REPUBLIC OF LEBANON

NATIONAL PLAN OF ACTION

FOR NUTRITION

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LEBANON

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This plan was produced by a consultative team of Lebanese experts under the auspices of the Ministry of Agriculture in coordination with concerned public and private sectors, and in collaboration with the Food and Agriculture Organization of the United Nations.

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The Ministry of Agriculture extends its gratitude and appreciation to all institutions, and concerned public, and private sectors, and all International Organizations that contributed information needed for the preparation of this plan, we also thank the representatives of these institutions, and the experts who participated in the workshop that was held on the 15 th and 18 th of July 1995 for this purpose (Annex one).

We also extend our deep appreciation to the Food and Agriculture Organization of the United Nations that made it possible to prepare this plan by providing financial and technical support.

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FORWARD

In December 1992 over 1300 delegates from 159 nations including Lebanon were gathered in the first global intergovernmental conference on nutrition.The International Conference on Nutrition (ICN) organized by the two United Nations agencies :Food and Agriculture Organization and World Health Organization, culminated in the World Declaration and Plan of Action for Nutrition which stresses the determination of all nations to eliminate hunger and all forms of mal-nutrition.Participating governments, non -governmental organizations and international community pledged to strengthen their commitments to sustainably reduce or eliminate, within this decade, hunger, nutritional defficiency diseases, imbalanced nutrition, and problems related to food safety and quality .Governments also pledged to develop individual action oriented strategies to meet the challenges inherent in the World Declaration and in the countrys' plans of action.

The government of Lebanon hereby presents its National Plan of Action for Nutrition (NPAN), outlining its objectives, strategies and activities; setting priorities; specifying the responsibilities of the authorities concerned with the execution of the plan; and stressing the following issues:

- A healthy well-nourished population is essential for successful social and economic development.

- Incorporation of food consumption and nutrition objectives in mainstream policies and projects is an effective mean to improve nutrition.

- There is a strong and eminent relationship between agriculture, natural resources, food production and nutrition. An increase in food production should be accompanied by a wise and environmentally sound utilization of natural resources, in order to attain high and ample productivity without harmful effects on soil ,water and plants.

- Food quality and safety and the protection of the consumer against the excessive utilization of pesticides and its hazardous effects on food quality, human health and environment.

- Ensurance of adequate access by all to the food necessary for safe and adequate diets, together with proper guidance on food consumption patterns and adequate studies on food components .

The Lebanese NPAN is the outcome of remarkable efforts made by a consultative team of national experts, who worked under the auspices of the Ministry of Agriculture and in coordination with the concerned governmental and non-governmental institutions, with the support of the Food and Agriculture Organization of the United Nations, to whom the Ministry of Agriculture extends its gratitude and appreciation.

A crucial step towards the implementation of the NPAN is the establishment of the National Intersectoral Committee for Food and Nutrition, which was formed parallel to the announcement of the NPAN. This committee will serve as a coordinating body for the proposed programmes and activities, and as the focal point for all nutrition matters: food security, food safety and the concomitant elimination of all forms of malnutrition. I hereby call upon all concerned Ministries, non-governmental organizations, academia, research institutes, private sector, international organizations, and media represented in this national body, to come together, hand in hand, to facilitate the implementation of the plan and to enhance the development of nutritional policies and strategies to be used in national planning and decision making. In the affirmative, the Ministry of Agriculture will fully coordinate with the committee through its newly established Food and Nutrition Unit.

Minister of Agriculture
Lawyer Shawki Fakhoury

NATIONAL PLAN OF ACTION FOR NUTRITION

EXECUTIVE SUMMARY

1- GENERAL INTRODUCTION

Lebanon, like many other countries in the region, suffers from malnutrition in its two forms:

- undernutrition resulting from low food intake.
- overnutrition resulting from over or unbalanced consumption of food.

This situation leads to many adverse effects on the health of the public and threatens the well-being of all members of the community including infants, children, women, adults and elderly. An adequate nutritional status plays a major role in the success of a country to reach its goals of growth and development. It is, hence the outcome of all developmental plans in a community and one of its concerns. Therefore, improving the nutritional status of the public should be among the main goals of all developmental plans otherwise they are considered incomplete. This link between economic development and the human development is being increasingly stressed by all planners. As the nutritional status of individuals is improved, productivity increases and the cost of medical services decreases .

The Lebanese war has adversely affected the various economic, social and health sectors of the country. In 1992, the Lebanese government adopted an extensive national program for reconstruction that will last for 3 years. This program has the rehabilitation of the infrastructure as its first priority followed by a parallel program for economic and social development that can withstand future challenges, and takes into consideration the balance and development of all regions.

However, it appears that developmental plans issued by the different ministries to the council of development and reconstruction, did not allude to nutritional problems in the country; thereby lies the importance of establishing a national plan of action for nutrition. A plan

that takes into consideration improvement of nutritional services in all regions of the country and would constitute a supplement to the national program of reconstruction already prepared by the different ministries.

Lebanon demonstrated its commitment for implementing the national plan of action for nutrition by signing the "World Declaration and Plan of Action for Nutrition" which was approved by the International Conference for Nutrition in Rome in December 1992. The World Declaration for nutrition called for establishing national plans of action for nutrition by all nations. The International Agencies concerned namely FAO and WHO specified the themes that should be addressed in any plan of action on nutrition. However they pointed out that each country has its own problems and, hence should establish its own priorities.

The present National Plan of Action for Nutrition (NPAN) for Lebanon took into consideration all the themes mentioned and gave priority to the economically and socially deprived sectors as well as to the nutritionally vulnerable individuals. In addition, the plan stressed the need to assess; analyze and monitor the nutrition situation of the country.

It is important to note that since the second world war and during the civil war witnessed for 17 years, Lebanon never had any real problems with food availability. Food items were imported without any difficulty. However, this situation did not reflect any improvement in the nutritional status due to increased poverty and reduced purchasing power of the citizens as a consequence of the deterioration of the Lebanese Currency exchange value.

Moreover, Lebanon's Agricultural capacities endows it with the ability to be an agricultural country capable of minimizing the cost of food importation, (Annex n° 2: the situation of the agricultural sector) and capable of filling the nutritional gap. However, the civil war resulted in botching the agricultural sector and led the farmers to give up agriculture, enlarging the food gap and allowing for the uncontrolled import of foreign products at a high cost beyond the reach of many citizens. This situation jeopardized the nutritional well being of many families and led to the appearance of malnutrition problems, constituting a national concern calling for immediate and serious action to alleviate the problems of malnutrition.

2- JUSTIFICATION OF THE PLAN

The most important underlying factors related to food and nutrition in Lebanon that triggered the preparation of this plan could be summarized as follows:

- Increased poverty that contributed to malnutrition and risk of nutritional deficiencies. Reduction of purchasing power as a consequence of devaluation of Lebanese Currency exchange value and the incredible inflation rate that accumulated throughout the years of war caused the minimum wage of an individual to decrease by more than 50% during the 17 years of war. The monthly income of an individual declined from $135 in the year 1975 to $ 50 in the year 1992. This situation led to malnutrition especially among the vulnerable groups and the economically deprived, and increased the rate of diseases caused by undernutrition particularly among infants.

- Increased curative and rehabilitative services replacing preventive and prophylactic measures.

- Spread of diseases due to unbalanced dietary intake (obesity, heart and vascular diseases) among all groups of citizens.

- Increased obstacles that contributed to shrinkage of the cultivated land and decrease in production level which caused the agricultural production cost to increase.

- Increased import of food products reaching 80% of Lebanon's food needs where some of these products were introduced to the lebanese market without meeting local standards and specifications.

3- OBJECTIVES

The plan attempted to lay down general objectives, and work strategies for the period between year 1996 and 2000 that determined clearly the priorities which need to be supported to enhance the nutritional situation. Each of the objectives is accompanied by analysis of the present situation , exposing the most important problems and obstacles that determined the strategies, plan of action, authorities responsible for action, time for action, and budget.

The most important objective of the plan was incorporating nutrition objectives and goals into development policies and programmes. Nutritional safety is one of the most important issues in the developmental projects and one of its important consequences, particularly if it is taken into consideration in the projects that aim at increasing food and agricultural production, marketing of these products, providing loans, securing satisfactory income for individuals, enhancing the health situation, treating environmental problems and rehabilitation of the infrastructure. This plan is not the first project in the field of nutrition at the national level. Safety and problems of nutrition received attention of many public and private authorities and international organizations during and after the war. This plan seek to be distinguished by its flexibility, and ability to coordinate efforts of all concerned authorities that will carry out its implementation.

Formation of the National Food and Nutrition Committee concerned with finding a framework to organize and evaluate stages of plan implementation.

The importance of this plan is based on the respect of the Lebanese institutions for its commitment to prepare a national plan for nutrition to carry out the resolution of Rome conference; However, its successfulness and effect is conditioned to the following matters:

- It should include all the population groups and be able to meet all their food and nutrition needs to achieve a complete and balanced development.
- It should be the frame that accentuated in it the strengths and abilities of private and public lebanese institutions without exception.
- It should be able to obtain the interest and support of international organizations throughout its implementation stages.

4- PRESENT SITUATION

In Lebanon, like in other developing countries malnutrition pauses a serious problem particularly to some vulnerable groups such as young children, older people and pregnant and lactating women. The country imports 80% of its food products, but their preservation, storage areas and marketing points are not well controlled due to lack of control policies and outdated rules and legislation, in spite of the serious and recent projects implemented to face this problem.

Establishment of a comprehensive data base about the nutritional status of the Lebanese people is considered to be an essential pre-requisite for making wise and responsible decisions about nutrition plans and policies of the country. Decision makers should have at their disposal detailed information concerning the number of people who suffer from different patterns of malnutrition, the geographical distribution of the affected people and the underlying reasons that caused their disease. It is possible to say that the factors that lead to malnutrition usually concern the domains of food availability, health and care. The indicators usually employed to describe the nutritional status of the people include food consumption data and indicators concerned with health, income, education and productivity.

There is no clear plan to monitor the nutrition situation in Lebanon, but there are some sporadic studies that give some information in this area. Data obtained from such studies lack the comprehensives needed to form a clear notion about the nutrition situation in the country.

The links between nutrition and development seem to be blurred in the minds of the Lebanese policy makers. None of the ongoing development programs address nutritional implications. The overriding priority is given in general to the economic situation and to improving the per capita income .Policy makers should be made to realize that a healthy and well nourished population is essential for successful social and economic development.

The studies that were sponsored by the Council for Development and Reconstruction (CDR) covered many activities and included future plans of various ministries. These studies did not report any programs or actions pertaining to any Ministry and aims at tackling or

solving nutritional problems that may face the country in the long run. The Ministry of Agriculture, which represents the government body most concerned with nutritional problems, concentrated its efforts and directed its future plans to ensure food security and decrease poverty among the rural segments of the Lebanese society. The approach adopted aims at increasing food production by improving farming methods and techniques. However, the Ministry of Agriculture, has recently taken a very significant step in this regard by creating within its structure a Food and Nutrition Unit. This step indicates that future strategies for the Ministry of Agriculture will, most likely, include a clearer concern and at the same time a wider understanding of nutritional problems that may face the Lebanese people.

The control of the quality and safety of foods is carried out by the Ministries of Agriculture, Public Health, Economy and Commerce and the Town Municipalities with little coordination among these agencies. The main problems encountered in carrying out the quality control of foods include sampling, supervision of food preservation techniques, control of the various processing and marketing steps (display of meat and fish in open air without refrigeration) and water quality and safety which often receives seepage from underground sanitary tanks.

The main reasons behind the inefficiency of the quality control system caused by the poor working conditions of food inspectors, their insufficient number and the lack of good facilities placed at their disposal. Food inspectors usually request food analysis and compare the results with the specifications laid down by LIBNOR. The Lebanese food specifications and the system followed by LIBNOR in establishing them need revision and evaluation. Also the regulations and laws governing foods are old, obsolete and often depend on punitive measures rather than preventive ones.

Different versions of the same laws may often exist and are directed to various food control agencies. This creates confusion and reduces the effectiveness of the system. Imported foods as well as locally produced foods do not go through rigorous control. Local food industries can operate almost free of any controlling restraints and can import raw materials of wide ranging qualities and specifications.

Concerning national data on micronutrient deficiencies, a recent UNICEF study demonstrated prevalence of Iodine Deficiency Disorder (IDD) in approximately 25% of the population. Regarding

Vitamin A and iron, no surveys were carried out and the data available is rather scarce. Present information is obtained from limited surveys carried out on small groups of the population in selected geographical locations and therefore does not reflect the overall situation. The available data indicates low intakes of micronutrients particularly iodine , vitamin A and iron especially by the vulnerable groups.

Some studies were carried out on selected vulnerable groups such as nursing mothers and babies, refugees, elderly and those living below the poverty line. The data indicated that preschool children lack the proper care needed outside their immediate family surroundings to alleviate any nutritional challenge they may face. The Lebanese government tried to provide such needed care through the creation of a High Council for the Child in 1994, and assigned to it the duty of preparing the strategies needed for the proper care of infants and children. This council presented its National Plan for Infant Care in 1995 which suggested modifications for the present laws governing this aspect and presented strategies to improve health, education and social services.

It is well established that malnutrition can be compounded or even caused by infectious diseases that usually infest poor communities living in overcrowded conditions and lacking good sanitary facilities and access to clean water. Such communities usually suffer from insufficiency of basic nutrients such as protein and very often some micronutrients. In this respect the Ministry of Public Health has accomplished 80% coverage of its immunization program and has provided medications for most of the infectious diseases except in very remote and isolated villages through 15 health centers that were placed in service rather recently. Although the information available at the infectious diseases unit at the Ministry of Public Health is not complete, it is strongly suspected that the consumption of contaminated foods is frequent and that drinking water supplies may not always be safe. Some improvements in the water supply system were accomplished recently through the help of UNICEF. But there is always the danger of recontamination since the drinking water network is not well protected and the spread of cholera remains a chronic public health threat to the country.

Nutritional problems can be compounded by lack of enough foods and in this regard family food security should always be sought. Family food security aims at assuring that good quality food containing balanced amounts of all essential nutrients is made always available to all members of the family. Such foods should be within the purchasing power

of the average individual. It is difficult to attain this goal in Lebanon at present since 70% of the people who live below the poverty line work in the agricultural sector and are very difficult to reach. Recently the Lebanese government tried to attain some measures of national food security with regard to some staple foods such as bread and sugar. This is considered an important step in the right direction since the Lebanese diet relies heavily on these two food items.

Many Lebanese suffer from diet-related non communicable diseases such as obesity, high blood pressure, diabetes, heart disease and some types of cancer which are brought about usually by overconsumption of diets particularly those that are not nutritionally well balanced. These diseases are also related to the unhealthy lifestyles that many people tend to follow and to smoking and high intake of alcohol. Recently, the Ministry of Public Health in collaboration with the World Health Organization has established a unit that deals specifically with such diseases and have carried out preliminary surveys on the extent of spread of these diseases in the Lebanese communities. It is envisaged that educational programmes aimed at providing consumers with proper knowledge and information so as to carry out better selection of their foods and to lead a physically active and healthy lifestyle may be the surest way of avoiding such diseases in a fast growing and dynamic society like the Lebanese society. Mass media and educational curricula are expected to play a leading role and should be carefully monitored to make sure that they disseminate the proper message.

Since breastfeeding represents an important cornerstone in caring for the child, the Ministry of Public Health in collaboration with UNICEF are presently engaged in a program aimed at encouraging mothers to breast-feed their babies. A national committee was created for this purpose and training workshops on the proper techniques of breastfeeding are being conducted for many employees of the Ministry and other concerned personnel and institutions. Also the recommended ten steps to be followed during breastfeeding are being supervised in many of the hospitals that participated in the above mentioned workshops.

Among the few studies that were carried out on breast-feeding in Lebanon was the study performed by UNICEF in 1991 which showed that 73% of the babies who are under one year of age are breast-fed. The study also showed that the recent civil strife in Lebanon caused a decline in the average per capita income which forced more housewives to take up jobs. This caused a decline in the extent of breastfeeding because most of the
work institutions do not have facilities for day care for babies and because the practice of breastfeeding was not given its due importance in the various educational channels.

4- PRIORITIES OF THE PLAN

The objective of the National Plan of Action on Nutrition (NPAN) is to improve, in general, the nutritional status of the Lebanese population. The concerned international agencies (FAO, WHO) have specified the themes to be treated in such a plan as:

1- Assessing, analyzing and monitoring nutrition situations
2- Incorporating nutrition objectives into development programs and policies
3- Improving household food security
4- Preventing micronutrient deficiencies
5- Protecting the consumer through improved food quality and safety
6- Promoting healthy lifestyles and diet
7- Promoting breast-feeding
8- Preventing and managing infectious diseases
9- Caring for the socio-economically disadvantaged and nutritionally vulnerable

Since each country has its own problems and priorities, the International Organizations left it up to each country to establish its own priorities. However, due to the lack of statistical data, in Lebanon, it was difficult to identify the priorities that should be considered by the plan. From the limited information available it was evident that the deprived classes and the nutritionally vulnerable individuals should receive first priority. Giving priority to those deprived did not imply neglecting the other groups of the Lebanese population, for the latter will benefit from the execution of all projects regardless of the priorities mentioned.

A - Assessing, analyzing and monitoring nutrition situations was also regarded as the theme to receive first priority by the plan; since the availability of a nutritional data-base constitutes a basic element for efficient decision making concerning policies and programs for improving the nutritional status of the target groups. This information can be gathered through scientific statistics, local reports, private surveys, experts advice and personal communication.

B - It is obvious that the improvement of the nutritional status of any population requires the availability of adequate quantities of food and all necessary nutrients for all members of the family thereby making the issue of achieving household food security among the first topics that should be considered by the plan. This goal requires making available an abundant food supply to all family members and to ensure a purchasing power in order to get all the necessary nutrients. To achieve the ultimate goals, which is securing complete nutrition, social practices related to nutrition and other factors such as cleanliness and health status should be taken into consideration.

C - Food security does not only consist of providing the necessary quantities of food but also exerting strict supervision to guarantee its safety and quality, making sure it is safe of microorganisms and other poisonous pollutants that will affect negatively the health and nutritional status of the consumer.

D - Since food security means the availability of food in quality and quantity, micronutrient deficiencies known as the hidden hunger constitute an important issue in achieving food security specifically that of deprived groups. Deficiency of micronutrients results in hindering physical, and mental growth, consequently affecting the country's attempts for development and progress.

E - Care is considered an essential element in achieving nutrition security for the vulnerable groups in the community that include in addition to the children and women, the refugees, elderly and the needy. Care means sparing time, attention, support, and skills to satisfy the physical, mental and social needs of these groups. Infant's care means encouraging breastfeeding as the best way to feed all infants.

F - All population groups should be provided with knowledge and ability to follow appropriate diets and healthy life style. Nutrition education plays and important role in creating awareness where citizens become capable of distinguishing between the various nutritional practices and acquire the necessary knowledge about the effect of these habits and health. Nutrition education is realized through many sectors including formal education, mass media and press. Encouraging nutritional and healthy lifestyle. It should also be pointed out that Lebanon suffers also from overnutrition problems. Programs to create awareness and nutrition education are needed to allow citizens to choose a proper diet and to practice a healthy lifestyle that will protect him from diet related diseases.

G - The issue of preventing infectious diseases is closely related to malnutrition. Malnutrition predisposes to infections and also infectious diseases negatively affect the nutritional status of individuals by causing macro, and micro-nutrient deficiencies. It is, hence, necessary to establish specific strategies for this theme due to its direct and indirect effect on nutritional status.

5- STEPS FOR EXECUTION OF THE PLAN

To execute this plan, concerned authorities will prepare projects with several objectives which will be presented to the government and to international organization for support. These should include the following points and in order of priority:

1- Assessment of the present situation for diet related diseases that result from either undernutrition or overnutrition, and analyze their causes.

2- Nutrition education:

a- Provide training sessions for workers in health and nutrition sectors on food and nutrition.

b- Introduce nutrition information throughout all levels of formal education.

c- Instruct, guide, and educate the Lebanese consumer on food and nutrition through mass media, workshops, conferences, and pamphlets for daily food guide.

d- Prepare and distribute dietary guidelines for the public.

3- Increasing food production and purchasing power of the consumer.

4- Controlling food quality and safety, to include nutritional legislation, field supervision or control, and laboratory analysis.

5- Strengthening scientific research in the field of food and nutrition to prepare a data base for food composition to study trends of traditional food consumption, and effect of nutrition on diseases.

6- Introducing data base systems to all ministries that have nutrition unit or concerned with nutrition and establish scientific libraries which will include the most recent and important books and researches.

6- RESPONSIBILITIES OF CONCERNED AUTHORITIES

Achieving the objectives of this plan require execution of basic organizational missions summarized as follows:

- Formation of the National Intersectoral Committee for Food and Nutrition[1].
- Organization of the profession of dietitians.
- Creation of a nutrition unit in the Ministry of Public Health.
- Establishment of rules and regulations that deal with the quality
- control of food products through the stages of production and marketing.
- Activation of the institution of standards and specifications in Lebanon (LIBNOR).
- Participation in all the activities of the Codex Alimentarius Commissions.

The responsibilities assigned for the concerned ministries are as follows:

Ministry of Economy and Trade

- Determinate the poverty line according to percentage of food cost.
- Conform labels to contents of imported and locally produced food products.
- Establish training sessions for food inspectors.
- Collaborate with official laboratories.
- Support policies that encourage the production of wheat by the private sector and that allow refurnishment of private warehouses.
- Develop and improve storage means for wheat and sugar.
- Support policies that aim at securing reserve quantities of prudential storage of wheat and sugar to amounting to no less than 25% Lebanon's yearly needs.

[1] The National Intersectoral Committe for Food and Nutrition was formed by a decree no. 114/1 dated 19th of January 1995, and it included representatives of all concerned public and private institutes.

Ministry of Public Health

- Assess the nutritional status of the public.
- Participate in international meetings concerned with nutrition.
- Participate in forming a ministerial committee to organize and qualify controlling actions for food products.
- Collaborate with the nutrition division in the Ministry of Agriculture in the field of nutrition education.
- Monitor growth rates of children.
- Secure essential nutrients and supplementary foods if necessary.
- Determine diseases that result from nutritional deficiency or overnutrition.
- Encourage and promote breastfeeding.
- Monitor the nutrition situation.
- Train health professionals, laboratory technicians and food inspectors.
- Encourage vaccination programmes.
- Provide nutritional treatment for nutrient deficiency diseases.
- Collect indicators that determine the nutritional status.
- Collaborate with scientific research institutions.
- Establish family planning.
- Collaborate with national and international institutions.

Ministry of Education

- Review and modify the curriculum for elementary, secondary and high school classes to include material specific for food and nutrition.
- Collaborate with the Ministry of Information to prepare and control the contents of nutrition education programmes.

Implant children nutritional habits compatible with the information taught in the curricula.

Ministry of Agriculture

- Evaluate food consumption.
- Evaluate food production in comparison to needs.
- Participate in forming a ministerial committee to organize safety and quality control activities for food products.
- Establish training sessions for food controllers and Fanar laboratory technicians.
- Equip Fanar laboratory by human resources and modern equipment needed.
- Collaborate with the scientific research institutions.
- Participate in the international scientific associations particularly for nutrition.
- Prepare a national plan to organize lands fructification and to preserve the natural wealth.
- Rehabilitate the agriculture extension sector particularly in the field of water utilization and environment preservation.
- Improve marketing methods and activate agricultural cooperatives
- Enhance methods of agriculture credits and activate the Agriculture Credit Banks.
- Execute statistical studies on agriculture production repeatedly every ten years.

Ministry of Social Affairs

- Secure food, education and health care for needy children.
- Promote breastfeeding and healthy weaning practices.
- Improve social status of women.
- Improve caring methods for elderly, disabled, homeless and displaced.
- Educate pregnant and breastfeeding women on healthy eating habits.
- Organize training sessions on food and nutrition for technicians working in the out- reach Services Centers of the Ministry.
- Participate in studies designed to evaluate the nutritional status particularly for mothers and children.

Theme 1

ASSESSING, ANALYZING, AND MONITORING NUTRITION SITUATION

1- Introduction

Nutritional status is a sensitive indicator of the overall level of development in a country as it is the outcome of a wide range of economic, social and health situations.

To formulate effective policies, interventions, and programmes for combating or preventing malnutrition, sufficient information on the nature, causes, extent, magnitude and severity of the nutritional problem is needed for policy makers, planners and nutritionists who advise them. This knowledge should be based on database derived from statistics, reports, special surveys, expert advise and direct observation. To assess the nutritional situation a number of variables presumed to influence it, are usually studied. These causal factors can be grouped under categories of nutritional indicators such as: nutritional status, food intake, health, demographic, economic, and food protection.

Nutritional assessment is an important prerequisite step for solving nutritional problems. It allows for the identification of priorities in the country for action. In developing countries the problem of undernutrition is more of a priority than overnutrition, whereas the focus of attention in developed countries is on diet-related non-communicable diseases.

The most practical approach to nutrition monitoring is to use a minimum number of indicators and select those that can be assessed regularly. For example the prevalence of a low height for age in preschool children are the most commonly used indicators of undernutrition.

In general, research studies have identified a certain number of indicators that are easy to collect and are most needed for nutritional assessment. These indicators can be used to draw a causal model for monitoring the nutrition situation in a country.

Indicators of malnutrition can be classified under major categories which correspond to individual sectors. These categories are:

A- Nutritional status
B- Food intake
C- Health factors
D- Educational and cultural factors
E- Economic factors
F- Food production factor
G- Demographic factors
H- Sanitation

Details of nutritional indicators and their cut off points are presented in Annex 3.

2- Present situation

With the eruption of the Lebanese civil war that lasted for 15 years, all data collection activities were put on hold. However, with the restoration of peace, and since the year 1992, many organizations started conducting surveys on the social, economic, educational, agricultural, and health profiles in the country. In 1993 UNICEF, in collaboration with the Ministry of Public Health, and Ministry of Social Affairs, presented the first study on the health status of children in Lebanon, which included data on many health indicators such as infant mortality, birth weight, breast-feeding practices, immunization coverage, maternal mortality, and number of cases of diarrheal disease and percent of population that have access to health services. The same organizations are presently conducting the PAPCHILD study that includes data on weight and height of children under five years of age.

However, it is important to note that all statistical surveys that have been conducted or are in progress, lack the assessment of nutritional status, but may include some of its indicators. For example, the project on "survey of health status of mother and child" being conducted by the

Ministry of Health in collaboration with the Ministry of Social Affairs will provide some information on the health status of children and infant and under five mortality, but the assessment of nutritional status in this project remains deficient.

As for diet related non-communicable diseases the Ministry of Health, in collaboration with the American University of Beirut, is conducting a nation-wide survey on prevalence and risk factors of diet related non-communicable diseases. The Ministry of Health is also supporting a study on dietary trends and obesity in Lebanon. The last two projects constitute the first attempt to address directly the nutritional problems in the country.

3- Strategies

3.1- Identification of priority nutritional problems in the country, analyze their causes, plan and implement appropriate actions, and monitor and evaluate results by selecting appropriate indicators and using a causal model for nutrition assessment.

3.1.1- Plan of action

A- Prepare a hypothetical causal model of the nutrition situation that include variables (causal factors) to be studied. The selection of variables and the construction of the causal model should be custom made in relation to the needs of the country and supervised by multidisciplinary assessment team.

B- Develop nutrition training programs for health personnel team that include doctors, hospital dietitians and nurses on importance of nutrition assessment and monitoring in prevention and management of disease.

C- Establish data collection, analysis, and reporting systems within the institutional framework of various sectors.

D- Provide on-going basic training of personnel for data collection, analysis and presentation.

E- Promote community based information system.

F- Develop and strengthen growth monitoring and nutrition surveillance within the health care systems by providing training for health workers MCH centers on use of growth charts and importance of growth curves for proper child health care.

G- Cooperate with other universities, research institutions, NGOs, and international organizations to promote and support regional and international collaboration in gathering food and nutrition information.

3.1.2- Authorities responsible for action

National committee on Nutrition, Ministry of Health, Ministry of Agriculture, Ministry of Social Affairs, International Organizations, Universities and Research Centers, and Ministry of Economy and Trade.

3.1.3- Time for action

1996 and ongoing.

3.1.4- Budget

A budget of 1000,000 US dollars is needed to be distributed as follows:

- 200,000 US dollars consultation fees for preparation of a causative model and data collection and analysis.
- 200,000 US dollars for training programs on data collection, analysis, and interpretation.
- 100,000 US dollars for central bureau for statistics to organize a department for receiving data and presenting reports to government.
- 500,000 US dollars for a data base project on food composition of local traditional foods

3.1.5- Monitoring and Evaluation

Annual report on nutritional status according to specified indicators.

Theme 2

INCORPORATING NUTRITION OBJECTIVES AND GOALS IN DEVELOPMENT POLICIES AND PROGRAMS

1- Introduction

The civil war that erupted in Lebanon between 1975 and 1991 had devastating effects on the country. The total damages of this war have been estimated to be US$ 25 billions. The impact on the socio-economic conditions were very severe. The balanced budget, strong currency and favourable balance of payments that existed before 1975 deteriorated during the war. The monthly minimum wage which was US$ 135 in 1975 decreased to US$ 50 in 1992. The average per-capita income which was 42 percent above the mean per-capita income of all middle income countries, became 65 percent lower than that mean in 1988. More than twenty percent of the population were displaced from their homes and had to move to shanty towns, vacated apartments and government buildings. Basic services deteriorated badly and the country's infrastructure was virtually destroyed and normal life was disrupted for a considerable period of time.

After reconciliation in 1991, the government was faced with the task of reconstruction and development and for this purpose adopted in 1992 a 3-year National Emergency Reconstruction Program (NERP) for priority implementation. Also a long term National Recovery Plan was proposed. The National Emergency Reconstruction Program is best described as a broad based multi-sectoral operation, designed to re-establish the national infrastructure, reduce social problems, remove bottlenecks and lay the foundation for medium and long term recovery.

For the long term development, the Council for Development and Reconstruction (CDR) prepared Plan 2000 which is based on the National Recovery Plan mentioned above and designed for execution during the decade starting in 1993 and ending 2002. This plan had 2 main goals:

1- Short term goal which aims at implementing immediately upon conclusion of the National Emergency Reconstruction Program (NERP) a Parallel Program for Reconstruction and Development (PPRD) . This parallel program aims at complementing the emergency program and includes additional investments in developing, updating and strengthening the function of the public sector.

2- Long term goal which aims at providing means to evaluate future needs of public services and facilities in the various regions of the country. The plan also includes recommended strategies and actions needed to satisfy the above goal and the value of the investments needed to be provided by the public sector.

It is the aim of this theme to draw the attention of the planners at this very critical stage of the country's history that the well being of the people is not only in augmenting their income, but also in creating ample opportunities to use the generated income in improving the quality of life for the average person including better health and nutrition.

2- Present situation

The links between nutrition and development in Lebanon seem to be non-existent. None of the development programmes adopted or prepared , brings into focus any coherent policy towards nutrition. The overriding priority is given to the economic situation and to increasing the per capita income of the average person. Although the Lebanese development programs do address an array of social, economical and environmental factors and aim at achieving equitable distribution of the benefits of development, these programs lack a clear and direct interest in the nutritional well being of the population groups. Policy makers should be made to realise that a healthy well nourished population is essential for successful social and economical development. Improper nutrition can lead to increase in health care costs and to a loss of productivity in many important groups of the community. Provisions for proper nutrition confers major health benefits including elimination of diet related diseases, increased resistance to microbial infections and improvement in childhood growth rates.

The studies that were sponsored by the Council for Development and Reconstruction (CDR) covered many activities and included future plans of various ministries. These studies did not report any programs or actions pertaining to any Ministry and aims at tackling or solving nutritional problems that may face the country in the long run. The Ministry of Agriculture, which represents the government body most concerned with nutritional problems, concentrated its efforts and directed its future plans to ensuring food security and decreasing poverty among the rural segments of the Lebanese society. The approach adopted aims at increasing food production by improving farming methods and techniques. However, the Ministry of Agriculture, has recently taken a very significant step in this regard by creating within its structure a Food and Nutrition Unit. This step indicates that future strategies for the Ministry of Agriculture will, most likely, include a clearer concern and at the same time a wider understanding of nutritional problems that may face the Lebanese people.

Preliminary contacts with the Ministry of Public Health indicate the desire of this Ministry to create a Clinical Nutrition Unit. This may be a very significant step in the fight against nutritional deficiency diseases.

3- Strategies

- Enhancing the capabilities of planners and decision-makers to develop policies that favour food and nutrition.

- Ensure that development programs which focus at intensified growth consider all ensuing intersectoral effects including those that have impact on nutrition and food security (soil erosion, loss of agricultural land, imbalance biodiversity, market accessibility and marketing policy).

3.1- Enhancing the capabilities of planners and decision makers to develop policies that favour food and nutrition

3.1.1- Plan of action

Sensitisation of policy-makers to nutrition issues and concerns and encouraging them to participate in conferences and workshops that deal with the nutrition and development.

3.1.2- Authorities responsible for action

National committee for food and nutrition in collaboration with:
- Council for Development and Reconstruction
- Ministry of Agriculture
- Ministry of Public Health
- Ministry of Education
- Ministry of Social Affairs

3.1.3- Time for action

1996 and repeated annually.

3.1.4- Budget

25,000 US dollar.

3.1.5- Monitoring and evaluation

- Number of public employees from each category that have participated in the seminars

- Presence of clear and explicit nutrition component in the strategy papers of the Ministries of Agriculture, Public Health, Social affairs and Education

3.2- Ensure that development programs which focus at intensified growth consider all ensuing intersectoral effects including those that have impact on nutrition and food security (soil erosion, loss of agricultural land, imbalance biodiversity, market accessibility and marketing policy)

3.2.1- Plan of action

- All development programs should be reviewed by committees that include among their members experts in nutrition, epidemiology and sustainable agriculture.

- Training of existing personnel or employment of new additional staff specialised in sustainable agriculture and environmental science should be sought.

- Develop statistical archives at the ministries of Agriculture, Environment and Public Health concerning biodiversity, pollution, soil erosion, food and nutrition situation and primary health care.

- Establish a flexible national mechanism to promote intersectoral co-operation and to keep the nutrition situation in the country under continuous review.

- Field reports should be statistically analysed and data kept up to date through computer assisted programs.

- Develop and use relevant indicators of nutritional well being to provide information on the population's nutritional status and to monitor socio-economic progress and assess the impact of new development programs and projects on nutrition.

- Direct additional investments into scientific research with particular emphasis on resource management in development and identification of potential risks and benefits on nutrition.

- Strengthen the links between development projects and scientific research.

3.2.2- Authorities responsible for action

The action for this strategy is chiefly the responsibility of the National committee for food and nutrition which should act on this strategy in close collaboration with many of the government bodies including:

Council for Development and Reconstruction
Ministry of Public Health
National Council for Scientific Research
Institutions of higher education
Ministry of Water and Electricity
UN Agencies
Ministry of the Environment
Ministry of Agriculture

3.2.3- Time for action

1996 and ongoing .

3.2.4- Budget

120,000 US dollars.

3.2.5- Monitoring and evaluation

- Number of projects reviewed or evaluated for their environmental friendliness and for their ability to conserve the natural resource base.

- Annual nutrition report explaining the trends in the nutrition situation and the relationship to development programs .

Theme 3

FOOD QUALITY AND SAFETY

1- Introduction

Lebanon imports about 80% of its food needs, however, the method of marketing these products expose them to several problems particularly since inspection is limited only to physical examination and samples are analyzed in laboratories that are not equipped to perform all required tests.

Besides, policies which are concerned with the process of control are neither complete nor organized and they lack the connective relationship between them. And since food security is not limited only to the sanitary aspects, it is essential to establish a complete regimen to fulfill this purpose with collaboration between public authorities and the parties concerned with marketing.

2- Present situation

Food quality and safety in Lebanon are controlled by different ministries. Food inspectors of the Ministry of Public Health inspect food production plants, storage areas and equipment, and food products in the markets. The Ministry of Economy and Trade control food prices and protect consumers from fraud, while the Ministry of Agriculture control all imported and exported foods. However, the main issues that still require urgent attention are : inspection of storage and production equipment, control of sale markets, safety of drinking and irrigation water, compliance with sanitary standards, and subjection of food workers to periodical medical examination.

Food safety is not limited only to providing food free of bacterial contamination. Physio-chemical tests are very essential to detect the amount of food additives used in food industries, residues of prohibited pesticides, and to determine the accuracy of food ingredients listed on labels. The risk of these matters, lies in that they can contribute to many health problems such as inflammation, food poisoning, hormonal imbalances, cancer, and resistance to antibiotics. In addition, they expose the consumer to diseases caused by contaminated foods with zoonotic bacteria, pathogenic for men and animals. The direct causes of these diseases are the utilization of water from artesian wells that exist near the sewage, lack of control in the slaughterhouses and food plants, the usage of unsafe ingredients, and displaying meat and fish in open air without refrigeration.

Food quality and safety in Lebanon are determined by conducting food sampling which are most likely inaccurate. Inexperienced food inspectors consider it satisfactory, to assure quality and safety, to check accuracy of production and expiration dates. Food ingredients , however, are not subjected to analysis.

Another important fact that merit mentioning is food labeling . Many owners of food companies change production and expiration date before selling the products. As a preventive measure, labeling supervision should be carried out at the production and storage plants, and at the places where labels are printed.

The other reason behind inefficiency of the quality control system is the insufficient number of food inspectors. Due to poor working and living conditions, only 20 food inspectors out of 130 are actually carrying out their duties.

In spite of Lebanon's compliance with the universal specifications set by the WHO, and FAO known as " Codex alimentarius ", Lebanon still implements the standards set by the Lebanese institution for specifications and standards, that need revision according to new scientific development.

Prior to discussing the legislative aspect concerning food quality and safety, there are three important aspects that need to be taken into consideration:

First: Lebanon imports about 58% of its foods of animal origin which makes it necessary to inspect imported foods for compliance with the specifications and standards at all crossing points.

Second: The quality control sectors suffers from poor financial conditions which makes it unable to cover all production, storage, and distribution areas and assure the accuracy of bills, receipts, and certificates etc.

Third: Control of food products is performed by several administrations : The Ministry of Agriculture, Ministry of Public Health, Ministry of Economy and Trade, Ministry of Justice and the Municipalities. However there is no intersectoral committee that represents all concerned authorities to coordinate between them.

Food legislation:

There are eighteen essential provisions for ministries and Public administrations. There are also general legislation for non specified articles such as: the Lebanese penal code, the law concerning establishment of Lebanese institution for standards and specifications and general decrees concerning ingredients that need to be included in canned foods.

Regulations concerned with specified sectors are:

- twenty for foods of animal origin.
- fifteen for foods of plants origin.
- six for alcohol and beverages.

There is no general nutrition law in Lebanon. However, applied laws and legislation are many, but they lack coordination and harmony. They are based essentially on repression in the absence of preventive provisions. These legislation were established by different governmental bodies with equal authorities and intertwined specialties, which made the control process complicated and very often inefficient. In addition, some of these rules and legislation are outdated, complicated and ambiguous. This is clearly manifested in the :

- absence of a public law outlininng the basic principles of food safety and quality, consumer education , protection of the quality and enhancing its condition.

- lack of legislation that specify the specialty and experiences of food inspectors.
- lack of regulation that suspend food production temporarily when there is suspicion of fraud.

Infrastructure:

Dividing the authority of food control among several administrations leads to scattering of efforts, loss of ability to determine responsibilities, confusion for owners and higher prices for consumers.

The control system at the Ministry of Agriculture is composed of departments for agriculture resources and animal resources. The department of agriculture resources, controls canned and fresh fruits and vegetables at the crossing points, storage and refrigeration of fruits prior to their distribution, without involvement in quality control.While the department concerned with animal resources controls products of animal origin at all crossing points. The veterinary quarantine operates in poor working conditions in cooperation with custom's directorate. They receive instructions from the administration of the Ministry of Agriculture particularly when there are incidents of contagious diseases in the exporting countries.

The consumer protection unit at the Ministry of Economy and Trade carry out the control of prices, specifications and measurements, and prevention of fraud. It carries inspection of food products to assure food quality, and reliability of commercial transactions for imports and controls local markets.

The health department in the Ministry of Public Health controls the sites of food preparation, storage, and production equipment. It also controls the safety of water and food. Due to financial limitations, the health department take action only when food poisoning outbreaks occur.

The unit of prevention and sanitation in the municipalities performs the execution of policies that protect the public from contagious diseases, as well as contaminated food and water. It also controls food production plants, apply health measures for production workers, and inspects animals that are slaughtered in and out the slaughter houses.

There are insufficient number of food inspectors in Lebanon, besides, they lack means of transportation as well as tools and equipment necessary to obtain and transfer samples. Their activities is limited to assure that food institutions such as: bakeries, butcheries, restaurants, and milk factories have a sanitation certificate.

The weakest points of the quality control systems are the following :

- Conducting food samples that often don't comply with scientific regulations and standards
- Lack of collaboration between the controllers and laboratories directors.
- The request for sample analysis is not specific .
- Restriction to physical examination.
- Lack of sanitary inspection for restaurants and other places that serve meals.
- Food safety and quality inspection is restricted only to production and expiration dates.
- Limitation in human resources.
- Insufficient number of inspectors due to poor working conditions.

There are three laboratories that carry out analysis of food samples : the Fanar laboratory under the Agricultural Research Institute, the central laboratory under the Ministry of Public Health, and the laboratory of the industrial research institute.

The Lebanese commission of standards and specifications has a secreteriat in the industrial research institute, but its activity is paralyzed totally, and the majority of its members are unable to make decisions regarding renewal and completion of the Lebanese specifications and standards. At the present time, this institution is being rehabilitated.

The food industries:

The latest statistics of year 1994 showed that there are 4838 food factories in Lebanon. Some of these factories are equipped with modern and up to date equipment, and few of them adopt primitive methods. But the majority are considered semi-traditional, or they adopt modern methods mixed with primitive ways. In spite of their number, the local food industries do not meet the Lebanese consumer needs.

Surprisingly, the government's control for these factories is almost non-existent. There is neither control for imported raw materials and food additives nor for production process. In the absence of Lebanese standards and specifications, the owners of food industries adopt and implement specifications from various countries or the specifications of "Codex Alimentarius". They depend on private laboratories inside and outside the country to carry out sample analysis to assure the safety of the processed products only, but not its component.

3- Strategies

At this level, a strategy that ensure the safety of food and enhance its quality is essential to attain sustainable development to the national economy, that leads to the creation of new job opportunities and the subsequent improvement of income and nutrition conditions. This strategy is based on social, economic and sanitary aspects :

- The food legislation and organization of control operations.
- Field control of food.
- Rehabilitation of the laboratories.
- The consumer's involvement.
- The control of imported foods.
- The control of local production.

3.1- Food legislation and organization of control operations.

3.1.1- Plan of action

- Complete updating of available legislation and establishing fundamental laws covering all aspects of control.
- Form a ministerial committee which represents all concerned authorities in the context of complete collaboration between them.
- Conduct continuous meetings between members of the ministerial committee and concerned institutions to determine problems and to suggest solutions, and to form specialized teams to formulate a general law for nutrition and to determine methods for field control and analysis in laboratories.
- Reactivation of the national institution of specifications and standards -LIBNOR - and furnish it with human resources and essential equipment.
- Form specialized committees that include technicians, industrialists and businessmen to work at renewing and completing legislation and rules concerned with Lebanese standards and specification for food.
- Participation in all activities of the " Codex alimentarius "so committees concerned with food control will be updated on new scientific findings.

3.1.2- Authorities responsible for action

Administrations and institutions responsible for action are : Ministry of Agriculture, Ministry of Public Health, Ministry of Economy and Trade, Ministry of Municipalities, Ministry of Environment, Ministry of Justice, Agricultural Research Institute and the Institute of Specifications and Standards.

3.1.3- Time for action

Three years.

3.1.4- Budget

360,000 US dollars.

3.1.5- Monitoring and evaluation

- Creation of general law for nutrition.
- Renewal and completion of legislation for lebanese standards and specifications.
- Formation of ministerial committee.

3.2- Field control for food.

3.2.1- Plan of action

- Clarification of the responsibilities for each sector concerned with control and avoid work duplication and cover the control activities in all lebanese regions.
- Provide food inspectors with proper transportation means and equipment to protect food samples from getting spoiled.
- Organize regular training sessions for controllers to update them on new technologies.
- Provide incentives for food inspectors so they will execute their assignments without accepting any bribe.
- Adopt new control regime that include all measures to keep food safety and quality starting at early stages of import process until it reaches the consumer.
- Form strong well experienced control team for emergency cases.
- Educate and guide itinerant dealers.

3.2.2- Authorities responsible for action

Sectors responsible for field control are: the veterinary quarantine(Ministry of Agriculture) ,sanitary department (Ministry of Public Health), department of consumers' protection (Ministry of Economy and Trade), the Ministry of Municipalities, and the customs(Ministry of Finance).

3.2.3- Time for action

Four years.

3.2.4- Budget

3, 000,000 US dollars.

3.2.5- Monitoring and evaluation

- Number of training sessions provided for controllers .
- Control food quality and safety throughout all stages of production until it reaches the consumer.
- Control food products of itinerant dealers.
- The control operations shall cover all the Lebanese territories.

3.3- The rehabilitation of laboratories.

3.3.1- Plan of action

- Supply laboratories with qualified human resources and modern equipment.
- Unify the method of obtaining and testing samples, and assuring the utilization of internationally approved methods
- Assemble continuous meetings between those who are in charge of laboratories and those concerned with control in order to ascertain the ability of each laboratory and to unify the analysis and testing procedures between them.
- Offer continuous training for technicians in laboratories.
- Establish regulation for quality control and ascertain the results of laboratory analysis and establish networks for typical analysis to compare the results of various laboratories.
- Collaboration between concerned administrations and laboratories.

3.3.2- Authorities responsible for action

- The Central Laboratory under the Ministry of Public Health.
- The Fanar laboratory under the Agricultural Research Institute.
- The laboratory of the Industrial Research Institute under the Ministry of Industry.
- The laboratory of the American University of Beirut -Faculty of Agriculture - Food Technology and Nutrition Department.
- Administrations and ministries concerned with food control.

3.3.3- Time for action

Five years.

3.3.4- Budget

6,500,000 US dollars.

3.3.5- Monitoring and evaluation

- Adopt recent and internationally approved methods for food analysis.
- Organize responsibilities between concerned administrations and laboratories.
- Use reference laboratories to assure the accuracy of test results.

3.4- Consumers' involvement.

3.4.1- Plan of action

- Develop special media programmes to educate consumer and involve him in the process of food inspection.
- Form committees responsible for consumers protection and guidance, and providing support to the public systems concerned with food inspection. These committees must be furnished with adequate financial and technical resources.

- Inform consumers about the sanitary methods that need to be followed in order to prevent food contamination at the itinerant dealers.
- Design scientific broadcasting programmes.
- Instruct students at schools and universities.
- Develop free of charge, pamphlets, booklets to be distributed over the lebanese regions.

3.4.2- Authorities responsible for action

The concerned ministries, UN agencies (WHO, UNICEF, FAO), non governmental organizations, broadcasting stations agencies.

3.4.3- Time for action

Two years.

3.4.4- Budget

350,000 US dollars.

3.4.5- Monitoring and evaluation

- Number of educational programmes designed to educate the public.
- Number of free educational booklets and pamphlets distributed.
- Number of committees formed to protect consumer.

3.5- Control of imported food.

3.5.1 Plan of action.

- Reinforce control of all imported foods at all crossing points to assure the importers' compliance with national and international safety and quality standards.
- Consult experts regarding quality of new food products.
- Obtain written guarantees from importers concerning food quality.
- Request food sanitation certificate and carry out laboratory analysis for imported food samples.
- Destroy foods that doesn't comply with national and international sanitary regulation.

3.5.2- Authorities responsible for action

- Ministry of Agriculture (the quarantine), Ministry of Economy and Trade (the consumers' protection department), Ministry of Finance (the customs), Ministry of Public Health (the sanitary department) and Interior Ministry (the internal security).

3.5.3- Time for action

Two years.

3.5.4- Budget

400,000 US dollars.

3.5.5- Monitoring and evaluation

- % of imported foods being controlled.
- Coordination among laboratories and administrations concerned with food control.
- % of imported foods which doesn't meet the healthy and safety standards that is being introduced to local markets.

3.6- Local production Control.

3.6.1- Plan of action

- Conduct extensive training sessions for industrialists and for owners of new and developing industries.
- Train and supervise food production workers.
- Local food producers and industrialists should implement and comply with national and international standards for quality throughout all stages of production .
- Supervise local food production through all control stages of raw materials, additives as well as preservatives.
- Assure quality and safety of foods.
- Assure accurate food labels on containers.
- Obtain food samples using correct methods for laboratory analysis.

3.6.2- Authorities responsible for action

Ministry of Public Health, Ministry of Economy and Trade, Ministry of Municipalities, and local industrialists.

3.6.3- Time for action

Three years .

3.6.4- Budget

400,000 US dollars.

3.6.5- Monitoring and Evaluation

- % of accurate food labels.
- Number of industrial food workers trained.
- Food production control through all stages.
- Quality and safety of locally produced food.

Theme 4

CONTROLLING MICRONUTRIENT DEFICIENCIES

1- Introduction

Micronutrient deficiencies is a term commonly used now to refer to the three main vitamin and mineral deficiencies: Iodine deficiency disorder (IDD), vitamin A deficiency, and Iron deficiency anemia. Deficiencies of these micronutrients do not usually result in overt symptoms and they are generally referred to as "the hidden hunger".

Micronutrient deficiencies may contribute to growth retardation, increased morbidity and mortality, reduced working capacity and impaired cognitive and mental functions, they hence affect the development of any particular nation.

For Iodine, the deficiency occurs due to environmental iodine deficiency and can result in mental retardation, neurological complications such as speech and hearing defects, paralysis and other physical disorders, in children.

Vitamin A deficiency is a common cause of childhood blindness. It occurs due to insufficient intake or absorption of vitamin A or its impaired utilization. This deficiency can contribute to eye damage, decreased physical growth, and impaired resistance to infection and hence increased mortality in children.

The main causes of Iron deficiency are insufficient intake, reduced availability of Fe, or increased requirements due to parasitic infection. Most affected groups are pregnant women and preschool children. In childhood, it is associated with significant loss of cognitive abilities, impaired resistance to diseases, reduced working capacity and decreased productivity.

2- Present situation

In Lebanon, dietary intake data on consumption of micronutrients are scarce. The available information is characterized by being carried out on population groups in specific regions and hence not reflecting the whole country's situation; or by being old and ancient data. The only available comprehensive dietary survey on the Lebanese population dates back to 1962.

In the country-wide nutritional survey of 1962, lower hemoglobin levels were reported in blood samples of adolescents, especially females, and in women during pregnancy and lactation. Also a high percentage of children (60%) between 5 to 9 years of age were reported to suffer from Iron deficiency anemia. The higher percentage of anemia prevalence in females more than males in all age groups persisted in the 1984 reports.

Early studies on intake of micro-nutrients by the Lebanese population showed that the Lebanese diets were deficient in Ca, Fe and vitamin A. Later surveys on school children in 1981 and on adults in 1992 confirmed continued lower intake of these micronutrients in the populations studied. In the 1992 study, higher percentage of adult females in Beirut (67%) were shown to consume less than 2/3rd of the RDA for Fe as compared to 14% of males.

The prevalence of iodine deficiency disorder (IDD)manifested by goiter in Lebanon was reported in 1966 to affect, at times, 80% of the rural population. A 1994 recent survey by UNICEF revealed that goiter is prevalent, on the average, in 25.7% of the whole population. The most affected were adolescents aged 11-14 years with higher rates in rural versus urban areas. The country was identified as having mild to moderate IDD. As a result of the study salt iodination was recommended and legislation was approved to have all salt in the country iodized. As for Vitamin A, a recent qualitative survey was conducted by UNICEF in collaboration with WHO, Ministry of Public health, Ministry of Commerce, and Ministry of Industry to assess the situation regarding vitamin A deficiency. The results indicated mild vitamin A deficiency. A nutrition education program to alleviate the deficiency is being prepared by UNICEF.

The above review shows that:

A- Data on the present status of Fe deficiency anemia is not available. Preliminary investigations revealed low dietary intake of Fe especially in vulnerable groups.

B - Strategies and actions for elimination of Iodine Deficiency disorder were taken care of.

3- Strategies

- Identification of underlying factors, severity and magnitude of the problem of micronutrient deficiency(s).

- Ensure political commitment for addressing the micro-nutrient issue as an important priority in development planning.

- Formulate programs for:
  - Reduction of Fe deficiency anemia
  - Elimination of vitamin A deficiency
  - Eliminate other deficiencies

3.1- Identification of underlying factors, severity and magnitude of the problem of micronutrient deficiency(s).

3.1.1- Plan of action

Conducting surveys for prevalence and magnitude of micronutrient deficiencies i.e. vitamin A and Fe. The surveys should be representative of the country population and should identify the following:

- geographical distribution
- the population affected
- the causes
- factors contributing to the problem

3.1.2- Authorities responsible for action

Ministry of Health
Ministry of Agriculture
Research institutes and Universities.

3.1.3- Time for action

Two Years.

3.1.4- Budget

50,000 US dollars.

3.1.5- Monitoring and evaluation

- Assess percent of improvement in magnitude and severity of micronutrient deficiencies especially vitamin A and Fe.

- Number of social programmes that include special sections related to prevention and treatment of micro-nutrient deficiencies.

- Percent morbidity and mortality in infants and children.

3.2 - Ensure political commitment for addressing the micro-nutrient issue as an important priority in development planning.

3.2.1- Plan of action

Incorporate into existing extension programmes (MCH, primary health care, school health programmes, occupational health) a component for alleviating micronutrient deficiencies. Such recommendations can be forwarded to the concerned sectors by the National Intersectoral Committee for Food and Nutrition.

3.2.2- Authorities responsible for action

Ministry of Social Affairs
Ministry of Education
Ministry of Information

3.2.3- Time for action

Starting 1996 and ongoing.

3.2.4- Budget

50,000 US dollars.

3.2.5- Monitoring and evaluation

- Number of extension programmes that include recommendations about prevention and treatment of micronutrient deficiencies.

- **Formulate programmes for reduction of Fe-deficiency anemia and elimination of vitamin A deficiency.**

3.3.1- Plan of action

For iron deficiency

- Encourage agricultural production of foods rich in bioavailable Fe.
- Prepare nutrition education programmes on importance of micronutrients, their availability in foods, losses during food preparation and processing and advice to introduce dietary changes that increase Fe bioavailability such as increase intake of Vitamin C.
- Conduct research studies to identify dietary habits that affect Fe bioavailability.
- Control of infectious and parasitic diseases.
- Provide Fe supplements for primary health care centers.
- Consider food fortification to overcome Fe deficiency.

For vitamin A deficiency

- Survey programmes to identify locally available food sources rich in vitamin A and encourage their intake.
- Increase availability and production of foods rich in vitamin A.
- Provide supplements for vulnerable groups.

3.3.2- Authorities responsible for action

The following programs can be formulated by different ministries for control of micronutrient deficiencies.

The Ministry of Health can cover the programs related to:

- Conducting surveys to determine the magnitude and severity of Fe-deficiency anemia and percent prevalence of night blindness and xerophthalmia.
- Education programs for mothers attending primary health care centers on micronutrient deficiencies and repercussions.
- Providing supplements for distribution to vulnerable groups in these centers.
- Control of Parasitic diseases.

The Ministry of Agriculture can cover the programs related to:

- Conduct studies on food fortification and possible mechanisms for implementation
- Encourage increase production of foods rich in the deficient micronutrient.
- Provide laws for implementation of food labels.

3.3.3- Time for action

Two years.

3.3.4- Budget

50,000 US dollars.

3.3.5- Monitoring and Evaluation

- Preparation by different centers and Ministries of a yearly report on percent decrease in prevalence of Fe deficiency anemia.
- Conducting 5 years studies on prevalence of goiter, night blindness, and xerophthalmia, including assessments of intake of these nutrients.
- Morbidity and mortality in children in relation to micronutrient deficiencies.

Theme 5

CARING FOR THE SOCIO-ECONOMICALLY DEPRIVED AND NUTRITIONALLY VULNERABLE GROUPS

1- Introduction

The synergistic relationship between child malnutrition and care is being increasingly recognized. While the immediate causes of malnutrition may be inadequate dietary intake in relation to needs and disease, the underlying causes are more complex and include problems of household food security, access to health services, unhealthy environment, combined with absence of care for the most nutritionally vulnerable members of the society namely women and children.

Among the nutritionally vulnerable, attention is often focused on the growing children and other vulnerable groups which include mothers, refugees, elderly, the disabled, the displaced, the landless, the unemployed and indigenous people. Care refers to the provision in the household and community of time, attention, support and skills to meet the physical mental and social needs of those nutritionally vulnerable groups.

In general, policies to improve care for children should relate most directly to strengthening the family as a social and economic unit. Specific care given for children includes breast feeding, providing security, and reducing child stress, providing shelter, clothing, feeding, bathing, treating illness, showing affection, interaction and stimulation, playing and socializing, and providing a safe environment for exploration.

Caring strategies also operate nationally and internationally. When refugees cross international borders, international agencies are compelled to protect them.

The elderly are rapidly becoming a substantial proportion of the population. Declined food intake, apathy and depression, and poverty contribute to decreased appetite and increase the risk of nutritional

deficiencies. Strategies to care for the disabled should aim to support livelihoods rather than increase their dependence on external assistance.

The role of the government should be to provide a supportive environment for the family and community - based care and to provide direct services when additional care is needed. Care facilities outside the family include curative and preventive health clinics prenatal and maternal care centers community and government social and economic support systems and programs for income generation. Caring should be sensitive to the particular needs and traditions of the local community. Governments are encouraged to work in collaboration with local community groups, private sector and NGOs to fulfill the goals.

2- Present situation

The nutritional status of vulnerable groups including infants, children, women, refugees, elderly, indigenous people and the disabled in Lebanon have been addressed in few independent studies. For preschool children, provision of care was shown to be a crucial factor in improving the nutritional status of children especially in the poorer sectors of the population. The data comparing preschool children in institutions i.e. day care centers, with those living at home revealed a better nutritional status for the children at day care centers.

Also limited studies on school children revealed that the socio-economically deprived exhibited inferior growth profiles than the more privileged sectors of the population. Comparing disabled children with normal ones from similar socioeconomic background showed that the disability was an additional compounding factor for a poor nutritional status. Poor dietary intake was also reported in studies of elderly people in institutions or at home. Studies on children of indigenous people have also demonstrated a poor growth and dietary intake profile, related to poor living and environmental conditions. Information on breast feeding practices showed that a large percent of the population do not breast feed for the recommended duration. Data on sound weaning practices is not available.

It should be noted that the Lebanese law has tried to protect the child as early as 1973 by establishing a national consultative committee for the child.

In 1994, a Supreme Council for Children was established, and entrusted with the task of recommending strategies for child care.

In 1995 the national plan for child care was put forward which included laws, and strategies to upgrade the health, educational and social services necessary for upgrading child care.

3- Strategies

- Provision of care for the vulnerable groups: infants and children.
- Improve the status of women.
- Promote care for the elderly.
- Provide care for the disabled to enable them to become independent and ensuring them opportunities in education, employment, and housing.
- Provide sustainable assistance to refugees, displaced and indigenous people in remote areas.

3.1- Provision of care for vulnerable groups: infants and children

3.1.1- Plan of action

- Provide day care centers for pre school children properly equipped in personnel and facilities to relieve women and allow them to acquire income generating tasks.

- The first type of care for infants focuses on breast feeding. It is crucial to insure proper advice, encouragement, and preparation of the mother during prenatal care and after the baby is born. MCH centers and hospitals should ensure presence of appropriate facilities and follow practices that encourage breast feeding. Baby friendly hospital approaches and training programs are being extended around the world.

- Develop national guidelines for infant feeding practice, i.e. the weaning process and introduction of supplementary foods.

- Low cost commercially processed foods can be produced for infants and young children. Village - based food processing plants, and subsidizing of nutrient dense food have a role to play.

- Policies on maternity leaves, breast - feeding breaks, and child care facilities at the workplace could be adopted, although these should not cause negative effects on women's employment.

3.1.2- Authorities responsible for action

Ministry of Health
Ministry of Social Affairs
Supreme Council for Children
Non-governmental organizations

3.1.4- Time for action

1996 and ongoing.

3.1.3- Budget

500,000 US dollars first year and then 100,000 US dollars yearly.

3.1.5- Monitoring and Evaluation

- Yearly reports on percent of breast fed infants and duration of breast-feeding.

- Number, adequacy and proper geographic distribution of day care centers, plus percent population attending them.

- Five years' surveys on proper weaning practices in children.

- Child and infant mortality rates.

3.2- Improve the status of women.

3.2.1- Plan of action

- Provide training, ownership, loans and equality in wages for women. Decrease women working hours, and upgrade her status and her knowledge to maintain health of body and soul.

- Enhance health services for women through primary health care centers that provide non formal education for women, including child care and child feeding practices.

- Disseminate dietary guidelines for mothers during pregnancy and lactation.

- Develop income generating projects for women to improve her ability to provide care.

- Adult literacy programs for women

3.2.2- Authorities responsible for action

Ministry of Health
Ministry of Social Affairs
Ministry of Agriculture

3.2.3- Time for action

1996 and ongoing.

3.2.4- Budget

200,000 US dollars.

3.2.5- Monitoring and evaluation

- The number of primary health care centers that provide nutritional advice for women.

- The number of newly established health care centers, governmental and non governmental.

- The number of social and economic projects directed to improve the status of women.

- The number of women attending health care centers.

3.3- Care for the elderly.

3.3.1- Plan of action

- Upgrade primary health care centers to include nutritional services for the elderly.

- Conduct surveys to assess provision of care and nutritional status of the elderly in care centers and in society.

3.3.2- Authorities responsible for action

Ministry of Social Affairs
Ministry of Health
Non-governmental organizations

3.3.3- Time for action

1996 and ongoing.

3.3.4- Budget

50,000 US dollars.

3.3.5- Monitoring and evaluation

- Number of health care centers that provide nutritional care for the elderly.

- Yearly report on nutritional status of elderly in care centers and in society.

- Number of care centers for the elderly and number of newly established ones.

3.4- Provide care for the disabled.

3.4.1- Plan of action

- Conduct surveys on the health and socioeconomic status of the disabled.

- Develop training programmes for the disabled to become self sufficient. Jobs and skills training may be more effective than nutrition education or food fortification for improving their nutritional status.

3.4.2- Authorities responsible for action

Ministry of Education
Ministry of Social Affairs
Non-Governmental Organization
International Organizations.

3.4.3- Time for action

1996 and ongoing.

3.4.4- Budget

200,000 US dollars.

3.4.5- Monitoring and evaluation

- Assessment of number and efficiency of existing programmes for the disabled.

- The number of programmes implemented per year to enhance self sufficiency for the disabled.

- Assess the percent of disabled benefiting from services.

3.5- Provide sustainable assistance to refugees and the displaced and people in remote areas and work for their nutritional well being.

3.5.1- Plan of action

- Measures to alleviate poverty in rural areas
- Ensure availability of food markets for people in remote areas
- Develop Agriculture extension programs for training people on food production and criteria of healthy diets.
- Integrate refuges and displaced people in society
- Provide supplementary foods where necessary.

3.5.2- Authorities responsible for action

Ministry of Agriculture
Ministry of Economy and Trade
Ministry of Social Affairs

3.5.3- Time for action

1996 and on going.

3.5.4- Budget

500,000 US dollars first year and 100,000 US dollars yearly afterwards.

3.5.5- Monitoring and evaluation

- Number of people living in remote areas with no accessibility to necessary foods.
- Number of extension programs for rural areas and percent of participants.
- Mortality rate and life expectancy of rural and indigenous people living in remote areas.

Theme 6

PREVENTING AND MANAGING INFECTIOUS DISEASES

1- Introduction

Malnutrition and infection are closely linked. Malnutrition influences resistance to infection and vice versa most infections result in alteration of nutritional status. The interaction between infection and nutrition is greatest among people living in communities that lack clean water supply, adequate housing and primary health care. Also increase population density in the suburbs of Beirut, Tripoli and Saida by the displaced is one of the major cause of spread of infectious diseases. In addition many of the people living in these areas are unable to afford antibiotic and other appropriate treatments.

Policies aimed at preventing malnutrition require means for preventing and managing of infectious diseases in Lebanon through implementation of planned strategies.

2- Present situation

The real situation of infectious diseases in Lebanon is not well known yet. But it is evident that infectious diseases are more widespread in poor and overcrowded communities due to malnutrition, lack of appropriate food preparation and storage, clean water supply and poor personal hygiene.

Epidemiology and surveillance of diseases are newly performed, and the Lebanese government is currently taking measures to fulfill three programmes: complete immunization, quality control of water, and prevention of diarrhea including cholera. Antibiotic, antiparasitic drugs

medicines for treatment of infectious diseases are only available in large cities and villages. Early diagnosis of infectious diseases
are achieved in large cities because diagnostic laboratories are scarce in villages. In Lebanon, reporting the incidence of infectious diseases to the Ministry of Public Health is obligatory, but only few cases got reported mainly by public hospitals.

Although Lebanon lacks data that reflect the real situation of infectious diseases, we recognize high consumption of unsafe food and water(65% of the water are contaminated by coliforms). Out of 300 food samples, 42 were positive of pathogenic salmonella. Due to the leakage of sewage system in the water pipes, there is always the danger of cholera contamination as a result of deficiency in controlling water resources. But the situation started to improve after the collaboration between the Lebanese government and the UNICEF organization in repairing parts of the water system.

Currently the Ministry of Public Health established 15 health centers. The ministry is aiming to have 40 centers by year 1997 in all Lebanese regions.

3- Strategies

The fundamental requirements for prevention and management of infection are:

- Improving nutritional status through education
- Ensuring primary health care.
- Improving the environment of communities and household.

3.1- Improving nutritional status through education .

The entire population , in particular the vulnerable groups should be educated on the prevalence and spread of infection and parasitic diseases. Education should include prevention and treatment of diarrhea, food sanitation, personal hygiene, promotion of breastfeeding and good weaning practices.

3.1.1- Plan of action

- Develop broadcasting programs on television and radio about all above subjects to increase awareness among public.

- Develop booklets and educational materials .

- Provide training and information on food sanitation and personal hygiene in schools .

3.1.2- Authorities responsible for action

Ministry of Public Health, Ministry of Education, WHO, UNICEF, Mass Media Representatives, Ministry of Information, Non-governmental organizations.

3.1.3- Time for action

1995 and ongoing .

3.1.4- Budget

225,000 US dollars.

3.1.5- Monitoring and evaluation

- Amount of educational materials that is being developed and distributed.

- Number of programs broadcasted on television and radio, and their frequencies.

- Number of training sessions provided to workers, and house managers and number of participants .

- Information on sanitation and personal hygiene provided in schools.

3.2- Ensuring primary health care .

The primary health care should concern all pregnant women, infants, children, workers and all people of high risk of infections . Application of vaccination programmes, rapid diagnosis of diseases, birth spacing and family planing, preventive measures from food infections should be maintained.

Effective treatment is a crucial factor to overcome infections. This involves governmental, non-governmental and informal sectors which make affective treatment available. Health centers, clinics and hospitals are important but not sufficient because the poorest have no time to leave their food producing or income generating and they are unable to afford the cost of treatment.

3.2.1- Plan of action

The following actions are required :

- Expand programmes of immunization covering 100% of the children against infection which cause a deterioration of nutritional status.

- Nutritional management issues such as vitamin A supplementation to decrease the severity of diarrhea diseases at 4-6 months intervals to mothers, children, school and young children .

- Promote intake of vitamins and micronutrients such as vitamin A, iron and zinc.

- Promote health and diet during pregnancy , birth spacing should be taken into consideration .

- Use of available and wide spread medication after early diagnosis of diseases.

- Adequate local facilities and means of transport to main health centers or hospitals.

- Reduce mortality and morbidity rate due to infectious diseases .

3.2.2- Authorities responsible for action

Ministry of Public Health , governmental and non-governmental health centers, hospitals, WHO, non-governmental organizations.

3.2.3- Time for action

1995 and ongoing.

3.2.4- Budget

3,000,000 US dollars.

3.2.5- Monitoring and evaluation

- Percent of infants and children receiving immunization.
- Amount of micronutrient and vitamin supplements being distributed.
- Number of local facilities providing medication and early diagnosis of infection.

3.3- Improvement of the environment of communities and household

Improving the environment with respect to housing, water supply and sanitation is important in the prevention of infection . Strategies for parasitic control require environment protection, vaccines and chemotherapy together with sustained emphasis on personal hygiene.

3.3.1- Plan of action

The following actions are required:

- Promotion of improved water supplies, sanitation, and personal hygiene, especially during the preparation of food.
- Clean water supply.
- Elimination of sewage and waste.
- Avoidance of mosquitoes.
- Housing improvement.
- Promote food safety.

3.3.2- Authorities responsible for action

Ministry of Municipalities - Ministry of Water and Electricity Resources - Ministry of Agriculture -Ministry of Public Health- International Organizations.

3.3.3- Time for action

1996 and ongoing.

3.3.4- Budget

- Treatment of water supply.
- Treatment of sewage and waste.
- Eradication of mosquitoes.
- Housing improvement .
- Vaccines and medications against parasitic diseases.

The budget for this strategy is unlimited.

3.3.5- Monitoring and Evaluation

- % of clean water supply available
- % of sewage and waste being eliminated
- Food safety control.
- Eradication of mosquitoes.

Theme 7

PROMOTING APPROPRIATE DIETS AND HEALTHY LIFESTYLES

1- Introduction

In developed and industrialized countries, diet-related non-communicable diseases such as obesity, hypertension, diabetes, heart diseases and some forms of cancer, have emerged as life threatening diseases affecting a significant sector of the population.

In developing countries, national programs that aim at improving the health and the nutritional well being of the people, are usually domineered by a strong desire to increase the availability of food in order to eliminate hunger. This is why in developing countries most of the efforts and activities pertaining to nutrition tend to concentrate on combating food shortages and on increasing the purchasing power of the people particularly those who live at or below the poverty line. This narrow focus results in a frequent though unintentional neglect of other diet-related diseases that afflict a large number of individuals particularly those who practice a sedentary lifestyle. This group includes those individuals that often overindulge in eating, drinking and smoking. It is the aim of this theme to alert those concerned with nutrition and public health to the fact that diet-related non-communicable diseases may constitute a very serious risk that can be easily minimized by proper guidance and counseling.

The return of peace to the country after 16 years of civil war hostilities, caused a revival of the urbanization trend that existed before the eruption of the civil war. This demographic change coupled to a fast sprouting of fast-food chains, is causing a shift in the dietary pattern of the average individual. Housewives, food service institutions and individuals, are moving away from preparing and consuming local traditional foods that elegantly exemplify the outstanding aspects of the Mediterranean diet in favor of convenience and ready to eat street foods.

The contribution of fat to the total caloric intake in the average Lebanese diet has increased from 23 percent in 1972 to about 35 percent in 1992. Also it is estimated that 20 percent of the Lebanese people in the age group 50-69 years suffer from hypertension, 9 percent from diabetes and 12 percent from heart disease.

2- Present situation

The primary role of nutrition education is to expedite recommended changes in health related practices so that people become knowledgeable enough to make wise choices concerning their diets and the lifestyles they lead.

In Lebanon, education programmes touch to various degrees, on nutrition information throughout all levels of formal education starting with primary schools and reaching university level. Vocational schools in Agriculture and Nursing also include health and nutrition education in their curricula. The program followed in elementary and secondary education was revised in 1985. A preliminary review of the curriculum revealed a sparse content of nutrition information. In elementary schools it was found that nutrition information was often delivered independently of daily school activities that can be closely related to nutritional principles. The eductive process can be accelerated and strengthened when coordinated with practical applications that take place in normal daily activities at schools or in the homes of children.

Mass media also has a share in expanding the reach of the educative process. Lebanese broadcasting stations and television companies (state owned and private) did engage in the recent past in some nutrition and health oriented programmes. Their records however, are not very reliable and their programmes are not supervised or coordinated by any knowledgeable and responsible authority. Such activities can cause chaos and confusion sometimes when the information delivered is conflicting or contradictory to what is taught in schools and other institutions.

Dissemination of proper nutrition information, relevant to the rapidly evolving lifestyles seems to be an efficient approach to control and prevent diet-related diseases in a dynamic society and a fast growing population like the one that exists in Lebanon. In this regard the Ministry of Public Health has recently established a unit whose main mission is to

deal with diet related diseases. The Ministry has also laid out in collaboration with the World Health Organization strategies to combat such diseases and introduce measures to prevent them.

3- Strategies

3.1- Devise methods and means to promote healthy diets and appropriate life styles that aim at reducing the prevalence of non-communicable diseases.

3.1.1- Plan of action

- Hold training sessions for health workers to emphasize the importance of proper nutrition in good health.

- A special team should be trained in collecting information on clinical parameters relevant to the etiology of such diseases .

- Review and evaluate food, nutrition and health information included in the educational program of primary, secondary and vocational schools.

- Prepare the broad outlines of all relevant information destined for dissemination through informal routes of education.

- Prepare a coordinated program for mass media.

- Prepare different versions of Food-based dietary guidelines. The aim should be to promote balanced diets that avoid excessive intakes.

- Encourage suitable physical exercise for the various age groups. The risks resulting from excessive consumption of alcohol and smoking should be explained.

- Develop food-based dietary guidelines. The aim of the guidelines should be to provide the consumers with information on the relationship between health, diet and lifestyle. Considerations should be given to eliminate the restrictive constraints on availability and affordability of healthy foods.

3.1.2- Authorities responsible for action

A- Ministry of Education and Ministry of Information. The Ministry of Education will be concerned primarily with the review of elementary and high-schools curricula. The Ministry of Information will be concerned with informal routes of education. Both ministries will work closely with the following groups:

Universities and educational institutions
Mass media representatives
Non-governmental organizations.
Food and Nutrition unit at the Ministry of agriculture
UN Agencies (FAO, WHO, UNESCO)
Ministry of Public Health

B- The Ministry of Public Health and the Food and Nutrition unit of the Ministry of Agriculture will be responsible for the development of food-based dietary guidelines.

3.1.3- Time for action

1996 and ongoing.

3.1.4- Budget

80,000 US dollars.

3.1.5- Monitoring and evaluation

- Appraisal report on modifications introduced in the curricula of primary and secondary schools.
- Number of teachers who received additional training in health and nutrition education per year.
- Annual report on the extent of involvement of elements of mass media in health and nutrition education.

- Number of seminars or workshops that deal with the topics of nutrition and health and that were held during the year. Extent of compliance with directives issued by multisectoral committee.

- Modification in the number of existing public gardens, sport facilities, health clubs and sport scholarships per year.

- Total number of versions of Food Based Dietary Guidelines that were developed within the first year. Data on the extent of their dissemination.

- Report on novel governmental measures that were introduced in support of dietary guidelines. Actual steps taken to increase availability and improve affordability of foods that are recommended by the new guidelines.

Theme 8

ACHIEVING HOUSEHOLD FOOD SECURITY

1- Introduction

It is becoming more evident that ensuring food security at the country level will not solve all nutritional problems, because vulnerable groups within the country may continue to experience inadequate access to food supplies which may exist in some sectors of the population even if the country enjoys a food surplus. National level adequacy of food does not ensure food security to all households that will be determined by both physical access to food and adequate purchasing power of members of the household. To achieve the ultimate goal of nutrition security, other non food factors should also be addressed. These factors include an evaluation of the health status and level of hygiene that prevail in the communities of the vulnerable groups. In addition,social practices, food customs, and habits should be taken into consideration.

The scope of this theme is to draw the attention of the political leaders and decision makers to the issue of household food insecurity. It is hoped that ensuing actions will result in initiating policies that aim at enabling households to produce or become capable of buying sufficient quantities of safe and good quality foods to meet the dietary needs of all members of the household. The food purchased or produced should have good organoleptic qualities and high nutritional value. It should also be acceptable culturally and procurable inadequate quantities. The proposed policies should also aim at reducing the risk of the poor to lose access to food, both in transitory circumstances and in chronic food insecurity situations.

2- Present situation

Agricultural production in Lebanon received considerable attention from the private sector during the years of the civil strife. During that period, food imports into the country were facing logistic difficulties and local production of food increased its contribution to the gross national product by about 15 percent. However, this increase in agricultural production was outweighed by an increase in the demand for food by an increase in the population. Therefore the problem of food insecurity persisted particularly for the poor and landless. Recent studies carried out on the poverty status of Lebanese families concluded that the absolute poverty line is about US$ 300 of monthly income for a household of 5 and that 70 percent of the households that belong to this category are employed in the agricultural sector.

The Lebanese government has adopted recently, through the Bureau of Wheat and Sugar Beets a serious policy towards achieving national food security with respect to the staple foods: sugar and bread. This accomplishment is considered an important milestone in achieving food security because of the importance of these two food items in the Lebanese diet. Procurement of wheat and sugar relies almost completely on import; and bread constitutes by far the most important staple food to all sectors ~~of the Leb~~anese population. Securing the availability of bread, provide the Lebanese consumer with a significant step toward achieving his daily subsistence and therefore his food security.

3- Strategies

- Increasing production of food in general and staple food in particular.
- Increasing the purchasing power of the rural poor and improve their quality of life.
- Identify inexpensive foods that are high in their nutritive value.

3.1- Increase production of food in general and staple food in particular

3.1.1- Plan of action

- Encourage cultivation of all agricultural land and employment of intensive farming techniques.
- Promote production and consumption of traditional foods.
- Prepare a national plan for land use and exploitation.
- Offer incentives for reclamation of idle agricultural land.
- Improve access to loans for rural people working in the agricultural sector.
- Update competence of extension agents by encouraging specialization and regular training.
- Encourage scientific research in the area of traditional foods.

3.1.2- Authorities responsible for action

Ministry of Agriculture. The Ministry should seek the collaboration of the following institutions:

UN agencies (FAO,WFP)
Ministry of Finance
Lebanese National Council for Scientific Research
NGO's.
Institutes and Universities involved in agricultural training

3.1.3- Time for action

1996 and ongoing.

3.1.4- Budget

500,000 US dollars annually.

3.1.5- Monitoring and evaluation

- Number of agricultural extension agents and social workers that receive training every year.

- Number and value of new loans that are extended per year , and progress of repayments on maturing loans.

- Grants, prizes and other incentives offered in return for reclaimed agricultural land.

- Number of licenses issued for industrial preparation of traditional foods.

- Number of research projects formulated and granted in the area of traditional foods.

3.2- Increase the purchasing power of the rural poor and improve their quality of life

3.2.1- Plan of action

- Increase the income of the poor and decrease his cost of production.

- Provide the rural poor with basic social, educational and health services.

- Public investment in infrastructure particularly rural roads and irrigation facilities.

- Introduction or renewal of rural health, educational and other basic services.

- Improving local marketing of agricultural produce and curbing down monopolies.

- Reduction of pre and post-harvest losses.

- Assist in creating better opportunities for the export of agricultural products.

3.2.2- Authorities responsible for action

All sectors of government particularly Ministry of Agriculture

3.2.3- Time for action

1996 and ongoing.

3.2.4- Budget

600,000 US dollars.

3.2.5- Monitoring and evaluation

- Number of social workers that are visiting rural areas.
- Number of kilometers of rural roads completed per year.
- Number of irrigation canals or cubic meters of water made additionally available per year.
- Annual report on reforms achieved in marketing of agricultural products.
- Annual report on improvements introduced to minimize pre and post- harvest losses of agricultural products.
- Periodic review of basic educational and health services
- Types of mass media used to alert people of the importance of household food security.

3.3 - Identification of inexpensive foods that are high in their nutritive value.

3.3.1- Plan of action

- Monitoring the prices of selected food items over the years.
- Extension programs on the value of some foods selected for their high nutrient content and low price.

- Encouraging scientific research on the effect of processing on the nutritive value of traditional foods.

- Preparation of posters indicating the nutritive value of traditional foods.

3.3.2- Authorities responsible for action

National Committee for Food and Nutrition
Nutrition unit at the Ministry of Agriculture
Nutrition unit at the Ministry of Public Health
Ministry of Information
Lebanese National Council for Scientific Research

3.3.3- Time for action

1996 and ongoing.

3.3.4- Budget

25,000 US dollars annually.

3.3.5- Monitoring and evaluation

- Number of participants in extension programs that were executed.

- Number of research projects initiated that deal with this topic.

- Quantitative changes occurring in the consumption of foods that are inexpensive and rich in nutrients.

Theme 9

PROMOTING BREAST FEEDING

1- Introduction

Millions of children in the world die every year and many more suffer nutritional consequences as a result of diseases such as diarrhea . There is no doubt that breastfeeding can reduce this figure.

The aim of this theme is to encourage and increase breastfeeding practices in Lebanon, because human milk is the most economical of baby foods and provides at the same time protection against certain bacteriological infections. Breastfeeding is considered especially ideal for Lebanese infants raised in poor communities that lack clean water, and have high percentage of uneducated mothers because it contributes to a decrease in mortality and morbidity rates that result from diarrhea.

2- Present situation

Currently in Lebanon the Ministry of Public Health and UNICEF organization has been working on supporting and promoting breastfeeding. These are the points that they have achieved so far : They formed a national committee, and performed number of training sessions for number of health care specialists, they also introduced breastfeeding technicality for health care institutions that shared in the eighty hours training sessions, and they are implementing the ten steps in hospitals that participated in promoting breastfeeding (Annex N°.4)

Unfortunately few studies concerning breastfeeding practices have been carried out in Lebanon due to the 20 years of civil war. Two studies carried out by UNICEF and the Ministry of Public Health looked at breastfeeding practices in maternity clinics and hospitals practices in Beirut during 1992. The results of their survey showed that the hospitals, and maternity clinics practices contribute to breastfeeding declining in Lebanon because health care workers don't provide enough support to

during pregnancy and after delivery . In addition, they separate the child from the mother, and delay breastfeeding initiation after delivery. Another factor that contribute to the decline in breastfeeding in Lebanon is the deterioration in the economical situation that forced many women to work outside their homes, which make it difficult for them to breast-feed. In addition women lack knowledge of breastfeeding technicality and benefits. Knowledge about proper weaning practices was also lacking not only among mothers but also among health care workers

3- Strategies

- Promote exclusive breastfeeding for 4 months in all Lebanese regions.

- Promote safe weaning practices based on locally available food.

- Ensure sufficient food supply for poor malnourished pregnant and breastfeeding women.

3.1- Promote exclusive breastfeeding for 4 months in all regions and encourage longer period of supplementary breastfeeding.

3.1.1- Plan of action

- Continue appropriate training for health and family planning workers to promote, support and council women on breastfeeding using updated materials.

- Offer educational workshops at mother and child centers to counsel pregnant and breastfeeding women on technicality and benefits of breastfeeding .

- Develop educational posters booklets and videos on breastfeeding.

- Design a broadcasting strategy to promote breastfeeding.

- Create child care centers at private and governmental institutions that employ large number of women.

- Increase the number of baby friendly hospitals and facilities.

- offer a flexible schedule for breastfeeding women in the workplace.

- Carry out a survey on infant feeding practices to include all infants from one day old to 12 months old in all Lebanese regions.

3.1.2- Authorities responsible for action

Ministry of Health and Social Affairs
UNICEF
Universities
Hospitals
Family Planning Organizations
WHO
FAO
Health centers
Ministry of Information
Private institutions
Governmental institutions.

3.1.3- Time for action

1996 and ongoing.

3.1.4- Budget

500,000 US dollars.

3.1.5- Monitoring and evaluation

- % of children who are being breast-fed for the first 4-6 months.

- Number of baby friendly hospitals.

- % of children who are being bottle fed during the first 6 months.

- Number of health care workers that have been trained in infant feeding

- Number and quantity of educational material that have been developed and distribute it.

- % of institutions offering child care centers.

3.2- Promote safe weaning practices based on locally available food.

3.2.1- Plan of action

- Train health and family workers particularly pediatricians on safe weaning practices.

- Develop educational booklets and videos on safe weaning practices.

- Offer children centers to counsel mothers on safe weaning practices.

3.2.2- Authorities responsible for action

UNICEF
WHO
Family planning Organizations.
Ministry of Health.
Non governmental agencies

3.2.3- Time for action

1995 and ongoing

3.2.4- Budget

200,000 US dollars.

3.2.5- Monitoring and evaluation

- % of children who start solid food after 6-9 months of age .
- Number of health care workers that have been trained in infant weaning practices.

3.3- Ensure sufficient food supply for poor, malnourished pregnant, and breastfeeding women

3.3.1- Plan of action

- Educate malnourished pregnant and breast-fed women in mother and child centers and nutrition centers about ways to prepare available food.
- Provide monthly food commodity for malnourished pregnant and breastfeeding women at mother and child centers.

3.3.2- Authorities responsible for action

- Non governmental agencies.
- Mother and child centers.
- United nations Organizations.

3.3.3- Time for action

1996 and ongoing

3.3.4- Budget

200,000 US dollars.

3.3.5- Monitoring and evaluation

- % of mother and child centers distributing food commodity for needy and malnourished mothers.

ANNEX 1

Public, Private, Civil, and International Organizations participating in the National Workshop July 15 and 18, 1995

The public institutions

- Council of Development and Reconstruction
- Ministry of Agriculture
- Ministry of Public Health
- Ministry of Economy and Trade
- Ministry of Education
- Ministry of Social Affairs
- Ministry of Municipalities and Rural Affairs
- Ministry of Industry and Petrol
- Ministry of Environment
- Agriculture Research Institute
- Lebanese Standards Institution (LIBNOR)
- National Council for Scientific Research
- Faculty of Agriculture, Lebanese University
- Faculty of Public Health, Lebanese University
- Faculty of Social Sciences, Lebanese University

The private and civil institutions

- Chamber of Trade and Industry
- Faculty of Agriculture and Food Sciences, American University of Beirut
- Biology Department, American University of Beirut
- Faculty of Public Health, American University of Beirut
- Social Care Institutes, Islamic House of Orphanages
- Conserve Chtoura
- Syndicate for Food Technology and Processing
- Middle East Council of Churches
- American University Hospital
- Hotel Dieu Hospital
- St. Georges Hospital
- Lebanese Association for Food and Nutrition

The international organizations

- United Nations Food and Agriculture Organization (FAO)
- United Nations Children's Fund (UNICEF)
- United Nations World Health Organization (WHO)

ANNEX 2

The Situation of The Agricultural Sector

Summary

Lebanon is located on the east coast of the Mediterranean sea. Its climate is diverse and ranges from tropical in the central coast to cold in the east and west range of mountains and almost dry in the Bekaa plain . The weather diversity contribute to the fertile soil of a small area that doesn't exceed 10452 km2. However, the estimation indicated that approximately 360 thousand hectares of this surface is suitable for cultivation. At the present time, 260 thousand hectares depend on rain fall to grow crops, where the irrigated surface doesn't exceed 65 thousand hectares.

On the other hand, 9% of the economically active population work in the agriculture sector, or approximately 96 thousand citizens based on estimation for population that amount 2.8 millions people. The agriculture contribution for the national gross production alternates between 8 to 9 % or equivalent to 600 million US dollars a year, and it is a small contribution comparing to the industrial production sector (20-25 %) and the services sector (60 %).

Lebanon produces plenty of fruits (31 %) of its annual agriculture production, poultry (16 %), vegetables (14 %) and it produces less than 10% of its annual production need for animal products, potatoes, and sugar beets. This situation resulted in large nutrition gap. Hence Lebanon is required to import 80 % of its food needs, except for fruits where the production amounts to 155 % of the country's food needs, eggs (144 %), potatoes (140 %), and vegetables (95- 98 % depending on different seasons), to close this nutrition gap . Lebanon imports its essential products : wheat (produces 11 % of the country's needs), sugar (10 %) , olives (50 %) white and red meats (33 %) and milk (38 %).

ANNEX 3

COMMONLY USED INDICATORS FOR NUTRITION SURVEILLANCE

Nutrition status: commonly used indicators of nutritional status include growth retardation, clinical manifestations of malnutrition, biochemical alteration and mortality rate. WHO publications summarized the indicators as follows.

CATEGORY	FACTOR	DATA TO BE COLLECTED	INDICATOR AND SUGGESTED CUT-OFF POINTS[2]
Nutritional Status	Growth retardation	Birth weight	Percentage of infants born alive with a birth weight < 2.5kg
		Weight-for-age	Percentage of children with a weight <75% of of standard weight-for-age (more than 2 S.D. below standard)
		Height-for-age	Percentage of children with height- (length) for-age below 90% of the reference median
			Percentage of seven-year-old schoolchildren with height <90% of standard height-for-age.
		Weight-for height	Percentage of children with weight below 80% of expected weight for actual height
		Arm circum-ference	Percentage of children with less than 75% of expected arm circumference of age or for height;,percentage of children in red and yellow zones, if tape being used.
	Clinical Malnutrition	Presence of clinical signs	Prevalence (percentage of people examined with clinical signs present):goiter, xerophthalmia, bilateral edema of lower limbs, night blindness, etc.
			Percentage of recognized cases of malnutrition diagnosed as marasmus, kwashiorkor, or marasmic kwashiorkor

[2] Cut-off points are suggested for a number of indicators. They correspond to value generally accepted in the literature. For the other indicators cut-off points should be established according to local situations.

Source: A guide to nutritional assessment: Ivan Geghin, Miriam Cap and Bruno Dujardin, WHO, Geneva, (1988).

COMMONLY USED INDICATORS (CONT.)

CATEGORY FACTOR		DATA TO BE COLLECTED	INDICATOR AND SUGGESTED CUT-OFF POINTS
		Observed morbidity	Percentage of children under 5 years of age with diagnosis of malnutrition at first visit, or on admission to hospital, regardless of the reason for consultation or hospitalization
	Biochemical alterations	Blood hemoglobin	Percentage of individuals with hemoglobin below standard level for age, sex and physiological status
		Plasma retinol	Percentage of individuals with retinol below 200 ug per liter
	Morbidity	Pre-school mortality rate	Deaths of children aged 1-4 years per 1000 children in the same age group
		Case-fatality rate	Percentage of children who die in hospital, malnutrition being mentioned as the basic or associated cause of death, out of total number admitted for or with malnutrition
		Proportional mortality	Percentage of deaths of children aged 1-4 years (or under 5 years of age) over total number of deaths
		Infant mortality rate	Deaths of children aged 0-11 months per 1000 live births
Food intake	Breast-feeding	Weaning age	Average age at weaning (age at which 50% of the infants no longer received breastmilk)
			Percentage of children still breast-fed at 3,6, 9, or 12 months
	Food intake of young	Daily calorie and protein intake	Percentage of children with calorie intake below recommended daily allowance
			Percentage of children with protein intake below recommended daily allowance
	Food intake of household	Daily calorie and protein intake	Percentage of families eating on the average less than the minimum food basket
	Biological value of	Protein quality	Average net protein utilization (NPU) rate of average diet
			percentage of calories of protein origin (group average)
Health factors	Health status	Morbidity	Percentage of children with at least one attack of diarrhea during the preceding month

COMMONLY USED INDICATORS (Cont.)

CATEGORY FACTOR		DATA TO BE COLLECTED	INDICATOR AND SUGGESTED CUT- OFF POINTS
			Percentage of consultations (admissions) for diarrhea over total number of consultations (admissions) in group
		Mortality	Infant mobidity and mortality rates for children aged 1-4 years (see above)
	Health services		Hospital beds per 1000 inhabitants
			Doctors per 1000 inhabitants
			Health personnel (total) per 1000 inhabitants
			Percentage of villages (municipalities, communes, etc) with a health facility
			Average number of contacts (preventive and curative) per person per year
			Percentage of immunizations completed among target group (per vaccine)
			Pregnant women attending ante-natal clinic per 1000 births
			Admissions to maternity wards per 1000 births
			Number of dietitian per 100 beds in hospital*
			Admissions to hospitals per 1000 inhabitants per year
	Sanitation	Water	Percentage of households with tap water laid on
			Percentage of households less than 200 m from a clean water source
		Latrines	Percentage of families with latrines (per category of latrine)
Education and culture	Format education	Literacy rate	Percentage of population $\geq$ 15 years with elementary school completed (total of women only).

* Added to the WHO list

COMMONLY USED INDICATORS (cont.)

CATEGORY	FACTOR	DATA TO BE COLLECTED	INDICATOR AND SUGGESTED CUT-OFF POINTS
		School attendance	Percentage of children of school age who are registered at (or who actually attend) a school
	Food habits	Frequency of meals	Percentage of families in which children receive 2 meals or fewer per day
			Study of dietary trends in society*
Demography	Family size		Average family size
	Mortality		See data on pre-school and infant mortality
	Food prices		Average price of basic cereal (or legume) over period of observation (in US$)
			Average price of minimum food basket in US$ or as percentage of minimum legal wage
	Food expenditure		Average family expenditure for food in US$ or as percentage of total expenditure
	Income		Average family income per capital (all sources) in US$ or as percentage of minimum legal wage
			Percentage of families below the minimum legal wage or below "poverty" level
	General Prices		Increase in index of prices as percentage of increase in minimum legal wage or "real" wages
	Employment		Percentage of active population gainfully employed
			Percentage of mothers working outside the home
			Distribution of population by occupational category

*Added to the WHO list

COMMONLY USED INDICATORS (Cont.)

FACTOR		DATA TO BE COLLECTED	INDICATOR AND SUGGESTED CUT-OFF POINTS
			Average time available to mothers for child care
Food Production	Production	Home Production	Kg of basic food (cereals, legumes, etc.) Produced by the household per year, value in money of total home food production per year
		Productivity	Kg of basic food (cereals, legumes, etc.) Produced by the family per hectare per year
	Factors affecting production	Arable land	Hectares of arable land per person
			Percentage of households with less than a given area of arable land per person in the family
		Rainfall	Average annual rainfall in mm

ANNEX 4

Ten Steps To Successful Breast-Feeding

1- Have a written breast feeding policy that is mentionaly 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 breast feeding.
4- Helps mothers initiate breast feeding within a half hour of birth.
5- Show mothers how to breast fees, 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 breast feeding on demand.
9- Give no artificial teats or pacifies (also called dummies or soothers) to breast-feeding infants.
10- Poster the establishment of breast feeding supports groups and refer mothers to them on discharge from the hospital or clinic.