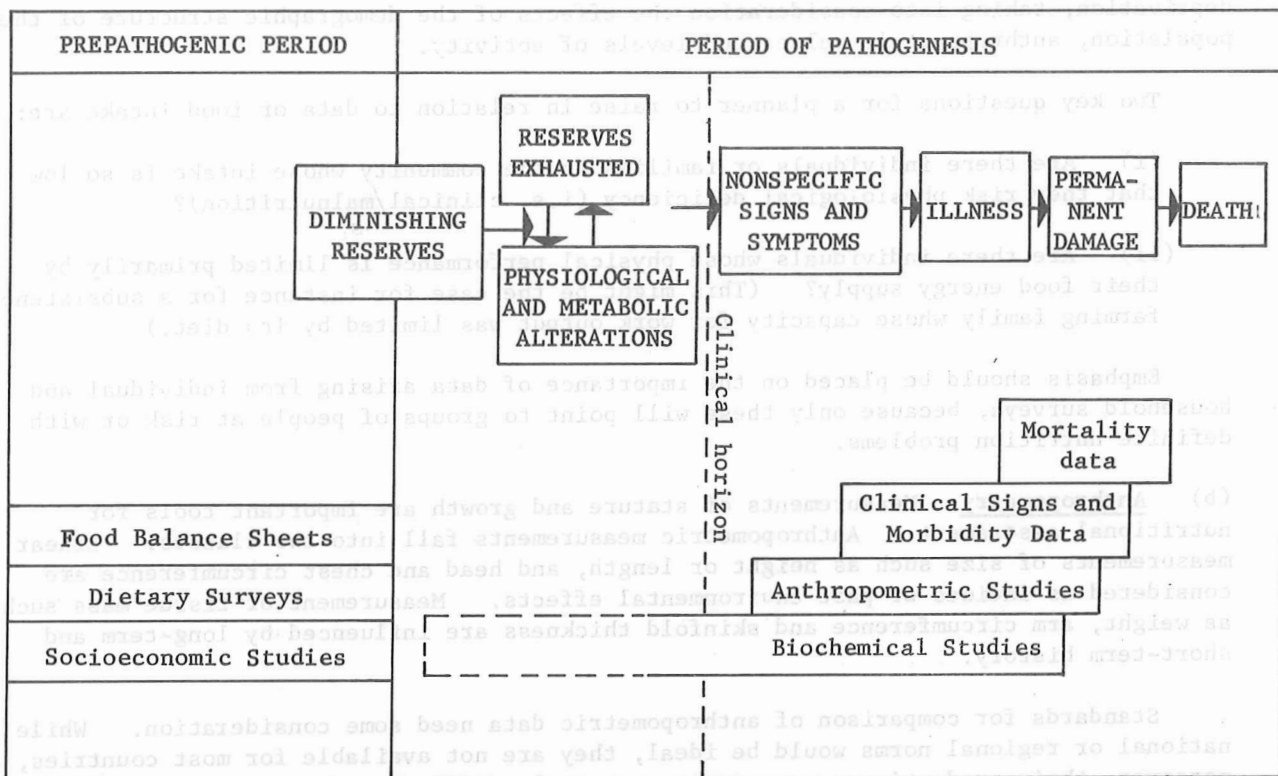
3.2.2 Systematic inquiry

The following indices are among the most significant in evaluating the nutritional status of population groups. Needless to say these indices, each with its advantages and limitations, are complementary to one another. A judicious combination of the data thus obtained can reveal a fairly precise picture of nutritional status.

¹ Béhar, M. Significance and relative value of different indicators. In: Nutrition in Preventive Medicine, edited by Beaton, G. H. & Bengoa, J. M., WHO, Geneva (In press).

² Food and Nutrition Planning, Joy, L. J. & Payne, P. Nutrition Consultants Report Series No. 35, FAO (Rome), 1975.

FIG. 1. METHODS OF NUTRITIONAL ASSESSMENT RELATED TO THE NATURAL HISTORY OF DISEASE



International standards can be used since they reflect the environmental factors far more than the genetic ones. The interpretation of various anthropometric indices for the diagnosis of nutritional status was recently reviewed by the international agencies and can be found in their reports.^{1,2}

(c) Clinical surveys: As mentioned earlier, the value of clinical surveys is strictly limited to cases in the pathogenic post-clinical stage. In an average population, such cases could be extremely rare although a large majority of the population would either be in the prepathogenic stage or in the preclinical phase of the pathogenic stage. The method is relatively inexpensive in terms of equipment or laboratory facilities, but costly in terms of highly trained personnel unless junior levels of health workers, trained to recognize certain clear-cut signs under close supervision, are employed.³ The value of clinical signs as sources of data is further limited by the difficulties of standardizing them. However, carefully selected, easy-to-detect, clinical signs can be used by health auxiliaries for nutrition screening and surveillance at the peripheral level as a component of integrated mother and child care services.⁴

¹ The Methodology of Nutritional Surveillance (1976) Report of a Joint FAO/WHO/WHO Expert Committee Meeting, WHO Technical Report Series No. 593, Geneva.

² Classification and Definition of Protein-Calorie Malnutrition, Waterlow, J. C. (1976) Int. Nutrition in Preventive Medicine. Edited by Benson, G. H. & Bengoa, J. M., WHO, Geneva. (In press).

³ The assessment of the nutritional status of the community, Jelliffe, D. B. & Jelliffe, P. B. WHO Monograph Series No. 23 (Geneva) 1966.

⁴ A Guideline for Nutrition Activities through local health services for Joint WHO/UNICEF Strategy. WHO document NUT/74.3 (Geneva) 1974.

(a) Food intake data: Assessment of food intake in a community provides important evidence of the possibility of groups being in prepathogenic stages of malnutrition. The information provided is of importance to planners, since the level of intake compared to the physiological nutritional requirements gives an indication of nutritional deprivation, taking into consideration the effects of the demographic structure of the population, anthropometric values and levels of activity.

Two key questions for a planner to raise in relation to data on food intake are:

- (i) Are there individuals or families in the community whose intake is so low that they risk physiological deficiency (i.e. clinical/malnutrition)?
- (ii) Are there individuals whose physical performance is limited primarily by their food energy supply? (This might be the case for instance for a subsistence farming family whose capacity for work output was limited by its diet.)

Emphasis should be placed on the importance of data arising from individual and household surveys, because only these will point to groups of people at risk or with definite nutrition problems.

(b) Anthropometry: Measurements of stature and growth are important tools for nutritional assessment. Anthropometric measurements fall into two classes. Linear measurements of size such as height or length, and head and chest circumference are considered as indices of past environmental effects. Measurement of tissue mass such as weight, arm circumference and skinfold thickness are influenced by long-term and short-term history.

Standards for comparison of anthropometric data need some consideration. While national or regional norms would be ideal, they are not available for most countries, and moreover, their production represents an extremely difficult and time-consuming task. International standards can be used since they reflect the environmental factors far more than the genetic ones. The interpretation of various anthropometric indices for the diagnosis of nutritional status was recently reviewed by the international agencies and can be found in their report.^{1,2}

(c) Clinical surveys: As mentioned earlier, the value of clinical surveys is strictly limited to cases in the pathogenic post-clinical stage. In an average population, such cases could be extremely rare although a large majority of the population would either be in the prepathogenic stage or in the preclinical phase of the pathogenic stage. The method is relatively inexpensive in terms of equipment or laboratory facilities, but costly in terms of highly trained personnel unless junior levels of health workers, trained to recognize certain clear-cut signs under close supervision, are employed.³ The value of clinical signs as sources of data is further limited by the difficulties of standardizing them. However, carefully selected, easy-to-detect, clinical signs can be used by health auxiliaries for nutrition screening and surveillance at the peripheral level as a component of integrated mother and child care services.⁴

¹ The Methodology of Nutritional Surveillance (1976) Report of a Joint FAO/UNICEF/WHO Expert Committee Meeting, WHO Technical Report Series No. 593, Geneva.

² Classification and Definition of Protein-Calorie Malnutrition, Waterlow, J. C. (1976) In: Nutrition in Preventive Medicine. Edited by Beaton, G. H. & Bengoa, J. M., WHO, Geneva (In press).

³ The assessment of the nutritional status of the community, Jelliffe, D. B. & Jelliffe, D. B. WHO Monograph Series No. 53 (Geneva) 1966.

⁴ A Guideline for Nutrition Activities through local health services for Joint WHO/UNICEF Strategy. WHO document NUT/74.3 (Geneva) 1974.

(d) Health service records: are among the many possible sources of data for the assessment of the nutritional status. In many countries a wealth of information is available, though sometimes in a rather unstructured form. It is unfortunate that registrations made are generally oriented towards diagnosis of diseases - the end product of a long and complex interplay of several factors - as such diagnosis is not conducive to the recognition of the adverse role of malnutrition either as an underlying or as an associated cause.

(e) Demographic data: Demographic data are a good source for a quick assessment of the problem. A demographic pyramid gives an immediate impression of the structure of a population by ages. A pyramid with a broad base that tapers very rapidly usually indicates a population characterized by high birth-rates and infant and child mortality, a low level of income, a predominantly rural population, and most probably a high prevalence of malnutrition.

Mortality data, especially age-specific mortality rates, tell a more precise story. Here again malnutrition is seldom registered as the underlying cause of death. In the study by Puffer & Serrano on mortality in childhood,¹ death certificates did not mention malnutrition as an "underlying" or "associated" cause in a single case, although on examination it was found that malnutrition was present in 90% of 848 cases investigated.

In spite of their limitations, infant and child mortality rates are primary indices of the existence of nutrition-related health problems. In conjunction with environmental and socioeconomic data, and in the context of a functional classification of the population, these rates will help to identify measures in child health care for specific groups and communities.

3.3 Diagnosis of community nutrition status

3.3.1 The nature of the diagnosis

In a community, as on the national level, one needs to know who is short of what and why, and also to specify when, since malnutrition may not be continuous.

Malnutrition - and the ill-health syndrome of which malnutrition will be but one facet - is likely to be found among the poorest in a community. The poor in a community will be those who have neither sufficient land and other resources nor a sufficient wage income on which to provide adequate family subsistence. "Sufficiency", however, will need interpretation. Wage sufficiency will depend on prices of food, housing and fuel especially. Land sufficiency will depend on farming methods and on access to the resources necessary for high productivity. Total food sufficiency available to the family will depend on the family's needs - especially its needs for energy for work and the number of people who have to share the food supply. Thus, there will be various possible approaches to raising incomes or supplies to sufficiency levels.

Malnutrition, however, is not necessarily limited to the poorest families. Sometimes whole communities are subject to environmental stress and their relatively richer members may still have to suffer poor sanitation, unclean water and a variety of parasitic and other diseases. Thus, their infants may have retarded growth patterns comparable to those of poorer families, though possibly not so extreme. In the case of specific deficiencies such as that of iodine, both rich and poor are likely to be affected.

In assessing the nutrition status of communities it is more important to secure detailed information on malnourished groups than general information based on a random sample of the total population.

¹ Patterns of Mortality in Childhood, Puffer, R. R. & Serrano, C. V., PAHO/WHO Scientific Publication No. 262 (Washington, D.C.) 1973.

Grouping of individuals in appropriate socioeconomic, demographic and other categories, facilitates the design of measures to meet their particular conditions. But what characteristics should define such groups? How can we generalize from the specific situations we are faced with? One approach is to ask: "Why are people malnourished?" The answers to the question "who?", "why?" and "in what ways?" should begin to suggest a classification. Let us first concentrate on the question: "why?".

To find the reasons for malnutrition, it is suggested that detailed case descriptions should be obtained for a number of families, covering: family size and structure; its work, wealth and income; its public health environment; its seasonal experience of life in terms of food availability, fuel availability, disease, work effort; its food habits and beliefs; the non-seasonal variations in food supplies, employment, etc. As a few such case descriptions are accumulated, patterns are likely to emerge which define the nature of malnutrition in relation to health generally and also in relation to socioeconomic status and other specific characteristics. Initially, such patterns as are discerned will serve as working hypotheses for the design of statistical surveys should these prove necessary and for more rigorous quantification and definition of the problem groups.

Further insight into reasons for malnutrition may be gained by asking also the questions: "Will these numbers be greater or smaller in five years time? What will determine this?". If population growth and the division of land holdings and inheritance is a key factor - or the displacement of tenants, or the repudiation of customary land rights - then changes in the numbers of people displaced can be estimated. Moreover, it should be possible to identify and define "at risk" (e.g. in terms of numbers of dependants) households to assess the impact of different factors on their situation, and to design measures to deal with them most effectively.

It may be found that the relevant unit of analysis is the household rather than, or as well as, the mother-child unit, or it may be a whole category of individuals for whom a resettlement scheme is needed, together with community health care. Ultimately, however, the classification both suggests and is defined by the measures to be taken. The following different types of measures for example, would suggest different approaches to classification:

- (i) blanket measures aimed at everyone in an area - e.g. salt iodization, fluoridation of water;
- (ii) services for specific groups - e.g. iron for pregnant women; vitamin A for small children; advice on infant feeding for poor urban families; food storage advice for poor rural families; supplementary feeding programmes for specific socioeconomic demographic groups in defined locations;
- (iii) relief services - e.g. assistance in drought or flood. If nutrition/health services are to be delivered to the people who most need them - and who are the least able to exert their own claims on them - detailed specification of the target groups and detailed design of expedients are called for. An effective diagnosis of a community nutrition problem might therefore aim at providing:
 - (a) first of all, evidence about the existence of malnutrition - protein-energy malnutrition, specific mineral or vitamin deficiencies, etc. - not only in terms of manifest disease syndrome ("tip of the iceberg") but also of subclinical forms;
 - (b) a definition of the typical presentation of the condition, with its etiology and epidemiology;
 - (c) identification of the characteristics of the categories of people affected in a way which distinguishes between those afflicted and those not afflicted;
 - (d) an assessment of the numbers involved in these categories;

- (e) a prognosis of the evolution of these nutrition-related problems and, if possible, of others considered likely to occur.

To design and plan an effective programme, relevant measures pertaining directly to the afflicted individuals and their condition need to be identified first. Detailed quantitative data might not be essential in guiding the action to be taken.

QUESTIONS

6. Appraise existing community studies in your country with respect to the information they give under items (a)-(e) above. How might future studies be improved? If these studies include sample surveys, are the samples large enough to assess the state and extent of the problem among those most affected? Does too large a percentage of observations relate to unaffected sections of the population?
7. If possible, send a small team for a brief visit to an area with instructions to carry out such appraisal as is outlined above. Arrange for the team to prepare a superficial observation report prior to commencing a more systematic study.
8. Do systematic anthropometric studies exist in your country? If so:
 - since when?
 - what types of studies?
 - how are their results used?
 - what do they indicate?
9. Are there systematic nutritional surveys? Describe and comment on the sampling frames used. How are the results used? What do they indicate?
10. Is information about the nutritional status of selected groups prepared from inpatient or outpatient registers or other sources within the health services? Describe and comment on the data, their analysis and utilization.
11. What evidence is there for the existence in your country of: (a) kwashiorkor; (b) marasmus; (c) other forms of protein-energy malnutrition? What are the factors responsible for these conditions? What guidance do you propose with regard to their prevention or early diagnosis and treatment?
12. What evidence is there in your country of adverse malnutrition/health situations caused by: (a) interactions of environmental factors; (b) dietary deficiency; (c) infections?
13. What evidence is there in your country (comparable with the study of Puffer & Serrano¹) to indicate the effects of malnutrition on the mortality rates of children? Can you draw any conclusions from the data already available in your country? What further data are desirable in order to draw valid conclusions regarding malnutrition-related morbidity and mortality?

¹ Patterns of Mortality in Childhood, by Puffer, R. R. & Serrano, C. V., PAHO/WHO Scientific Publication No. 262 (Washington, D.C.) 1973.

4. CONTRIBUTION OF THE HEALTH SECTOR TO NUTRITION IMPROVEMENT

Even when feasible measures cannot be found to reduce the basic causes of malnutrition, the health sector can assuredly provide means of improving the nutritional status of the population. Understanding of the variables producing malnutrition and ill-health will indicate the nature of the action to be taken. Variables relating to socioeconomic development, like poor housing, overcrowding, unhygienic environment and lack of safe water, favour infections and form a vicious circle with malnutrition, each aggravating the other. Furthermore, there is evidence to indicate that malnutrition predisposes the host to infection.

As mentioned earlier, appropriate nutrition interventions are determined by the stage of evolution of the malnutrition process which has been reached in a given population. In the clinical phase of the pathogenic stages of malnutrition, curative interventions are needed. For the prepathogenic and preclinical phase of the pathogenic stages, both direct and indirect nutrition interventions may be appropriate: the first, such as supplementary feeding and food fortification programmes producing a direct impact on the nutritional status of the population; the second, such as immunization programmes having an indirect effect by interrupting the vicious circle of malnutrition and infection.

4.1 Curative interventions

These are usually aimed at conditions resulting directly or indirectly from nutritional deficiencies in the clinical stage and are undertaken by the services responsible for general medical care of the population. Naturally, their quality varies according to the type of institutions dispensing them (paediatric hospital, general hospital, health centre, etc.) and the quality of medical and health services as a whole in the country or area. Severe forms of protein-energy malnutrition such as kwashiorkor and marasmus in infants and young children are by far the most important conditions calling for curative interventions. These are also needed in advanced cases of mineral deficiency and avitaminosis, especially anaemia and vitamin A deficiency (which often produces blindness).

In the overall context of health services, curative intervention for malnutrition deals not only with the direct consequences of malnutrition in the form of disease but also with synergistic combinations of malnutrition and infection resulting in a malnutrition/disease syndrome, of which the most frequent examples are diarrhoea, infections of the upper respiratory tract, and several viral infections. Measles, the most important of these, though a relatively innocent disease in the developed world, has a mortality rate which is in fact a good indicator of the gravity of malnutrition.

Even when exercising its curative function against malnutrition, the health sector should as far as possible, from an epidemiological point of view, merge curative with preventive measures. Nutrition rehabilitation centres, used in many developing countries in rural as well as urban areas, are examples of a type of nutrition intervention which combines curative and preventive measures. The advantages and limitations of such centres were recently evaluated.¹

4.2 Direct nutrition interventions

These measures should aim at preventing the appearance of nutrition-related diseases. Some (e.g. supplementary feeding), should in principle be designed as emergency measures to tide over difficult periods until permanent solutions are found. Others such as salt iodization for goitre control, and water fluoridation for dental caries control, must be regarded as permanent measures.

¹ Nutrition Rehabilitation Centres: an evaluation of their performance, by Beaudry-Darisme, M. & Latham, M. C. *Environmental Child Health*, Vol. 19, No. 3, pp. 299-332, 1973.

These interventions should not of course be applied in isolation. A vitamin A fortification programme, for instance, should be combined with educational measures for improving dietary patterns which will ultimately provide the permanent solution to dietary deficiency. Similarly, feeding programmes should be complemented by measures for control of communicable diseases, to ensure better utilization of supplemented food. The cooperative efforts of various other sectors should also be secured, as their skills and responsibilities are complementary.

4.2.1 Supplementary feeding programmes

These are measures for providing the most deprived population groups with the additional food or nutrients they need and which they could not obtain otherwise, in order to satisfy their minimum requirements. Such programmes do not, however, correct the underlying problem, and may even favour its perpetuation by relieving the sense of urgency and thus diverting attention from the need to take more fundamental action. Moreover, these programmes are costly and make large demands on technical and administrative manpower, and quite often their effectiveness is questionable. As a matter of principle, such programmes should be limited to emergencies, the machinery for ensuring their effectiveness should be reasonably assured, and plans must be made at the outset for their orderly termination as soon as sustained progress in correcting the basic problems which created the need can be foreseen.¹

In addition to meeting nutritional and administrative criteria, the foods to be used in supplementary feeding programmes should be carefully selected in the context of the overall food and nutrition situation of the country or area. Such programmes need a formal education component, and a specified portion of their total cost should be set aside for nutrition education purposes. As mentioned earlier, it is of the utmost importance to associate feeding programmes with other aspects of health care - especially those relating to gastroenteritis.^{2,3}

The distribution of specific nutrients for nutrition intervention in much the same way as food is a very common practice. The distribution of iron and/or folate to pregnant women, and of vitamin A to children at risk of deficiency, are good examples of programmes of this nature. While such measures have the advantage of being relatively easy to implement, it is essential to guard against indiscriminate distribution of nutrients which are not clearly justified on nutritional grounds (e.g. multivitamin pills), and to ensure proper distribution of nutrients to those who really need them.⁴

4.2.2 Food fortification and enrichment

Where widespread deficiency of one essential nutrient exists, fortification of food or water can be extremely effective. Two such interventions of demonstrated effectiveness are iodization of salt in regions where goitre and cretinism are endemic, and fluoridation of water to prevent dental caries. Food fortification with vitamin A is also being attempted with success in some countries. Fortification of various foods with iron to prevent iron deficiency has long been practised in a number of countries. Fortification or enrichment measures have the distinct advantage of producing an impact in the shortest possible time; no changes are needed in the food habits of the population, and such measures may ameliorate speedily conditions that often cut across social and economic strata.

¹ Food and Nutrition Strategies in National Development, Joint FAO/WHO Expert Committee on Nutrition, Ninth Report (Rome) 1974.

² Supplementary Feeding Programme - Need for a fresh look, unpublished document NUT/75.1, WHO, Geneva, 1975.

³ Meeting of Expert Group to Plan Evaluation of Supplementary Feeding Programmes (1973) PAG Bulletin No. 3(3).

⁴ Distribution of vitamin and mineral supplements. In: Nutrition in Preventive Medicine, edited by Beaton, G. H. & Bengoa, J. M., WHO, Geneva (In press), 1976.

In spite of these advantages, there are some limitations to the wider adoption of food fortification as a nutrition intervention, especially in developing countries. Some of the important considerations are: a valid need for the nutrient in question; selection of a proper vehicle for fortification which would be used by consumers at all income levels; the level of fortification and the technologies involved; cost of fortification and an efficient distribution system to carry the fortified food to people who are in greatest need.¹

4.2.3 Health and nutrition education

To meet its important responsibility for health and nutrition education programmes, the health sector has the advantage of possessing the physical facilities to conduct such programmes (health centres, maternal and child health clinics, etc.), the trained personnel required, and access to a motivated audience. Sufficiency of food supply is no guarantee against malnutrition. To encourage desirable dietary patterns and hygienic food habits should be the main objective of such educational measures.

Since nutrition education is carried out by several sectors (health, education, food and agriculture) as well as by other nongovernmental welfare agencies, it must be planned and implemented in a coordinated manner. Decisions should be made on the objectives of such programmes, and each sector should clearly define the target audience, the content of its message and physical facilities and the media to be used for its diffusion. Emphasis should be on complementing existing diets with foods which are locally available and acceptable. The often observed tendency to impart a mass of general information on better nutrition should be curbed. One of the priority subjects for nutrition education is the promotion of breast-feeding and proper weaning with the use of locally available food mixtures.

4.3 Indirect nutrition interventions

Health sector interventions with an indirect impact on nutritional status relate mostly to the improvement of environmental sanitation and control of infections. The adverse interactions between the ecological situation, nutrition deficiency and infections have been clearly demonstrated.^{2,3,4}

4.3.1 Improvement of environmental sanitation and control of infections

Infectious diseases are an important conditioning factor of malnutrition. Malnutrition not only aggravates the effects of infections and worsens their outcome, but also predisposes the host to infections. The body of a child under conditions prevailing in poor countries has been compared to a "leaking bucket". Diarrhoeal diseases, other communicable diseases and intestinal parasites often cause greater and more rapid nutrient losses than can be compensated by food intake.

The effect of health measures aimed at preventing the nutritional wastage from parasitic and other communicable diseases is usually far more enduring and less costly than most direct nutrition interventions. Immunization programmes, supply of safe drinking-water, and

¹ Joint FAO/WHO Expert Committee on Nutrition (1971) WHO Technical Report Series, No. 477, WHO, Geneva.

² Influence of recurrent infections on nutrition and growth of children in Guatemala by Mata, L. J., Urrutia, J. J., Albertazzi, C., Pellecer, O. & Arellano, E. The American Journal of Clinical Nutrition, pp. 1267-1275, 1972.

³ The biological environment in a Guatemalan rural community by Mata, L. J., Urrutia, J. J., Caceres, A. & Guzman, M. A. Proceedings of the Western Hemisphere Nutrition Congress III. Futura Publ. Co. Inc., New York, 1972.

⁴ Infection and nutrition of children of a low socio-economic rural community by Mata, L. J., Urrutia, J. J. & Lechtig, A. The American Journal of Clinical Nutrition, pp. 249-259, 1971.

satisfactory waste disposal systems can significantly cut down infection and infestation rates and thereby improve nutritional status of the population.

4.3.2 Maternal and child care

Successful reproduction depends on a good standard of health in the mother - starting from childhood and continuing through adolescence, adult life and pregnancy. Preventive measures in caring for the health of mothers and children must therefore be applied as a continuing process, from childhood through the preconceptional period to prenatal and post-natal care.¹ Prenatal, perinatal and postnatal care are of the utmost importance. Identification of "high risk" groups and appropriate measures for them should receive high priority. The activities necessary for such mother and child care should adhere to a well-defined programme. However, the activities incorporated in integrated programmes will vary according to the level of development of the national and local health services and the technical quality of the personnel responsible for their implementation.² The integrated programme may therefore contain only a few basic activities (e.g. immunization and food and nutrient supplementation) or include a complete battery of activities.

Nutrition surveillance is an important component of a comprehensive mother and child care service.³ Simple and reliable indicators can be used even by health auxiliaries to screen out "at risk" individuals, especially children, so that an adequate share of the limited resources can be directed towards them. A growth chart is an ideal tool for such surveillance. (A growth chart suitable for international use has been prepared by WHO.) Data from nutrition surveillance can also be profitably used for monitoring nutritional trends of the population, which in turn can serve as a data base for nutrition policy and programming.

Family planning programmes should be an integral part of mother and child care services as part of family health. Too many closely spaced and ill-timed pregnancies are important causes of maternal and infant and child malnutrition, as demonstrated by several studies.

QUESTIONS

14. How far do the shortcomings of the following services contribute to the present picture of malnutrition and nutrition disease in your country?

- drinking-water supplies;
- environmental sanitation;
- prenatal, perinatal and postnatal care;
- prevention of communicable diseases;
- supplements and enrichment of food;
- regular health care;
- education in health and nutrition.

15. Prepare a checklist of questions for the appraisal of the relevance of supplementary feeding programmes. Apply this list to the considerations of a specified target group in your country.

¹ The Prevention of Perinatal Mortality and Morbidity, WHO Technical Report Series, No. 457, Geneva, 1970.

² A guideline for nutrition activities through local health services for joint WHO/UNICEF strategy. WHO unpublished document WHO/NUT/74.3, Geneva, 1974.

³ The Methodology of Nutritional Surveillance: Report of a Joint FAO/UNICEF/WHO Expert Committee Meeting (1976) WHO Technical Report Series, Geneva (In press).

16. Briefly describe the nutrition/health programmes operated by the health sector in your country. Indicate the directions in which these might change and develop.
17. Are there programmes for which the need has been defined by the health sector but whose implementation is the responsibility of other sectors?
18. Appraise the extent to which integration of the preventive and curative aspects has been achieved in the health sector programmes to improve nutrition/health.
19. Describe, and comment on, the way in which the health sector relates to other sectors in the discussion of non-health sector contributions to the solution of nutrition problems.
20. (a) Propose, in order of priority, the sequence of community and public health measures that would be desirable to improve nutrition. You may wish also to describe the existing services.
 - (b) Assess the likely impact of your proposed measures.
 - (c) What problems would remain?
 - (d) What problems would you envisage in:
 - (i) implementing the programme at the community level?
 - (ii) reaching those most in need?

5. NUTRITIONAL IMPACT OF HEALTH MEASURES - THEIR LIMITATIONS

Effective health services can unquestionably make a significant contribution to the relief of nutrition-related "unhealth". Nevertheless health services alone cannot resolve nutrition-related health problems when the causes are fundamentally rooted in the state of society. But what can health services do? What are their limitations? It may be helpful to consider briefly a concrete example; readers will be able to provide similar outlines for other situations with which they are familiar.

The following situation which is common in Asia, may also be found in various forms elsewhere; it is characterized by a heavy demand on the land by its population. Population is also growing and inheritance patterns are leading to the fragmentation of holdings and to the emergence of many who do not have enough land on which to subsist. Many are landless. Some are tenants; often they feel in danger of displacement by landlords seeking to manage their own land or for other reasons. There may be a considerable disparity in the production and productivity of different holdings and the extent to which they use new seed, fertilizers and other inputs of modern technology. Some may be relatively wealthy. Others may be extremely poor and to a large degree dependent on gifts of food, or "loans" causing a perpetual debt. Sanitation will be generally poor, but it still may be worse for some than for others. Parasitic infestation, in particular, may be related to other levels of living. Seasonal respiratory or gastrointestinal diseases are common, but again their incidence may be heaviest among the poor whose housing, clothing, and hygiene are least adequate. Food supplies may fluctuate and some dietary components will be highly seasonal. The poor will be least able to maintain adequate and varied diets. In time of flood or drought, hardship is general but again the poor will have less to fall back on.

Let us now consider the potential for health service intervention in such a situation, assuming that community health services are available and effectively pursued. What could they hope to achieve? Improved sanitation and provision of safe drinking-water could reduce gastrointestinal infections and parasitic infestation; immunization could control whooping-cough and measles and other communicable diseases; the incidence, duration and severity of bronchitic and gastroenteric infections could be reduced; anaemia and avitaminosis could be reduced; mothers could be encouraged into good child feeding practices within the limits of

their ability to follow them in the face of practical problems of hygiene, food preparation, feeding routines and the availability of recommended foods; improved child spacing might also be encouraged. These would all be tremendous achievements which should be reflected in morbidity and mortality statistics, and in a reduction of the severe forms of malnutrition, quite apart from more direct evidence of improved wellbeing and increased activity.

However, all these benefits would not do a great deal to reduce the basic causes of malnutrition of those villagers among whom the number of malnourished would still be fairly high, and whose main cause is poverty. There may be the villagers whose productivity was limited by morbidity and who might now be able to raise their level of productivity, but in the absence of productive employment this improvement is of no importance. As increased numbers are born in families without lands or jobs, this will make the nutrition position, even at the micro-level of a village, more critical. The basic problem will remain of how to make these people more productive. This needs policies and programmes. Measures for increased food supply will have to be undertaken in order to balance the increased food demand. Malnutrition can only be tackled at the basic level if the three elements of a food and nutrition strategy - food demand, food supply and biological utilization - each with significant nutritional implications, are incorporated simultaneously in the food and nutrition plan. Thus, scarce resources can be used for more fundamental measures - measures which make the poor productive; measures which, in spite of low levels of community income, satisfy people's basic needs; measures which provide the preconditions of reducing population growth rate.

The above emphasizes that the health sector contributions will have very definite impact on nutrition and health status, but in the prevailing socioeconomic situation, in most developing countries, there is a limit beyond which this impact is not palpable. It is therefore of the utmost importance to have complementary contributions from other sectors in an effort to eliminate the basic causes of malnutrition.

6. CHOICES OF HEALTH SECTOR INTERVENTION

6.1 Policy decisions

A brief description of the health sector's contribution to nutrition improvement - and its limitations - has been given in earlier chapters. Generally, a country's policy decisions to solve its malnutrition problems are based on economic feasibility and available data support. Preventive intervention is, in most cases, more economical than curative intervention. Control of parasitic and other communicable diseases to prevent wastage is usually far more economical and enduring than direct intervention on specific age, sex, social or economic groups, particularly in poor countries with extremes of poverty and wealth. In the case of direct intervention, the greatest difficulty encountered is to isolate and hold on to the specific target population - most often belonging to the lowest economic segment - and it often happens that what is intended for one target group is in fact delivered to another.¹ In supplementary feeding programmes, for example, such difficulties are very commonly encountered.

6.2 The balance between data collection and analysis of data

Earlier discussion has considered alternative classes of data which might be collected for the diagnosis of malnutrition problems. An adequate analysis and interpretation of such data will serve as a good base for decision-making. The value of existing data can be enormously enhanced if the various classes of data can be cross-related (e.g. if anthropometric data are related to socioeconomic indicators) and their interpretation can be greatly facilitated by qualitative case study analysis of environmental situations.

¹ Costs and benefits of nutrition programmes by Mitra, A. Seminar on Social and Economic Aspects of Nutrition (1974) Proceedings of the Nutrition Society of India, Hyderabad.

A large part of the data collected, however, is often wasted, because the resources devoted to analysis are disproportionately small compared with those devoted to collection, and therefore by the time data become available they are already out of date. The answer may not necessarily be to increase resources allocated to data collection and analysis but rather to shift the balance given to each of these activities and thus in many ways improve the utilization of existing data and data support services.

6.3 Choices with regard to interventions

The limited resources in most developing countries place administrators and decision-makers in the position of having to make careful choices with regard to nutrition intervention, and these have to be governed by a number of criteria based on available resources, existing problems, and objectives. Not infrequently, the administrators or the policy-makers select interventions which are easy to implement or administer, irrespective of other criteria. Distribution of nutrients (e.g. vitamin pills) or food (e.g. milk powder) for example, was commonly adopted by the health sector in the past precisely for this reason.

Curative intervention, being a component of the existing medical care services, will help to keep malnutrition under control in its pathogenic stage. The aim, however, will be for direct and indirect preventive measures gradually to reduce the need for curative services. The following criteria could be used in the selection of individual interventions:

- (a) type and degree of malnutrition; its economic and social repercussions;
- (b) cost of intervention;
- (c) administrative viability with special reference to infrastructure and personnel;
- (d) degree of nutritional impact;
- (e) time span - period during which solution is desired;
- (f) degree of focus on the target group - "targeted" or "blanket" approach;
- (g) complementary effects on other interventions.

There are some measures however which pose no selection problems if they can be implemented as they have certainty of results and high "pay-off", are cheap, effective and feasible. Among these are salt iodization programmes for goitre control, iron and vitamin A food enrichment for the prophylaxis of anaemia and xerophthalmia respectively.

6.4 Complementary interventions

It is stressed that no individual intervention can by itself ameliorate the problem of malnutrition or improve the situation, except in special cases like endemic goitre. The three-pronged strategy of food demand, food supply and biological utilization, calls for simultaneous action by different sectors in a coordinated, planned way - this being the very essence of food and nutrition policy. But even in the health sector alone, the selection of two or three interventions at the same time - direct and indirect - to produce a complementary effect - can, in most cases, achieve a significant impact. The following will serve as examples of this:

<u>Direct intervention</u>		<u>Indirect intervention</u>
Supplementary feeding programme	—————→ ←————	Immunization, and provision of safe drinking-water
Nutrition education for correct weaning	—————→ ←————	Control of diarrhoeal disorders, and health education on food handling
Promotion of breast-feeding	—————→ ←————	Maternal care, including birth spacing advice

6.5 Emergencies versus sustained programmes

On the whole, this is not an issue which in practice presents very serious problems of choice. Nutrition/health plans will aim at specific goals for reducing the number of people with specific degrees of manifestation of malnutrition, and will set some basic minimum below which, in the next planning period, nobody should fall.

However, emergency situations may well arise (such as crop failure due to drought, floods, man-made or natural disasters) which bring a large number of people below these levels all at once. Normally, there will be provision for administrative response to correct such situations on an emergency basis without too great a regard for the cost, but they may cause acute problems for countries with small government budgets and a high proportion of the population being poor and in a chronic state of malnutrition. International assistance may become particularly significant in such circumstances.

6.6 Nutrition services within total health care

One of the themes for this discussion outline is:

Malnutrition is usually one aspect of a syndrome of ill-health which includes other disease conditions. Thus, improved nutrition will not alone restore and sustain health; nor can health be restored and sustained without adequate nutrition.

Looking at the natural history of malnutrition leads to the conclusion that all health measures must be regarded as a continuous integrated process. Large population groups in the outlying peripheral areas of most developing countries have no access to even the minimum of health services. Malnutrition associated with other forms of ill-health is the pattern, and nutrition intervention without a minimum of health care would be of little or no avail. The only rational way of providing nutrition services to the people who need them most is through primary health care, to bring minimum health services to the maximum number of people. The important responsibility of the health sector is to decide on the content of nutrition activities in the integrated primary health package, who should deliver these activities, and how simply they can be delivered. A guideline for nutrition activities - starting with the primary health care and going up to two higher levels of infrastructure - has recently been compiled to serve as a joint WHO/UNICEF strategy.¹ The activities proposed for the three types of services are:

I. Simplest type of service for:

- (1) individual surveillance of children through growth charts;
- (2) referring for medical attention children with less than 70% of expected body weight and with oedema;
- (3) nutrition education of mothers on: (a) promotion of breast-feeding; (b) preparation of home-made weaning foods; (c) improvement of basic diet; (d) food hygiene and environmental health;
- (4) control of infections: (a) immunization against disease; (b) simple oral rehydration;
- (5) family planning education.

¹ A guideline for nutrition activities through local health services for joint WHO/UNICEF strategy. WHO unpublished document WHO/NUT/74.3, Geneva, 1974.

II. More advanced type of service with:

- (1) individual surveillance and community surveillance by the use of simple indicators;
- (2) identification of severe cases of malnutrition;
- (3) distribution of nutrient supplements: (a) routine for anaemia; (b) corrective in selected cases;
- (4) reference of severe cases to higher level for treatment;
- (5) nutrition education as in the previous stage;
- (6) control of infections and infestations: (a) immunization; (b) deworming; (c) oral rehydration;
- (7) family planning education and services;
- (8) collaboration with workers from other sectors.

III. More elaborate type of service: all activities in the previous stage and:

- (1) treatment of referred cases of severe malnutrition;
- (2) rehydration centre;
- (3) nutrition rehabilitation centres or units;
- (4) supervision of lower levels of auxiliaries;
- (5) coordination with responsible workers from other sectors.

In each case, selected tasks, manpower, community participation, supervision, transport, equipment and referral centres are specified.

6.7 Community involvement in providing health and nutrition care

The weakness of most health care delivery systems is that government health services have not been able to make health care sufficiently accessible and acceptable to people in need. Primary health care intervention, including the nutrition component, must be available to the people close to where they live. The acceptance of many health and nutrition measures may involve a change in living habits, hence the community itself must decide on the measures and on the help that will be needed in carrying out and evaluating them.^{1,2} Primary health care interventions can often be undertaken by members of the community themselves with a little training, technical advice and supervision.

QUESTIONS

21. Consider various ways and means by which available data and analysis on health/nutrition might be improved, and outline a realistic programme for this. Justify this programme and its resource costs.
22. Set down the major choices which have to be made in your country, in the general field of nutrition/health, with respect to:

¹ WHO/UNICEF Joint Study on Alternative Approaches to Meeting Basic Health Needs of Populations in Developing Countries (1975) Document JC 20/UNICEF, or WHO/75.2, WHO, Geneva.

² Health by the People, edited by Newell, K. W., WHO, Geneva, 1975.

- the people, or categories of people, to whom the interventions should be directed;
- the balance of "preventive" and "curative" interventions;
- interventions aimed at reducing nutrition-linked deprivation compared with other deprivations.

Do these issues involve conflicting considerations with regard to short-term and long-term costs and benefits?

23. Has any attempt been made to integrate nutrition interventions with basic health services? If so, with what result?

24. Is there any experience in your country in enlisting community participation and resources for nutritional and health measures? If so, give some details.

7. RESPONSIBILITIES OF THE HEALTH SECTOR PLANNERS

Let us now consider what implications the discussions in the preceding chapters have for the specific responsibilities of the health sector planners. Although the implications for action will undoubtedly be different for different countries, they might generally include:

7.1 Promoting an intersectoral approach to nutrition planning

While discussing the provision of health/nutrition services, the need was stressed to relate health sector measures to measures taken in other sectors, especially those concerned with food and agricultural policy, and to secure a balance between these measures in order to reduce the emergence of malnutrition. Special emphasis has been laid on the importance, in an overall strategy, of measures which increase the productivity, incomes and food intake of the people whose malnutrition is an aspect of their poverty. How then can the health sector contribute to intersectoral planning to reduce malnutrition?

7.1.1 Problem definition

We have referred to the need for functional classification of the malnourished in order to define various classes of problems in both qualitative and quantitative terms. All this involves tasks which fall heavily on the health sector. In many countries, review and analysis of data of food intake, and on anthropometric and other types of surveys within a consistent framework to ensure a definition of the national nutrition problem can be undertaken by nutrition institutes or similar bodies.

7.1.2 Identification of relevant measures

It may be useful to recapitulate that a network of measures is necessary to deal with a complex syndrome like malnutrition, and that there will be alternative ways of tackling specific aspects of the syndrome. While only part of the full range of possible measures to deal with a complex syndrome like malnutrition will fall within the sphere of responsibility of the health sector, it is important that it reviews other measures carried out by other sectors in order to ensure the appropriate nutritional input for a preselected nutritional objective or at least the possible negative aspects of those measures in nutrition of the population.

7.1.3 Formulation of nutrition objectives and goals

Nutritional objectives need to be expressed in terms of health status: the achievement of target rates of infant or other age-specific childhood mortality, of growth of children in terms of height and weight and absence or reduction of nutrition-related diseases. Each country will need to decide the standards at which it should reasonably aim, translate such objectives into immediate goals, and establish target intakes for specified groups, corresponding to the levels of nutritional status aimed at. The health sector has indeed an important part to play in such a process.

7.1.4 Design and implementation of programmes involving other sectors

To achieve an intersectoral nutrition strategy, there will almost certainly be a need for joint design and implementation of some programmes by several ministries. Improvement of environmental sanitation and provision of safe drinking-water are examples of programmes which have a considerable impact on nutritional status, but whose planning and implementation involve several sectors. Another important example is nutrition surveillance and monitoring. In most cases, the health sector will have to act as the prime mover and also take the lead in responsibility.

7.1.5 Data support system

The health sector is also likely to play an important role in building a data support system for nutrition planning. As we have seen in chapter 3, this will need to have the capacity to investigate nutrition problems in representative areas or communities in order to assist planning and programme formulation; in order to be most useful, it should be based on continuing data collection and not on intensive single or periodic surveys.

Nutritional institutes, where they exist, might be assigned an important role in the national data support system. Whenever and wherever possible, these institutes should be integrated into an effective decision-making process to ensure their full involvement and participation.

7.2 Responsibility of central health ministry

Ideally, there should be machinery such as a national food and nutrition board in which various ministries are represented, giving coherence and consistency to the policies and programmes of different ministries relating to nutrition/health. A nutrition unit in the central health ministry, in addition to coordinating all health sector interventions for nutrition improvement, would also collaborate with this central intersectoral planning machinery to provide the necessary health input in overall food and nutrition planning. Development does not always reduce poverty, malnutrition and ill-health. The health sector, at the central level, will have to ensure that the total planning process is based on a good perspective view of what is happening to health/nutrition, on what is necessary to change any adverse pattern or trend, and how desirable it is to do so.

In an effort to coordinate food demand, food supply and biological utilization of food, different sectors must be involved. The health sector, whose primary responsibility is in the area of biological utilization, should also identify important complementary areas and take advantage of them. There are, for example, highly significant complementary relationships between an agricultural strategy aimed at the progressive modernization of the mass of the rural population, and health, nutrition and family planning programmes, because of their combined influence on social and attitudinal changes that are critical to economic progress and the reduction of poverty.¹

7.3 Health sector actions - a summary checklist of possible actions

7.3.1 Reassess the national nutrition problem and its particular local manifestations in the light of guidelines proposed in this discussion outline.

7.3.2 Advocate intersectoral food and nutrition planning at different levels, with adequate nutrition/health objectives. Where intersectoral planning is not possible/practised at area level, review health sector approach to existing malnutrition problems with special reference to problem definition and diagnosis.

¹ Food and Nutrition Strategies in National Development, Joint FAO/WHO Expert Committee on Nutrition, Ninth Report (Rome) 1974.

7.3.3 Define key choices for action to reduce nutrition/health problems:

- (a) choices between alternative health sector measures;
- (b) choices between health sector measures and measures appropriate to other sectors.

7.3.4 Review the nutrition/health data support system and the role of the health sector, either through nutrition institutes or through nutrition units, in building up such a system. Examine this in the light of nutrition surveillance systems that can be developed.

7.3.5 Review with other ministries the nature of the nutrition problem from all aspects, its trend as diagnosed in different sectors, the existing and the desirable measures to control the problem from various angles and the possibility of developing an intersectoral food and nutrition strategy, if this does not exist.

7.3.6 To design with different departments of the health sector integrated measures, cutting across various disciplines like nutrition, maternal and child health, health education, control of communicable diseases, environmental sanitation, and to develop a simple delivery system through which such an integrated service can be provided to the people who are most in need. Such design should take into consideration various levels of development of health infrastructures.

QUESTIONS

25. How would you wish the health sector to be involved in nutrition planning at community and national levels? What changes would this imply?

26. What specific contribution might the health sector be making in the provision of data and their analysis? What might it expect to be provided for its use by other ministries? How might data support services best be organized to meet these various needs?

27. Propose a programme to improve the identification, design and choice of nutrition-related health sector programmes. (Specify what needs to be done, by whom, according to what timetable.)

28. Define areas in which programmes should be considered which involve other ministries as well as health. In such cases how might appropriate measures be identified, designed and implemented? What practical action would be required to go forward with this in your country?

8. THE ROLE OF INTERNATIONAL ORGANIZATIONS

It is understood that each government accepts the responsibility for facing its own nutrition/health problems and for defining its own objectives and values. The role of the international agencies is to provide collaboration in the specialized areas for which they exist, when countries require and welcome such collaboration.

Among the several international agencies concerned with nutrition:

WHO is explicitly and directly concerned with all aspects of nutrition in relation to health.

FAO is concerned with agricultural policy and food and food quality aspects of nutrition, and also with food and nutrition planning.

UNICEF has a special concern for child health and nutrition and for all matters that relate to these.

WFP is concerned with the use of food aid, eventually for relief, but mainly in support of development projects, in which health and nutrition are major components and the specialized agencies (FAO, WHO, etc.) provide technical guidance.

IBRD has, in recent years, developed a special interest in nutrition and the contribution of development strategies and rural and urban development programming to its reduction.

UNESCO is concerned with nutrition relating to educational processes.

UNDP is concerned with country programmes for overall development and the coordination of overall agency activities.

The World Food Conference in November 1974 passed a series of resolutions which assigned responsibilities to these agencies in their collaboration with countries for improving nutrition. Those under Resolution V are particularly significant (see Annex).

Decisions on the need for a comprehensive food and nutrition plan, its specific objectives, the nature of the strategy and its formulation and implementation are the responsibility of the country, not of external agencies. If the need for collaboration is felt by a country, it alone must decide on the areas and nature of collaboration required from external agencies.

In view of the large number of international and nongovernmental organizations interested in collaborating with countries in combating malnutrition - especially in the planning of intersectoral food and nutrition strategies - effective machinery should exist to ensure efficient utilization of resources and to prevent the possibility of confusion among different government sectors. It should preferably be located in the planning set up of the country and would indeed be one of the attributes of a national food and nutrition board (see paragraph 7.2).

QUESTIONS

29. What collaboration is your country receiving from external agencies in the field of nutrition? Do you feel that this collaboration is adequate for the needs of your country? If not, why?

30. Is the government of your country interested in formulating and implementing multisectoral food and nutrition strategy? If so, what steps have already been taken in this direction? What external collaboration has been received specifically for this purpose?

31. Is there any administrative machinery in the planning body of your country to coordinate the collaboration of external agencies, especially in the field of nutrition? If not, how do you propose to set up such a body?

RESOLUTION V¹

Policies and programmes to improve nutrition

The World Food Conference,

Considering that large numbers of people, particularly the less advantaged in many countries, lack adequate and appropriate food resulting in adverse effects on their health, their development and their ability to learn and work for basic livelihood; whereas over-consumption among the affluent not only impairs their health but also contributes to reducing the food availability for less advantaged groups and furthermore, large food resources are used to feed animals,

Recognizing that malnutrition is closely linked to widespread poverty and inadequate social and institutional structures, and that its effects are aggravated by infectious diseases and the lack of environmental sanitation; and that increased agricultural production and increased incomes may not by themselves lead to improved nutrition; and that to this end a more just and equitable distribution of food and incomes is essential, among nations as well as within countries among their various social categories,

Recognizing that information on food consumption patterns and on their consequences for the nutrition and health status of the majority of the population in developing countries is insufficient and inadequate, and that improved knowledge about how to prevent malnutrition through better use of available food resources, including human milk, is essential,

Considering the relationship which often exists between child and mother, malnutrition and too-close pregnancies,

Recognizing that food and nutritional aspects are generally not sufficiently taken into account in the formulation of national development plans,

Considering the need for improving nutrition in all countries and that the present consumption patterns of the affluent need not be taken as a model,

RECOMMENDS

1. That all governments and the international community as a whole, in pursuance of their determination to eliminate within a decade hunger and malnutrition, formulate and integrate concerted food and nutritional plans and policies aiming at the improvement of consumption patterns in their socio-economic and agricultural planning, and for that purpose assess the character, extent and degree of malnutrition in all socio-economic groups as well as the preconditions for improving their nutritional status;
2. That FAO, in cooperation with WHO, UNICEF, WFP, IBRD, UNDP and UNESCO, assisted by PAG, prepare a project proposal for assisting governments to develop intersectoral food and nutrition plans; this proposal to be communicated to the FAO Council at its mid-1975 session through its Food and Nutrition Policy Committee, and to the governing bodies of the other interested agencies;

¹ United Nations, Economic and Social Council, document E/5587, 22 November 1974, resumed fifty-seventh session, Agenda item 6(a), World Food Conference, Note by the Secretary-General, Resolution V, p. 75.

Annex

3. That governments, with their own resources, supplemented with food, financial and technical assistance from multilateral or bilateral external sources, and in close cooperation with agricultural production programmes initiate new or strengthen existing good and nutrition intervention programmes, on a scale large enough to cover on a continuing basis a substantial part of the vulnerable groups;
4. That governments include nutrition education in the curricula for educational programmes at all levels and that all concerned in the fields of agriculture, health and general education be appropriately trained to enable them to further the nutrition education of the public within their domains;
5. That governments strengthen basic health, family well-being and planning services and improve environmental conditions, including rural water supplies and the elimination of water-borne diseases; and provide treatment and rehabilitation of those suffering from protein-energy malnutrition;
6. That governments consider the key role of women and take steps to improve their nutrition, their educational levels and their working conditions; and to encourage them and enable them to breast-feed their children;
7. That governments review special feeding programmes within the context of their food and nutrition strategies to determine desirability and the feasibility of undertaking such new programmes, or improving existing ones, particularly amongst the vulnerable groups (children, pregnant and nursing mothers), but also for school children, workers and others; such programmes should promote increased local food production and processing thereby stimulating local initiative and employment and should also include an element of nutrition-education;
8. That the international agencies, nongovernmental agencies and countries which are in a position to provide funds and foods for this purpose, should provide assistance to governments who will request such aid in order to introduce in the period 1975-76, emergency programmes for supplementary feeding of a substantial number of the malnourished children with due attention to basic health and other essential services for the welfare of all children at risk;
9. That governments should explore the desirability and feasibility of meeting nutrient deficiencies, through fortification of staples or other widely-consumed foods, with amino-acids, protein concentrates, vitamins and minerals, and that, with the assistance of WHO in cooperation with other organizations concerned, should establish a world-wide control programme aimed at substantially reducing deficiencies of vitamin A, iodine, iron/folate, vitamin D, riboflavine, and thiamine as quickly as possible;
10. That FAO, in association with other international and nongovernmental organizations concerned, undertakes an inventory of vegetable food resources other than cereals, such as roots, tubers, legumes, vegetables and fruits, including also those from unconventional sources, and that it studies the possibility of increasing their production and consumption, particularly in countries where malnutrition prevails;
11. That governments take action to strengthen and modernize consumer education services, food legislation and food control programmes and the relevant aspects of marketing practices, aiming at the protection of the consumer (avoiding false and misleading information from mass-media and commercial fraud) and that they increase their support of the Codex Alimentarius Commission;
12. That the joint FAO/WHO food contamination monitoring programme, in cooperation with UNEP, be further developed in order to provide early information to the national authorities for appropriate action;

Annex

13. That a global nutrition surveillance system be established by FAO, WHO and UNICEF to monitor the food and nutrition conditions of the disadvantaged groups of the population at risk, and to provide a method of rapid and permanent assessment of all factors which influence food consumption patterns and nutritional status;

14. That governments consider establishing facilities and funds for applied nutrition research related to economic, cultural, social and medical aspects of production, processing preservation, storage, distribution and utilization of food and that FAO, WHO and UNICEF arrange for an internationally coordinated programme in applied nutritional research including establishing priorities, identifying appropriate research centres and generating the necessary fundings;

15. That governments should associate, wherever practicable non-governmental organizations whose programmes include nutrition-related activities, with their nutritional efforts, particularly in the areas of food and nutrition programmes, nutrition education and feeding programmes for the most vulnerable groups.

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12. That a global nutrition surveillance system be established by WHO, UNICEF and FAO to monitor the food and nutrition conditions of the underserved groups of the world, to provide a method of rapid and permanent assessment of all factors which affect food consumption patterns and nutritional status.

13. That governments consider establishing facilities and funds for applied nutrition research related to storage, distribution and utilization of food and that WHO, UNICEF and FAO arrange for an internationally coordinated program in applied nutritional research including establishing advisory, identifying appropriate research centers and providing the necessary funding.

14. That governments should coordinate a review panel/boards non-governmental organizations whose programs include nutrition-related activities, with their national directors particularly in the areas of food and nutrition programs, nutrition education and feeding programs for the most vulnerable groups.