

**MINISTRY OF HEALTH
NATIONAL INSTITUTE OF NUTRITION**

**20 YEARS OF
THE NATIONAL INSTITUTE OF NUTRITION
ACHIEVEMENT AND PERSPECTIVES**

MEDICAL PUBLISHING HOUSE

Editors **Prof. Ha Huy Khoi (in Chief)**
 Prof. Tu Giay
 Dr. Nguyen Cong Khan

CONTENT

I	Establishment and development of the national institute of nutrition	7
II	Actual functions and responsibility of the institute of nutrition	22
III	The actual nutrition problems and development approaches of the institute	25
	1. Reduction of malnutrition prevalence	25
	2. Programs of micronutrient deficiency control	26
	3. Nutritional disorders due to unbalanced and inappropriate diet	27
	4. Changes on diet structure and pattern	28
	5. Urgency of food hygiene and safety	28
IV	Upgrading and developing the institute of nutrition be able to fulfil the responsibility	32

I. ESTABLISHMENT AND DEVELOPMENT OF THE NATIONAL INSTITUTE OF NUTRITION.

In 13 June 1980, the Prime Minister has approved the decision to establish the National Institute of Nutrition (NIN) belonging to the Ministry of Health. This event has marked an important milestone of the nutritional sector in our country, responded to urgent issues on nutrition and food safety in our country during post-war stage. This was suitable to international and regional situation that in each country, there is an Institute of Nutrition (also called Institute of Nutrition and Food Hygiene) as a Scientific Research and Consultative agency to Government on this issue.

Professor Tu Giay is the first biggest contributor to establishment and development of the Institute. With responsibility of Chairman of the National program on improved diet, he has proved in the model of Thai Nguyen metal industry area the possibility of improving diet and nutritional status of the workers. At that moment, several ministries such as Ministry of Agriculture, Ministry of Internal Commerce and Ministry of Food Industry have participated in this program. Since then, the state has been following the approach that requires an inter-sectoral cooperation with specific nutritional targets for each stage in order to improve nutritional status and diet. In the beginning, the material and personal situation of the Institute was still poor. At that stage, because there was no working place, the Ministry of Health could only arranged a room at 48 Tang Bat Ho street (in negotiation with the Medical College) as a meeting point. There was a big effort to attract nutrition and food staff from the Institute of Hygiene and Epidemiology, The Institute of Army logistics, Hanoi Medical College and other institutions to the Institute. The first staff group of the Institute consisted only six persons.

In the beginning of August 1981, the Food Hygiene section from Institute of Hygiene and Epidemiology have transferred to NIN as a part of the Institute, 30 staff and equipment of the Food Chemistry, Food Microbiology and Food Toxicology laboratories

have moved to the Institute from the Institute of Hygiene and Epidemiology.

From 1980 to 1990: During this decade, with very thin manpower and poor equipments, the Institute has followed the policy of development as well as implementation of necessary activities. The nutritional survey carried out in Nong Cong district, Thanh Hoa province (1981) and in Binh Trung commune, Thu Duc district, Ho Chi Minh city (1982) have been followed by several nutritional surveys to identify the urgently nutritional issues at that moment.



Prof. Tu Giay reported in the Workshop "Nutrition and health survey in Van thien commune, Nong Cong district, Thanh Hoa province, in 1981

The surveys showed that the diet of the people was quantitatively insufficient and qualitatively poor, malnutrition prevalence was high and the potential of improved diet at local level if garden, fish pond and husbandry would be properly developed. In 1981, the Nhan Dan (People) newspaper has published many articles written by Professor Tu Giay introducing Garden-Fish pond-Husbandry eco-system actually called VAC eco-system. An approach to improve diet has been introduced. At that time, with centralized agriculture cooperation policy, this approach facilitating usage of 5% of land to improve family food was supported by the farmers.

During the first 10 years, the Institute was the leading agency responsible for 2 National-level Scientific Research program coded 64-02 (1981-1985) and 64D (1986-1990). Several researches of that program have approached the timely and practical issues at that time as well as the present time such as:

- ✱ Epidemiology surveys of common nutritional deficiency disorders among women and children.
- ✱ VAC eco-system and diet improvement.
- ✱ Energy-saving stove.
- ✱ General survey on food consumption and nutritional status.

The community-based survey in large scale on Protein-Energy Malnutrition showed that in addition to severe forms like Kwashiorkor and Marasmus usually seen at Peadiatric department of the hospitals, the prevalence of moderate and mild forms among children is still high. Using the international classification recommended by the WHO, this prevalence is about 51.5 percent, even to more than 60 percent in some difficult rural areas. In addition to poverty, lack of knowledge on maternal care during pregnancy, breastfeeding and complementary feeding are the important causes.



The examining board "The Healthy children feeding competition in Thanh Ha commune, Thanh mien district (6/9/1989)

During 1985-1988, with collaboration with the National Institute of Ophthalmology, a large epidemiological survey on xerophthalmia due to vitamin A deficiency was carried out in 27 provinces nationwide. The result of this survey showed that xerophthalmia due to vitamin A deficiency was still an important community health problem, prevalence of corneal lesions risky to blindness (X_2/X_3) was 0.07 percent, 7 folds higher than WHO cut-off-point considered as a public health problem needed to be solved. Xerophthalmia due to Vitamin A deficiency is related to feeding patterns, infectious diseases, in particular diarrhea, measles and respiratory infection.

Concerning food sciences, the Institute has implemented additional researches to complete the "Table of nutritional value of Vietnamese foods", with attention on content of vitamins and minerals. Concerning food safety, there were several researches on artificial sugar, artificial coloring adding to foods, situation of some Aflatoxin toxic foods.

Concerning diethrapy, some pathological feeding regimes such as soybean-based yogurt for patients with digestive disorders, potassium-rich diet and low sodium for patients with hypertension.

It is noted that the researches, when completed have been put in suitable address for application such as VAC-ecosystem, breastfeeding, epidemiology of xerophthalmia and vitamin A deficiency in Vietnam.



*Prof. Ha Huy Khoi, vice director and Mrs. Le Bich Chau, chief of
Planning department contacted with representative of UNICEF
Hanoi, in 1983*

In some beginning years with plenty of difficulty, the Institute has given priority to international cooperation activities. The first international organizations having cooperation with the Institute are UNICEF and WFP.

Data from the surveys carried out by the Institute in some first years and the other surveys has been the basic document to defend the Project “Complementary feeding for high-risk subjects: mothers and malnourished infants” named PAM-2651 at total budget of US\$ 24 millions. That was the first big internationally supported project from WFP when our country was isolated due to embargo. This WFP-supported project that was implemented in 8 provinces where there were several regions suffering from food shortage was the first nutritional activities with active public health significance when our country had to import rice and the prevalence of malnutrition was very high. With support from UNICEF, some household food security activities (such as VAC projects) and nutritional surveillance have been established. Two training courses on nutritional surveillance (in Hanoi, 1982 and Ho Chi Minh city, 1983) were the first step for development of nutritional surveillance system.



The nutritional survey team in Hoang long district, Ninh binh province
 (The ~~main~~ ~~end~~ ~~og~~ ~~central~~ ~~malnutrition~~, ~~at~~ ~~the~~ ~~institute~~ ~~work~~ ~~by~~ ~~nutritional~~)
 In order to control malnutrition, the Institute has particularly paid attention on breastfeeding. The workshop on breastfeeding held in 1983 and several follow-up activities have led to the Government's decision on prolongation of maternal leaves from 2 months to 6 months, started since Jan. 1985.

The International conference on applied nutrition (April 1986) with participation of several Asian, African, European and Latin American participants has made the Institute of Nutrition of Vietnam to be well known with active first steps.



General Vo Nguyen Giap shook hands with Prof. D. Karyadi (Indonesia) in the International conference on applied nutrition in Hanoi (4/1986)

During this decade, material of the Institute was improved. The Institute has gained some more budgets to upgrade the building at 48 Tang Bat Ho street. The new building was started to be built in 19 May 1989. Actually, working place consists of more than 100 rooms

in 3 buildings and laboratory equipments have been gradually upgraded. The Direction board has usually paid attention on material and spirit life of staff. During 1983-1985, the Institute has received a project that upgraded food hygiene laboratory from WHO. These were the first precious machines that the Institute got. The Institute has also paid attention on establishment of nutrition and food hygiene network at Provincial Preventive Medicine Centers and at Nutrition department of Provincial hospitals.

The first decade 1980-1990 is characterized as opening period and confirmed the Institute's continuous effort for existing and development.

From 1990 to 2000: The last years of the decade of 80 has marked several big changes in the world as well as in our country. Renovating policy (Doi Moi) of the 4th Congress of Party has made positive changes in social-economical situation of our country. Vietnam, from a rice importing country has become a rice self-sufficient and now even rice exporting country.

It was noted that during whole decade of 80, the Institute's staff were almost not systematically trained except some short-term courses supported by UNICEF and NUFFIC (Netherlands). In this situation, the Institute requested the Ministry of Health to cooperate with Hanoi Medical College organized the 1st degree course on nutrition and food hygiene for our staff. In 1990, the Nutrition and Food Safety section was established within the Public Health department in Hanoi Medical College.

During this decade, the Institute has expanded its activities in the following main fields:

Scientific research: The Institute has carefully studied nutritional status of different subjects, in particular solutions for controlling malnutrition among children and micronutrient deficiency.

The researches on effects of complementary foods with soybean protein and oil to infant growth; on nutrition formulae with digestive enzyme rich sprout powder to treat malnourished children were implemented. Concerning micronutrient deficiencies, there were the researches on relationship between vitamin A deficiency and nutritional anemia, iron reservation in high risk subjects, vitamin A concentration in serum and in breast milk. In 1995, with cooperation with UNICEF and CDC (Atlanta, USA), the Institute has carried out a National survey on iron deficiency anemia. The result showed that prevalence of nutritional anemia among mothers and children was still high, 53 percent among pregnant women, 60 percent among children under 2 years old. In addition to feeding regime, hookworm infection was an important cause for iron deficiency anemia.

The researches on foods has carefully done on analysis of β -carotene and iron in Vietnamese foodstuffs in order to serve the programs for control of micronutrient deficiency. The upgraded food chemical and hygiene laboratories have allowed us to analyze situation of food contamination in more details and resolving solutions.

Concerning aspect of dietherapy, daily salt consumption in different ecological areas and its relation with hypertension and other diet regimes for some different pathological conditions have been studied.

From 1996 up to now, the Institute has been participating in the National Scientific and Technological program KH-11 titled “Studying strategic solutions for improving nutritional situation and food hygiene and safety”. This study was well accepted for the period 1996-1998 and actually was continuing in the period 1999-2000.

Based on the community surveys and international as well as national references, the Institute has developed “The Recommended

dietary allowance requirement for Vietnamese” approved by the Ministry of Health and published in 1996.

The Institute has paid attention on nutritional issues in transition period in our country. Several researches have been carried out following that approach such as “Comparative study on trend of actual food consumption and nutritional status in the last decade”, “Monitoring of growth trend among children related with feeding patterns in some areas”, “Obesity and overweight situation among primary schooling children in Hanoi”...The researches on resolving the malnutrition in our country have been continued and improved. The Institute has especially paid attention on studies of community integrated model for development of feasible solutions to improve nutritional status of targeted population, in particular to control of malnutrition among children. The Institute has investigated and upgraded the food hygiene facilities at central and provincial levels.

Manpower development: Training for specialty upgrading has been facilitated in this decade. With support from SEAMEO-TROMED (Asean Tropical Medicine Organization), the first group of four staff (3 from the Institute, 1 from Hanoi Medical College) has been sent to attend a Master training course on community nutrition in Jakarta (1993). In November 1993, a seminar on community nutrition training was held in Hanoi. Since 1994, the Ministry of Education and Training has coded for master training on community nutrition at Hanoi Medical College and the Institute was appointed as a cooperative institution. From January 1995 to 1997, the Institute has implemented the project “Formation of nutrition cadres for implementation of the rural development program” supported by the French Government via FAO.



Masters on community nutrition (course I) graduation ceremony at the Hanoi medical college on 15/11/1997

The SEAMEO-TROMED continued to support the cooperative activities by provision of materials, training curriculum and abroad training for 7 staff at master level and 2 staff at Ph.D level.

The Institute has also established a collaboration with the Training Center on Planning nutrition in Los Banos, Philippines (RNP-FNP). Five staff trained in this center has complemented to the team of trainers and researchers for the Institute. In addition to the Master training courses in collaboration with Hanoi Medical College, there were many short courses on nutrition and food hygiene for lower level staff organized by Institute. Several young staff of the Institute have received the post graduate training in the Netherlands (ICFSN, Wageningen, the Netherlands), Belgium (ICFSN, Ghent and Universit  Catholique Louvain, Brussels).

Thanks to effort in manpower development, staff structure at the Institute has greatly changed, some young staff has got Master degree and some got Ph.D level. We can say that the Institute has actively solved problem of lack of staff in coming period. Manpower development was a big effort of the Institute in the recent years, but diversification of speciality should be paid attention in coming years.

Implementing activities: The decade of 90s has marked a period of successful implementation of nutrition projects. The National Institute of Nutrition has introduced the Protein-Energy malnutrition among Vietnamese children and required a PEM control program. With active contribution of the National Institute of

Nutrition, the Committee for Protection and Care of Children (CPCC) has developed and implemented this program from 1994 to 1997; that program has been shifted to the Ministry of Health since 1998 and since 1999, the Ministry of Health has appointed the National Institute of Nutrition as a leading institution for implementation. The Institute has quickly developed the Strategy of Action, development of Training curriculum and provided technical guidance to the implementing network at provinces. Through different periods, the Institute has remarkably contributed to the targets for PEM control among children. The PEM prevalence among children reduced from 45 percent in 1995 to 33.8 percent in 2000, average reduction rate was 2 percent per year, considered as high rate in the world.

During 1985-1986 period, several epidemiological surveys showed that prevalence of vitamin A deficiency causing irreversible blindness due to xerophthalmia was still high at significantly important public health problem. There was an agreement on importance of that problem at two seminars held in Hanoi (1986) and in Ho Chi Minh city (1987) and calling the Ministry of Health for intervention program. Since 1988, as policy of the Ministry of Health and with support from UNICEF and some other organizations, the vitamin A deficiency and xerophthalmia control program has been gradually expanded nationwide. Since 1993, the vitamin A supplementation days have been integrated with the national immunization days. Each year, millions children under 5 years old have received high dose vitamin A and high risk children being treated at hospital also received vitamin A as prescribed. An Information- Education -Communication (IEC) campaign on Micronutrient days (1st -2nd June) have been implemented in combination with promotion of VAC eco-system development in order to produce more micronutrient rich foods. In some districts, the specific propaganda was concretized such as papaya yellow, chicken egg red, saupus green (in Thanh Mien district, Hai Duong province). Vitamin A and xerophthamia prevalence was remarkably reduced. In

1994, based the UNICEF-supported international survey, it was announced that Vietnam was xerophthalmia free. All objectives on vitamin A deficiency and xerophthalmia control were program achieved by the year 2000. It requires to sustainably reduce the moderate and mild forms of vitamin A deficiency influencing to health status, morbidity and mortality. During 12-17 February 2001, the 20th IVACG Meeting was held in Hanoi with participation of more than 700 participants from 73 countries, in which Vietnam has actively contributed to its success.



Prof. Do Nguyen Phuong, Minister of Health at the Workshop on Control of iron deficiency anemia through food fortification (Chairman: Prof Le Ngoc Trong, vice minister of Health and Dr. A Malaspina, the ILSI president)

Since the end of the years of 80, the Institute has paid attention on nutritional anemia due to iron deficiency. An inter-institutional seminar on nutritional anemia was held at the end of 1989. The activities to control nutritional anemia in small scale were implemented on pregnant women in the WFP/3844 project areas with supplementation of iron/folic acid provided by UNICEF. The IEC activity on nutritional anemia in frame of appropriate nutrition IEC in general was prioritized. In 1995, another survey in large scale was carried out with cooperation of UNICEF and CDC (Atlanta). In comparison with vitamin A and Iodine deficiency, nutritional anemia control is more complicated and behind. Actually, in addition to daily iron/folic acid supplementation strategy, we have been exploring and assessing weekly iron supplementation and food fortification (iron fortification of fish sauce). The activities to control nutritional anemia will be strengthened in the next decade.

Concerning food and food safety science, the Institute has recently implemented several researches to update “the table of nutritive composition of Vietnamese foods”, to monitor and assess food contamination situation and the solution to solve as well as organized the annual training courses for provincial technicians.



Prime Minister Vo Van Kiet visited Department of Food science and food safety on 09/12/1996

In December 1992, the International Conference on Nutrition held in Rome has called upon the States to develop and implement the National Plan of Actions on Nutrition. Our Government has responded to the above decision. After a preparatory period, in 16 September 1995, the Prime Minister has approved the National Plan of Actions on Nutrition (NPAN) 1995-2000.

That was an important milestone to mark the formation of nutrition policy in our country. The National Plan of Actions on Nutrition has put forwards the objectives of improving quantity as well as quality of diet, reduction of prevalence of malnutrition among women and children, reduction and ultimately elimination of micronutrient deficiency.

Seven sub-committees were established under the guidance of the Ministry of Planning and Investment. The Institute of Nutrition was appointed as focal point for nutrition and as an institution to assess the situation and prepare the annual plan. Despite of limited budget, some budget was reserved for implementation of the Micronutrient days (1st and 2nd June), organization of the nutrition and development week (16th to 23rd October), food hygiene and safety and nutritional surveillance activities at local levels. In the National Plan

of Actions on Nutrition, the IEC activities were prioritized; instruction of appropriate diet, control of malnutrition and micronutrient deficiency, promotion of food hygiene and safety were disseminated through the mass media, the quarterly newsletter of Nutrition and Development was published and distributed down to community.

The main objectives of the National Plan of Actions on Nutrition were achieved. The general survey on food consumption and nutrition was carried out in 2000 to assess the progress, achievements, shortcomings and to prepare the plan for the next period. In 22 February 2001, the Prime Minister has approved the National Strategy on Nutrition for 2001-2010. This is a good opportunity to reinforce the nutrition activities in the next decade.

During 20 years of establishment and development, the Institute has implemented several international, national, ministerial and local researches. Hundreds of articles have been published in the international and national newsletter. Several books and seminar proceedings and other publications have been printed. The result of the researches has been applied in the implementing programs in large scale.

The Institute was offered the First Class Medal of Labor on the occasion of anniversary of 20th foundation day. Professor Tu Giay, the founding Director of the Institute was offered the title of Labor Hero.

The Institute has established a professional network that is still thin but available at all 61 provinces. The staff were most trained in short and special courses (food hygiene, community nutrition, curative diet) and some of them have got master degree on nutrition.

International cooperation: as soon established, the Institute has prioritize this activity. The Institute has cooperated with the international organizations like UNICEF, WFP, WHO and FAO since the beginning and based on this cooperative relation, several projects were implemented such as WFP 2651, vitamin A deficiency and xerophthalmia control, nutritional surveillance. In addition to these,

the cooperation with many NGOs such as MCNV (Netherlands), OXFAM (Belgium) and LCMS (the USA) were expanded. Especially, the cooperative relation with the Institutes in the Region like Thailand, Indonesia, Philippines (Los Banos center) and several Universities like Wageningen Agriculture University (Human nutrition department), Netherlands, Center for Tropical Diseases, University of Oxford (UK), Nutrition department, Brookes University, Oxford (UK)... The cooperative relation with Institute of Nutrition of Japan and the Japanese Woman's University has been expanded. A seminar on nutritional situation in Vietnam and in Japan was successfully organized in September 1997. The Institute has established the cooperative relation with the French Institute of Research and Development (IRD) and implemented the cooperative training, control of iron deficiency anemia, complementary feeding for children and nutritional surveillance. In December 1998, a Seminar on Inter-sectoral nutritional surveillance was successfully held in Hanoi with cooperation with the IRD (France) and the Institute of Tropical Medicine (IMT, Belgium). The cooperative relation with the International Life Science Institute (ILSI), Program Against Micronutrient Malnutrition (PAMM) has been developed. A Center for nutritional IEC was established with support from The Netherlands Royal Government.

II. ACTUAL FUNCTIONS AND RESPONSIBILITY OF THE INSTITUTE OF NUTRITION

The continuous effort of the Institute for the last twenty years was highly appreciated by society and high level. The Prime Minister Decision No. 230/1998/QĐ-TTg dated 30 November 1998 on organization of Research and Scientific and Technological Implementing Agencies belonging to the Ministry of Health has classified the Institute of Nutrition as one of six National Institutes. In 16 March 1999, the Minister of Health has signed a Decision on organization and activities of the Institute of Nutrition. According to this decision, the main functions of the Institute is research on nutrition and food hygiene and safety in order to propose the solutions

for dietary prevention and treatment suitable with nutritional requirement and socio-economical development of Vietnam in each period. So, the actual detailed responsibilities of the Institute are as follows:

A. SCIENTIFIC RESEARCH

1. Study on nutritional requirement and dietary pattern of Vietnamese people suitable with physiological status, ecological condition and socio-economical situation of the country in each period.
2. Analysis of nutritional value of foodstuff used in Vietnamese diet. Establishment of standard of foodstuff quality used in Vietnamese diet.
3. Study on food hygiene, contribution to development of legislation on food hygiene; contribution to development of indicators for analysis of processed and imported food.
4. Study on curative diet, establishment of special diet ration for different pathological conditions.
5. Study on situation of nutritional status, food consumption and food hygiene and safety.
6. Study and propose solutions to improve nutritional status and to ensure food hygiene and safety.

B. MANPOWER DEVELOPMENT

1. To supervise, speed up, monitor and assess execution of professional and technical tasks at nutrition and food hygiene and safety facilities.
2. To develop plan and solutions to implement nutrition and food hygiene and safety activities, in details: organization network,

scientific research, training and using professional staff, professional equipments, tools and medicine; implementation of nutrition and food hygiene and safety program, projects.

3. To organize seminars and specific training courses on nutrition and food hygiene and safety.
4. To disseminate information and knowledge on appropriate nutrition and food hygiene and safety.

Based on the functions and responsibilities of the Institute assigned by the State, the development approaches of the Institute during 20 years of development were identified as follows:

1. To consider appropriate and hygienic nutrition as one of the essential factors for health and a basic human right. The Institute is assigned as a consultative agency on development and execution of an appropriate nutrition policy, suitable with the scientific development and socio-economic condition of the country in each specific period.
2. To consider nutrition as an inter-sectoral approach, based on the result firmly basic medico-biological researches as well as on integration with the other socio-medical sciences in order to propose a right conclusions and highly feasible plan of actions.
3. Based on the specific situation of the country, to develop the practical and feasible researches. To prioritize IEC, to consider it as an important bridge for application of theoretical knowledge into practice.
4. To develop and execute the community nutrition programs to prove the concrete contribution of the Institute into the people's health care and protection work.
5. To pay attention in training young generation staff to provide sufficient manpower for the Institute's departments, to rejuvenate

the staff and to educate enthusiasm of profession to staff. To continuously upgrade scientific and technological potential of the Institute.

In the Government's Decision 37/CP on oriented strategy for the people's health care and protection work, nutrition related objectives that were introduced into the basic indicators for people's health for period 2000-2020 are as follows:

- To increase the Life expectancy to 68 years old (2000) and 75 years old (2020)
- To reduce the Infant Mortality Rate (IMR) to about 35 per thousand (2000) and to 15-18 per thousand (2020)
- To reduce the Under-five Mortality Rate (U5MR) to about 42 per thousand (2000) and to 20 per thousand (2020)
- To reduce the prevalence of malnutrition among under-5 children to 30 percent (2000) and to 15 percent and to eliminate severe malnutrition (2020).
- The average height of Vietnamese youth to be reached at 165cm in 2020.
- To eliminate Iodine Deficiency Disorders (IDD) by 2005: goiter prevalence among children aged 8-12 will be below 5 percent.

The above objectives reflect the requirements and approaches of the nutrition policy in coming years.

III. THE ACTUAL NUTRITION PROBLEMS AND DEVELOPMENT APPROACHES OF THE INSTITUTE

1. REDUCTION OF MALNUTRITION PREVALENCE

The malnutrition prevalence among under-5 children has trend to be reduced but still at high level. The first published figure on underweight prevalence announced by the Institute of Nutrition in

1985 was 51.5 percent as classification of WHO. After about 10 years, the survey on malnutrition and xerophthalmia jointly carried out by the Institute and UNICEF in 1994 showed that the prevalence was 44.9 percent. Since 1994 up to now, the State has approved a National Program to control malnutrition among children implemented by the Committee for Protection and Care of Children (CPCC) and since 1998 by the Ministry of Health. The most recent figure (in 2000) showed that the prevalence of malnutrition nationwide was 33.8 percent. So during some recent years, the rate of malnutrition reduction was about 2 percent per year, classified by WHO as a high rate. The actual prevalence of malnutrition among our children is still high because our initial situation was too bad rather than because our nutrition program did not get good progress.

The Institute has also paid attention on malnutrition situation among women in productive age, juvenile and other subjects.

Among the prioritized issues, the Institute should further study stunting situation and its consequences, low birth weight situation and maternal malnutrition situation.

Among the nutritional surveillance indicators, height/age indicator should be noted because of its value on monitoring the changes of socio-economic condition.

2. PROGRAMS OF MICRONUTRIENT DEFICIENCY CONTROL

The program of micronutrient deficiency control, especially vitamin A deficiency and iodine deficiency has achieved the remarkable progress but needs to be sustained by an appropriate strategy. Despite xerophthalmia due to vitamin A deficiency causing irreversible blindness is no more a significant public health problem, the prevalence of pre-clinical vitamin A deficiency is still high, in particular among lactating mothers. The State's policy to fortify all

kinds of salt in market with iodine made the elimination of iodine deficiency by 2000 and elimination of IDD by 2005 become feasible.

If the last two decades were a period for vitamin A and iodine, the coming decade will be for iron deficiency anemia (IDA); this fact was confirmed by the epidemiological survey in large scale in 1995 and the actual program of IDA control with cooperative strategies guided by the Ministry of Health.

Concerning the solutions, despite the Institute's experience on supplementation of high dosed vitamin A, supplementation of iron, etc. the strategy on food fortification with micronutrients (vitamin A, iron) should be paid attention with participation of industry, commerce and marketing.

3. NUTRITIONAL DISORDERS DUE TO UNBALANCED AND UNAPPROPRIATE DIET

In addition to malnutrition situation needed to be solved, overweight and obesity prevalence among children has been worriedly increasing, especially in urban areas. For examples in schooling ages, a survey on 3,434 pupils aged 6-12 years in Hanoi downtown showed that overweight prevalence was 4.1 percent (while underweight prevalence was 4.5 percent) and in a district in Ho Chi Minh city was 12.2 percent. Among adult aged 50-59 years, the overweight prevalence in male was 15.5 percent and in female was 19 percent in 2 central wards of Hanoi.

That was an alarming sign for another relevant public health problem: over-nutrition related nutrition and health issue leading to other severe chronic diseases. The importance of diet was approved in some diseases: obesity, cardio-vascular diseases, hypertension and stroke, diabetes mellitus type 2 (insulin-independent type), dental caries, some kinds of cancer, some hepatic and gastro-intestinal diseases. In general, these diseases attribute to more than 70 percent of mortality in developed countries.

That is nutritional situation in transition period with both two parallel burden: malnutrition and over-nutrition (more precisely, that is unbalance and inappropriate diet)

4. CHANGES ON DIET STRUCTURE AND PATTERN

The initial result of the General survey on nutrition in 2000 showed that:

Concerning food consumption: in comparison with 10-15 years ago, rice consumption is reduced, meat, fat and oil, fruit and sugar consumption is increased. There is little change on total energy consumption but the energy proportion in diet has been changed: protein and lipid energy has been increased, glucid energy has been reduced. Especially, fat energy has been increased from 8 to 14 percent in comparison with 10 years ago.

Many nutrition deficiency disorders among children have been reduced. Prevalence of chronic energy deficiency (CED) among women in productive age has been reduced from 40 percent (1989) to 28 percent (2000).

These changes are more clear in urban areas than in rural and mountainous areas.

5. URGENCY OF FOOD HYGIENE AND SAFETY

The market economy made food hygiene and safety become more urgent. The products become more diversified but some of them also are of bad quality. Because of profit, several companies and producers use hygienically forbidden plant protective chemicals and preservative products. Insufficient understanding and knowledge of both producers and consumers also lead the situation become more serious problem. Prevention and reduction of food poisoning need to be more prioritized.

It is possible to say that we are in transition period with the following issues:

- Transition from centralized planning economy into market oriented economy, from “rationed” diet to “budget and choice” diet.
- Moving from control of severe malnutrition to moderate and mild malnutrition as well as facing with nutrition related chronic diseases: that is a double burden. It is more clear that infant malnutrition leading to later over-nutrition that is risky to developing countries.
- Urbanization is also a specific characteristic of the transition period.
- Concerning diet, in the beginning of the transition period, foodstuff consumption such as meat, milk, sugar, fat and oil, fruit in general will be increased parallel with increasing income. It is noted that the proportion of animal protein and fat is increasing, proportion of glucid is decreasing and it should be careful when proportion of animal protein is more than 50 percent of total protein and proportion of lipid is more than 20 percent of total energy consumed. The relation between vegetable and animal lipid is also a relevant issue.

In this context, how will development trend of the Institute of Nutrition be in the coming years?

Concerning scientific research, the Institute is required and also has opportunity to solve the following learning issues:

- Causes of malnutrition and strategy for control of malnutrition among children, especially moderate and mild forms. Actually, it is focused on stunting, low birth weight, relation between maternal and child malnutrition. In addition to that, obesity among children is becoming relevant, in particular in urban areas. There are several researches on relation between obesity and stunting among

children, how is this situation in our country? It is also urgently necessary to study on acceleration of growth and its relation with diet.

- Strategies for control of micronutrient deficiency, especially iron deficiency. Research on strategy for food fortification and diet diversification.
- There is a heavy task for nutritional epidemiology in the coming years. In addition to the classical nutrition diseases carefully studied such as protein-energy malnutrition, iodine deficiency, vitamin A deficiency, iron deficiency anemia, it is necessary to further study other elements like zinc, selenium, calcium, etc. Epidemiology of nutrition related chronic diseases is not much studied. In Vietnamese population, which are the most important dietary factors for the subjects suffering from hypertension, diabetes mellitus and cancers? It is necessary to study the relation between diet and osteoporosis that is commonly seen in elderly.

Epidemiology of food poisoning needs to be cared but not yet monitored by the Institute's insufficient monitoring system on both number of outbreak of food poisoning and its causes. That is a shortcoming that needs to be solved.

Comparative nutrition is a convenient issue in transition period. Several important findings in nutrition is based on comparison of dietary patterns between different population groups because of difficulty on experiment in human being. The existence of different dietary patterns of the same Vietnamese people living in Vietnam territory will help the Institute to search many interesting and useful findings.

An increasing social demand in transition period is development different appropriate diet rations for people suffering from nutrition related chronic diseases. Our ancient has found the pharmacological benefits of the foods. "*Food is medicine and medicine is food*". To search the food's functions is also an important approach of the modern nutrition and became a classical in our country.

Food science also needs to be further studied. Improved economy and life quality made people more care food hygiene and nutritional quality. The table of nutritive value of Vietnamese foods needs to be continuously updated and becomes an useful tool for everyone. The other issues on foods like the roles of anti-oxidant elements, anti-nutrition elements and poisons also need to be cared.

In some recent years, the Institute has made a great effort to develop and to get approved “*the Table of nutritional requirement for Vietnamese people*”. But that is only the first step. Together with development and accomplishment of the table of nutritive value of Vietnamese foods, the Table of nutritional requirement for Vietnamese people also needs to be updated and more widely and lively used. Firstly, it requires the researches to assess the appropriateness of the actual table of nutritional requirement based on the anthropometric, bio-physiological, bio-chemical indicators of different subjects.

Because of different difficulties, especially budgetary and personal difficulties, there are still very few number of researches on nutrition among the different subjects rather than women and children. There are also few number of researches on nutrition in profession like sport people, heavily working people and in different ages such as elderly.

The Institute also needs to speed up researches on food hygiene and safety. There is requirement on systemic researches on food contamination from different sources (natural toxic agents, plant protective chemicals, preservative agents, soil and water contaminated agents, etc.). Safe foods are the essential factor of life in the coming era.

Urbanization also created a lot of serious nutrition problems. Because of increasing number of investment projects and market

economy mechanism, shortage of job in rural areas, the urban areas are attracting many laborers. The poor people, especially the recently settled people with unhygienic and temporary living facility are high risk group for disease and inappropriate nutrition.

IV. UPGRADING AND DEVELOPING THE INSTITUTE OF NUTRITION BE ABLE TO FULFIL THE RESPONSIBILITY

When established, the Institute was a small unit with insufficient facility. After 20 years of development, in the Institute, there are a systematically trained staff team, some laboratories well equipped. To fulfil the responsibility, however, there is still a big gap.

Based on the Prime Minister's Decision 230/1998 QD-TTG and the Minister of Health Decision 148/1999/QD-BY on organization and responsibility of the Institute of Nutrition, it is necessary to know the main characteristics of the Institute as follows:

- As a leading institution of the Ministry of Health, The Institute should well execute the research, professional guidance on nutrition in community health, food hygiene and safety and pathological nutrition and diet.
- As an unique institute in the country on nutrition, the Institute is an efficiently advisory agency to the State and different ministries on nutrition policy, on the relation between nutrition and food security. The Institute should be a center for monitoring, collection and analysis of data on food consumption and nutritional situation to support not only the Ministry of health but also the other ministries. The Institute should not only propose the recommendations on appropriate nutrition but also cooperate with other sectors like agriculture and food industry in order to improve diet.
- The Institute should become a center on food science, food analysis and produce the nutritious products to serve society, firstly the high risk groups.

So in manpower development and upgrading facility, the Institute should delicately balance between nutrition and food hygiene and safety activities, between the staff working at community and in laboratory. The Institute should try step by step to make all departments become the professional and well equipped units. With experience gained from the previous periods, it is necessary to have all but not only one equally strong laboratories to fulfil the professionally technical tasks. The following laboratories need to be strengthened:

- Nutritional bio-chemistry laboratory
- Micronutrient laboratory
- Functional exploring laboratory
- Food analysis laboratory (on nutritional and chemical contents)
- Food Toxicology laboratory
- Food microbiology laboratory

In this moment, it is necessary to prioritize to laboratory for food hygiene and safety.

Each department should be concretely delegated.

The basic nutrition department should focus on the researches on nutritional requirement, appropriate diet, growth, development of bio-chemical indicators and methodology and physiology of nutritional status.

The community nutrition department should focus on researches on community health problems and solutions such as maternal and child nutrition, micronutrient and nutrition in different professions and ages. The community nutrition department needs a laboratory for rapid analysis in community and survey on diet practices.

The nutrition surveillance unit within the applied nutrition department together with the Household food security and nutrition policy unit should be strengthened. The applied nutrition department organizes interventions in community, develops the inter-sectoral models. The content of applied nutrition is research on application of technical advantages to strengthening and ensuring food security and household nutrition security.

The pathological nutrition and dietetics department should be strengthened. The department should, in one hand, study nutritional interventions for each specific pathological situation, in the other hand, develop the preventively curative diet. The researches on elderly nutrition and related pathological situations should be carried out by this department. It is necessary to better equip both equipments and staff at the pathological nutrition clinic for gaining better prestige, as well as expanding cooperation with the other pathological nutrition network in the region.

The laboratories of the Food chemistry and Food hygiene and safety department should be continuously upgraded to fulfil its tasks on scientific researches and monitor food hygiene and safety. Food poisoning and nutritional value of food should also be paid attention. The Table of nutritional value of Vietnamese foods should consists of different forms: to be used in scientific research, in training and ordinary form for school and housewives. Food analysis booklet should be periodically updated and published.

Experimental workshop should be reorganized: to produce the products for the Institute 's programs/projects (PEM, micronutrient) and also for the market.

The center on nutrition education should execute its responsibilities: education, information, communication and counseling on nutrition. In this moment, the IEC activities should be

strengthened together with production and distribution of universal materials to community and to other sectors. The center does not solely execute the activities but should cooperate with the other departments in the Institute, the implementing projects and serve the objectives of the nutrition policy in each period.

Manpower development should be prioritized on quality and the subject's urgency. In addition to cooperation with the Medical college on Nutrition Bachelor's degree training for district level and Nutrition Master's degree for nutrition network, it is necessary to held regular training courses for staff working in the network. The library should be upgraded to fulfil its tasks as a center of important information for nutrition sector nationwide as well as for inter-sectoral formation and scientific research.

Based on the available facility, it is necessary to reorganize the departments and units to maximally use the working space and overcome the shortcomings of the actual organization. The professional areas should be prioritized in appropriate manner.

Looking back 20 years of development of the Institute, we should clearly see the achievements but in coming years, the Institute should make effort to fulfil its tasks.

1. Firstly, concerning scientific research, when established, the Institute has focused on maternal and child malnutrition and micronutrient deficiency during a long time due to urgent demand, but the scientific research and application should be expanded. Several issues on research should be paid attention such as nutrition and chronic diseases, schooling nutrition, nutrition in sport, nutrition in professions and ages, nutrition in elderly. Food hygiene and safety, situation, causes of and solutions for improving food contamination are the urgent issues.
2. Manpower development is still necessary to be continued to have a multi-sectoral staff with good knowledge and skill to serve

different specialities. It is necessary to think about training contents on nutrition at different levels and sectors to serve the general policy on improved nutritional status of Vietnamese people. Development of nutrition and food hygiene and safety network within health sector needs to be sufficiently prioritized.

3. Organization and management of scientific research should be put in order. Every researcher should participate in the scientific researches with appropriate time proportion for material reading, implementation, data analysis, reporting and publication. In the other hand, they should well execute their professional guidance, implementation of the community projects.

Ensuring scientific research and caring the staff working and living condition should be parallel prioritized. It is also necessary to reserve a defined budget to support technical development and manpower development among youth.

The Institute of Nutrition has step by step confirmed its position. That is thanks to effort of several continuous staff generations who establish and develop the facility as well as execute the responsibilities, thanks to careful guidance from the Ministry of Health and other ministries and sectors, thanks to close cooperation of the network nationwide and the effective assistance and cooperation of the international organizations and friends.

The new period requires the new efforts. To intensively and cooperatively think for identifying the approaches and solutions is the actual urgent task in order to bring the Institute to steadily forward in the coming steps.

**THE LEADERSHIPS OF NIN
SINCE ITS FONDATION**



Prof. Tu Giay, Director from 1981 to 1993



Prof. MD., D.Sc. Ha Huy Khoi,
Vice-Director from 1981 to 1993,
Director since 1993



Assoc. Prof. Dr. Phan Thi Kim,
Vice-Director from 1992 to 1999



Mr. Vu Hong Toanh,
Vice-Director from 1982 to 1999



Dr. Nguyen Cong Khan,
Vice Director since 1998



Dr. Nguyen Thi Lam,
Vice- Director since 1999



Mrs. Nguyen Thi Xuan Lan,
Vice- Director since 1999

MEDICAL PUBLISHING HOUSE

**20 YEARS OF
THE NATIONAL INSTITUTE OF NUTRITION
ACHIEVEMENT AND PERSPECTIVES**

Editor

Director. Hoang Trong Quang

Publisher's reader: MD. Phan Van Huan