FOOD AND NUTRITION MONITORING SYSTEM: AN INTEGRATION FOR HEALTH AND SOCIOECONOMIC DEVELOPMENT

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INTRODUCTION

The Lower Mekong Basin Development Programme is a multipurpose water resource development scheme, involving the lower part of the Mekong river and its tributaries. This international river is the major water resource of the peoples of the Indo-China Peninsula. The riparian countries involved are Thailand, Laos, Cambodia and Vietnam. The nutritional situation, health status and the impact of development in this area have been summarized (Migasena, 1972).

The purpose of this paper is to stress the desirability of a new approach to nutrition in development planning and policy making and to indicate what in practice should be done. The emphasis is on procedures for the formulation and implementation of a Food and Nutrition Monitoring System as an integrated programme for health and socio-economic development, planning and policy making.

Objective and need

It is assumed that the government has decided that adequate nutrition for all the people is an appropriate national goal, as an alternative to the traditional practice of letting nutrition status be secondary to agricultural policy, foreign trade, health policy, social policy and economic conditions. This being accepted, there are many different means, some direct and some indirect, for bringing about positive nutritional effects. The Food and Nutrition Monitoring System may be a guideline for implementation at the beginning stage, but at the same time it can be used as a source of ongoing information about the nutritional conditions of the population and the factors that influence nutrition. This information will provide a basis for decisions to be made by those responsible for policy, planning, and the management of programmes relating to improvement of food consumption patterns, and nutritional and health status.

The Food and Nutrition Monitoring System is a continuous process, which should allow the following:-

(1) A description of the nutritional status of the population, with particular reference to defined subgroups which are identified as being at risk. This will permit a description of the character and magnitude of the nutritional problem and changes in its features.

(2) Data that will contribute to the analysis of causes and associated factors and so permit a selection of preventive measures which may or may not be nutritional.

(3) The promotion of decisions by the planners concerning priorities and the disposal of resources to meet the needs of both normal development and emergencies.

(4) Enable predictions to be made on the basis of current trends in order to indicate the probable evolution of nutritional problems. Considered in conjunction with existing and potential measures and resources, these will assist in the formulation of policy.

(5) To monitoring of development programmes and to evaluation of their effectiveness.

Assessment

In fact data concerned with food needs is not sophisticated. A proper understanding of the nutritional situation requires surveys of the daily consumption of nutrients at the national, family and individual levels, confirmed by clinical examinations, anthropometric measurements, figures on mortality and mobidity resulting from malnutrition, and vital statistics indicators such as infant mortality. This type of high-quality data formed by using the combination of minimal standardized assessment with the full-scale assessment done by those survey teams with different capabilities is an important function of the Food and Nutrition Moninoring System and has been proposed and demonstrated previously (Migasena, 1976a).

The ecological approach of using biogeographic and medical geographic studies for delineating elements of a dynamic system in the lower Mekong Basin have been discussed. Emphasis has been placed on the physical features which have changed after construction of the Ubol Ratana Dam, e.g., the man make lakes, irrigated areas, etc. (Migasena, 1976b.) The mode of life of people in each area has also changed. These changes will effect the epidemiological pattern of human diseases and of zoonosis. The increase in fishing in the man lakes and the poor sanitary practice of the lake side dwellers are main factors in the spread of liver fluke infection in this area (Harinasuta *et al.*, 1975; Migasena, 1976b; Migasena, 1978).

Among people in the Northeast of Thailand, the habit of eating raw fish, in the form of *Goi-pla*, haphazard defecation; lack of latrines and basic sanitation favouring pollution of soil and water and the prevalence of the intermediate hosts are the main factors determining the distribution of liver fluke infection (Harinasuta *et al*,, 1975; Migasena, 1978).

The change from running water to be stagnant water after construction of the Ubol Ratana Dam effect mosquito breeding places. This may change the epidemiology of malaria on the lake side and in irrigation areas. In the latter the predominant anopheline is *A. philippinensis*, while *A. minimus* still predominates in the upper streams (Migasena, 1976b).

Assesment for Subclinical Malnutrition

In nutritional surveys conducted so far, the early detection of malnutrition within the community is needed. Conventional surveys indicate the state of nutrition in the population at large or in some particular sections thought to be at special risk. The major problem is definition of the normal values, especially in long-term studies. To solve this problem, the finding of a quantitative relationship between functional capacity and nutritional status is considered the most useful approach. Sensitive methods in the detection of nutritional status can also be applied e.g. red blood cell glutathione reductase for riboflavin status (Migasena, 1974), red blood cell transketolase activity for thiamine status (Migasena *et al.*, 1974), prealbumin for protein status and urinary urea: creatinine ratio for dietary protein intake (Schelp *et al.*, 1976; Scheurs *et al.*, 1977). etc. Comparative studies within one group and between groups demonstrated that the prealbumin and α_1-1-acid glycoprotein were significantly different among the groups classified by the anthropometric method. These results were also significantly correlated with urinary urea: creatinine ratios. The differences in the concentration of the glycoprotein rich serum fractions between children from villages compared with

children from towns was due to a different relationship of carbohydrate to protein in their regular diet (Schelp *et al.*, 1976).

Correlations between patterns of deficiency disease and diet, which may differ widely, has given useful indications about possible causal factors and preventive programs which can be used to solve these problems.

It is anticipated that his system conducted by the Department of Tropical Nutrition and Food Science, Faculty of Tropical Medicine, Bangkok, Thailand, with SEAMEO-TROPMED as a coordinator will continue to maintain a regional link with international organizations so that a full programme of nutritional assessment of the population in this region can be undertaken. In Thailand, this programme will be expanded to provide surveillance of nutritional levels nationally.

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DISCUSSION

Dr. Lay Maung (UNICEF)

I think Prof. Chamlong has illustrated very well the relationship between health and development, particularly the health implications of development projects giving special reference to Ubonratana Dam. There cannot be any other better example than this project. I suppose health planners might not have been consulted during the planning stages of this project and thus proper preventive measures had not been taken which resulted

in an outbreak of malaria and rising incidence of gastrointestinal and parasitic diseases. This is not the only example that I have seen. There are several other instances where health aspects or implications had been completely overlooked during the planning stages of such projects. This is exactly the reason why in my paper (Abstract) I have suggested that a dialogue be established between health planners and development planners. Health planners, on the other hand, should also take into consideration the possibility of such consequences as outbreak of malaria and other communicable diseases emerging out of such development projects.

The other point which I would like to draw to your attention is the concluding remarks of Dr. Schelp wherein he mentioned that a rise in family income does not necessarily lead to improved health status of the family as evidenced from his study on the health and nutritional problems in the Nam Pong water resource development scheme. I think this is true because the increased family income may not be utilized for health purposes. It may be used instead for some other purposes. Thus, an increased family income does not, in this case, lead to an increase in expenditure on health. This is true both at the *micro* and *macro* levels, and this is exactly the reason why development strategies in the past, have failed to bring about substantial social and human developments, and it is also the reason for the emergence of new strategies such as Basic Needs Strategy, Basic Services Strategy, Primary Health Care strategy and so on.

Fortunately, the new International Development Strategy for the 1980 s and beyond which was recently introduced at the special session of the General Assembly held in September 1980, does have specific objectives of social and human development such as elimination of hunger, universal primary education, primary health care for all, and a sharp reduction in infant mortality by the end of the century and integration of women into all sectors of development. I think, we should all welcome this strategy and try our best to translate this strategy into practice.

Concerning Dr. Panata's presentation, I am glad that he has dealt with the nutritional problems of the pre-school children and how food and nutrition monitoring systems could be developed. As you all know, we in UNICEF are interested in the nutritional aspects of mothers and children and this age group (under-fives) is a priority age group for us. I hope that Dr. Panata would be able to follow up the present study with further in-depth studies, focussing on the monitoring and evaluation aspects of the nutrition intervention programmes and projects.

May I conclude by saying that *Health for All* is integral to overall national development and that improvement of socio-economic conditions is essential although not a prerequisite to health development. The key role that communities could play in the total development process should not be overlooked.