Proceedings of the Workshop on

FOOD AND NUTRITION PROMOTION STRATEGIES IN MALAYSIA

19–21 September 1995
Kuala Lumpur

Part 1 of 2

INTER-INSTITUTIONAL
LINKAGE PROGRAMME

Brunei Darussalam
Indonesia
Malaysia
New Zealand
Philippines
Singapore
Thailand

ASEAN-New Zealand Inter-Institutional
Linkage Programme (IILP)
Project 5 National Committee, Malaysia

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Preface

This Workshop was conducted to conclude Project 5 (on Food, Nutrition and Health Promotion) of the ASEAN-New Zealand Inter-Institutional Linkages Programme (IILP), started in 1990. The overall goal of the Programme was the establishment of self-sustaining linkages between relevant institutions in ASEAN and New Zealand. Project 5's objectives included the establishment of sustainable institutional linkages, improving access to data and information and broadening knowledge and improving competency of key institutions in the area of food, nutrition and health promotion. Considerable efforts were made to bridge the gaps existing among the different emphasis of nutrition by the participating agencies. Much of the work also involved searching and collating data and information that were already available in the country.

For this Project, the Malaysian Agricultural Research and Development Institute (MARDI) acted as the key institution with active participation from the Institute for Medical Research, Health Services Division of the Ministry of Health, Schools Division of the Ministry of Education, Universiti Kebangsaan Malaysia and Universiti Pertanian Malaysia. National and regional meetings were also held involving ASEAN and New Zealand counterparts, and Malaysia played host to one of the regional meetings in 1991.

The National Committee conducted and published the proceedings of three workshops, in addition to publishing two directories, one on researchers and institutions, and the other on selected annotated bibliography of research publications and resource materials in food, nutrition and health promotion, under this ASEAN-New Zealand IILP Project. This Project output serves as useful references in food and nutrition in Malaysia. Although this phase of the Project has terminated, I am sure the linkages forged among professionals in these fields will continue.

I would like to thank all members of the National Committee and their agencies for the cooperation given to make this Project a success. I look forward to our continued collaboration and the sustentation of the linkages established so far.

Zahara Merican
Chairman
National Committee for Project 5
ASEAN-New Zealand IILP

1996

Workshop Background Papers

PAPER 1

Concepts of health promotion for developing countries

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1. Introduction - The Ottawa Charter

"Health promotion is the process of enabling people to increase control over, and to improve, their health". This is the definition of health promotion arrived at during the First Conference on Health Promotion, held in Ottawa in 1986.

"Health" was defined as "a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy lifestyles to well-being".

I will attempt to summarize here some of the main conclusions of the Ottawa Conference. In the Ottawa "Charter for Health Promotion" the prerequisites for health are considered:

- Peace
- Shelter
- Education
- Food
- Income
- A Stable Eco-System
- Sustainable Resources
- Social Justice
- Equity

Health promotion policies aim at identifying the obstacles for achieving the above prerequisites and ways of removing them through a number of diverse, but complementary approaches; these include communication, education, legislation, fiscal measures, organizational change, community development and spontaneous local activities against health hazards.

In a rapidly changing environment, a systematic assessment of health impact, particularly in the areas of work, energy production and urbanization is essential and must be followed by action to ensure that the public benefits rather than suffer from these changes.

Work and leisure activities should be a source of health for all people; this means that these activities should be safe, stimulating, satisfying and enjoyable.

To change life and improve society it is necessary first of all to have a VISION of how we would like our lives and societies to be. The next step is advocating this vision and promoting the changes needed to make it a reality.

This requires concrete and effective community action, in setting priorities, making decisions, planning strategies and implementing them to achieve better health. At the heart of this process is the empowerment of communities, which is obtained by finding ways of increasing public participation in actions on health matters. This requires full and continuous access to information, learning opportunities for all, as well as funding support.

The role of the health sector must move increasingly in the direction of health promotion, beyond its responsibility for providing clinical and curative services. Reorienting health services also requires stronger attention to health research, as well as changes in professional education and training. This must lead to a change of attitude and organization of health services, focusing on the total needs of the individual as a whole person.

Health is created every day, by caring for oneself and others, by being able to take decisions and have control over one's life circumstances, and by ensuring that the society one lives in creates conditions that allow the attainment of health by all its members.

Caring, holism and ecology are essential issues in developing strategies for health promotion. Therefore, those involved should take as a guiding principle that, in each phase of planning, implementation and evaluation of health promotion activities, women and men should become equal partners.

2. Health promotion in developing countries

The Ottawa Conference was followed by a second conference on Health Promotion, held in Adelaide in 1988, and a third one, held in Sundsvall, Sweden, in 1991. In preparation for the latter, WHO organized a meeting of a Working Group on Health Promotion in Developing Countries. The report of that meeting was followed by the preparation of a Briefing Book for the Sundsvall Conference, by the Division of Health Education of WHO. This publication explores, with many practical examples, the meaning and ways of health promotion in developing countries, particularly in the context of the general theme of the conference, "Creating Supportive Environments for Health". The term "environment" was considered in its broadest sense, including the social, political, economic and cultural aspects, as well as the physical environment.

I would like to highlight some of the more interesting and relevant issues that emerge, in my view, from an analysis of these reports.

In industrialized countries, the emphasis of health promotion is mostly on healthy lifestyles and behaviors that minimize the risk of disease, as well as on the environmental aspects. In developing countries, the focus is more on decreasing morbidity and mortality by ensuring basic sanitation and water supply, maternal and child care and the control of communicable diseases.

In rapidly changing countries like Malaysia, increasing attention is needed on the prevention of chronic diseases, following the successful examples of some industrialized countries, where fewer deaths from cardiovascular diseases and cancer have been achieved, by improving dietary habits, physical activity patterns and through a substantial reduction in smoking.

The challenge here is to be effective on two fronts, dealing with the emerging lifestyle diseases, and with the effects of industrialization, urbanization and rural development on the environment, without forgetting that conditions like nutrition deficiencies, responsible for anaemia, goitre, and the impairment of physical growth and mental development, are still prevalent in many parts of the country and sectors of the society.

To succeed in this challenge, it is useful to bear in mind the four pillars identified by WHO as the basis to reach Health for All:

1. political and societal commitment;
2. community participation;
3. intersectoral cooperation, between the health sector and other key development sectors such as agriculture, education, communications, industry, energy, transportation, public works and housing;
4. systems support, to ensure that essential health care and scientifically sound, affordable health technology are available to all people.

The goal of health promotion is health for all, which can be achieved in two complementary ways:

- by promoting health lifestyles and community action for health;
- and by creating conditions which make it possible to live a healthy life.

The first entails empowering people with the knowledge and skills that are needed for healthy living. The second requires convincing decision-makers and development planners of the need to integrate health concerns into all development activities, even though economic, environmental and health concerns may at times be at cross-purposes with each other.

A public that knows its rights and responsibilities, supported by political will and awareness at all levels of government, can make Health for All a reality. These concepts have been translated into a three-fold strategy in the report of the Working Group on Health Promotion in Developing Countries, convened by WHO in 1989.

The three strategies are:

1. Advocacy for health
2. Empowering people for health action
3. Developing support systems and building alliances

Let us examine how these three strategies can be or have been effectively implemented in developing countries.

3.1 Advocacy for Health

Advocacy is most effective when individuals and groups and all sectors of society are involved in the process. This includes government sectors, community organizations, NGOs, the media, universities, researchers and international agencies.

The leading role of governments in advocacy for health is well illustrated by the examples of China and Sri Lanka, countries which have achieved dramatic improvements in health, despite the constraints of relative poverty, thanks to the political will and

commitment of their governments in realizing equity and social justice, and also thanks to the greater emphasis placed on preventive care. Life expectancy at birth in China and Sri Lanka, in 1987, despite per-capita incomes as low as US$350 per annum, were estimated at 70 and 71 years respectively. This is higher than the average life expectancy in upper - and middle-income groups in countries with an average per capita income of over US$2,000 per annum.

Development policies in these countries avoided the urban bias common to the strategies of many other developing countries. Sri Lanka (until recently) were able to maintain a rural/urban balance that limited the internal migration to metropolitan areas. The political processes were designed in such a way that demands could be formulated and responded to at the community level. In economic development programmes, strategies for raising productivity and income of the poor were given priority.

In both countries, high priority was given to education, making it available to all, and reaching a very high level of female participation in the school system. Food security for the whole population was an essential objective of public policy, achieved by state management of the trade in staple foods, food rationing with food subsidies, and free food supplements for target groups.

Governments have tried different approaches to attaining health goals, some investing in health a much higher proportion of budget than would be expected, considering national resources (in the case of Costa Rica and Cuba, 32% and 23% of central government expenditure, respectively); and also by aiming at a very high population coverage with primary health care. Other countries, such as the Republic of Korea, have attained similar levels of health having given priority to economic development.

The health sector of each country must find appropriate ways of advocating health within the framework of the country's political and socio-economic situation.

Among the main actors for health promotion is the community. At the community level, in most developing countries there are age-old traditions that encourage mutual self-help; for example, gotong-royong in Malaysia and Indonesia, and shramadana in India and Sri Lanka. These traditional values provide a good basis for advocating collective action for health by the community.

Examples of community-level activities aiming at promoting health are:

- building and maintaining village water supply systems;
- organizing feeding programmes for children in and out of school;
- building community centres, schools and health centres;
- setting up rural cooperatives for commonly used medicines.

A good example from Malaysia is the provision of piped water and toilets to 1,400 kampongs and more than 5,000 longhouses, in Sarawak, between 1967 and 1980, as a result of the collaboration between government, WHO and UNICEF, providing equipment, supplies and services, with the people of these communities, who contributed their labour.

Where mass media cannot reach, traditional media such as folk songs, mobile theatre, puppet shows and street plays can be very effective means of conveying health messages.

Press releases and fact sheets are also useful ways of informing the media and stimulating them to action. WHO uses these methods widely, and routinely produces and distributes to broadcast networks, spots, videos and films on priority health issues. WHO has also initiated "media for health", seminars, orientation programmes for media personnel and health inputs in media training centres.

Regional organizations such as the Asia Pacific Institute for Broadcasting Development also offer valuable training schemes for media personnel. Health interests can be introduced into the training provided.

Universities and research institutions, where knowledge is both acquired and generated, have responsibility for influencing the thinking of policy makers and others. While some of these institutions engage in purely academic activities, giving and acquiring knowledge, many accept wider responsibility.

Thanks to the credibility established by individuals and departments through their research and teaching programmes, government departments frequently invite academics to provide advice and expertise in national planning. The vice-chancellors of universities and the deans of health and related faculties have ample opportunities to provide leadership in promoting appropriate research, disseminating the findings and advise national authorities on matters that need action.

Another vital advocacy role that universities and institutions play is with students, who will later have a part to play in promoting health in their country. Teaching in schools and universities should be inspired by support of equity and health issues, through appropriate curricula and effective teaching methods, including community-based activities.

Many universities in developing countries undertake projects of national importance and come up with new strategies and approaches for wider replication. Some countries recruit university students for national programmes in order to compensate for manpower gaps and accelerate interventions. Students then become advocates for health while working in communities.

The United Nations organizations play an important advocacy role by calling the attention of member states to important problems, where joint action is urgently needed. This is done by organizing meetings of experts, publishing scientific and policy documents, setting up commissions on specific issues, holding global conferences, and preparing recommendations for action.

Examples of world level organized in recent years include the:

- World Population Conferences,
- Safe Motherhood Conferences,
- World Summit on Children,
- World Conferences on Smoking and Health,
- UN Conference on Environment and Development,
- World Summit on Malaria and
- FAO/WHO International Conference on Nutrition.

The main thrust of the international organizations, with their technical expertise, is to focus on the policy and managerial aspects of health actions, promoting optimal use of national resources. They also provide technical support for designing strategies to deal with national and regional problems.

The bilateral development agencies play a somewhat similar role to that of the international agencies; the priorities of donor countries necessarily influence their activities in the recipient countries.

Some examples of effective advocacy by international agencies in mobilizing global and national efforts against death and disability, are the eradication of smallpox, the successful control of yaws through mass therapy with a single injection of procaine pencillin, and the expanded programme of immunization.

International agencies also support global, regional and national research initiatives, by suggesting areas for research, offering expertise and financial support. WHO, for example, has taken the lead in fields such as tropical diseases, maternal and child health, environmental health, HIV infection and substance abuse, including smoking.

3.2 Empowering people for Health Action

People have the right to information on how to maintain, protect and promote health. In the Alma Ata Declaration on Primary Health Care, education concerning health problems and how they can be prevented and controlled is the first of the eight essential elements of Primary Health Care. Health information and education are the basis for achieving community self-reliance, social awareness, and community participation.

Empowering people to achieve health means helping people to recognize, in themselves and others, factors that contribute to determine healthy lifestyles, including beliefs, attitudes and skills, in addition to health knowledge.

Empowering strategies, however, go beyond the ability to practise a healthy lifestyle. They should enable people to fully participate in promoting health not just at the individual level, but also through community-level and national-level actions. Empowerment strategies should help people to develop social and political skills, such as:

- resource mobilization,
- negotiation
- lobbying
- problem-solving, and
- networking skills

so that they can take steps to meet their needs and aspirations and also influence the economic, social, cultural and environmental conditions that affect health.

Empowerment strategies should also help to generate enthusiasm, conviction and commitment to community welfare. They must also help people to identify resources and support for national and community-level health actions. Empowerment strategies should complement advocacy and social support strategies in encouraging people to take more control of their own health, and be partners in the systems that can help them lead healthy lives.

A need that is being increasingly recognized in developing countries is that of building alliances between and networking with many groups and agencies that work for, and influence health and welfare. More and more, government and NGOs are seeking to build bridges between these various groups for health.

Activities in this direction include convening meetings of concerned persons, establishing joint committees and programmes, publishing periodicals and newsletters, sharing experiences and providing information.

In conclusion, the literature on the subject shows that there are many ways of promoting health, several levels at which interventions are necessary and that everyone has a role to play. What is required is mostly, in my opinion, to have an open mind, a creative attitude, and the desire to learn from the experience of others, through the literature, meetings and networking to find appropriate and innovative approaches.

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PAPER 2

Strategy for improved nutrition of children and women in developing countries

Policy Review Paper of the United Nations Children's Fund
Presented by Bijan Sharif

Summary

Freedom from hunger is a basic human right. Continued malnutrition is unacceptable. Goals are proposed for the 1990s for the control of protein-energy malnutrition and micronutrient deficiency disorders. This strategy, based on previous nutrition oriented programmes, proposes to reduce and ultimately eliminate malnutrition in developing countries. It proposes a methodology for the identification of appropriate actions in a given context through situation assessment and analysis, rather than through a predetermined set of technical interventions. Central to the methodology is a conceptual framework reflecting the multisectoral nature of malnutrition, and a community-based monitoring system is key to that assessment. The strategy is applicable at household, community, district and national levels. Important strategy components include the promotion of breast-feeding and attention to outreach and urbanization. Potentially important components, identified through analysis, are discussed in terms of whether they address immediate causes of malnutrition, underlying causes, or basic causes.

1. Introduction

At its 1989 session, the UNICEF Executive Board requested the Executive Director to submit to its 1990 session a policy strategy for the improved nutrition of mothers and children in the developing world (ENICEF/1989/12, decision 1989/12). UNICEF had reviewed nutrition strategies at an informal consultation in New York in September 1382, at which time the "GOBI-FF" (growth monitoring, oral rehydration therapy (ORT), breast-feeding, immunization, food supplementation and female education) strategy was identified as a combination of actions that would effectively improve child survival. The consultation recognized the importance of and complementarity between the primary health care (PHC) and poverty reduction approaches, as well as the necessity for community involvement. At a later meeting in Naivasha, Kenya, in March 1987, UNICEF staff concerned with nutrition agreed that reducing the prevalence of malnutrition was an important objective in its own right, as was improving child survival and development (CSD) and the situation of women. It was agreed that improved nutrition should not be seen as a sectoral activity, but as an important objective of all UNICEF-supported activities. The strategy proposed in the present paper has considered the recommendations of two reviews: the UNICEF/World Health Organization (WHO) Joint Nutrition Support Programme (JNSP); and the WHO/UNICEF strategy for improved nutrition of mothers and children in the developing world (JC27/UNICEF-WHO/89.4), which was endorsed by the UNICEF/WHO Joint Committee on Health Policy at its twenty-seventh session in Geneva in January 1989.

with the recommendation that it be further elaborated. Recognition was given to women in their own right, not just to their role as mothers, or even as economic producers.

The following is a proposed strategy for developing countries to reduce and ultimately eliminate malnutrition. UNICEF has a responsibility to support countries in this endeavour as it recognizes the global nature of the problem of malnutrition and views good nutrition as a basic human right. Rather than recommending a "standard package" of technical interventions, the strategy describes an approach that identifies efficient actions in particular contexts.

1.1 Nutrition as a human right

Freedom from hunger and malnutrition was declared a basic human right in the 1948 Universal Declaration of Human Rights: "Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food ..." (art. 25, para. 1). This human right, which expresses the preferred relationship between the individual and the State, was reiterated in the International Covenant on Economic, Social and Cultural Rights, which entered into force in May 1978 (art. 11). In 1974, all States that participated in the United Nations World Food Conference reemphasized the right to be free from hunger and malnutrition: "Every man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop fully and maintain their physical and mental faculties". The elimination of hunger and malnutrition was one of the six goals of the Third United Nations Development Decade, as well as a goal of the WHO Declaration on "Health for All by the Year 2000".

Children are the primary victims of malnutrition. The Convention on the Rights of the Child, adopted by the General Assembly on 20 November 1989, brought together, for the first time, all rights related to the survival, development, protection and participation of children. It states that countries "shall ensure to the maximum extent possible the survival and development of the child" (art. 6); and that "State Parties shall pursue full implementation of this right and, in particular, shall take appropriate measures: (a) to diminish infant and child mortality; ... (c) to combat disease and malnutrition including ... through the provision of adequate nutritious food ..." (art. 24).

Because malnutrition affects young children most seriously, UNICEF has a particular mandate to support its elimination. Malnutrition manifests itself at the individual level, but its causes may be found at many levels—from household and community to national or international. The causes may operate in many different sectors simultaneously. Experience with community mobilization and co-operation with different sectors makes UNICEF especially capable of assisting countries in their efforts to alleviate malnutrition.

Human rights need not be defended from an economic perspective, although such an economic impact may be felt. Freedom from hunger and malnutrition is, therefore, a goal in a nutrition strategy for countries that have ratified United Nations' conventions.

1.2 Malnutrition as a global problem

During the last 25 years, many experts have tried to assess the magnitude of malnutrition in the world. Protein-energy malnutrition, nutritional anaemia, vitamin A deficiency and iodine deficiency disorders (IDD) are the most serious nutrition problems. About 150 million children under five years old are underweight, and more than 20 million suffer from severe malnutrition. It is estimated that 350 million women have

nutritional anaemia. Some 40 million children suffer from vitamin A deficiency, some of whom go blind, and most of those who do, die. Some 250,000 children go blind or partially blind and survive. IDD afflicts 200 million to 300 million people with goitre, and at least 6 million suffer from cretinism.

Recent information suggests that malnutrition is increasing in some parts of the world, particularly in Africa south of the Sahara. It is likely that this deterioration is a result of the present economic crisis and the adjustments being undertaken by many of the countries.

Because of its magnitude, its catastrophic impact on child and maternal survival and development, and the fact that it often results from international political and economic crises, malnutrition is one of the most significant global problems of the day. In order to resolve this problem, human and material resources must be mobilized at all levels.

2. The nature of the nutrition problem

Nutrition encompasses processes leading to and involved with the utilisation of nutrients for growth, development, maintenance and activity. Malnutrition results from the inadequate intake of nutrients, or from disease factors that affect digestion, absorption, transport and the utilization of nutrients. Infectious diseases, in particular, affect both dietary intake and other processes.

A distinction should be made between the physiological concept of nutrition and the broader concept that encompasses the economic, social, political and cultural causes of the "nutrition problem". The "nutrition problem" may or may not manifest itself as a pathological condition of malnutrition. Adaptation to low energy intake is a case in point. Some people obtain an energy balance by eating as much as they need, while others reduce their activity to the level of intake they can afford. The satisfaction of "needs", i.e., requirements at desired activity levels, is important for early childhood psycho-social development and education. It should also be noted that the average adult height is lower in some countries and communities than in others. The Sub-Committee on Nutrition of the Administrative Committee on Co-ordination recently issued a statement on the significance of small body size in populations. Smaller stature indicates that, during infancy or childhood, the individual has been deprived, indicating poor nutrition and ill-health. "It is the factors associated with the process of becoming small, not the state of being small, that is the real concern ..." It is not harmful to be small, except for the effect that this has on physical working capacity and the link between maternal size and infant birth-weight. Short average stature in a population is, therefore, also an indicator of a "nutrition problem".

Studies have shown that the growth of privileged groups of children in developing countries does not differ significantly from the United States National Center for Health Services growth reference values, which are used by WHO. They demonstrate that socio-economic factors (particularly the dietary-infection complex) are more significant causes of poor growth in underprivileged communities than ethnic or geographic differences.

Priorities in assessing the "nutrition problem" have changed over the years. Vitamin deficiencies were the primary concern up to 1950; protein deficiencies from the early 1950s to mid-1970s; and multisectoral nutrition planning to the late 1970s. In 1978, the PHC approach, which shifted the focus back to communities, was adopted at Alma Ata as the strategy to achieve Health for All by the Year 2000. It is within that

approach that some of the most successful nutrition-oriented programmes have been implemented. The conceptual framework adopted in the strategy presented in the present paper consists of well established knowledge combined with hypotheses about the probable underlying causes of malnutrition. This framework does not express exact relationships, but offers a guide as to what to look for and helps to identify the causes of the problem in a particular context.

For many years nutrition programmes consisted of single, monofocal technical interventions, sometimes reflecting the disciplinary background and priorities of the "intervener" more than the real needs of the community. In most cases, interventions were selected without the participation of communities, and there was seldom a clear analysis of the malnutrition problem. Changes in economic policies or other changes over which the implementors had no influence often had a greater impact on nutrition than the programme itself.

Ten years of experience have shown that the most successful nutrition-oriented programmes are planned and implemented within the context of the PHC approach. Evaluation of these programmes has provided valuable knowledge about what works and what does not. The recent evaluation of JNSP, which is implemented in 16 countries and is based firmly on the PHC approach, provided new information and confirmed many conclusions obtained from other successful community nutrition programmes.

3. Development of a new nutrition strategy

Consideration of past experience suggests that a strategy to resolve the nutrition problem should be based on the following:

(a) The use of an explicitly formulated conceptual framework that reflects the biological and social causes of the nutrition problem, as well as the importance of causes at both macro- and micro-levels. Such a framework should reflect the multisectoral nature of the problem, accommodating a number of potential causes, but also allowing for a reduction in the most important causes in a particular context;

(b) The early establishment of a community-based monitoring system. The generation and analysis of data are of great importance for programme modifications and mobilization. Data that are useful to resource management (from the household to the national level) should have priority. The analysis of information on the nutrition problem will act as a stimulus and a mobilizing force. It will also ensure that interventions are more relevant because they consider local conditions and are understood by people concerned;

(c) The involvement of communities, particularly women, in planning, implementation and monitoring. The people concerned are most capable of understanding the context;

(d) The strengthening of formal and non-formal institutions. This also requires local knowledge and often involves leadership training;

(e) The mobilization of resources at all levels. This involves both the creation and reallocation of resources and planning for their use;

(f) The early provision of essential services such as immunization and the control of diarrhoeal diseases (CDD) contributes to visibility and enthusiasm, both of which are important for social mobilization;

(g) The crucial role of training at all levels to increase the capability to assess and analyse the problem of malnutrition and to design appropriate action;

(h) The recognition that, although the nutrition problem is most often multisectoral and multilevel, which should be reflected in any assessment and analysis, intervention need not always be multisectoral. On the other hand, a sequencing of actions, based on the identification of priority actions and their feasibility, is often more efficient than multisectoral interventions;

(i) The recognition that the context in which a nutrition-oriented programme is planned and implemented usually changes during the course of the programme, thus making it difficult to plan many years in advance. Instead, planning, implementation and monitoring should be processes with the built in flexibility to accommodate and facilitate modifications. Government commitment regarding personnel, resources and advocacy should be long-term;

(j) Improved management at all levels, particularly at the district level. Flexibility means continuous replanning, which requires the efficient use of information. This does not necessarily mean more information, but rather more appropriate and timely information.

Thus, consideration of past successes and failures has led to the following important conclusion: instead of adopting and trying to implement "pre-packaged" technical interventions, the most appropriate actions should emerge from the assessment and analysis of the particular context. Regular monitoring at all levels makes the nutrition problem more visible and serves as a mechanism to assess the impact of actions taken. The shortcoming of most nutrition-oriented programmes today is not the lack of well-documented, scientifically proven technical interventions, but rather the failure of most programmes to explore fully how existing local skills and resources should be mobilized and supported in concert with technical interventions in order to create an environment and a support structure that is more conducive to improved nutrition.

4. Nutrition goals for the 1990s

UNICEF has adopted a number of goals for children and development in the 1990s that will need to be debated at regional and national levels, and perhaps revised, before being adopted by a given country. The goals include reducing infant, child and maternal mortality rates; improving nutrition; ensuring access to safe drinking water and sanitary means of excreta disposal; and promoting basic education and literacy. A number of supporting/sectoral goals have also been identified, the achievement of which are necessary for the achievement of major goals. The nutrition goals for the 1990s can be divided into the following two categories:

(a) The control of protein-energy malnutrition, including:

(i) The reduction of both moderate and severe protein-energy malnutrition in children under five years of age by one half of the 1990 levels;

(ii) The reduction of the rate of low birth-weight (less than 2.5 kilograms) to less than 10 per cent (an indicator of the status of maternal nutrition);

(b) The control of micronutrient deficiency disorders, including:

(i) The reduction of iron deficiency anaemia (haemoglobin level in the blood, or serum ferritin) among women of child-bearing age by one third of the 1990 levels;

(ii) The virtual elimination of IDD (urinary iodine, or serum thyroid hormone);

(iii) The virtual elimination of vitamin A deficiency and its consequences, including blindness (serum retinol, or some other measure of vitamin A status).

The indicators to be used in monitoring the achievement of the micronutrient goals are given in paragraph b) above; those for protein-energy malnutrition in children are as follows: underweight (low weight-for-age); wasting (low weight-for-height); and stunting (low height-for-age). In accordance with WHO terminology, readings that are three or more standard deviations from the reference median are referred to as "severe", while those between two and three standard deviations are called "moderate". Although countries may adopt their own definitions and references, international references recommended by WHO should suffice. The goals refer to the reduction of moderate and severe malnutrition. Some countries may prefer to adopt as a further target the virtual elimination (less than 1 per cent) of severe protein-energy malnutrition.

5. Strategy to achieve nutrition goals

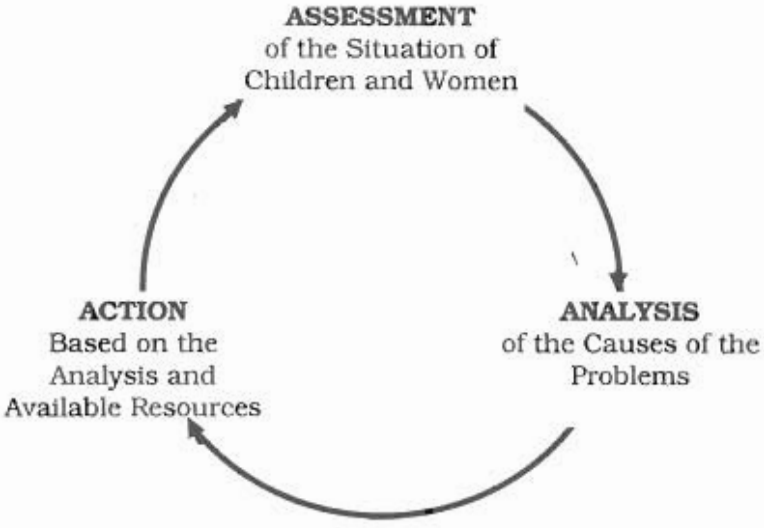
The overall objective of the strategy is to empower families, communities and Governments to improve the nutrition of women and children on the basis of adequate information and sound analysis. Implicit in this formulation are the concepts of self reliance, sustainability and scale. In order to achieve the objective, the strategy will initiate new processes and accelerate existing ones at all levels of society in order to mobilize people and resources for improved nutrition. The two most important elements of the strategy are a method of assessment, analysis and action (the "triple A" approach) and a conceptual framework for the analysis of the causes of malnutrition in a specific context. The first element describes how information should be used, while the second provides a guide for discerning what information should be collected.

5.1 The triple A approach

Every day, decisions are taken that affect nutrition positively or negatively. Most decisions are consecutive steps in a process of assessing the problem, analysing its causes and taking action based on this analysis. Normally the results of those actions are observed and analysed, and then new actions are taken. Therefore, in any programme development effort to improve nutrition, it is important to acknowledge the

processes, identify them and learn how they function to be able to design actions to support and accelerate the most promising. The triple A approach is illustrated in Figure 1 below.

Figure 1: The Triple A Cycle



The cycle may start with assessment, whether it is the mother who assesses the growth of her child, the community that assesses the nutrition situation or the Ministry of Health that assesses trends in the prevalence of goitre. The decision to make an assessment is dependent upon awareness and commitment, while the quality of the assessment is dependent upon perceptions of the nature of the problem. Awareness, commitment and perceptions are all dependent upon the information available and the ability to understand it.

After an initial assessment of the situation, the analysis of the causative processes follows. The determinants of malnutrition are very complex, as some are general while others are more context-specific. If the analysis is performed by a combination of people who live with or very close to the situation under review, it is more likely that the whole exercise will be more successful. The presence of individuals who are trained and experienced in such analysis will also improve the outcome. Based on the analysis of causative processes and an assessment of available or potential resources, actions are designed and implemented. Most situations do not necessarily improve with the first set of actions. The actions may, however, contribute to the creation of a new situation that is more conducive to actions that were not feasible before.

After the situation has been assessed and analysed and actions have been implemented, it is necessary to reassess the impact of the actions, and then to re-analyse it again. For this purpose, nutrition information systems must be in place. Such systems should not only provide information on nutritional status, but should also provide information about the causes of the nutrition problem. This process will lead to further actions that are likely to be more effective and better focused. It will also lead to the renewed design and implementation of actions based on a better understanding of the problems and practical experiences. This process of assessment, analysis and action can focus more precisely on target actions each time it is recycled, which permits new factors to be included as they become relevant.

Assessment, analysis and action depend on views of the problem. There may be agreement over the existence of a problem based on visible manifestations such as severe malnutrition, but there may be disagreement about causes of the problem. If there is disagreement about the causes, there is probably also disagreement over which actions should be taken to alleviate it. There is, therefore, a need to use an explicitly formulated conceptual framework that will help to identify and clarify the causes of malnutrition.

5.2 The conceptual framework

Malnutrition and death in children and women are the results of a long sequence of interlinked events. It is difficult to base any action on the assessment of those manifestations of malnutrition, but they indicate that the situation is serious and requires further investigation.

Inadequate dietary intake and disease are the most significant immediate causes of malnutrition. Disease, in particular infectious disease, affects dietary intake and nutrient utilization. In most cases, malnutrition is the combined result of inadequate dietary intake and disease.

In a given context it is possible to identify the immediate causes that have led to malnutrition in an individual case or to a high prevalence of malnutrition in a community. One example of this is diarrhoeal disease in combination with low energy intake. Based on this information, actions could be taken to reduce malnutrition by promoting ORT and food supplementation. However, actions at this level must often be repeated in order to have a sustained effect. If long-term improvements are to be secured, it will be necessary to extend the analysis to the next level and inquire as to the causes of diarrhoea and inadequate food intake.

Dietary inadequacies might be caused by an inadequate supply of food or by mothers having too little time to prepare food or to feed their children. Similarly, death from disease may result from any one or a combination of causes, such as the lack of or low utilization of health services, inadequate water supplies and sanitary facilities, poor food hygiene or inadequate child care. It is only in a particular context that the exact causes can be identified. These underlying causes can be numerous and are usually interrelated. Most of them can be considered as the insufficient fulfilment of specific basic needs of children and women. In order to simplify analysis at this level, the underlying causes may be grouped into three main clusters: basic health services and a healthy environment; household food security; and maternal and child care.

Of the three clusters, the first two are prerequisites for adequate dietary intake and the control of common diseases among children. However, plentiful food of good quality, the availability of health services and a healthy environment are not enough in themselves to ensure adequate nutrition or proper health care in children and women. There also has to be a system to ensure that the foods and health services are properly used for the benefit of children and women. Defined in broad terms, the maternal and child care sector encompasses some of the services necessary in this system. Education, water and environmental sanitation and housing may all affect the outcome of any of these sectors.

Protein-energy malnutrition in children appears most frequently during the weaning period between about 4 and 18 months of age. It is useful to interpret the dietary intake as the result of four factors: meal frequency; amount of food per meal; energy and nutrient density of the food; and biological utilization. Compared with traditional nutrition surveys, these factors are relatively easy to measure and discuss

with communities. Breast-milk has a high-energy/nutrient density, and when given on demand, provides a frequent meal for the child. Inadequate breast-feeding is a common underlying cause of child malnutrition. It is also important to recognize that weaning foods are the major vehicle for the transmission of faecal pathogens. Therefore, food hygiene is of great importance.

Household food security requires special attention. For a long time nutrition has almost been equated with food supply, primarily because for a large number of people, food accessibility is not assured. Access to food is necessary for adequate nutrition, but it does not guarantee it. This difference is underlined in the distinction between national and household food security. National food security means adequate food supplies through local production and food imports. National food policies often neglect to take into account the common maldistribution of food among households or even communities and regions. Household food security, on the other hand, focuses on the family's capacity to produce and acquire food. In addition, explicit attention is paid to how food is produced, in particular the effect on women's work-load and how that food is distributed within the household. All of those factors have a direct effect on nutrition at the household level.

The lack of ready access to water and poor environmental sanitation are important underlying causes of malnutrition. These conditions directly affect health, food production and preparation and general hygiene. Inadequate access to water also affects nutrition indirectly by increasing the work-load of women, thus reducing the time available for child care.

Inadequate or improper education, particularly of women, is often an underlying cause of malnutrition. It exacerbates their inability to generate resources for improved nutrition for their families.

The multisectoral nature of the malnutrition problem becomes obvious when looking at the underlying causes. In a particular context, the analysis should identify which among many potential causes are leading to the particular type of inadequate dietary intake and disease previously identified as the most important immediate causes of malnutrition.

Most underlying causes are themselves the result of the unequal distribution of resources in society. This disparity should be analysed and acted upon. Causes at this level are called basic or structural causes.

Every community or society has a certain potential for production. What is actually produced and how it is distributed or consumed is determined by technical/ecological, economic, social, political and ideological factors and conditions. Technical/ecological conditions include ecological constraints, existing tools, available natural resources and technology, as well as knowledge, skills and practices. Together they form a system that defines what can be produced.

Social conditions include aspects such as existing property relations, the division of labour and power structures. Together they determine what is produced.

Political factors primarily reflect the structure and function of the State, and include income/tax policies, price and subsidization policies, the legal system and the role and power of national institutions. Ideological factors cover even broader aspects of society such as religion, culture, tradition and beliefs. In most developing countries, the

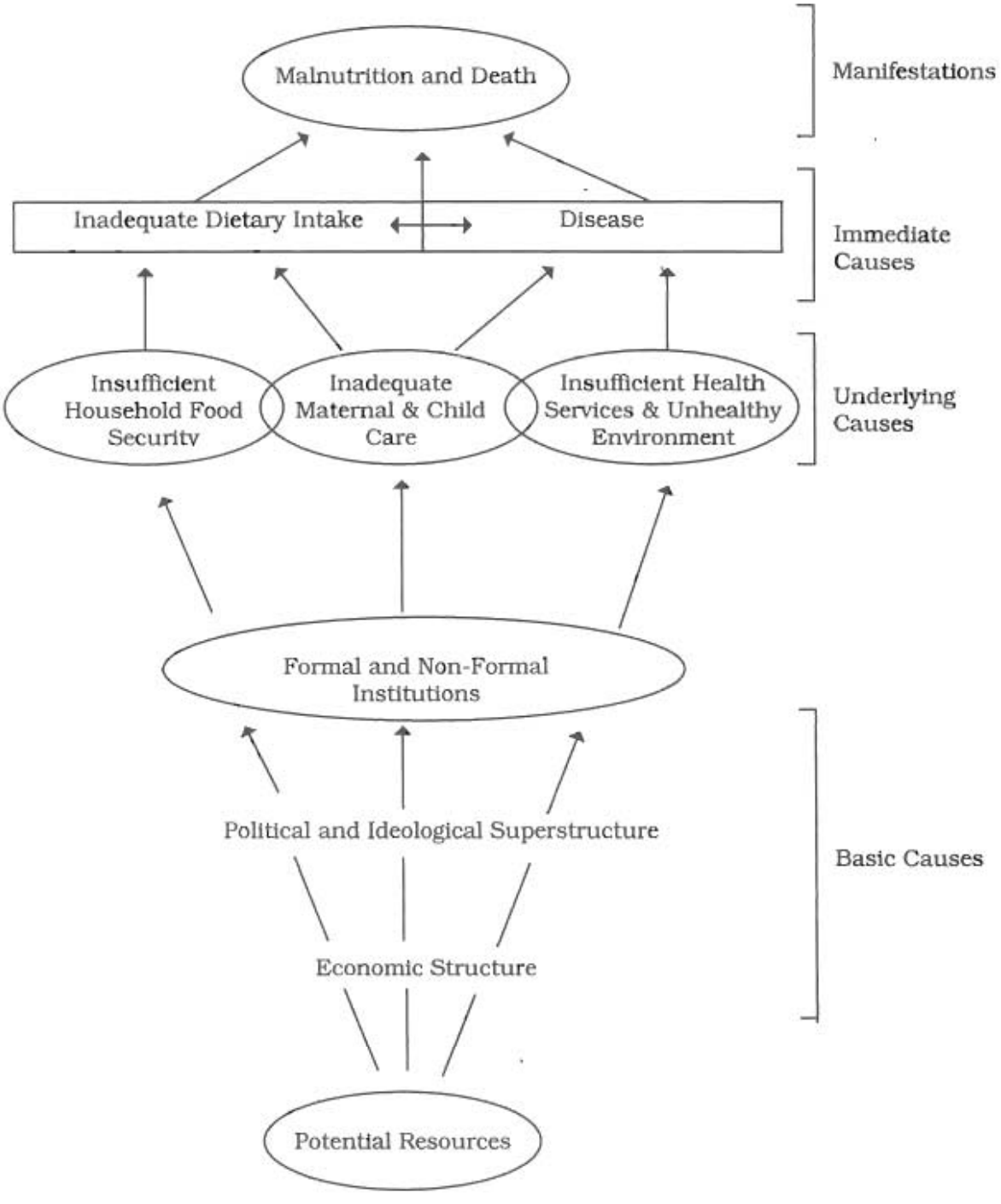
"ideology of the State" coexists with several traditional ideologies. This is particularly true with regard to the rights of women.

The basic causes of malnutrition in society relate to both the historical background of the society and factors external to the society. The inefficient use of technology, combined with harsh ecological conditions, are common basic causes. External economic dependency and economic restructuring programmes, together with maldistribution of productive assets, particularly land, are common basic economic causes. Consumer and producer pricing structures, subsidies and income policies are important basic national-level political causes, while the subordination of women in many societies is a very important community-level political and basic economic cause. The power structure both within and among households is often legitimized by traditional ideologies, which are often imbedded in the accepted local culture. Figure 2 summarizes the conceptual framework.

Formal and informal institutions play an important role as the interface between underlying and basic causes as they provide basic services or promote improved practices regarding food production and child care. The tasks are performed both by Government and by informal institutions, e.g., households, extended families, organized religious groups and knowledgeable persons. With respect to many services, informal institutions play a very important role. Primary schools and the adult education classes are two of the most important formal institutions.

It is important not to interpret this framework as a predictive model. Its deliberate lack of rigid limits or boundaries leaves room for different models to be developed in different contexts. The framework primarily helps in asking relevant questions in the development of such models. The framework emphasizes the potential multisectoral nature of the problem, i.e., it accommodates possible determinants, but also facilitates the reduction to the most important determinants in a given context. It further facilitates dialogue and co-operation among people of different professions. It has proven easy to communicate, which is important in training and social mobilization. The framework helps to identify what should be assessed and how causative relationships should be identified and analysed. It also helps to clarify the objectives of actions selected for implementation. In a given context, the initially formulated conceptual framework will change and become more focused as reassessment and further analysis take place. Gradually, a more concise "local model" may emerge.

Figure 2: Causes of Malnutrition and Death



6. Operationalization of the strategy

6.1 General principles

Each society has different levels of resource management, from household to national levels. Three types of analysis should be made in relation to these different levels. First, the causes identified in the situation analysis may operate at different levels of society. Each main cause should be addressed at the level at which it operates. For example, inappropriate price policies must be addressed at the national level, while low feeding frequency is primarily a cause at the household level. Secondly, a resource analysis should be made. Existing and potential resources at each level should be identified and assessed from the point of view of how they can be mobilized and used. Thirdly, a power analysis should be made. This will show where decisions for resource allocation are made. These three aspects provide the "space" for nutrition-oriented triple A processes.

Existing nutrition-focused triple A processes at regional, district and community/household levels should be identified, strengthened and accelerated and new ones should be initiated. This requires the early development and establishment of nutrition information systems at all levels. Information from these systems will make the nutrition problems visible, make assessment of the impact of actions possible and bring to light the causes of the problem—all important requirements for successful advocacy and social mobilization.

Most forms of child malnutrition result in growth faltering. Therefore, growth monitoring provides the most important tool for parents, communities and officials at district and local levels to obtain information about child nutrition. The use of growth monitoring in the context of understanding the processes that influence growth and of promoting appropriate action is an important general principle of the strategy.

Awareness of the nutrition situation and commitment to improve it vary greatly. It is, therefore, of great importance to identify committed participants at the beginning of a programme, especially those who command potential resources. They will be the most important strategic allies in any effort to improve the condition of children and women. These allies should be supported to improve their ability to assess, analyse and design feasible and appropriate actions. They can then take key roles in social mobilization and, in turn, stimulate real participation. New community resources will be created. Thus, the "programme" gradually becomes a "movement".

Training at all levels is necessary to improve the capacity to use information for assessing, analysing and designing actions. Many developing countries will need assistance in establishing such management information systems and in training people on how to use the triple A approach more effectively.

Of necessity, operationalization at each level must be described separately. In reality, however, processes are interlinked and supported at all levels, all depending on existing needs and opportunities.

6.2 Household and community levels

For virtually all children, their parents and households provide the resources needed to promote and sustain their survival and development. Thus, it is essential that

parents be able to assess and monitor the development of their children, to analyse problems and to take immediate actions. Since the lack of growth is the best indicator of protein-energy malnutrition, the most common form of malnutrition, growth monitoring is the best system for assessment at the household level. The development and use of "milestone" indicators for psycho-social development should also be encouraged .

If the full potential of growth monitoring for growth promotion is to be realized, weighing should take place monthly from birth to at least 18 months of age, and sessions should be limited in size so that counselling can be conducted properly. Home visits should be included if necessary. Some countries are advancing beyond the growth chart, introducing a more comprehensive child health record that includes an immunization record and information about the health of the pregnant mother and the child up to school entry.

At the community level, a monitoring system should be established to identify households with problems of malnutrition and disease that may need additional support. It should be possible to use the data provided by the household growth monitoring system combined with "disease-symptom" monitoring by community health workers (CHWs).

Community-level organizations and committees should be encouraged to improve the analysis of the nutrition problem based on this information. Training to improve analysis at the community level is almost always required and should be provided by the district level. Analyses will result in a set of "first-round" priority actions that will be required at the household level, addressing household-level causes and primarily using household resources; and at community level, addressing community-level causes and primarily using community resources. Support from higher levels, in particular the district level to the community level and from the community level to the household level, should be based on careful analysis. The leaders of a community may, for example, decide between support to specific families or actions that support large groups of households.

In many poor communities, there are households with no resources. Special attention must be given to these poorest of the poor. Community solidarity and action should be mobilized first and the monitoring system should not only identify those households, but also provide required information about how they develop as a result of actions taken.

6.3 District level

At the district level, the monitoring system should help to identify communities that are unable to control their nutritional problems. The system should also guide authorities in their understanding of positive and negative processes and in establishing priorities for resource allocation. The monitoring system should not only identify problem areas, but should also provide a means for reassessment to measure the effect of various actions implemented.

District-level analysis should concentrate on identifying the causes of malnutrition in particular districts. Those causes that can be addressed at the district level, using district resources, should be dealt with first. At the same time, districts would provide training and technical support to communities in their efforts to reduce the most important causes of malnutrition.

The district is often involved in the implementation of national programmes that have an impact on nutrition, such as immunization, CDD, training and food security. Therefore, it constitutes the key institution at the "meso" level, i.e., between national and community levels. The district also has a key role in expanding and replicating successful community-level programmes (going to scale) and in establishing nutrition surveillance programmes. In order to fulfil those functions, districts require technical and material support.

In some countries, the district level is non-existent or too weak to play a constructive role. In such cases, links with the national level must be strengthened or established.

6.4 National level

In too many cases there is inadequate co-ordination of national-level policy design and community-based nutrition-oriented programmes. It is, however, important to recognize that both are necessary and, if correctly developed, will reinforce each other. The need to reconcile these two priorities has become increasingly urgent because of the need to assess and understand the nutritional impact of economic adjustment policies.

Within the framework of nutrition surveillance, assessment at the national level should provide the necessary information for analysing the nutrition problem from the national perspective. In most cases, such information is best obtained by sample surveys and through sentinel systems. Often an unwillingness or inability to analyse data is the primary reason for limited attention being paid to nutrition in national policy making and planning. Support is, therefore, required to improve the capability to analyse nutritional data. Advocacy is necessary at the national level to create the political will to promote the survival, development and protection of children and women.

All countries are implementing national PHC, agriculture, education and other programmes. It is often more important to reorient and focus already existing national programmes towards nutritional goals than to establish new nutrition programmes. Such a nutritional focus also provides an excellent opportunity to monitor the progress of sectoral programmes. This will contribute to the achievement of sectoral goals, as well as to increased programme sustainability.

This nutrition strategy aims at empowerment through improved planning and management of social development, with an emphasis on community and district levels. This effort will require substantial training, as well as technical and material support to planning and management functions at these levels.

7. Important components of a nutrition strategy

7.1 General principles

Breast-feeding is such a key strategy for the attainment of many CSD goals, including child nutrition, CDD, birth spacing and mothers' health and well-being, that it would be expedient to regard it as a legitimate goal in itself. The aim should be to empower mothers to breast-feed their infants exclusively from birth through four to six months of age, and to continue breast-feeding, with the addition of complementary foods, for up to two years or longer. The strategy to achieve that aim is to create an

environment of awareness and support such that those women who choose to exercise their right to breast-feed are able to do so.

In the assessment and analysis of a particular situation, existing and potential outreach systems should be identified. The challenge is to identify a viable system capable of reaching those not normally reached. Such systems may combine conventional components of service delivery with new or traditional components of grassroots organization. Some common principles may be identified that will vary according to country-specific situations. They include the following: a) the outreach system should be self-contained within each district, i.e., each district should contain a full complement of back-up support and the authority to make decisions regarding resource allocation; b) this decentralization should be extended further to subdistrict levels, wherever appropriate, for the allocation of locally generated resources; and c) existing structures and local groups - political organizations, co-operatives, women's organizations, religious structures, mothers' support groups or community development networks—should be used as much as possible.

The phenomenon of urbanization is a crucial factor that demands a shift of emphasis in approaches to fighting malnutrition. Urbanization is not only the growth of urban population by natural increase and immigration, but also the spread of values and ideas to rural areas. The latter is particularly relevant with the advent of electronic media. Even poor villages in some countries now have a local video recorder/player. Two of the programmatically important consequences of urbanization are the greatly increased material deprivation (geographically concentrated) and emotional alienation. Also crucial are the breakdown of support networks and the increased mobility and change of priorities among recent migrants. In the context of the cultural invasions that distort traditional values, such factors require more fundamental development approaches for significant nutrition improvement.

This strategy does not promote any particular pre-packaged set of technical interventions. Instead it describes and promotes an approach or a method by which households, communities and officials at the district and national levels can improve their capacity to assess and analyse the problem of malnutrition and thereby identify the most appropriate and feasible sets of interventions and their sequencing. Interventions that should be considered in this process are listed on the following pages. The methodology to implement them is well-known.

7.2 Actions that address the manifestations and immediate causes of malnutrition

At this level, actions should be taken to assist children and women who are already affected by malnutrition and disease, or have inadequate dietary intake.

Nutrition rehabilitation

Severely malnourished children most often require institutional care in order to survive and recover. When such children are identified by a community-based monitoring system, there must be a rehabilitation facility. The rehabilitation of moderately malnourished children is best accomplished in the home or in the community. In either case, direct feeding is often necessary.

Provision of some essential drugs

Although prevention is always the preferred strategy, there is a need for lifesaving drugs, such as anti-malarials and antibiotics. Sometimes deworming drugs are also required.

Oral rehydration therapy

A particularly important intention is saving the lives of children who are dehydrated by diarrhoeal disease. The relationship between dehydration and dietary intake, often leading to malnutrition and death, is well documented.

Direct feeding programmes

Classic feeding programmes, including school lunch programmes, may be appropriate responses in some situations. Food may be provided from local resources, from the Government, or sometimes from international food aid agencies.

Distribution of micronutrients

Provided that efficient delivery systems are in place, the fortification and supplementation of food are effective interventions, e.g., for salt iodization. Iron/folate, vitamin A and iodine supplements can be distributed on a large scale. In many countries, the delivery system established for universal child immunization (UCI) may be employed for this. Beneficial changes in dietary habits should be promoted as a long-term measure.

7.3 Actions that address the underlying causes of malnutrition

Actions at this level should address those underlying causes that have been identified as primarily responsible for the particular type of inadequate dietary intake and disease leading to malnutrition or the death of young children and mothers.

Immunization

Nutrition programmes often fail because the high incidence of infectious disease impedes dietary intake and utilization, resulting in malnutrition. Unless the most common childhood infectious diseases are controlled, it will be very difficult to reduce the prevalence of malnutrition. The achievement and sustainability of UCI is, therefore, one of the most important premises for improved nutrition.

Expansion and improvement of the primary health care delivery system

All actions mentioned thus far, and most actions that follow, are part of a PHC approach. In many countries, there is a need to expand the coverage and improve the quality of PHC services. Improved management at all levels, but primarily at district levels, training and the deployment of locally recruited CHWs, and the improvement of referral services, including hospitals and improved transportation, are all potentially important interventions in a nutrition strategy.

Health and nutrition education and communication

Health and nutrition education are usually required at all levels, especially for families, health and other extension workers and teachers. Facts for Life should be used extensively.

Family planning

Too many children, too closely spaced and born to mothers who are too young or too old are detrimental to the health of both mothers and children and contribute to the enormous work-load of women. High population growth rates also demand rapid technological changes in order to increase production, which in turn requires investment of a size that most countries cannot afford. Therefore, family planning activities should be integrated in all health, education and child-care activities.

Household food security

All steps in the food chain should be considered: production; harvesting; storage; distribution; marketing; and preparation. Depending upon the priority of problems identified, emphasis may be placed on staple foods, vegetables or fruits. Food is obtained through production, purchase or barter. For many households, particularly in urban areas, the relationship between income and the price of food determines the level of household food security. Therefore, interventions should focus on employment creation and on income and price policies, including targeted consumer subsidies. In countries undergoing economic adjustment, these aspects are of particular importance. In many countries, food production is primarily the responsibility of women. It is, therefore, important to minimize the work-load of women in their efforts to ensure household food security. Food production should be environmentally sustainable.

Improved feeding practices

Breast-feeding provides the necessary energy and nutrients for growth during the first four to six months of life. After that time, breast milk must be supplemented. Because it is both rich in nutrients and has a high-energy density, among other benefits, it is important to promote breast-feeding for up to two years of age or longer. The increased frequency of feeding, the use of high-energy density food, improved hygiene and nutrition education regarding the use of foods rich in vitamin A are important to improving child feeding and nutrition.

Maternal and child care

The care of the child is inextricably linked with the situation of the household and the situation of women. A mother's knowledge about child care and her access to and control of resources determine, to a large extent, the care she can provide for her child. The lack of resources, in the form of time, knowledge and income, together with the subordination of women in many societies, constitute the underlying and basic causes of malnutrition. Many of the above-mentioned actions address those causes. The establishment of community-based child-care arrangements, income-generating activities for women and the training and education of families should all aim to give women the skills and knowledge required to create better opportunities for improved rare for themselves and their children.

Environmental sanitation and water supply

Universal access to safe drinking water and sanitary means of excreta disposal are major goals for children and development in the 1990s. Improved water supply is often the priority concern selected by communities because it improves the quality of life in so many ways. More emphasis should be given to the maintenance of water supply systems, the use of local technologies and the hygienic use of water.

Literacy and education

"Education for life" should be promoted and supported. Emphasis should be placed on reducing the disparity between boys and girls and on providing adolescent girls with useful knowledge about maternal and child care.

7.4 Actions that address the basic causes of malnutrition

In order to achieve a self-sustained improvement in nutrition, the basic causes of the problem need to be addressed. The increasing awareness of the negative impact of present economic adjustment policies has demonstrated the need to analyse these basic (or structural) causes. Such work would include improved situation analysis (including relevant research), policy dialogue, technology development and advocacy. A special effort should be made to analyse the situation and role of women in society.

Improved situation analysis

The goal of the nutrition strategy is normative, but the analysis of the nutrition problem should be scientific. As part of the triple A cycle, the situation analysis should he more ar less a continuous exercise. The first effort can be modest and should not take too much time. Gradually, as more is known, the analysis can focus on the most important causes in the country-specific situation. As a part of the situation analysis, studies may be supported to address particular problems that must be solved in order to obtain the necessary knowledge for continued analysis and to design priority action.

Policy dialogue

To the extent the country situation allows, UNICEF should encourage and provide opportunities to discuss the results of the situation analysis and information from surveillance systems with policy makers at different levels. The form in which such information is presented is of great importance. A special effort should be made to become a trusted and active partner in the ongoing discussion on economic adjustment policies. An appropriate method should be found to create a national capacity to monitor and analyse the nutritional impact of these policies. The development and establishment of a national nutrition surveillance capacity, in close co-operation with health and agricultural information systems, should be supported. Information on international development is at present dominated by economic statistics. There is an urgent need to complement this economic information with information about human development. Nutritional status, measured by anthropometry, is a valid indicator of this. National nutrition surveillance systems could provide this information and so contribute to a more valid monitoring of development.

Technology assessment and development

The development and use of new technology is closely related to ecological, social, economic and cultural contexts. It influences and is influenced by the social structure of

the society, including the sexual division of labour. Priority should be given to the development of technologies that reduce the work-load of women in household tasks (food production, fetching water and firewood and cooking) through the introduction of more efficient technology or by technology that shifts the responsibility away from women. Technologies that provide women with new or more efficient income-generating opportunities should also be supported.

Advocacy

Advocacy at all levels is required to increase awareness, commitment and social mobilization. Close collaboration is required with both modern and traditional channels of communication. This fuels the triple A process at all levels. Advocacy should reflect normative goals, scientific assessment and analysis of the problem and recognize the existing positive processes in society.

7.5 Collaboration with other agencies

In implementing this strategy, UNICEF will work closely with other agencies involved in nutrition, including WHO in health, the Food and Agriculture Organization of the United Nations in food, the United Nations Educational, Scientific and Cultural Organization in education, the World Food Programme in food aid, the International Fund for Agricultural Development in working for the poor, the World Bank in a broad range of issues, and other bilateral agencies and non-governmental organizations at country, regional and headquarters levels.

7.6 Global support

During the next two years, UNICEF proposes various global activities to promote the implementation of this nutrition strategy. These will include training resource people both within UNICEF and Governments, the preparation of training material that, after adaptation, can be used in collaboration with countries and the strengthening of nutrition information systems. Information for advocacy and programming will be generated on topics relevant to national strategy goals, together with studies on successful experiences.

8. Unicef executive board decision 1990/19

On the recommendation of the Programme Committee,

The Executive Board,

1. Endorses the following nutritional goals for the year 2000:

   (a) The control of protein-energy malnutrition, including the reduction of both moderate and severe protein-energy malnutrition in children under five years of age by one half of the 1990 levels and the reduction of the rate of low birth weight (less than 2.5 kilograms) to less than 10 per cent;

   (b) The control of micronutrient deficiency disorders, including the reduction of iron-deficiency anaemia among women of child-bearing

age by one third of the 1990 levels, the virtual elimination of iodine deficiency diseases and the virtual elimination of vitamin A deficiency and its consequences, including blindness.

2. Further endorses:

(a) The strategy proposed to achieve the overall objective of empowering families, communities and Governments to improve the nutrition of women and children on the basis of adequate information and sound analysis, with its two elements:

(i) The method of assessment, analysis and action (the "triple A approach"), which describes how the information should be used;

(ii) The conceptual framework for the analysis of the causes of malnutrition in a specific context,[1] which serves as a guide for discerning what information should be collected;

(b) The proposal that the strategies will be implemented at household/community, district and national levels;

(c) The proposal that the elements of the strategy in a given context will be identified through analysis and will include:

(i) Actions that address the manifestations and immediate causes of malnutrition, such as the promotion of breast-feeding, nutrition rehabilitation, the provision of certain essential drugs, the promotion of oral rehydration therapy, direct feeding programmes and the distribution of micronutrients;

(ii) Actions that address the underlying causes of malnutrition, such as immunization, the expansion and improvement of the primary health care delivery system, health and nutrition education and communication, family planning, household food security, improved feeding practices, maternal and child care, environmental sanitation and water supply, and literacy and education;

(iii) Actions that address the basic causes of malnutrition, such as improved situation analysis, policy dialogue, technology assessment and development and advocacy.

PAPER 3

Effective communication for food and nutrition promotion

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Good Communication between people is fundamental to successful health promotion, whether it happens in the context of a consultation with a patient, a conversation with a colleague, a request to a manager or a nationwide communication campaign. By effective communication we mean clear, unambiguous two way constructive exchanges without distortion of the message between when it is given and when it is received through an appropriate medium. Ultimately the goal of an effective communication is to achieve a change or modification of behaviour.

Today the array of communication technology available for development purpose has expanded. We have advanced technology such as direct broadcast satellites, cable transmission, the internet, videotext, and we also have the traditional means of communication which are less sophisticated but still socially powerful channels of communication such as puppets, video and community health workers.

1. Implications for health officials

Health workers have to look at three main areas for a successful communication effort for food and nutrition promotion namely:-

(1) Examine at the planning stage of any program, the implications in it that might call for a systematic communication effort.

(2) Insist that communication or health education people are included and are involved within the framework of a communication strategy.

(3) Provide adequate communication resources along with the conventional medical and health technological resources.

In this paper we are concerned with the use of communication strategy to achieve certain communication objectives. The policy makers provide the political force that drive a program. They acknowledge that a problem needs attention, a goal to be reached and a commitment to use resources to reach the goal.

2. Policies

Policies are translated into plans. A comprehensive strategy will be developed that calls for various sectors that will play a role in achieving the policy goal. Communication should be one of those sectors that should be included. Either the health and nutrition decision makers must know about communication or invite a high level communication person to participate at this planning stage.

The communication factor must be built in the beginning of the overall planning when major decisions are being made concerning approaches to be used and resources to be allocated.

3. The Communication strategy

A communication strategy will provide the following:-

(1) A blue print for action, showing where the communication sector is supposed to be heading and when.

(2) Helps leaders examine and plan for resource needs.

(3) Forces leaders to set priorities, because everything that might be done cannot be done at the same time especially with limited resources.

(4) Helps co-workers and staff understand where their effort fits into the overall scheme.

(5) Promotes coordination within the communication component, and among sectors.

The communication consultant/specialist must understand the policy and comprehensive strategy that govern the overall effort. Once he has understood the policy and comprehensive strategy the communication specialist must identify the communication programmatic problems. This is basically what we call in health education as community diagnosis or situational analysis. The main aim of the communication program is to close the gap between knowledge and practice of good nutrition eg. low fat consumption for Malaysian executives. The components of a situational analysis would include the following:-

1. examination of target group
2. channels available and their capacities
3. demographic information
4. taboos
5. previous communication programmes
6. social structures of community
7. psychographics
8. availability of resources
9. transportation
10. what population needs to know
11. what priorities are.

This will entail systematic gathering of data, contracting communication specialists, reports, documents etc.

4. Strategy elements

All these information will be used by the communication strategist/specialist to generate a communication strategy. The strategy elements would include the following:-

1. Principle objectives

   ie. the principle communication objectives.

2. Audiences

   All audiences should be identified with an explicit statement as to why each is important to the strategy.

   These must be clearly specified in the objective intermediaries must be included for two-step flow of information.

3. Media/channels

   List the appropriate criteria for selecting from among those possibilities. Criteria will include:-

   a. appropriateness of audience
   b. initial and continuing costs
   c. technical support
   d. opportunities for participation

4. Theme and messages.

   The principle content for the communication must be spelled out by the nutrition specialist/consultant. Message can be designed to inform, reinforce, motivational and behavioral. Research on the target will tell us how much the target knows, what is the balance. From this data the content needed can be emphasised.

5. Schedule

   The communication activities to be undertaken should be put into a general time table. Scheduling of themes is influenced by various factors, time, cost, type of message and suitability of message to certain seasons.

6. Resources for implementation

   a. who will do it
   b. how will it be done

   This should be carefully weighed calculated and provision be made for obtaining the resources before going into the implementation activities that require them.

7. Visibility

   Messages are designed, posters printed, cassettes and videos distributed. These details are vitally important.

5. Mobilising resources

The communication sector suffers from resource allocations because often audiovisual aids are less vital than vaccines and medicine. In addition the medical items are more visible symbols of health care.

Examinations of budget allocations for nutrition and health education activities suggests that these kinds of activities tend to get token amounts or what is left over after other needs have been met. One reason is that in planning and budgeting activity there are seldom advocates speaking forcefully for the communication sector. If there is to be effective communication in nutrition promotion the nutrition experts who are most influential in the allocation of resources will need to lobby for additional resources for communication or increase the priority of communication in the competition for what overall support is available.

More attention needs to be paid to the development of human communication resources within the health establishment. It is a sad state of affairs when persons whose principle activity is based largely on communication have little professional training to do that kind of work. Even if they have the professional training their knowledge and skills are not fully utilised.

Nutrition and health officials need to initiate and support effort to provide increase training in upgrading health care workers skills for community nutrition promotion. Health care workers need not become communication experts but need to understand enough about what can be done with communication so that in their influential position, they can demand systematic, quality planning and performance from the communication sector and actively support allocations for communication materials and equipment.

PAPER 4

Current strategies and approaches in food and nutrition promotion by MARDI

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Abstract

The food industry plays a major role in the nutritional improvement of the population. For the continued development of the food industry, research and development on food and nutrition is vital. The nutritional status of the population can be improved by providing a wider choice of palatable, convenient, nutritious and safe food to the public at an affordable price. MARDI through its research has contributed significantly to the growth and modernisation of the agricultural and agro-based industries and in increasing food availability. This paper highlights some of the research areas and achievements of the food and nutrition research programmes undertaken by the Malaysian Agricultural Research and Development Institute (MARDI) from 1966 to the present time, as well as the thrust areas under the 7th Malaysia Plan from 1996 to the year 2000.

1. Introduction

The food industry, being interrelated to food production, processing, postharvest management and distribution, plays a major role in the nutritional improvement of the population. Designated a priority sector by the Government, the food industry also contributes to the achievement of the nation's food requirement in terms of quantity as well as quality. As such, research and development activities will continue to be priority in fulfilling the needs of the country as well as to generate foreign exchange through exports. As advocated by the National Agriculture Policy and the Industrial Masterplan for the food sector, the Food Technology Research Centre (FTRC) in MARDI will also continue to give priority to activities for the development of the food industries.

The economic scenario of the country has changed with time. The population grew at an average of 2.5% per annum from 8.4 million in 1960 to 18 million in 1990 with per capita income increasing from RM950 in 1966 to RM6147 in 1990 whereas the incidence of hard core poverty declined from 6.3% in 1985 to 3.6% in 19901. Protein-energy malnutrition in children was evident in the 1960's but in later years the number of cases have declined. Today moderate undernutrition is still widespread among rural and underserved communities especially among the children and pregnant women[1]. In the 1950's apart from the pineapple canning industry, the food processing sector was generally not well developed and consisted mainly of processing activities involving the production of meehoon, biscuits, tapioca flour and aerated drinks for the domestic market[2]. In 1968 with the introduction of the Investment Promotion Act, manufacturing activities were invested in import substitution activities such as dairy product manufacturing, wheat flour milling, sugar refining and animal feed production based on imported raw materials. With increasing industrialization, the rate of urbanisation has

increased from about 25% in 1960 to 41% by 1990[1]. These changes are reflected in the activities of FTRC.

In the past 29 years, FTRC has charted successes especially in the field of upgrading of food production methods, development of new technologies and new products, matching science and technology with traditional processes, introducing modern concepts for packaging and product presentation and increasing productivity of the food industries. FTRC was established in July 1966 as a joint project between the Government of Malaysia and the United Nations. The emphasis of FTRC at the time was to develop technologies for indigenous raw materials for the local industries. Activities were targeted towards the rice, pineapple, fish, meat, cassava, fruits and animal feed industries.

In 1975 the Division of Food Technology was absorbed into the Malaysian Agriculture Research and Development Institute (MARDI) and named the Agricultural Products Utilization Division. The scope of the APU Division was expanded to include research and development work in the non-food areas. At this stage, MARDI was concentrating on downstream processing of agriculture produce and information gathering on food composition and processing of local food. Emphasis on nutrition between 1966 to 1970's was secondary. In 1982, following a reorganisation of FTRC, the objective then on was to develop the local food industries through efficient processing techniques to maintain high quality products and to optimise resources, indirectly contributing towards the economic development by import substitution of processed foods.

2. Food Research in MARDI - Past and Present

The processing of traditional soybean products such as soybean curd, *fucuk*, soymilk and *tau-fu-fa* has been documented and the processing techniques taught to entrepreneurs particularly the small scale manufacturers[3,4]. Studies on the development of low cost nutritious ready to eat food for children ie. cookies, biscuits, bread and noodles made from soy flour have been conducted[5]. Protein fortification of extruded[6] and non-extruded snacks based[7] on grains and tubers for children using anchovies, dried prawns, soya isolate and lentil flour have also been studied.

Spray dried coconut powder was successfully developed by adapting known technology. The technique on its processing was taken up by S&P Coconut Industries (M) Sdn Bhd[8]. Different formulations of the traditional *seri kaya* were developed for different packaging such as cans, bottles and plastic containers to suit different markets[9]. Shelf stable *krisik* was also successfully developed for the local market[10].

A wide range of meat and poultry products suited to the Malaysian palate have also been developed such as burgers, frankfurters, sausages and beef floss[11-14]. Utilisation studies of fresh water and marine produce for production of protein foods eg floss, sausage, crackers, balls have also been conducted[15,16]. Meat, poultry and local dishes have been successfully processed in cans and retort pouches, with Dewina Food Industries Sdn Bhd successfully taking up the retort pouch processing technology[17,18]. Several local dishes such as *nasi lemak, kue-tiau, laksa* and instant desserts have been processed into convenient forms by using freeze drying, freezing and thermal processing technology[19-21].

Products from local fruits and vegetables were diversified and these include juices, slices in syrup, fruit cocktail, sauces, nectars, candied fruit, powders, jams, pickles, snacks and confectionery[22-29].

Upgrading traditional foods is one area pioneered by MARDI. In addition to improving traditional products and giving them product identity, research on mechanization, improvements in packaging, presentation and shelf life was conducted[30,31]. Among the products researched on was soy sauce, *tapai*, *tempe*, *ganteh*, *dadeh*, local palm sugars, snacks such as *cakar ayam*, *pisang salai* and *rempeyek*[32-37]. Several bumiputra soysauce companies were established with the technical assistance from MARDI among which were SMN Foods (M) Sdn Bhd (Cap Tiga Ayam); Syarikat Jalen (Jalen brand), and Zara Foodstuff Industries (Cap kipas). Semi-mechanised processes have been introduced for the manufacture of *baulu*, love letters, *pau*, noodles, *karas*, *emping* and *lemang*.

Levels of aflatoxin and heavy metals in local foods were assessed[38-40]. Food colouring from annatto, turmeric and roselle[41]; flavour extracts from *pandan*, *lengkuas*, *serai wangi*; natural sweetener stevioside and enzymes such as bromelin were successfully extracted[42].

In the area of nutrition research, analyses are conducted on local food for compilation of the Malaysian food composition table[43]. Protein and amino acid content of local fruits, vegetables and fish have been documented[44-46]. Surveys on food intake of primary school children were successfully completed in a collaborative project with Universiti Kebangsaan Malaysia and Universiti Pertanian Malaysia under the ASEAN Food Habits Research and Development Projects[47,48]. Studies on food intake trends of the population in urban and rural areas in Johor, Terengganu and Kedah on quantities of food consumed, food expenditure, frequency of food consumed, household food practices were also conducted[49].

Research on postharvest technology for agricultural produce including fish and livestock are on going[50,51]. Proper handling of raw materials is important throughout the postharvest handling chain up to the point of processing to avoid quality (including nutritional) deterioration which will affect the quality of processed products. Various post harvest handling systems for produce such as banana, starfruit, watermelon, papaya, ginger, chillies, okra have been successfully transfered to farmers for use in the domestic and export markets[52-59].

3. Food research in MARDI under the 7th Malaysia Plan (RM7)

Under RM7 more emphasis will be given to nutrition as reflected in projects for the development of healthful food products and ingredients such as reduced fat, reduced sugar, high fibre, high protein food, beverage and ingredients targeted towards the children (snacks), elderly population (convenient products), health conscious/ niche groups as well as the general public. The average Malaysian consumer is starting to become health conscious and beginning to show signs of willingness to pay more for such healthful products.

MARDI's R&D will emphasise on the development of products of moderate cost affordable to the masses, meeting the nutritional needs of the indigenous population using high nutritional value ingredients, products maximising use of locally available raw materials, products processed under high hygiene and safety standards not forgetting taste profile of high acceptability. Products must also conform to the Malaysian Food

Regulations. There is no point in marketing foods which consumers do not eat as the nutritive value of uneaten food is zero. Nevertheless FTRC will continue to help consumers meet dietary goals through improved formulations by (a) developing healthier formulations of existing products and (b) developing completely new formulations and products. New formulations will only survive if they are commercially and technologically successful. In some cases changes in formulation may not significantly alter the dietary intake of the target ingredient eg low salt margarine containing less than 1% salt compared to regular margarine with 2% salt when eaten in small amounts do not affect the salt intake significantly. In products such as salted fish and soy sauce, reduction in salt levels may lead to spoilage problems.

Today the challenge to the development technologist is to be able to meet all the requirements of nutrition, palatability, flavour, convenience of eating and purpose of eating all to a cost limit. Knowledge of nutrition alone is insufficient as nutritious food may not taste good eg removing fat in order to produce low fat food may result in unpalatable food. A wide variety of fat replacers has been developed in recent years, but the major difficulty in producing acceptable fat replacers has been in the mimicking the creamy mouthfeel and texture of the fullfat product[60]. Certain functional ingredients may present handling limitations as the manufacturer has to work within a strict time schedule due to their short shelf life and they may require the use of special equipment due to processing problems. Consumers are not willing to purchase foods a second time unless the food delivers the expected taste satisfaction and enjoyment which has been a major factor in the success of low calorie beverages and syrups[61]

Nutrition has to be complemented with processing technology and packaging know-how to produce processed products under optimal processing conditions which are good to look at, palatable to the taste and yet at the same time nutritious, safe and shelf-stable. Products with better nutritional quality can result from an increased understanding of the nutritional aspects of food, food processing and human nutrition needs. Knowledge of changes to the properties of food during processing enable food scientists to design processes and equipment that preserve desirable characteristics and minimise undesirable ones. Equipment and procedures that ensure food safety, controlled temperatures, cross contamination prevention and waste minimisation are needed to enhance manufacturing efficiency, improve product quality and extend shelf life. Aseptic packaging, irradiation, selectively permeable barrier films, modified atmosphere packaging and recycled packaging materials are some of the current technologies applied to food with the objective of preserving food as long as possible, as fresh as possible, nutritionally rich as possible with or without addition of other functional ingredients, in a safe manner for distribution.

The recent introduction of the nutrition labelling laws in USA appear to support continued healthful product innovation[62,63]. It is evident that regulatory approval processes and consequent consumer demand are the major forces that will shape the prominence of ingredient substitutes in the food supply. Consumer demand is expected to grow as health care professionals extol the virtues of healthful diets.

4. Technology Promotion by MARDI

In the early 70's technology promotion by FTRC was through publications and specific recommendations for new technologies. Later in mid 70's promotion was undertaken by specific personnel acting as intermediaries between MARDI and the entrepreneurs. Since 1981 training of entrepreneurs was initiated as scheduled courses and also the factory adoption scheme to assist small scale entrepreneurs was

implemented. Technologies in food commodity production, food processing and new technologies are actively disseminated through formal and informal courses. In addition to this, technology transfer to entrepreneurs are through correspondence, demonstrations, exhibitions, contract research, consultancy services, factory visits and press releases. MARDI also collaborates with Ministry of Health, Islamic Affairs Division of the Prime Ministers Dept., SIRIM, MARA and other local and international agencies in various programs on food and training.

5. Conclusion

Food research is essential for the development of the food industry which in turn will affect the nutritional status of the population. MARDI being entrusted with the responsibility for developing the food industry will strive to promote nutrition to the food industry through the research and technology transfer activities that it conducts.

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PAPER 5

Review of current strategies and approaches in nutrition and health promotion of the Ministry of Health

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1. Introduction

Promoting better eating habits and positive health behaviour is one of the most challenging tasks of the Ministry of Health in the overall effort to improve nutrition. Traditionally, nutrition and health promotion of the Ministry of Health has relied on nutrition and health education with emphasis on the dissemination of nutrition information to the public. The way nutrition and health education was carried out then would have been primarily determined by doctors, medical assistants, nurses and health inspectors, stressing concepts that they felt should be stressed, the audiences that they felt were important to reach, and the media that they felt were most appropriate or popular at a given moment in time or locality.

Over the last five to ten years, however, the approach to nutrition and health education has changed. The focus is now on changing behaviour, not just on supplying nutrition and health information, and in the provision of support systems to facilitate the changes in the behaviour. There is a greater use of creativity utilising a more multidisciplinary and professional approach with greater involvement of nutritionists and health educators and more attention given to planning, monitoring and evaluation.

This paper focuses on the various strategies and approaches in nutrition and health promotion of the Department of Public Health, Ministry of Health.

2. Strengthening organisational structure and channels for nutrition and health promotion

Nutrition and health education activities are given emphasis at the primary level of prevention for all Public Health Programmes. The main bulk of the nutrition promotion activities are, however, incorporated as part and parcel of the Family Health Programme. The main activity is cooking demonstration sessions in health clinics held by nurses at least once a month for mothers of infants and children as well as for pregnant and lactating women. Where the community nutritional status is unsatisfactory and coverage is poor, these cooking demonstrations are carried out in the community. Community participation is encouraged wherever possible.

In the clinics, the cooking demonstration sessions are complemented with individual nutrition and health advice, group talks and video screening. These activities are usually aided by the use of posters and actual food displays. Pamphlets and booklets are distributed out to mothers or placed at reading corners in the waiting area. Nutrition

and health messages are also printed on the Child Health Card issued to each child. As of 1 January, 1995 all newborns are issued with a home-based card that the mother takes home. These new home-based cards have an option for nutrition and health education messages to be placed in the pockets of these cards.

Nutrition and health education is also carried out through the mass media especially the radio. At national level, newspapers and television are also used. Since 1991, the Ministry of Health has started to use trailers on the television, jingles on the radio, advertisements in newspapers and billboards. Collaterals were also distributed to target groups.

For the Healthy Lifestyle Campaign (Varughese, 1992), the Ministry of Health has produced several guidelines to assist medical and health workers to carry out nutrition and health promotion as well as to ensure uniformity and better documentation of messages. Training of medical and health staff is given priority and it has been carried out at national, state and district levels.

Initially, all nutrition and health promotion activities are being coordinated and supported by the Health Education Unit. The support is in terms of planning, monitoring and evaluation of nutrition and health promotion activities and the production of nutrition and health education materials such as posters, pamphlets, booklets and leaflets as well as exhibits. The Unit also provides support to all health programmes in the form of audio-visual aids and equipment.

In 1993, the unit was upgraded to that of a division (Ministry of Health, 1994a). The Division of Health Education is now situated at the Health Education and Communication Centre (HECC) established in 1992. The Division has established Health Education Units in all the States and in 12 of the districts.

Nutrition and health education activities are also carried out by the Health Education Mobile Teams in each state and some of the districts. These teams provide outreach support, nutrition and health education materials as well as audio-visual equipment support for nutrition and health promotion activities and campaigns.

In the hospitals, nutrition and health education activities are being coordinated and supported by the Health Education Officers with technical inputs from the doctors and dieticians. These include patient education, exhibitions, video screening as well as campaigns. Specific dietary counselling of patients is provided by dieticians.

3. Development of nutritional and dietary guidelines

In Malaysia, nutritional and dietary guidelines are principally formulated by the Ministry of Health. The first set of guidelines were formulated in the 1970s with the launching of the Applied Food and Nutrition Programme (AFNP) in 1971 (Ministry of Health, 1975). These were reviewed and expanded upon in 1987 by a group of Nutrition Officers during a workshop at the Institute of Public Health (Public Health Institute, 1987).

3.1 Guidelines for the vulnerable groups

The earliest guidelines were focussed on the promotion of a balanced diet based on the three food groups ie. the Energy Giving Food Group, the Body Building Food Group and the Protective Food Group. Fats and oils are in the Energy Giving Food Group while milk and dairy products are in the Body Building Food Group. Basically, the guidelines recommend that everyone should eat at least one type of food from each food group to ensure a balanced diet.

In addition, specific guidelines were formulated for breastfeeding and weaning. Recommendations were also made on the daily food intakes for infants, toddlers, preschoolers, schoolchildren, as well as for pregnant and lactating women. The guidelines encouraged mothers to breastfeed up to 6 months and weaning at 5-6 months. Infants 5-6 months are to be given 1 serving of cooked meal and 1 serving of fruit meal in a day while infants 7-12 months are to be given 2 servings of cooked meal and 1 serving of fruit meal. Foods for infants 5-6 months should be mashed and strained, for infants 7-9 months the food should be strained while for infants 10-12 months the food should be chopped. Children aged one year and above are to be given the family food.

These guidelines are still in use today. The breastfeeding guidelines was however revised in 1992 with the formulation of the Breastfeeding Policy to promote exclusive breastfeeding for 4-6 months and to continue, with supplementary feeds, up to two years.

The serving size of the daily food recommended for the various age groups was also revised with the formulation of the Recommended Daily Food Allowances in 1987. The allowances are essentially practical translation of the Suggested Daily Dietary Intakes for Peninsular Malaysia, 1973. The allowances are in the form of functional groupings of foods together with recommended serving size designed to supply all the calories, protein, iron, vitamin A and vitamin C that the body needs.

3.2 Guidelines for the Promotion of Healthy Lifestyles

Additional nutritional and dietary guidelines for the prevention and control of diet-related non-communicable diseases were formulated with the launching of the Healthy Lifestyle Campaign of the Ministry of Health which was launched in 1991. These guidelines were formulated by the various multidisciplinary Technical Sub-Committees formed specifically for the specific theme for the year.

Dietary guidelines for the prevention and control of obesity was formulated in 1991 (Ministry of Health, 1991) and guidelines for growth promotion in 1994 (Ministry of Health, 1994b). The latest guidelines are for the prevention of cancer formulated in 1995 (Ministry of Health, 1995). The Ministry of Health Malaysia is now actively formulating the dietary guidelines for the prevention and control of diabetes.

The dietary guidelines for obesity was formulated to promote a healthy diet to reduce disease risk. These guidelines provide appropriate advice on selecting a balanced diet that promotes health for the population concerned. The basic guidelines adopted by the Ministry of Health are quite similar to those adopted in many developed countries and are based on those recommended by WHO (WHO, 1990). They include the following principles:

- adjust energy intake to energy expenditure to maintain desirable weight;
- avoid excessive fat intake and, especially, intake of saturated fat and cholesterol;
- increase intake of complex carbohydrates and dietary fibre and limit sugar;
- limit salt intake;

An important characteristic of the nutrition and dietary guidelines is that they become the guiding principles of nutrition training provided to the medical and health staff as well as advice to the public. This helps to ensure that consistent and scientifically sound messages are given, which can be supported through the mass media, food advertising, and through public and institutional feeding, including school feeding programme and food assistance programmes.

Part of these guidelines are also incorporated in the prime messages of the "Facts for Life" (Prabha, 1992) which is essentially a publication which contains information to be communicated to every family and the community. This document is developed by the Ministry of Health in collaboration with the Ministry of Rural Development, Ministry of Education, Ministry of National Unity and Community Development and UNICEF.

4. Strengthening multisectoral and NGOs involvement in the promotion of breastfeeding

The Ministry of Health plays the lead role in protecting, promoting and supporting breastfeeding as part of its function and responsibility in ensuring optimal nutrition of infants and children as well as optimal health for mothers. However, in carrying out this function, the Ministry depends considerably on the complementary activities of the other ministries and government agencies, non-government organisations (NGOs), the mass media and the infant formula industries.

4.1 World Breastfeeding Week

An extremely fine example of multisectoral approach in nutrition promotion is the annual organisation of the World Breastfeeding Week from 1 - 7 August since 1992. The Week has been jointly organised by the Malaysian Council for Child Welfare, the Breastfeeding Advisory Association of Malaysia (PPPIM) and the Ministry of Health with the cooperation of the Ministry of Information and the National Population and Family Development Board (LPPKN). The objective of the Week is basically to create awareness on the importance of breastfeeding. Various activities are lined up for the week including public seminars, forums, exhibitions, press conferences, educational programmes on television and radio, and feature articles in the newspapers.

4.2 The Code of Ethics for Infant Formula Products

As in other countries, breastfeeding in Malaysia has to be protected from the Infant Formula Industry. For this reason, the infant formula products and its promotional activities are the most highly regulated and controlled of all commercially available foods in the country.

A Malaysian Code of Ethics for Infant Formula Products was first formulated in 1979 in line with the International Code of Marketing of Breast Milk Substitutes. This Code covers relevant aspects of marketing, distribution and product information on all

infant formula products. It also provides guidelines for a Code of Conduct for medical and health personnel, and those employed by the Infant Formula Industry.

The latest 1995 edition of the Code was recently launched. An important provision of the Code is the prohibition of the promotion of infant formula products as well as the performance of educational functions by the infant formula industry in the health care system which includes all hospitals, clinics, mothercraft services, and maternity homes both in the government and in the private sector.

4.3 Baby-Friendly Hospital Initiative (BFHI)

The BFHI initiative, introduced by UNICEF and WHO, was launched in Malaysia in 1992 (Paramjothi *et al.*, 1992). It is a global effort that aims to give every baby the best start in life by creating a health care environment where breastfeeding is the norm.

The objective of the initiative is to mobilise the involvement of maternity hospitals and wards, as well as hospital personnel and health professionals in technically supporting breastfeeding; and to create a demand by women for hospitals to be optimally supportive of mothers who wished to breastfeed. In order to become "baby-friendly", every hospital and maternity centre must apply the following "Ten Steps to Successful Breastfeeding":

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.

2. Train all health care staff in skills necessary to implement this policy.

3. Inform all pregnant women about the benefits and management of breastfeeding.

4. Help mothers initiate breastfeeding within a half-hour of birth.

5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.

6. Give newborn infants no food or drink other than breast milk, unless medically indicated.

7. Practice rooming-in - allow mothers and infants to remain together 24 hours a day.

8. Encourage breastfeeding on demand.

9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.

10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

The Ministry of Health has targetted that all government hospitals will be "Baby Friendly" by the end of 1997.

5. Strengthening nutrition education of food assistance programme

The Programme for the Rehabilitation of Malnourished Children was launched in 1989. Basically, the objective of the programme is to help rehabilitate moderately and severely malnourished children below 6 years in the country. The programme targets are children from very poor families where all eligible children are provided with monthly rations of local foods high in calories and protein together with mineral and vitamin supplements (Ministry of Health/Prime Minister's Office, 1989).

In addition, the families are also provided with intensified medical and health care including health screening and treatment together with nutrition and health education. For effective use of the food items, mothers are taught how to use legumes, milk and oils in the diets of malnourished children either as a group or individually in the homes. At least in Sarawak and Kelantan, efforts have been made to teach mothers to prepare supplementary food mixtures suitable for children using foods supplied under the programme.

Since 1994, efforts have also been made to demonstrate to the parents the importance of personal hygiene and mental stimulation on the care of the malnourished child. This is done by providing the children with such items as soap, towels, slippers, combs and nail clippers as well as colouring books, building blocks and toys.

6. Increasing consumer education on food quality

The Food Quality Control (FQC) Division of the Ministry of Health is entrusted with the food safety programme in the country. The general objective of the Division is to help protect the public against health hazards and fraud in the preparation, sale and use of food. The Division also strives to motivate and promote safe and hygienic preparation, handling and sale of food in all sectors of the food industry. The Division also motivates the public and provides the consumers with adequate information on the importance of eating safe and quality food.

The FQC Division is developing various guidelines including two that are relevant for nutrition and health promotion namely, Guidelines on Food Advertisements and Guidelines on Nutrition Labelling. This is to supplement the food labelling requirements of the Food Act 1983 and Food Regulations 1985. The Division is also establishing a Food Handlers Training School.

Presently, some features of food and nutrition labelling reflected in the Food Regulation 1985 include:

- name of the product;
- product ingredients;
- net contents;
- name and address of the manufacturer or distributor;
- appropriate date-code.

In addition, health claims are regulated with the enforcement of the uniform use of descriptors eg. "low fat", "reduced in calories" to help consumers and to encourage producers to supply products that meet such criteria.

Intersectoral collaboration to promote healthy diets is being strengthened. The food industry is being encouraged to produce and market the variety of foods that contribute to a healthy diet. Formal and non-formal education play a central role.

7. National Plan of Action for Nutrition of Malaysia (NPANM)

The NPANM provides Malaysia with the multisectoral framework for nutrition improvement during the Seventh Malaysia Plan (7MP)(1996-2000). The objective of the NPANM is to achieve and maintain the health and nutritional well-being of all Malaysians through access by all to nutritionally adequate diet, safe foods and healthy living conditions in a manner that is environmentally sound and socially sustainable (National Committee on Food and Nutrition, 1995).

One of the nine thrust areas of the NPANM is promoting appropriate diets and healthy lifestyles. Among the strategies identified is to review and strengthen the nutrition and dietary component of the Healthy Lifestyle Campaign of the Ministry of Health including the provision of nutrition support services, the incorporation of the promotion of healthy diets as one of its yearly themes, and the intensification of promotional activities in schools. A National Technical Committee will also be formed to formulate and disseminate dietary guidelines and review dietary protocols for the management of diet-related diseases. Consideration will also be given to the formulation of a National Desirable Dietary Pattern (DDP) to assist in the planning of appropriate food supply and production.

Nutrition education will be intensified by encouraging and supporting the production of educational materials by the non-health and private sectors, better planned and sustainable media campaign, and the incorporation of health and nutrition messages in the teaching of the various subjects in schools. Greater emphasis will be given to the promotion of appropriate diets in feeding and food aid programmes as well as during cooking demonstration activities.

Other strategies to promote appropriate diets and healthy lifestyles include the training of community extension workers, the incorporation and strengthening of the curriculum of teacher's training colleges, universities and other centres of higher learning, collection of baseline data on dietary intakes of various population groups, expansion of the Malaysian food composition database, and more interagency involvement and collaboration in the conduct of research. Manpower development in nutrition of both government and the private sector will also be pursued and complemented by encouraging the mobilisation of the NGOs and the community. The government and private sector will also be encouraged to provide more recreational facilities as well as improving the affordability of sporting goods and equipment.

8. Conclusion

Nutrition and health promotion activities of the Ministry of Health has slowly but surely evolved with the changing needs and advancements in the state of the art. A significant achievement in recent years is the setting up of the Health Education and Communication Centre (HECC) with the accompanying strengthening of organisational and capacity of the Ministry for nutrition and health promotion. Other notable achievements include the successful multisectoral approach with NGOs involvement and participation in the promotion, protection and support for breastfeeding as well as the intensification of nutrition and health education component of the Ministry's food

assistance programme. These achievements, however, may need to be replicated at other levels of care for better impact.

The contribution of these promotional activities towards nutrition and health improvements in the country has not been properly assessed. Impact evaluation, in particular, may need more emphasis while process evaluation may need to be better planned. Similarly, new strategies and approaches may need to be formulated to improve coverage of existing target groups as well as new ones such as the adolescents and elderlies. New areas of concern such as mental health and urban health may require more specific nutrition and health promotion strategies and approaches. Research in nutrition and health promotion is definitely lacking while training may need to be more focussed and better organised. Finally, more support systems to allow for behaviour change are needed.

The formulation of the National Plan of Action for Nutrition of Malaysia (NPANM) which is expected to be implemented in 1996 may be the catalyst to spur on further expansion and development of nutrition and health promotion strategies and approaches in the country.

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