

Regional Consultation on Food-Based Dietary Guidelines for countries in the Asia Region

New Delhi, India, 6-9 December 2010

A Report



Institute of Home Economics,
University of Delhi



**World Health
Organization**
Regional Office for South-East Asia

Regional Consultation on Food-Based Dietary Guidelines for countries in the Asia Region

New Delhi, India, 6–9 December 2010

A Report

© World Health Organization 2011

All rights reserved.

Requests for publications, or for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – can be obtained from Publishing and Sales, World Health Organization, Regional Office for South-East Asia, Indraprastha Estate, Mahatma Gandhi Marg, New Delhi 110 002, India (fax: +91 11 23370197; e-mail: publications@searo.who.int).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

This publication does not necessarily represent the decisions or policies of the World Health Organization.

Printed in India

Contents

	<i>Page</i>
1. Executive summary	1
2. Introduction.....	4
3. Technical presentations.....	8
3.1 Overview of FBDGs in the South-East Asia Region.....	8
3.2 FBDGs: global patterns, challenges and opportunities.....	10
3.3 Process for developing national FBDGs.....	12
3.4 Role of food safety in developing FBDGs.....	15
3.5 Noncommunicable diseases in India: prevalence, problems and prevention.....	17
3.6 Obesity in children: nutritional concerns	18
3.7 Current status on estimation of food and nutrient requirements.....	19
3.8 Effective communication of FBDGs.....	20
3.9 Media advocacy as a tool for dissemination	21
4. Country presentations	23
4.1 Bangladesh.....	23
4.2 Bhutan	24
4.3 Cambodia	25
4.4 Indonesia	26
4.5 Lao People’s Democratic Republic	30
4.6 Malaysia	33
4.7 Maldives.....	35
4.8 Myanmar.....	38

4.9	Nepal	40
4.10	Philippines	42
4.11	Thailand	44
4.12	Sri Lanka	48
4.13	Timor-Leste	49
4.14	Viet Nam.....	50
5.	Working group sessions.....	54
5.1	Working Group 1 – Infant and young child nutrition, school-age and adolescent nutrition.....	54
5.2	Working Group 2 – Adults, pregnant and lactating women and women of child-bearing age	57
5.3	Working Group 3	58
6.	Key dietary messages	60
7.	Conclusions	64
8.	Recommendations	65

Annexes

1.	Agenda	66
2.	Instructions for group work	67
3.	List of participants.....	70

1. Executive summary

The Regional Consultation on Food-based Dietary Guidelines (FBDGs) for Countries in the Asia Region was organized from 6-9 December 2010 in New Delhi, India. The consultation was organized by the Institute of Home Economics, University of Delhi; the World Health Organization's Regional Office for South-East Asia (WHO-SEARO) and the Food and Agriculture Organization's Regional Office for Asia and the Pacific (FAO-RAP).

Participants from 16 Member States [Bangladesh, Bhutan, Cambodia, the Democratic People's Republic of Korea, India, Indonesia, Lao People's Democratic Republic, Maldives, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Timor-Leste and Viet Nam] of WHO-SEAR and FAO-RAP attended the consultation. In addition, six technical experts and representatives from WHO-SEARO, FAO-RAP and FAO-Rome also attended the consultation.

The consultation proposed to develop a set of appropriate dietary messages for different age groups which may be adapted to local conditions by the respective countries. It also aimed to identify a framework for optimal dissemination of these messages as well as identify the need for technical assistance required for formulating/strengthening the national FBDGs in the countries.

The consultation was divided into plenary sessions, country presentations and group work. During the plenary sessions, technical presentations focused on current food and nutrient requirements and emerging nutrition concerns in the countries of the Region such as non-communicable diseases and childhood obesity. The procedural aspects of developing food-based dietary guidelines including effective communication and media advocacy were also addressed by the experts. The technical presentations were followed by discussions with the active involvement of all participants.

A presentation on an overview of FBDGs in the South-East Asia Region helped to contextualize the objectives of the consultation. The process of developing FBDGS as well as opportunities and challenges for

FBDGs was highlighted. Issues of food safety were also discussed. Recent developments regarding the estimation of food and nutrient requirements were also presented by experts. Effective strategies for communication of health messages as well as media advocacy formed the basis for two of the technical presentations.

Country presentations by Bangladesh, Bhutan, Cambodia, Indonesia, Malaysia, Lao PDR, Maldives, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Timor-Leste, and Viet Nam highlighted the nutritional concerns of these countries as well as the strategies being adopted by them to tackle these problems. The presentations also highlighted the present status of food-based dietary guidelines as well as the dietary messages. Some countries had well developed FBDGs for several years and were, in fact, in the process of revision. Others needed to develop FBDGs.

For **group work**, participants were tasked to identify core dietary messages for six population groups: infants and young children; school-age and adolescents; adults; women in child-bearing age, pregnancy and lactation; the elderly; and for the prevention of nutrition-related non-communicable diseases. In addition, participants were tasked to identify a framework for implementation including dissemination of these messages as well as to identify the technical assistance required for formulating/strengthening the national FBDGs in their respective countries. Each group then presented their work and suggestions by other members were incorporated.

The **conclusions and recommendations** were presented by Dr Kunal Bagchi, Regional Adviser, Nutrition and Food Safety, WHO-SEARO, Ms Shashi Sareen, Senior Food Safety and Nutrition Officer, FAO-RAP and Dr Seema Puri, Associate Professor, Department of Nutrition, Institute of Home Economics (IHE).

In countries of this Region, the double burden of malnutrition is very evident. Under-nutrition among children is common as can be seen in the high levels of stunting, underweight and wasting in these countries. Some under-nutrition among adults, especially women was also reported. Widespread micronutrient deficiencies are also seen. On the other hand, food habits are changing rapidly, the population is becoming more diverse and the increased access to global food supplies is expanding the number and variety of food products available in the marketplace. This increasing affluence has led to undesirable dietary alterations like excessive energy

intake, consuming diets rich in saturated fats, addiction to tobacco and alcohol as well as reduction in physical activity. This has led to the emergence of obesity and associated noncommunicable diseases like diabetes and cardiovascular disorders. Hence, individuals require guidance and dietary advice to promote healthy eating practices.

Several participating Member States have already developed national food-based dietary guidelines: DPR Korea, India, Indonesia, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand and Viet Nam. Some of these countries were in the process of revising/updating their FBDGs. In other Member States [Bangladesh, Bhutan, Cambodia, Lao PDR, Maldives, Timor-Leste] national task forces/technical committees/working groups for the development of FBDGs had been established or some work has been initiated.

There was agreement that all Member States should work towards the development/strengthening of their national food-based dietary guidelines programmes. Modalities to develop the FBDGs were outlined. The first step would be the formation of a national level working group which would include experts in health, nutrition, communication, policy makers, and representatives from the food industry, agriculture and the media. This group would be responsible for the development of the FBDGs as well as planning for the effective dissemination of the messages. The importance of follow-up and evaluation of the effectiveness of these FBDGs was also emphasized. WHO and FAO could provide technical assistance to Member States in the formulation/improvement of the national FBDG programme. This assistance could be coordinated to ensure effective support and utilization of resources.

At the closing ceremony, Dr Quazi Monir Islam congratulated the participants on their efforts and assured them of continued WHO support in development of FBDGs in the Region. Ms Shashi Sareen also reiterated FAO's proactive role in the development of FBDGs. Dr Kumud Khanna thanked all those who contributed to make the consultation a success – the participants, temporary advisers, resource persons, WHO, FAO and IHE staff.

2. Introduction

A Regional Consultation on Food-Based Dietary Guidelines for Countries in the Asia Region was organized from 6-9 December 2010 in New Delhi by the Institute of Home Economics, University of Delhi in collaboration with the World Health Organization's Regional Office for South-East Asia (WHO-SEARO) and the Food and Agriculture Organization's Regional Office for Asia and the Pacific (FAO-RAP). Representatives from 16 countries including Bangladesh, Bhutan, Cambodia, Democratic People's Republic of Korea, India, Indonesia, Lao People's Democratic Republic, Maldives, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Timor-Leste and Viet Nam attended the consultation. In addition, six technical experts and representatives from WHO-SEARO, FAO-RAP and FAO-Rome also attended the consultation.

The inaugural session commenced with a welcome address by Dr Kumud Khanna, Director, Institute of Home Economics (IHE). Dr Khanna said that the countries in Asia Region are undergoing a health and nutrition transition because of the economic development in the region. Countries in the region have not yet overcome the problems of undernutrition and are now facing the burden of noncommunicable diseases such as diabetes, hypertension and heart diseases. These diseases are lifestyle related and therefore preventable if populations follow the right kind of diet and lifestyle. It is therefore very important that countries have a national programme to generate public awareness on these issues.

She highlighted the importance of national FBDGs in light of the double burden of malnutrition that most countries in the region are facing. She hoped that the consultation will help countries in the Asia region to collectively frame FBDGs based on available scientific evidence.

Dr Monir Islam, Director, Department of Family Health, WHO-SEARO delivered the message from Dr Samlee Plianbangchang, WHO Regional Director for South-East Asia. The Regional Director was pleased that the Institute of Home Economics and the Department of Food and Nutrition, University of Delhi, had decided to examine the complex subject of food-based dietary guidelines in South-East Asia. This is the first time that such a technical consultation had been organized in the Region and WHO-SEARO was happy to collaborate. He also expressed satisfaction that the Food and Agriculture Organization was bringing its vast experience to this

consultation which would significantly enrich the quality of discussions and outcomes.

This consultation would provide significant information and a clear understanding of the status of FBDGs in Member States of the SEA Region. An important outcome of this consultation would be to identify a set of dietary messages promoting a life-course approach, with the focus on infant, young child and adolescent nutrition, preventing chronic diseases and promoting healthy ageing. There is a growing body of scientific evidence that ensuring appropriate dietary habits in population groups can prevent the development of undernutrition, micronutrient deficiencies, obesity/overweight and noncommunicable diseases. As specific dietary patterns are associated with reduced risk of specific diseases, FBDGs can encourage such practices. This approach requires disseminating qualitative and quantitative dietary information relevant to different age groups and specific to the country's population, which can then be adopted by the general public. This has led to establishing the principles and practices of FBDGs. FBDGs are better understood by the public than nutrient-based recommendations.

The Regional Director said that information on the progress of developing national FBDGs in the Member States of the WHO South-East Asia Region remains sketchy. A few Member States such as India, Indonesia and Thailand have developed their national FBDGs while WHO has been providing technical assistance to other Member States to develop national FBDGs. In spite of these efforts, several important information gaps remain: how effective has been the FBDGs in improving the nutritional status of the population; how can the information contained in the national FBDGs be translated into effective interventions to address the dual burden of malnutrition in the Region; and how can Member States benefit from the experiences and efforts of others?

Mr Man Ho So, Deputy Regional Representative, FAO-RAP, highlighted the problem of hunger and food insecurity in Asian countries and the role of FAO in dealing with these problems. FAO's latest estimates put the number of chronically hungry people world-wide at 925 million – of which 578 million live in the Asia-Pacific region. Although poverty, undernutrition and food insecurity remain at high levels, there have been major changes in the nutrition scenario in the Asian region and large numbers of people in the region are facing problems related to being overweight and associated noncommunicable diseases.

Rising incomes and urbanization have led to major shifts in food preferences. As a result, traditionally carbohydrate-heavy Asian diets have become richer in fat, protein, and micronutrients as people consume more vegetables, fruits, and animal-source products. Globalization of food trade and the rapid expansion of processed food markets have eased access to ready-to-eat foods that are mostly energy dense and rich in fat, salt and sugar. Increased intake of these food products has increased the risk of being overweight, obesity and associated noncommunicable diseases, such as diabetes, coronary heart disease, hypertension and certain forms of cancers, which are significant causes of disability and premature death.

FAO has supported countries to improve food security, increase yields and diversify agricultural production, with special attention to poor households. However, in addition to supporting agricultural production and ensuring food availability, we have to make sure that foods are consumed and utilized in a way to maintain healthy, active lives. Focusing on the distinctive relationship between agriculture, food and nutrition, FAO has worked actively to protect, promote and improve established food-based systems as the sustainable solution to ensure food and nutrition security, combat micronutrient deficiencies, improve diets and raise levels of nutrition.

Food-Based Dietary Guidelines are a tool to give the public practical advice and information on healthy diets and lifestyles. FBDGs should also address priority nutrition and health problems of the country, but not in conflict with prevailing socio-cultural and religious values. They also need to address issues related to food safety. Establishing FBDGs is not an easy task as different population groups have diverse nutritional needs, and different lifestyles may require adjustments in dietary intake. It would be especially difficult in the Asian region considering its diversity in terms of socio-economic, cultural and religious differences, across and within the countries, and even within the same community or household.

The importance of multi-sectoral cooperation and collaboration was highlighted. Nutrition cuts across sectors, and multi-sectoral involvement of all relevant line ministries, academia, and the private sector is important for the effective development and dissemination of FBDGs.

Dr U.M.M. Samaranayake from Sri Lanka was elected Chairperson, Ms Mariyam Najla from Maldives was elected Co-Chairperson and Dr Raj Kumar Pokharel from Nepal was elected as the Rapporteur for the first

day's proceedings of the consultation. On the second day, Dr Mohd Ismail Noor from Malaysia and Dr S.M. Mustafizur Rahman were elected Chairperson and Co-Chairperson respectively. On the third day, Dr Celeste C Tanchocho from Philippines and Mr IIP Syaiful were elected Chair and co-Chair respectively and on the last day, Dr Este Vorster and Ms Janice Albert acted as Chair and co-Chair respectively.

Dr Kunal Bagchi, Regional Adviser, Nutrition and Food Safety, WHO-SEARO outlined the objectives and mechanics of the consultation. He said that after the publication of the global strategy on diet, physical activity and health, there has been a greater focus on the importance of diet and physical activity in a healthy lifestyle. In this context, it becomes imperative to develop/identify key dietary messages for different age groups. With the experience and expertise of the members participating from countries in the Region, he hoped that the consultation would develop key messages which could be then adapted by different countries in the Region. He outlined the objectives of the consultation as:

- (1) To review the existing guidelines;
- (2) To develop a set of core appropriate dietary messages which may be adapted to local conditions by the respective countries;
- (3) To identify a framework for implementation including dissemination and evaluation, and
- (4) To identify the need for technical assistance required for formulating or strengthening the national FBDCs.

Dr Bagchi also explained the modalities of the consultation as well as the expected outcomes.

3. Technical presentations

3.1 Overview of FBDGs in the South-East Asia Region

Prof. Emeritus Kraissid Tontisirin

Chairman – Policy Board, the Thailand Research Fund

Senior Adviser, Institute of Nutrition, Mahidol University, Thailand

Dr Kraissid Tontisirin introduced the main factors responsible for good health and quality of life – genetics, nutrition, mental well being, physical activity, avoidance of toxicants and the physical, biological, social, economic and political environments. According to him, nutrition is a link between food and health and thus the main issues to be considered for good health are food security, food and nutrition education and food culture.

Food-based dietary guidelines are effective tools to promote nutritional well-being. FBDGs could guide food production, processing, consumer protection, consumption and utilization patterns within the individual, family and community levels. They may be used to prevent and control diet-related diseases as well as guide food and agricultural policies. They help to promote desirable food consumption patterns and help to guide desirable eating patterns.

As most countries in the Region are facing the double burden of malnutrition due to coexistence of under- and over-nutrition along with diet-related noncommunicable diseases and issues of food safety, the need for FBDGs cannot be overemphasized. The main food and nutrition challenges include continuing and persistent under-nutrition, over-nutrition, and diet-related diseases as well as increasing prevalence of noncommunicable diseases, food safety and quality issues. Rapid urbanization, changing lifestyles, food supplies and eating patterns necessitate the development of FBDGs. Further, with new scientific understanding of relationships between diet, nutrition and health the need for FBDGs is even more significant.

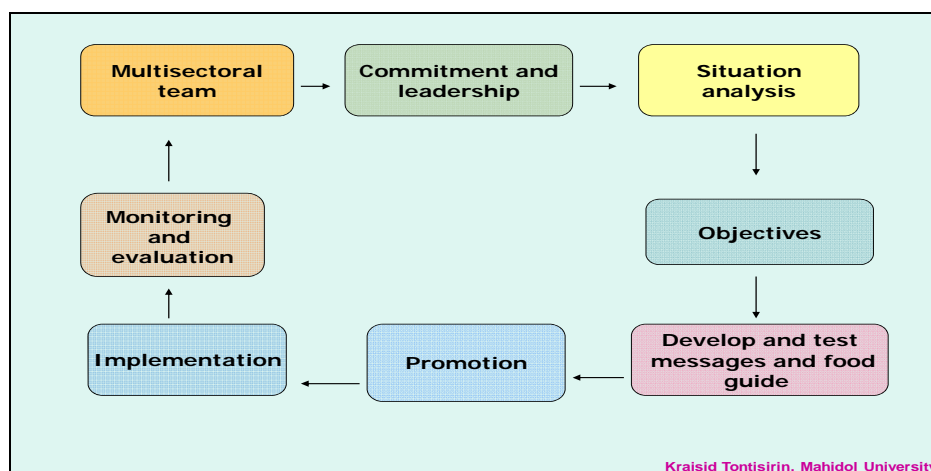
He further talked about the factors to be considered while formulating FBDGs including the major food and nutrition challenges, characteristics of messages, target population and elements of FBDGs. FBDGs should be easy to understand and remember, practical, easy to follow, reliable and

evidence-based. They should be well suited to the cultural, social, economic and environmental situation.

The population groups that should be targeted by these FBDGs include the general population, children and adults, pregnant and lactating women, infants and the elderly. Specific dietary preference groups should also be taken care of i.e. vegetarians, people with cardiovascular disorders, diabetes etc.

Emphasis was laid on the steps involved in the development of FBDGs (Fig 3.1). Defining the rationale and objectives and outlining the working process are some of the initial steps to be undertaken. The working process also involves setting up of a multisectoral team for effective situation analysis and formulation of FBDGs. Effective leadership and commitment plays an important role in the process. The guidelines should include both qualitative as well as quantitative messages, which need to be tested after development. Activities for promotion of FBDGs through the media and institutions also need to be defined. Monitoring and evaluation forms an important part of the whole process and should be undertaken to assess the effectiveness of FBDGs.

Existing guidelines of some of the South-East Asian countries were described. He elaborated upon the lacunae and plus points of existing FBDGs and food pyramids for some countries including Bangladesh, India, Indonesia, Nepal, Thailand, Malaysia and Sri Lanka. Some of the common messages in these guidelines focused on increasing physical activity, eating a variety of foods, increasing fruit and vegetable intake, moderation in fat intake, restriction in sugar and salt intakes, adequate fluid intakes and consuming clean and safe food. While most of these FBDGs were over ten years old, there have been no reports of impact assessments of these FBDGs.

Figure 3.1: *Steps for developing FBDGs*

A systematic approach is lacking in designing FBDGs. There is a need for standardization of methodologies in development, implementation and evaluation of FBDGs. The FBDGs should be linked to nutrition education, agriculture and food policies and should be part of an integrated strategy to improve food security, food safety, nutrition and health. There is a need to regularly review and update the FBDGs and develop FBDGs for special population groups like infants, young children and the elderly.

3.2 FBDGs: global patterns, challenges and opportunities

Dr Janice Albert

Nutrition Officer, Nutrition and Consumer Protection Division (AGN), Food and Agriculture Organization of the United Nations, Rome, Italy

Dr Janice Albert focused on the global nutrition patterns and FAO's experiences in implementing FBDGs. She also described the challenges and opportunities for more effective FBDGs in the 21st century.

Dr Albert reviewed the global nutrition scenario. She stated that the percentage of undernutrition in Africa is worse as compared to Asia, but the number of undernourished people remains very high in Asia. She further reiterated that globally there has been a nutrition transition with increase in the intake of fats and reduction in intake of carbohydrates. At the same time there has been an increase in the prevalence of overweight and obesity, both in rural and urban areas. With an alarming increase in the rate

of diabetes in the countries of the region, a diabetic epidemic is in the offing.

She elaborated the experiences of FAO on implementation of FBDGs. In 1995, FAO/WHO developed a framework for preparation and use of FBDGs. The framework aimed to obtain political support from relevant sectors, analyze the nutrition situation and set realistic objectives. It planned to create communication strategies and tools for effective dissemination and implementation. Results would then have to be monitored and evaluated.

Typical contents of FBDGs include promoting a variety of foods in the diet, promotion of physical activity and healthy weight, increased intake of fruits and vegetables, limiting the intake of salt/sodium and sugar. The aspects on which the FBDGs could differ include target specific population groups and advice on fats, carbohydrates, water and food safety.

The common difficulties faced in developing FBDGs are lack of data to assess the nutrition situation with the agriculture and education sectors not being fully involved in the implementation, weak communication strategies, often due to limited resources, lack of monitoring and evaluation skills and environmental factors unsupportive of changes.

More scientific evidence related to diet and diseases and more tools for informing consumers about nutrition are now available. Moreover, heightened awareness of the environmental impact of the food system opens up a new era in the development of FBDGs.

Scientific recommendations at present should mainly emphasize on diets based on whole foods, relatively lower intake of energy-dense processed and fried foods, and sugar-sweetened beverages, consumption of smaller portions, moderate consumption of dairy products and lean meats and poultry and maintaining appropriate energy intake and adequate physical activity levels. Nutrition labelling on products is of prime importance and should be made mandatory. Sustainable diets with low environmental impacts, economically fair and affordable as well as culturally acceptable must also be kept in mind in formulation of FBDGs.

3.3 Process for developing national FBDGs

Prof. Este (HH) Vorster

*Professor and Director of Research, Centre of Excellence for Nutrition,
North West University, South Africa*

Dr Vorster said that FBDGs are science-based recommendations for healthy eating. According to her, FBDGs are responsible and sensible dietary messages to help consumers choose an adequate and prudent diet to combat under- and over-nutrition. She reiterated the steps for development and formulation of FBDGs and food guides.

Development and implementation of FBDGs were prompted by the World Declaration and Plan of Action for Nutrition adopted by the 1992 International Conference on Nutrition. This was done in order to disseminate nutrition information through sustainable food-based approaches that encourage dietary diversification through the production and consumption of micronutrient-rich foods, including appropriate traditional foods. Because people understand and eat foods and not nutrients, dietary advice based on foods rather than nutrients will be more likely to be followed, and therefore, more likely to lead to beneficial changes in food consumption patterns, nutrient intakes and ultimately health and nutritional status of individuals and populations. FBDGs should be evidence based, realistic, marketable, visionary and for a defined target group. They should also take into consideration issues of indigenous foods, sustainable agriculture and environment, food safety as well as other health behaviours.

FBDGs must be derived and formulated by a transparent and integrated process of consensus in partnerships of all stakeholders, including policy makers, legislators, nutrition and other health professionals, agriculturists, educationists, consumer scientists as well as representatives from the private sector such as the food and health industry and the media.

FBDGs should lead to adequate and optimum diets, bringing population intakes closer to nutrient intake goals, thus preventing nutrition-related diseases. Although nutrient intake values (nutritional requirements) for specific groups between different populations may be similar, locally formulated FBDGs, based on culture, ethnicity and locally available indigenous and traditional foods will vary between these groups because more than one dietary pattern is compatible with optimum nutrient intakes.

Ideally, all nutrition education and promotion within a country aimed at improving nutritional status of various groups should be based on a set of FBDGs developed specifically for that country.

Dr Vorster outlined the steps for the development and formulation of FBDGs (Fig. 3.3). Once the need for FBDGs and the responsible agency has been identified, a working group should be formed, which should guide the development of FBDGs.

Figure 3.3: Steps needed for development and formulation of FBDGs

1. Assess needs	9. Define realistic goals
2. Who is responsible?	10. Define target groups
3. Form a working group	11. Other health messages?
4. Get funding	12. Group key recommendations
5. Identify health problems	13. Formulate the FBDGs
6. Identify other programmes	14. Nutrient needs? Check
7. Assess existing intakes	15. Motivate each guideline
8. Relate intakes to health	16. Pilot-test understanding of each guideline

Realistic goals need to be set and target groups defined, based on an evaluation of the current nutrition scenario in terms of existing health problems, current food intakes and other programmes in operation. FBDGs may then be formulated and pilot tested. The education material for dissemination of the FBDGs also needs to be developed concurrently.

Dr Vorster also suggested 16 steps to follow in the development of FBDGs including advice on how to assess the need for FBDGs, who should develop the guidelines, how to form a working group, the need for sufficient human and financial resources etc.

She further added that in order to effectively and successfully market and implement FBDGs, short, positive messages should be formulated and should be visually illustrated by a food guide. Further they should be supported by education material that motivate, explain, educate and inform potential users of the benefits of applying the FBDGs.

This was followed by advice on how to identify different target groups, how to describe their specific needs and characteristics, the type, level and complexity of information needed for each, how to align the education material with other available health promotion messages and with implementation plans, as well as how to pilot test the developed and written material before producing at scale.

A participatory, multi-disciplinary and multisectoral approach is needed for the implementation of FBDGs. Step-wise planning of the implementation strategy should be based on selected elements of social marketing principles, which aim at changing dietary behaviour of target groups. The steps for the design of a holistic implementation plan were also explained.

An outline of how field testing of FBDGs should be done was presented. FBDGs and the supporting food guide, education and promotion material cannot be implemented before field testing showed that the target groups understand the messages and material, and that they would be able to comply with the diets recommended.

The development of FBDGs, their supporting education and promotion material, as well as implementation of the guidelines at national or regional level, are time-consuming and could place a huge burden on financial and human resources. It is therefore imperative that a FBDG programme should be properly evaluated to provide regular information that can be used for decisions about continuation of and adjustments to the programme.

The steps for planning the evaluation include engagement of all stakeholders, development of a conceptual framework, a focus on the evaluation questions for designated target groups, decisions on indicators and measuring instruments, the gathering and analyses of quality data, justification of conclusions, the use of the evaluation results, and lastly, re-evaluation to ensure that programme adjustments are effective.

3.4 Role of food safety in developing FBDGs

Ms Shashi Sareen

Senior Food Safety and Nutrition Officer, FAO Regional Office for Asia and the Pacific, Bangkok, Thailand

Ms Shashi Sareen's presentation focused on the importance of food safety in keeping good nutrition, and the critical role of food safety in developing FBDGs.

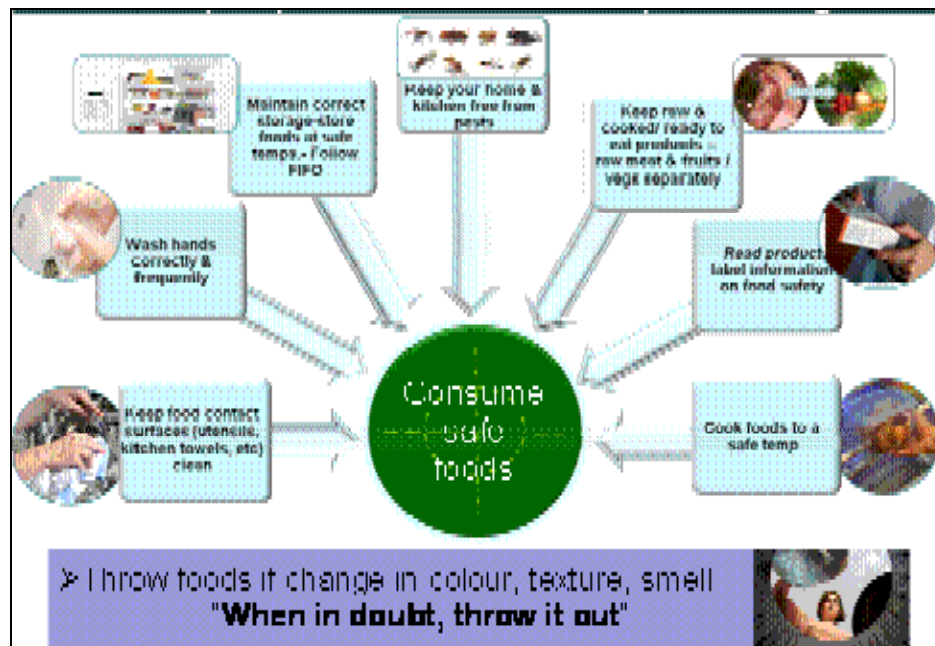
On the concept and purpose of FBDGs, she said that FBDGs are a communication and education tool to promote healthy diets and lifestyles, or a simple message on healthy eating aimed at the general public. She stated that FBDGs aim to assist the general population in following nutrition and related-health recommendations; provide nutritionists, health providers and others with a tool or information to promote healthy diets and lifestyle to protect health and prevent diseases; assist governments as well as agencies in the formulation and implementation of policies and programmes related to food, nutrition and health; and provide a guide to achieve food, nutrition and health goals by promoting the production of healthy foods.

She discussed the interrelated nature of food, nutrition and health, and the critical role of food safety in maintaining good nutrition. She stated that no matter how nutritious it is, food is not well utilized unless it is safe.

She listed recommendations that are commonly used for FBDGs related to diets, and identified other areas such as those related to smoking, alcohol consumption, exercise and body weight, and food safety.

She discussed the importance and role of food safety particularly in developing countries, considering the areas such as food trade, zoonotic diseases and genetically modified foods among other emerging issues, water and food contamination, and hygiene in food handling. According to her, the definition of food safety may include food safety (assurance that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use), food stability (assurance that food is acceptable for human consumption according to intended use) and food hygiene (all conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain). She also discussed food safety concerns of consumers and governments, consequences of food safety issues and government regulations to minimize such consequences.

Figure 3.4: *Some Proposed Food Safety Messages*



She stated that integrating food safety into FBDGs is important in helping consumers understand the importance of safe food handling and preparation to prevent diseases and protect health. She highlighted some important areas to be addressed in FBDGs, which included microbial and chemical hazards, personal hygiene, pest control, food contact surfaces, cross-contamination, temperature and storage aspects, the safe use of water and ice etc.

Ms Sareen also introduced guidelines that have a food safety component in some countries such as United States, Hungary, Oman and others. She concluded by proposing some food safety messages that can be used for FBDGs.

3.5 Noncommunicable diseases in India: prevalence, problems and prevention

Dr Anoop Misra

Director, Department of Diabetes & Metabolic Diseases, Fortis Hospitals, and Center for Diabetes, Obesity, and Cholesterol Disorders (C-DOC) and Diabetes Foundation (India), New Delhi, India

Noncommunicable diseases (NCDs) are recognized as a major cause of morbidity and mortality. The rapidly growing epidemic of noncommunicable diseases is clearly related to changes in lifestyles.

There has been a marked increase in vascular diseases. Major causes of deaths today are – cardiovascular disorders (CVD), diabetes and metabolic syndrome. Dr Misra highlighted the increased prevalence of coronary heart disease (CHD) (30 million people) among Asian Indians compared with other ethnic groups with lower prevalence rates. Similar trends have been seen in prevalence of hypertension, metabolic syndrome and diabetes. Cardiovascular disorders and diabetes risk in men has further increased due to clustering of risk factors.

Asian Indians are more prone to these NCDs, particularly diabetes, which occurs 10 years earlier in them as compared to other ethnic groups. This is mainly due to low muscle mass and high body fat, high subcutaneous and intra-abdominal fat and greater truncal skin folds. Insulin resistance, dyslipidemia, and CHD as well as infectious complications are also highly prevalent. Patients are usually detected and treated at advanced stages due to lack of awareness. Complications like nephropathy and retinopathy among them are common.

What is more alarming is that these NCDs are affecting people at a much younger age as the exposure to the risk factors is increasing. Risks that are more commonly associated with wealthy societies, such as high blood pressure and high blood cholesterol, excessive tobacco and alcohol consumption, obesity and physical inactivity are now becoming more prevalent in the developing world where they create a double burden in addition to the infectious diseases that afflict the developing countries. Overweight, obesity and physical inactivity have become important determinants of health in urban as well as rural India as they lead to adverse metabolic changes, including increase in blood pressure, unfavourable cholesterol levels and increased resistance to insulin.

In Delhi itself 8 million people have overweight/obesity and 5.5 million have abdominal obesity. This raises the risk of coronary heart disease, stroke, diabetes mellitus and many forms of cancer. With increasing life expectancies and marked changes in lifestyles, the past two decades have seen a sharp increase in cardiovascular and cerebrovascular diseases, diabetes, hypertension and cancers. It is important to make quantitative assessments of the burden of these noncommunicable diseases.

The conventional and unconventional risk factors were identified as abnormal pulse pressure, fatty liver, infections, homocysteine, lipoprotein subclasses, vitamin D as well as rural to urban migration. An increased prevalence of metabolic syndrome with a high prevalence of 30.8% among urban Indians (17.4% in males and 44.2% in females) has become one of the major risk factors.

Risk reduction was emphasized as the chief prevention strategy to be taken up. Lifestyle changes including physical activity, dietary modifications, control of hypertension and dyslipidemia need to be promoted.

Simple phenotypic markers for prediction of metabolic syndrome and diabetes mellitus in Asian Indians like buffalo hump, double chin, subcutaneous fat (skin folds), hepatomegaly (surrogate fatty liver) were also described.

3.6 Obesity in children: nutritional concerns

Prof. Nikhil Tandon

*Dept of Endocrinology and Metabolism,
All India Institute of Medical Sciences, New Delhi, India*

India reports a prevalence of coronary heart disease (CHD) of 3%-4% in rural areas and 8%-9% in urban areas. More than 90% of CHD risk can be explained by nine risk factors with dyslipidemia, high blood pressure, diabetes and abdominal obesity contributing the maximum.

There has been a rising prevalence of obesity in children which causes many adverse health effects making it a serious public health concern. According to a study conducted in New Delhi, children from private schools have higher cases of overweight and obesity than in government schools. Most of them (10-17 years old) had metabolic abnormalities like

dyslipidemia (10%), abnormal lipid parameters (40%), hyperinsulinemia (15%-40%). Even in children with normal BMI, lipid parameters were significantly different and disturbed while 99% of children were reported to have low HDL approximately 50% had elevated triglycerides. The prevalence of hypertension was double in obese children.

Based on research findings, children from government schools (low socioeconomic group) had similar eating habits as those from private schools (upper socioeconomic group) i.e. increased intake of fried foods, low intake of fruits and vegetables, as well as several barriers for physical activity like lack of motivation, lack of space etc. Public health programmes like the midday meal programme is biased towards tackling under-nutrition and does not consider the prevalence of obesity among those groups while designing their supplementary food.

Prevention of childhood obesity has to have a school setting approach and meta-analysis of school-based intervention studies confirmed that interventions (diet and physical activity based) are successful. There is presently a mismatch in the communication to consumers between scientific information and the industry. While sugary drinks, chips and fast food are promoted in abundance by the advertisers, they need to be consumed with caution for good health.

Another concern was that of foetal programming of adult diseases. A good start to life has to be provided with the window of opportunity being a narrow one of 1000 days from conception. Hence, the first six months after birth are very critical for the promotion of growth and faltering should be prevented.

3.7 Current status on estimation of food and nutrient requirements

Dr AV Kurpad

*Dean, St John's Research Institute, St John's Academy of Health Sciences,
Bengaluru, India*

Dr Kurpad's presentation focused on the current status on estimation of food and nutrient requirements. He explained the terminologies associated with requirements – recommended dietary allowances (RDA), estimated average requirements (EAR), adequate intake (AI), upper limit (UL),

recommended nutrient intakes (RNI) and the principles of estimating energy requirements and protein and amino acid requirements.

He also mentioned that RDAs are inappropriate for assessing nutritional needs of groups. We usually consider diets as inadequate if compared to RDAs. RDAs are however not a cut-off point for assessing nutrient intakes of groups and would result in serious overestimation of the proportion of the group at risk of inadequacy.

A wide diversity in dietary practices can be seen in India. There have been differences in the eating patterns and prevalence rate of overweight and obesity among different regions. A more flexible approach has been adopted by the recent FAO/WHO/UNU (2005) group to allow for the diversity that exists in the real life and thus different PAL (physical activity levels) are recommended for adults to determine energy needs.

He also mentioned the recent increased amino acid requirements by WHO/FAO/UNU (2007). There has been too little intake of protein in India (8% – 9%) and we need to increase it to 15%. Protein quality is important in addressing protein energy (PE) ratios and hence, protein digestibility corrected amino acid score (PDCAAS) PE must be considered.

In addition to this anaemia is also prevalent in India. Over 80% of Indians are anaemic as iron density of Indian food is very low. Hence, there is need to increase bioavailability of iron by using vitamin C rich foods after meals and use of iron fortified foods.

Other important issues to be dealt with in food-based guidelines like defining an adequate portion size, whether all vegetables or fruits are good, addressing food beliefs, reducing consumption of processed foods and bakery foods and the issue of salt vs. salty foods were mentioned.

3.8 Effective communication of FBDGs

Ms Usha Bhasin

Deputy Director, Prasar Bharti, New Delhi, India

The presentation focused on effective communication strategies in the community. This was explained with the help of a telefilm 'Kalyani' that highlights women's health and social issues. "Converge" approach to

communication is used in the programme. Two programmes on disease-related discussions are telecast four times a week so that the messages can be effectively communicated to the masses.

Kalyani, started in 2002, has become highly popular among the village populations in nine states of India. The messages are promoted in three languages in 14 districts and nine states. It brings doctors to the villages; questions are asked by the people and the interactions are filmed by the camera crew. Talk shows, reality films, theatre, plays, songs etc are also used to promote nutrition education in this programme.

Various strategies are adopted to promote the programme i.e. setting up of Kalyani health clubs, 10 000 volunteers for promotions, instant feedbacks, etc. Testimonials of health workers and people are of great importance. The programme has been slated as one of the Global Innovations by WHO.

Ms Bhasin emphasized that the media needs to be effectively used for appropriate dissemination of the messages among the masses. A well strategized broadcast management is necessary for the same.

3.9 Media advocacy as a tool for dissemination

Dr Akhila Sivadas

Executive Director, Centre for Advocacy & Research, New Delhi, India

Dr Sivadas highlighted that the media is a powerful tool for advocacy. She presented two TV newsclips to convey her message. One newsclip was on the problem of junk food consumption among urban elite school children and the measures taken by schools to tackle it. The clip also highlighted the reactions of the children who felt they were capable of making their own choices and did not like restrictions to be imposed on them. Canteen owners also resisted the ban on junk foods as it reduced their profits. The message Dr Sivadas was conveying was that advocacy should not have a “talk down” approach and messages should be conveyed in such a way that the target groups are involved in the decisions/choices.

The second newsclip featured a rural setting wherein a motivated Anganwadi worker served a variety of dishes in her Anganwadi rather than the standard khichri suggested by the authorities. This led to a 100% attendance in her anganwadi and all the children looked forward to attending it. The motivation and efforts of the change agent i.e. the Anganwadi worker in bringing about such a transformation was the message that Dr Sivadas wished to convey.

4. Country presentations

4.1 Bangladesh

Dr S M Mustafizur Rahman

In Bangladesh, over 150 million people are living in an area of 1 47 570 sq. km. The country is very densely populated and frequently suffers from different types of natural and manmade disasters.

Bangladesh is also suffering from the double burden of malnutrition i.e. under- and over-nutrition. Though the country has made significant strides in the field of nutrition since independence in 1971, the nutritional situation of the country is just like in sub-Saharan countries. Major nutritional problems of the country include: protein energy malnutrition (PEM), iodine deficiency disorders (IDD), iron deficiency anaemia (IDA), Vitamin A deficiency (VAD), low birth weight (LBW) and over-nutrition and its complications. Every third child born has a low birth weight. Bangladesh is trying to achieve the Millennium Development Goals but except for MDGs 4 & 5, other indicators are off track.

Food imports are 10%-15% of the food requirements. Diets are mainly carbohydrate based. An integrated plan involving sound strategies for food production, preservation and preparation of food can reduce wastage by 30%. Most of the rich people invest in non-productive sectors and women are busy with household activities.

FBDGs do not exist in the country. However, the country is in a position to formulate FBDGs and create awareness among the people about it.

Lack of confidence among mothers reduces the percentage of exclusive breastfeeding and early start of complementary feeding. Since 37% of mothers are adolescents, the influence of grandmothers and other senior family members is significant and interferes with the correct feeding practices of infants.

Nutrition problems in urban areas are increasing due to the consumption of junk food and an increasingly sedentary lifestyle. Over-nutrition and its related disorders are emerging as major health problems and need to be addressed.

In the near future, national nutrition services would be expanded throughout the country and inter-ministerial, government-NGO collaboration, public-private partnership and other initiatives would be considered in the next sixth five-year plan to address the situation.

Activities identified to reduce malnutrition include the promotion of early initiation of breastfeeding, exclusive breastfeeding for complete six months, timely complementary feeding and growth monitoring. Other initiatives identified are vitamin A supplementation to children and women of reproductive age, iron and zinc supplementation and food fortification. Supplementary feeding, deworming, immunization, behaviour change communication (personal hygiene, hand washing, school health etc), therapeutic management of severe acute malnutrition (SAM), food hygiene as well as tackling other nutritional deficiencies like calcium and vitamin D and developing dietary guidelines for all age groups are also being dealt with.

4.2 Bhutan

Ms Sonam Pemo

In a nutrition survey carried out in Bhutan in 2008, stunting was identified as the major health problem (37%) alongwith wasting (4.6%) and underweight (11%). In order to address stunting, exclusive breastfeeding till the age of six months and then proper complementary feeding after that is being promoted. Exclusive breastfeeding rate in 2009 was reported to be only 10%. Anaemia is highly prevalent with 81% children and 51% women suffering from it in 2002.

The nutrition programme in Bhutan was established in 1985 with the main focus being to reduce and prevent protein energy malnutrition and micronutrient deficiencies. It mainly targets children under five, pregnant and lactating mothers. The overall aim of the programme was to ensure physical and mental development through adequate nutrition, prevent disability or premature death from diet-related chronic diseases, ensure the progression of the Bhutanese population from healthy childhood to productive adulthood and further into healthy old age.

To combat protein energy malnutrition, exclusive breastfeeding has been advocated till the age of six months and healthy complementary

feeding after six months comprising vegetables and cereals. Use of meat and eggs has also been propagated. The growth of children is monitored every month till the age of one and then every three months and every six months or yearly depending on the need till the age of five. Nutrition rehabilitation units give dietary advice and also take care of severely malnourished children by giving formulas like F75 and F100 which are high calorie mixtures to malnourished inpatients. This unit also advises intake of varieties of food to maintain good health.

As anaemia is one of the major health problems in Bhutan, the country has an iron deficiency anaemia control programme which aims at giving iron tablets to pregnant women, during the post-partum period and to school children. Kitchen gardens are also promoted so that even the lower income group can avail varieties of vegetables. In order to overcome iodine deficiency disorders, use of iodized salt is advised.

The country faces challenges that are multisectoral in nature and which need coordination among stakeholders. FBDGs are still being developed in Bhutan. Most of the nutrition activities are about behavioural change (infant and young child feeding/dietary habit of the population) and less of service delivery. More time is needed for a change as immediate results cannot be produced.

4.3 Cambodia

Mr Hoksrin Aing

The country faces child malnutrition issues. According to the Demographic and Health Survey (2005), the prevalence of underweight is 35.6%, stunting is 37.2% and wasting is 7.3%. Lack of ability to directly produce sufficient food in the country may be one of the main causes of malnutrition and inability to meet nutrition needs.

Statistics from the Demographic and Health Survey (2005) reveal that exclusive breastfeeding rates are 60%. Prevalence of anaemia among children below six years is 62%, among pregnant women is 57%, and women aged 15-49 years is 47%. The target was to reduce these rates to 35%, 39% and 32% respectively. The use of iodized salt is 70%.

The country has a Strategic Framework for Food Security and Nutrition (2008 – 2012). The guidelines for fortification of salt with iodine, fish sauce with vitamin A and iron, the use of iron folate supplementation to prevent and treat anaemia in pregnant and postpartum women are also available. The National Nutritional Programme targets to reduce anaemia in children under five years from 62% in 2005 to 35% in 2010. Among pregnant women it targets to reduce the prevalence from 57% in 2005 to 39% in 2010.

The Ministry of Health prepares the Food Safety Policy and Food Safety Regulation (Department of Drugs and Food). It also governs food use and utilization (Department of Drugs and Food, National Nutrition Programme, Health Care Service, Social Health Insurance) and publishes promotional material as well as promotes nutrition through the mass media. It also provides training on nutrition and food safety to the communities.

Challenges include tackling nutritional deficiencies like anaemia (especially among women), stunting, wasting, micronutrient-malnutrition and noncommunicable diseases. However, they have no fund for running activities in the nutritional area. Cambodia also does not have a food consumption survey. They also do not have the technical expertise to develop FBDCs.

The next steps to be undertaken include identifying the concerned agencies and their duties. A food consumption survey needs to be carried out and a food safety policy developed. A committee for FBDCs needs to be set up. Cambodia needs the technical assistance of FAO RAP, WHO-SEARO and others to develop FBDCs. It was suggested that FAO-RAP and WHO-SEARO set up a project on FBDCs for the countries that do not have FBDCs.

4.4 Indonesia

Mr IIP Syaiful

Indonesia has made significant progress in the health and nutrition status of its people. In 1997, the IMR in Indonesia was 46 per 1000 live births which decreased to 34 per 1000 live births in 2007. Efforts to address the national under-five mortality rate (U5MR) were also successful between 1997 and 2007, with the rate decreasing slowly. In 1997, the U5MR was 58 per 1000

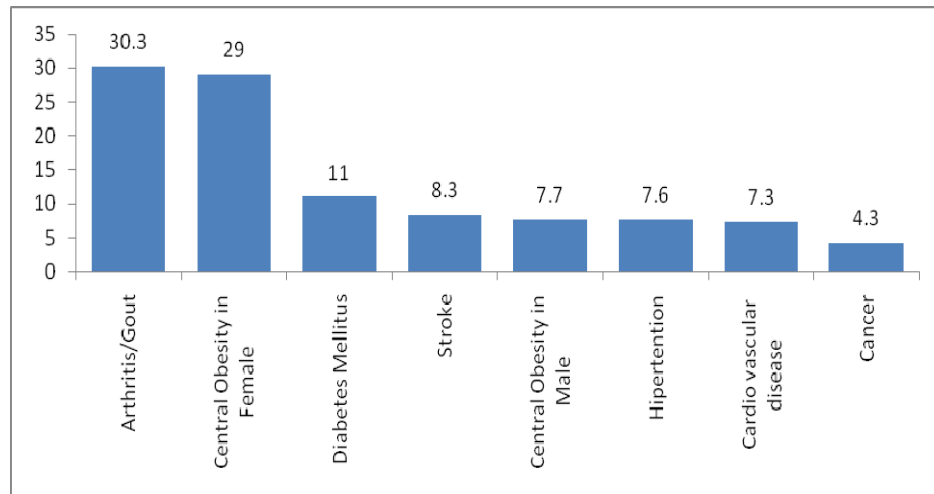
live births, which had declined to 44 per 1000 live births in 2007. The leading causes of illness of children under five years in Indonesia are acute respiratory infection (ARI), diarrhoea and malaria.

The proportion of children under five years of age who are underweight decreased from 31.0% in 1989 to 17.9% in 2010. The proportion of stunting (height/age) in children in 2010 was 35.6% and wasting (weight/height) was 13.3%. Low birth weight used as a reflection of the state of maternal malnutrition remains high at 11.5%.

The proportion of school children with iodine deficiency disorders (IDD) was 11.1% (2003), with disparities in prevalence among provinces. The proportion of pregnant women with anaemia was 40.1% (2001), and children under five years with anaemia were 26.3% (2007). The reduction in the prevalence of vitamin A deficiency has been substantial. The Centre of Research and National Development survey (2007) revealed that the national prevalence of xerophthalmia was 0.13% and serum retinol <20% was 14.6%, which is less than the accepted cut-off point.

In addition to the problem of under-nutrition, the number of overweight children and adults is increasing. According to a recent national survey, obesity among female and male adults is 29.0% and 7.7% respectively. This double burden might be caused by inadequate prenatal, infant, and young child nutrition followed by exposure to high-fat, energy-dense, micronutrient-poor foods and lack of physical activity. Poor maternal nutrition, stunting, urbanization, and dietary changes are all contributing to a transition to chronic nutritional and health problems.

Over the last two decades over-nutrition and obesity have emerged as public health problems in Indonesia. The prevalence of diabetes and cardiovascular diseases was 11.0% and 7.3% respectively. Moreover, 48% of the population >10 years engage in less physical activities.

Figure 4.1: **Prevalence of noncommunicable diseases in Indonesia**

Source: (Basic Health Research, 2007)

Availability of food in Indonesia is not an issue. However, household food security, which depends on ability to purchase food and the equal distribution of food within a household, is problematic in traditional cultures that do not prioritize the care of women and children and among poor families, both urban and rural. Across the country, also, access to high-quality foods that provide micronutrients is limited. The proportion of the population consuming energy and protein below the minimum requirement is still high (40.7% of the population consumed energy below the minimum requirement and 37% of the population consumed protein below the minimum requirement). Intake of animal sources of food, fruit and vegetables was below the recommended levels.

Since 1994, Indonesia had designed FBDGs to provide individuals, families and communities with general, sound and practical dietary advice to promote overall nutritional health and prevent development of nutrition-related diseases or conditions.

Process of developing FBDGs in Indonesia includes the following:

- (1) Identify nutrition problems, food pattern and lifestyle
- (2) Learn how other countries develop FBDGs
- (3) Organize task force consisting of experts from any discipline in developing FBDGs
- (4) Workshop/seminar on FBDGs
- (5) Decision to promote 13 basic messages.

In 1995, the Ministry of Health published “Balanced Nutrition Guidelines” which consist of two books. While the first book containing an outline of “13 Basic Messages of Balanced Nutrition” was designed as reading material for decision makers from the top level down to the sub-district level, the second book “ Guide to the 13 Basic Messages of Balanced Nutrition” explains the messages in detail. The books were intended as a reference tool for community education conducted by relevant community workers. Each of the guidelines were explained further on the basis of age i.e. under five, child, teenager, worker, women or senior citizen.

Since 2005, many efforts have been made to implement FBDGs such as:

- (1) Disseminating FBDGs through various advocacy activities to policy makers, institutions and health workers, health professionals, civil society, community leaders and nongovernmental organizations, supported by ADB and local government.
- (2) FBDGs campaign through various national and local media including TV, radio, newspapers, and other important events. Need to be done more frequently and intensively.
- (3) Developing information, education and communication media in collaboration with universities, advertising experts, communication experts and consultants and involving media companies.

- (4) A review of FBDGs for Indonesians was carried out in 2003 and 2009.
- (5) Research on the effectiveness of activities related to the dietary guidelines was undertaken by a college.

Implementation barriers

- Too much content and messages (13 messages) are not easily understood by the officers and the community.
- A large-scale campaign on FBDGs has not been carried out considering the limited funds. Also, FBDGs working group has not been established by the government.
- People already know and understand about the previous slogan of nutrition, called “ 4 Health 5 Perfect Food “, that explains the importance of four food groups and milk ; they prefer to use it because it is simple and closer to Indonesian culture.
- Lack of information, education and communication (IEC) materials on FBDGs for Indonesians.
- Lack of socialization and mobilization of FBDGs among the community.

4.5 Lao People’s Democratic Republic

Dr Keonakhone Houamboun

The Lao PDR household economy is largely dependent on agriculture for food production, especially livestock and rice. The estimated annual paddy (unmilled rice) requirement is 350 kg per person, which includes 10%, for post-harvest losses and seed (60 kg per hectare). The proven production of rice is approximately 1.3 to 1.4 million tons of paddy. Using a 60% milled-rice conversion factor, this amount is normally sufficient to meet the consumption needs based on a per capita annual rate of 180 kg of milled rice. Erratic climatic conditions commonly cause production shortfalls. An inefficient distribution and market system also cause local deficits due to poor transportation and management.

The effects of household food security issues are most clearly reflected in the nation's food and nutrition status.

The prevalence of low birth weight (LBW) at 9%-15% in urban areas reflects the infant and maternal nutrition status. Data for rural areas lack clarity but the LBW prevalence is still below 10%.

Three major nutrition-status surveys have been conducted among Lao preschool children (0-60 months of age). The 1984 study conducted in day-care centres in Vientiane and in Vientiane and Luang Prabang provinces and three provinces in the south (N = 6612), is considered the first phase of the Lao PDR national nutrition survey; the Vijayaraghavan study in 1986 (unpublished WHO report) constituted a second phase covering selected areas of the other 11 provinces (N=6967); and the unpublished Lao PDR Ministry of Health survey in 1988-1989 covered nine provinces, six in the north and three in the south (N= 6378).

Assessments of nutrition status depend on the indicator and cut-off point used. Taking 60% of the US National Centre for Health Statistics (NCHS) median weight for age (W/A) as the cut-off, severe malnutrition was estimated at 2% of children in the 1984 study and 2.8% in the 1986 study. With an 80% NCHS median cut-off point, malnutrition or under-nutrition was 42% in 1984 and 55% in 1986 (average 48.5%). Using -2 standard deviations of the NCHS values for height for age (H/A) as the cut-off, stunting (which reflects chronic nutritional deprivation) was also widespread (40% in 1984 and 54.4% in 1986). Recent small-scale surveys in three provinces by the Save the Children Fund (UK) have shown limited improvement in this situation. These surveys used -2 standard deviations as the cut-off point for W/A (7%-14%) and H/A (20%-24%).

Children more than one year old who were being weaned constituted the most vulnerable group. In the 1986 survey, for each one-year stratum above one year of age, under-nutrition ranged from 61.9% to 62.8%. Only 7% of infants under six months old and 36% of those 6-12 months old were considered malnourished. Regarding wasting, which reflects underfeeding, the problem is worst during the second half of the first year (15.9%) and then gradually improves thereafter (down from 11.3% in the third year to 2.5% in the fifth year). However, although the older children were better fed, stunting persisted, and severe wasting occurred especially among children 12-24 months old with girls tending to be marginally better off than boys.

Micronutrient deficiencies are also an important nutritional problem in the Lao PDR. Currently, there is no precise data on these deficiencies.

Breast-feeding is universally practiced in the Lao PDR, with more than 90% of mothers breast-feeding for more than 12 months. However, colostrum is usually discarded and breastfeeding is often delayed for one to three days after birth.

Prepared supplementary weaning foods are unavailable. The practice of introducing semi-solid foods (e.g., premasticated glutinous rice) early can cause acute problems (e.g., peptic perforation) and long-term complications (e.g., bladder stone disease). Food taboos, such as withholding food during certain periods (e.g., postpartum and during illness), are also present and are potential causes of macro- and micro-nutrient deficiency.

While gender differences appear to be insignificant, surveys have shown that girls tended to be marginally better off nutritionally than boys. It may be that girls have better access to food since they often help their mothers with cooking. Thus, children's food security issues may not be food availability or household acquisition, but food habits, family distribution, and the multiple roles of women in the family.

The Lao PDR still does not have an explicit nutrition policy or a national food and nutrition plan. While a newly created National Committee on Food and Nutrition exists, it lacks a clear mandate to carry out the necessary steps for solving the nation's food and nutrition problems. Generally, the government views nutrition as a family responsibility, and consequently central level authorities have allocated a limited health budget for nutrition activities. The target population under government policy is preschool children, representing a very small percentage of the total child population.

FBDGs are not yet formulated in the country and hence are urgently required. FBDGs will provide the necessary dietary information to the population on correct dietary practices and will support in implementation of the national nutrition policy to achieve the goal of the national nutrition strategy.

4.6 Malaysia

Dr Mohd Ismail Noor

Malaysia has undergone major demographic and socioeconomic changes since achieving independence in 1957. However, despite numerous efforts, the nutrition situation reveals chronic nutrient inadequacy manifested by protein-energy malnutrition among children, iron and iodine deficiencies among women mainly in rural communities. Like most rapidly developing countries, Malaysia is currently experiencing an epidemiological transition from a situation with the predominance of infectious diseases to one distinguished by the growing threat of chronic and degenerative diseases.

The food supply pattern over the last few decades has revealed that availability of food commodities has increased considerably on a per capita basis, including meat, sugar, vegetable oils, milk, eggs and fish. Available calories per capita increased from 2407 kcal in 1965 to 2881 kcal in 2002 and within the same period, the proportion of calories from cereals decreased from 59% to 45%, while that of animal products increased to 18% of the total calories.

It is now widely accepted that the major causes of morbidity and mortality in Malaysia are related to unhealthy eating habits and a sedentary lifestyle. Besides an alarming increase in prevalence of overweight and obesity, diet-related diseases such as Type 2 diabetes, cardiovascular disease, hypertension and certain forms of cancer have recorded an increase during the last few decades. Such trends, if left unattended, would definitely result in disastrous consequences on social and economic development.

Table 4.3: Prevalence of diabetes and hypertension in Malaysia (1986-2006)

	NHMS I (1986)	NHMS II (1996)	NHMS III (2006)
Age group	≥25 years	≥30 years	≥30 years
Prevalence of HPT	14.4%	32.9%	42.6%
Age group	≥35 years	≥30 years	≥30 years
Prevalence of Diabetes	6.3%	8.3%	14.9%

The role nutrition plays in addressing these problems has been recognized by the government with the establishment of the National Nutrition Policy (NNP) in 2005 and in line with the NNP, the National Plan of Action for Nutrition (2006-2015) was developed with a broad objective to achieve and maintain the nutritional wellbeing of Malaysians.

One of the prime strategies identified under the NNP was to ensure that all Malaysians are provided with adequate access to reliable and accurate nutrition information in order to assist them in making informed decisions on their habitual dietary intake. This is important as self-empowered behavioural changes can often lead to better long-term outcomes.

The Malaysian Dietary Guidelines were first published in 1999 as part of the Ministry of Health's efforts to improve the knowledge and attitudes about food and to change the unhealthy eating habits that have significantly contributed to the nutritional and health problems of the country. The guidelines were prepared by a drafting committee of some 14 multi-disciplinary professionals working under the Technical Working Group on Nutritional Guidelines of the National Coordinating Committee on Food and Nutrition (NCCFN) Malaysia. Eight key messages were adopted at a consensus workshop in June 1999 and are in general applicable to healthy Malaysians over the age of two years. The dietary guidelines were intended for use by healthcare providers to help them in educating the general public besides providing basic nutrition information to the agricultural and food sectors. The consensus workshop also recommended that the dietary guidelines be reviewed from time to time when more information from local studies is made available.

With the establishment of the Food Safety and Nutrition Council in 2001, the government introduced, for the first time, the National Nutrition Policy in 2005. In line with the policy, the National Plan of Action for Nutrition of Malaysia (NPANM) (2006-2015) was developed with a broad objective to achieve and maintain the nutritional wellbeing of Malaysians. In order to meet the objective of improving food intake and dietary practices of Malaysians, the Technical Working Group (TWG) on Nutrition Guidelines was given the task to review and update the 1999 dietary guidelines.

The TWG's main task was to propose the key messages to be incorporated into the new dietary guidelines. The drafting committee reviewed the drafts for each of the 14 key messages submitted by the TWG. The key messages for the new dietary guidelines were pre-tested in a survey of nationally representative sample of Malaysians conducted by the Institute of Behavioural Research, Ministry of Health, Malaysia, with an objective to determine the comprehensibility of the key messages and their applicability. An editorial working group was formed to review the write-up while an external editor was assigned to look at the overall format. The dietary guidelines were then presented at a consensus workshop held in September 2009 which was attended by stakeholders from government agencies, industry and academia.

The Malaysian Dietary Guidelines (2010) differ in scope as compared to the first version published in 1999. The updated guidelines contain 14 key messages instead of eight key messages and also provide a detailed background paper on each of the key messages. The new dietary guidelines have some 51 key recommendations under the 14 key messages with some additional recommendations for special population groups. The key references used in updating the previous dietary guidelines were derived from several reports published locally and internationally.

4.7 Maldives

Ms Mariyam Najla

Like many developing countries, Maldives also faces the problem of food insecurity mainly owing to low agricultural productivity, slow rates of technological change and limited resource availability. Fishing provides the main source of food security and livelihood in most of the islands. Fish is used for home consumption, sale in domestic markets and for export. Skipjack tuna is the dominant fish with 4/5th of total production. Maldives depends highly on food imports in meeting the food requirements of the country. International and regional trade assume a greater significance for Maldives.

Although the production of agricultural commodities in the country has increased significantly in the recent past, achieving commercial-scale operations in agriculture is far more difficult. The potential land for cultivation of agricultural crops is very limited and widely dispersed. Only

9% to 10% of the total land is suitable for farming. Maldivian soil is also less fertile due to weakly developed structure of top layers with a high filtration rate and low water-retention capacity.

Severe hunger is rare among the Maldivian population. However, the achievement of adequate nutrition, especially among children and women, remains a public health concern. Food consumption data is limited since a nutrition intake survey has not been carried out in the country. According to the Vulnerability and Poverty Assessment Survey conducted in 2004, 7% of the population had experienced some form of food crisis during the preceding 12 months.

A survey conducted in 2004 focused on 2028 individuals 25–64 years, showed that fruits and vegetables were consumed on a median of three days per week each with a median of one serving per day. Only 2.7% of the subjects had five or more servings of fruits and vegetables a day. The most common type of oil/fat used for preparation of meals was vegetable oils (79.8%). A Global School-based Student Health Survey conducted in 2009 targeted to grades 8 to 10 showed that 6.9% of the students went hungry most of the time or always because there was not enough food in their home, during the past 30 days.

Table 4.4: Prevalence of nutritional deficiencies in Maldives

	Children (6 months- 5 years)	Women of Reproductive age
Iron Deficiency	57.3%	38.4%
Vitamin A Deficiency		
Severely deficient	5.1%	4.7%
Moderately deficient	50.1%	39.3%
Iodine Deficiency		
Severely deficient	0.7%	1.4%
Moderately deficient	5.2%	8%
Mildly deficient	12.9%	17.4%
Zinc Deficiency	16%	26.8%

National Micronutrient Survey 2007

Table 4.5: Nutritional status of children under five years in Maldives

	MICS 1996	MDHS 2009
Under weight (weight for age)	43%	17.3%
Severely under weight		3%
Stunted (height for age)	30%	18.9%
Severely stunted		6%
Wasted (weight for height)	17%	10.6%
Severely wasted		3%

MDHS, 2009: Maldives Demographic Health Survey,
MICS 1996: Multiple Indicator Cluster Survey

Diseases of the circulatory system remain the leading cause of death for all ages (Maldives Health Statistics, 2009). The STEP survey conducted in 2004 showed that the prevalence of NCD risk factors was high among both men and women in the low education group. The study also showed that among the subjects, 39.9% were current smokers, 30.2% of the population was physically inactive in all domains of physical activity. Overall prevalence of overweight was 43.5%; overall prevalence of abdominal obesity was 40.4% and 31.5% had raised blood pressure. Hypercholesterolemia, hypertriglyceridemia, and low HDL-cholesterol level were observed among 54.4%, 22.1%, and 49.17% of the subjects respectively. The overall prevalence of raised blood glucose (fasting blood glucose ≥ 7.0 mmol/dl) and impaired fasting glycaemia (fasting blood glucose ≥ 6.1 – 7.0 mmol/dl) was 4.5% and 3.0% respectively.

FBDGs have not been developed in the country. The field-testing of the WHO Procedural Manual for the development and implementation of regional and country-specific FBDGs was carried out in 2009. The way forward suggested after the field- testing included:

- The government should complete the development of Food Composition Tables, for use in planning and evaluation of all nutrition actions.
- A baseline survey of the dietary patterns, foods eaten and nutrient intakes should be completed as soon as possible to provide information for the development of the FBDG-programme.

- The country's health statistics should be updated regularly for use in evaluating the impact of an implemented FBDG-programme.
- The work done by the participants regarding development of FBDG messages, and the design of a possible food guide could be used as a starting point for the new process.
- The implementation of the FBDG-programme should be regularly evaluated (using the methods as indicated in the Procedural Manual).

Thus, the country plans to start work on the development of FBDGs in 2011. Work on development of a food composition table is ongoing. During 2009 and 2010 a total of 37 local food items have been tested with WHO support. Tests were carried out in India and Sri Lanka. There is an urgent need for a National Nutrition Intake Survey.

4.8 Myanmar

Dr (Mrs) Khin Saw Hla

Myanmar has a total area of 6 77 000 sq.km and a population of about 54 million and a growth rate of 1.8%. Myanmar is self-sufficient in food production. The average per capita energy consumption (1997) is 92.4% of recommended dietary allowances (RDA) whereas average per capita protein consumption (NCC, 1997) is 115.7% of RDA.

In spite of being self-sufficient in food production the country suffers from the following nutritional problems:

- Protein Energy Malnutrition (PEM)
- Iodine deficiency disorders (IDD)
- Vitamin A deficiency (VAD)
- Iron deficiency anaemia (IDA)
- Vitamin B1 deficiency.

Anaemia was indicated to be more common in the coastal and delta regions. It may be due to insufficient intake of iron-rich foods, poor knowledge of cooking methods that could enhance the absorption of iron from gastrointestinal tract and worm infestations.

A nation-wide study on the Nutritional Status of Adults in Myanmar in 2003 indicated that the prevalence of underweight was 25.3% in men and 20.1% in women. Mean BMI for men was 20.5 whereas for women it was 21.7. The prevalence of underweight was higher in the rural than in urban (24.7% vs. 20.7%) areas. At the same time it also indicated prevalence of overweight and obesity in both the sexes as 7.2% and 1.4% in men and 14.5% and 3.7% in women respectively. The prevalence of overweight and obesity in both sexes was higher in the urban than in rural (14.3% vs. 7.5% for overweight and 3.8% vs. 1.3% for obesity) areas. The survey also highlighted a higher prevalence of overweight and obesity among skilled personnel and dependents compared to unskilled labourers (3.5% in skilled and 3.7% in dependent vs. 1.8% in unskilled labourers).

NCDs have emerged as a major public health challenge in the Region. According to WHO (2005) estimates, NCDs accounted for 54% of all deaths and 44% of the disease burden. The global burden of these diseases has been defined by WHO; according to estimates NCDs are the largest contributors towards global death and disability. Chronic diseases, including cardiovascular diseases (CVD), diabetes, obesity, certain types of cancers and chronic respiratory diseases, account for 60% of the 58 million deaths annually, meaning that 35 million people died from these diseases in 2005. Of chronic disease deaths, 80% occur in low- and middle-income countries.

According to the NCD risk factor survey conducted by the CVD project in 2005, the prevalence of CVD risk factors were: hypertension (20.27%), diabetes mellitus (12.38%) (over the age of 40), smoking (21.34%) and overweight (10%).

Current NCD control activities include projects on CVD, tobacco, diabetes, cancer, accident prevention, mental health, drug abuse and nutrition promotion. Health-related activities are guided by the National Health Committee comprising high-level officials as members. They also formulate the five-year national health plans.

Myanmar developed and published FBDGs in 2003 and the third edition was published in 2007. It has been distributed to health care personnel. The FBDGs also feature in talks on the radio and television conducted by special NCD projects and projects under the national health plan.

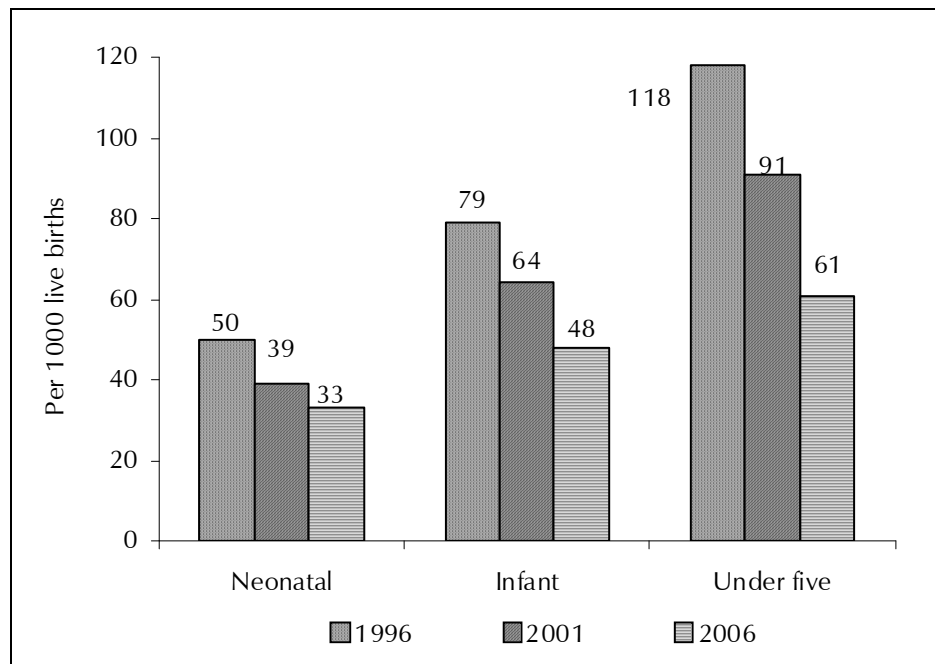
4.9 Nepal

Mr Raj Kumar Pokharel

Nepal has a high prevalence of malnutrition. The trends of child mortality in Nepal have been depicted in Fig 4.2.

While infant and child mortality is decreasing, it will take a long time to decline to acceptable levels. Exclusive breastfeeding and complementary feeding practices need to be improved; the present trend of exclusive breastfeeding and complementary feeding among the less than 5 years age group is only 53% and 75% respectively. The nutritional status (thinness) of Nepali women is 24% (NDHS, 2006).

Figure 4.2: *Trends in child mortality in Nepal*



The prevalence of iron deficiency anaemia (IDA) among all women is 36%; among pregnant women it is 42%, and among non-pregnant women it is 34% (NDHS 2006). The prevalence of any anaemia among preschool children (6 – 59 months) is 48%. Night blindness during pregnancy has been observed at 5% and postpartum vitamin A coverage is 29% (NDHS, 2006). There has been a remarkable achievement with regard to controlling Vitamin A deficiency disorders among children 6 – 59 months old through bi-annual mass supplementation. Deworming tablets to children in the 12 – 59 months age group are also being distributed with mass Vitamin A supplementation with a coverage of 90% each year. Deworming of pregnant women after the second trimester of pregnancy is also being carried out through health facilities in order to prevent anaemia and malnutrition among them. In 2007, about 77% households were consuming adequately iodized salt.

The National Nutrition Policy and Strategy (2004) of the Ministry of Health and Population addresses several strategic approaches for nutritional improvement. The major approaches are: control of malnutrition, iron deficiency anaemia, iodine deficiency disorders, intestinal worm infestation, and low birth weight as well as school health and nutrition interventions. Among several approaches for nutritional improvement of the population, improved dietary habits is the only sustainable approach or long-term strategy. In order to improve the dietary habits of the population, development of national foodbased dietary guidelines is indispensable.

In this context, the FBDGs for Nepal have been developed incorporating basic nutrition care throughout the life cycle. At first, the Department of Food Technology and Quality Control (DFTQC) under the Ministry of Agriculture and Cooperatives had developed FBDGs in 2004 and further revised them in 2007. The Department of Health Services, Ministry of Health and Population (DoHS, MoHP) then developed draft guidelines to integrate the messages of FBDGs. The guidelines have tried to address nutrition problems as indicated by DoHS and the emerging NCDs and the major focus of the FBDGs is on 17 crucial messages dealing with nutrition behaviour.

4.10 Philippines

Dr Celeste C. Tanchoco

For the last 40 years, the nutritional problems in the country have been dominated by malnutrition in children and deficiency diseases. The government has necessarily concentrated on child health as the principal concern of its nutrition programme and the Department of Agriculture has policies and programmes that focus on agricultural development schemes aimed at combating malnutrition. However, it now seems that the country might, over the next few decades, develop cardiovascular disease and cancer rates similar to those seen in affluent countries.

According to the energy intake patterns, less than 1/3 of the households have an energy intake of 100% of requirements or more. For the rest of the nutrients, the estimated average requirement (EAR) was used to assess nutrient inadequacy. Based on this, more than 50% of the households met the EAR for protein while less than 20% of the households were able to meet the EAR for iron, calcium and riboflavin. About 22% of the households met the EAR for retinol and 30% met the EAR for ascorbic acid. Among the nutrients, niacin had the highest proportion of households who met the EAR due to high consumption of rice.

The review of food availability in the country in recent years showed that the net food supply increased from 1998 to 1999 whereas decrease was observed between 2000 and sometime in 2001. A decreasing trend was seen in overall food supply except for sugar, fats/oil, miscellaneous and meat and meat products.

Food consumed, in terms of weight, decreased from 886 grams in 2003 to 861 grams in 2008, which was statistically significant. A slight decrease was noted for vegetables from its 2003 intake while fruit intake remained unchanged at 54 grams per capita per day.

Three out of 10 mothers and two out of 10 children experienced food insecurity because there was no food or money to buy food in the past three months. Hunger was experienced by about two out of 10 mothers and one out of 10 children.

Acute malnutrition is prevalent significantly among 0-6-year-old children and school children. PEM, Vitamin A deficiency, iron deficiency anaemia and iodine deficiency disorders are also prevalent. Moreover, biochemical deficiencies of thiamine and riboflavin are also evident.

Anaemia prevalence rates among children in the 2008 survey were generally lower than in previous surveys. From 1998 to 2008, there was a significant decrease in anaemia prevalence among the different age groups except for infants (6 months to <1 year). There was no significant decrease in the anaemia prevalence rate among pregnant women from 43.9% in 2003 to 42.55% in 2008. The prevalence rate for lactating women was significantly lower in 2008 at 31.4% compared to the 2003 anaemia prevalence rate of 42.2%.

Median Urinary Iodine Excretion (UIE) for the Philippines is 133 ug/L, with 20.1% having values <50 ug/L, indicating the presence of deficiency in certain pockets of the population. Median UIE among school children, adolescents and adults reflects optimum iodine status. Median UIE among the elderly, lactating and pregnant women indicated iodine deficiency.

The overall prevalence of Vitamin A deficiency (VAD) is 5.9%. The prevalence of VAD among infants was 15.2% and among school children it was 11.1%, indicating a public health problem of moderate significance. Prevalence among adolescents, adults and the elderly was 4.6%, 3.4% and 3.6% respectively. Among pregnant women and lactating mothers, prevalence of VAD was 9.5% and 6.4% respectively indicating a public health problem of mild significance.

At the same time the prevalence of obesity, hypertension, diabetes, cardiovascular disease is increasing. Among females, a significant increase in the prevalence of high waist circumference (WC) and waist hip ratio was noted from 1998 to 2008. Among males, no significant change was noted in the prevalence of high WC from 1998 to 2008.

Prevalence of hypertension, based on a single visit blood pressure, significantly increased from 2003 to 2008. High fasting blood sugar levels increased from 3.4% (2003) to 4.8% (2008), but the increase was not significant. Low HDL-c prevalence remained significantly high in 2008. Overall, dyslipidemia based on total cholesterol, HDL-cholesterol and triglyceride levels significantly increased from 2003 to 2008.

There was an increased prevalence of smoking and alcohol consumption from 1998 to 2003.

With the scenario of under-nutrition co-existing with over-nutrition, the development of dietary guidelines is appropriate at the current stage of development.

4.11 Thailand

Mrs Suchitra Polprapai

The population of Thailand is 64.6 million. The country is the 12th largest exporter of agriculture and food products. As far as the current situation is concerned – it is facing the dual burden of malnutrition i.e. both under-and over-nutrition along with other food safety challenges.

According to the surveys conducted over the years, Thailand has 8.6% LBW, 3.5% underweight (<5 years), 26.1% IDA in pregnancy, 26.7% IDA in school children and 42.6% IDD in pregnancy. Childhood overweight and obesity is a matter of growing concern as 10%-15% of primary school children are overweight, over 50% of obese children have hyperlipidemia and over 25% of normal weight children have hyperlipidemia.

According to the physical examination surveys done in 2008-2009, diet-related NCDs are increasing in Thai adults. It was found that 28.4% males and 40.7% females had BMI ≥ 25 kg/m², with 18.6% males and 45% females having waist circumference above the cut-off levels..

The HDL levels in males and females were also low, 6% males and 7.7% females had diabetes mellitus. High blood pressure affects 21.5% males and 21.3% females. The consumption of fruits and vegetables among Thais is also less with only 16.9% males and 18.5% females consuming more than 400g a day.

The development of FBDGs in Thailand was first started in 1986 using food groups. In 1996-1998 the guidelines were revised and new FBDGs were developed.

The Thai FBDGs were formulated and mapped out by the Department of Health, Institute of Nutrition and other related food and

nutrition institutions under the guidance of Prof Kraisd Tontisirin. They are based on scientific evidence and related factors i.e. nutrition and public health situation, food availability, consumption patterns, food culture etc. The promotion and dissemination of these guidelines was done through the mass media, schools and the health services.

The steps which were used to develop the FBDGs are as outlined herewith. A multi-sectoral team was established with commitment and quality of leadership. Following a situation analysis in order to know the needs of the people, objectives were laid down in order to develop the FBDGs. The FBDGs messages were tested along with the food guide. Proper promotion was done and they were implemented. Monitoring and evaluation was carried out to know the effectiveness of FBDGs.

There are two main components of Thai FBDGs i.e. a qualitative component and quantitative component (food guide – nutrition flag). The nutrition flag suggests the kind of food and the amount of food the Thai population should have each day. The suggestions are for those who are over six years of age, adults and the elderly. The recommendations of food are categorized according to the energy needs – 1600, 2000, 2400 Kcals.

Nine FBDGs of Thailand

- (1) Eat a variety of food from each of five major food groups and maintain desirable body weight.
- (2) Eat adequate rice and cereals.
- (3) Eat more vegetables and fruits.
- (4) Eat fish, lean meat, eggs and pulses regularly.
- (5) Drink appropriate amount of milk.
- (6) Consume a diet low in fat.
- (7) Avoid too much sugar and salt.
- (8) Avoid contaminated food.
- (9) Avoid or drink alcohol in moderation.

1600 Kcal	- Children < 6-13 years old. Working women: 25-60 years old Elderly: Older than 60 years
2000 Kcal	- Teenagers and young adults: 14-25 years old Working men: 25-60 years old
2400 Kcal	- Those who need more energy such as labourers, farmers, athletes etc.

Common traditional and typical household measures were used for the assignment of units used for one portion of each food group.

The FBDGs were launched by the Prime Minister in 1996. In 1998, the food guide model was established. Dissemination of FBDGs was done at schools, through health officers and other training activities. FBDGs campaigns through different modes of media like TV, radio, newspapers, posters, video, tapes and leaflets were carried out.

The final choice of the Thai food guide model was the "Hanging Flag". The nutrition flag is a food guide model elaborating the FBDGs for good health. It is designed to be narrower toward the bottom to indicate foods required in varying amounts. The four layers in the nutrition flag denote the type and amount of the food groups.

Layer – 1:	Rice, rice products, other grains and starchy food group Eat this food group the most
Layer – 2:	Vegetables and fruit groups Eat plenty of these foods
Layer – 3:	Meat, legumes, egg and milk group Eat appropriately
Layer – 4:	Oil, sugar and salt Eat limited amounts.

Training of the population in order to promote FBDCs was done through children's camps, health officials, schools, private enterprises, universities, teachers, key persons, friends' corner etc. In order to evaluate the effect of FBDCs, proper monitoring and periodic testing of knowledge, attitudes and practices among school children, teenagers, and adults was done.

The latest version of FBDCs (2010) also includes guidelines for infants and young children.

Infants (0-12 months)	Young children (1-5 years)
1. Practice exclusive breastfeeding from birth to six months of age.	1. Feed the child 3 meals/day and not more than 2 times/day of snacks.
2. Introduce complementary foods at six months of age while continuing breast feeding.	2. Feed a variety of foods from each of the 5 food groups.
3. Increase the meal frequency of complementary food as the child gets older to 3 times/day at 10-20 months of age.	3. Maintain breastfeeding until the child is two years of age or beyond and give 2-3 glasses/day of unsweetened whole milk.
4. Increase the meal frequency of complementary food as the child gets older to 3 times/day at 10-20 months of age.	4. Encourage the child to eat enough vegetables and fruits daily.
5. Gradually increase the quantity and texture of food with age.	5. Offer nutritious snacks.
6. Feed naturally flavoured food and avoid seasoning.	6. Feed naturally flavoured food and avoid sweet, salty and fatty foods.
7. Feed clean and safe food.	7. Feed clean and safe food.
8. Offer the child clean and safe water regularly and omit sweet or carbonated drinks.	8. Offer the child clean and safe water regularly and avoid sweet or carbonated drinks.
9. Practice responsive feeding according to the child's development.	9. Encourage the child to have discipline in eating.
10. Play with the child, create bonding, and regularly monitor growth and development.	10. Play with the child, create bonding, and regularly monitor growth and development.

4.12 Sri Lanka

Dr U.M.M. Samaranayake

At the national level, according to a nutritional status survey, the prevalence of stunting in children less than five years of age was 17.3%, that of wasting 14.7%, underweight 21% and low birth weight 16.6%. Moreover, high prevalence of deficiency disorders like anaemia and Vitamin A deficiency among children and women (non-pregnant, pregnant and lactating) accounts for the major public health problems in Sri Lanka.

Food-based dietary guidelines in Sri Lanka were first formulated in 2002 with the participation of multisectoral professional agencies (i.e. academic research institutes- NARA, ITI, CRI, animal husbandry, agriculture, policy planners, health professionals, nutritionists, medical professionals). But some problems like messages being full of text, too technical, not reader friendly were identified. Besides, there was no supporting public or media campaign, no Tamil translation, inadequate copies due to lack of funds, no follow-up or evaluation.

In order to overcome these problems, several workshops were conducted and a working committee with multisectoral professionals was established for revising and updating the FBDGs. The procedure was initiated in 2009 with the Nutrition Division, Ministry of Health as the focal point. Relevant issues like rising nutrition-related public health problems, existing public health programmes and projects, existing dietary patterns and food habits were identified by the working committee. The committee also defined the target groups for dissemination of the messages – trainers, service providers, school teachers, midwives, nurses, doctors and the educated public.

A simple version of these FBDGs – “a food guide” was prepared for the general public which constituted short messages and was updated in 2010. The updated 2010 FBDGs were introduced and discussed in the presentation. A comparative overview between the previous and updated FBDGs was also presented.

4.13 Timor-Leste

Mrs Dirce Maria Soares

Timor-Leste is a new country in the Asia region with a total population of 1 066 582. The country has a very high prevalence of malnutrition in children less than five years which contributes to a high infant mortality rate. The underlying cause of high malnutrition prevalence is a combination of traditional beliefs, poverty, low employment, limited education, poor infant feeding practices, widespread food insecurity and lack of hygiene and sanitation, inadequate family attention to childhood illnesses, poor maternal health and high fertility rates. High rates of malnutrition are also seen in women (wasting, stunting and anaemia) contributing to poor growth of the foetus during pregnancy and to high maternal mortality.

Reducing child mortality is the primary goal of all the policies of the country relating to children, including maternal health and family planning policies (which affect the child before, during and after birth), child health, immunization, nutrition, malaria, behaviour change communication etc.

The development of FBDGs is under process and is based on the FBDGs in Indonesia and other countries with similar food types. The country's diet consists of 199 food types with variation in food groups. Data is available on energy, protein, carbohydrates, fats, calcium, iron, thiamine, Vitamin A and Vitamin C intakes.

Table 4.7: Household food consumption pattern – Data from DHS 2009-201

Percentage of mothers	Types of food
92%	Grains
50%	Roots or tubers
20%	Legumes
88%	Vitamin A rich fruits and vegetables
53%	Meat, fish, shellfish, poultry and eggs
36%	Other fruits and vegetables
6%	Cheese, yogurt, milk, or other milk products

Percentage of mothers	Types of food
50%	foods made with oil, fat, or butter
82%	tea or coffee
23%	Sugary food

The country has food safety guidelines and five key messages developed by the Environmental Health Department and Food Safety Unit containing 13 key nutrition messages for Infant and Young Child Feeding (IYCF) in local language, nutrition key messages for pregnant and lactating mothers, nutrition curriculum for schools and dietetic manuals.

Dissemination of FBDGs is in the preliminary stages and is planned through nutrition stakeholders, working groups, food security groups, workshops, TV, radio and printed media. Policy related to Comoro declaration to end hunger and malnutrition is also in line.

The country is facing human resource issues with limited numbers, lack of skilled and trained providers and minimum number of supervisors. The traditional community and family practices and health system issues add to the challenges. Moreover, the country needs to formulate a working group and conduct a food consumption survey. Hence, in spite of all the above challenges, the country is aiming to develop FBDGs.

4.14 Viet Nam

Dr Trinh Hong Son

Located in the centre of South-East Asia, Viet Nam forms an S-shaped strip on the eastern seaboard of the Indochinese Peninsula, linking to the large Asian continent and looking out on the Pacific Ocean. Viet Nam stretches 1650 km from North to South.

Viet Nam has traditionally been an agricultural economy in which rice growing has been the dominant form of cultivation. The agricultural sector accounts for 70% of the labour force and about one-third of exports, although its share in the GDP fell below 30% in 1993 and will continue to decline as industrialization proceeds (EIU, 1996).

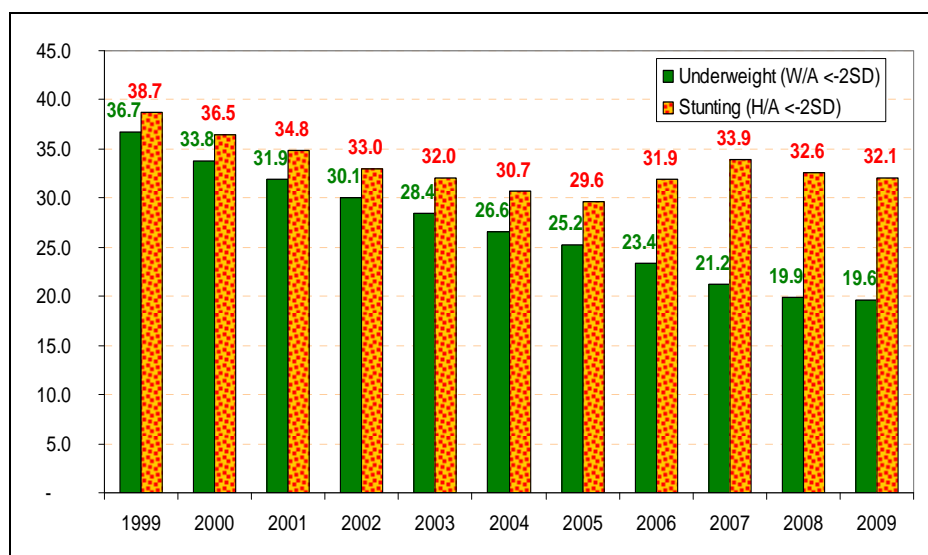
The total population has almost doubled from 1965 to 1995 and is projected to reach more than 110 million by 2025. The increase in energy requirements of the population reflects the growing needs. The rural population is experiencing rapid growth. Over the period 1965-2025, the urban population, although smaller, is projected to account for a continually increasing proportion of the total energy requirements.

Between 1997 and 2001, average daily per capita Dietary Energy Supplies (DES) increased from 2363 to 2533 kcal. FAO estimated that the DES did not cover the requirements of 25% of the population in 1969-71 and in 1990-92, but it is important to underline that during wartime this proportion was higher (FAO, 1996).

In 2009, food production increased over the previous year. Grain production reached 43.33 million tons, up 24 000 tons over 2008, of which rice output reached 38.9 million tons, up 116 000 tons. In particular, rice exports reached record levels with the highest export volume to date: 5.95 million tons, earning USD 2.66 billion.

In Viet Nam the nutritional status of children is poor. The prevalence of underweight among children under 5 years of age is 40%, that of stunting is 36% and of wasting is 10%. According to WHO criteria these rates indicate important public health problems.

Figure 4.6: **Prevalence of malnutrition in Viet Nam**



Adults are also affected by malnutrition as indicated by the proportion of individuals with a BMI less than 18.5 kg/m² which is approximately 40% for both men and women. The average BMI value was similar (19.1 kg/m²) for both sexes and only a negligible proportion of the population was overweight or obese.

Food consumption data show no improvement in terms of energy intake and a slight increase in the intake of protein and fat, between 1990 and 1995. However, there are important differences in food patterns between the highlands, midlands and mountain areas and the problem of food insecurity seems to be more important in the mountain and midlands rural areas.

During the last decade, there has been a very significant improvement in the control of micronutrient deficiencies. In the 1980s, the prevalence of xerophthalmia was 0.7% among children under five years, indicating a high prevalence of vitamin A deficiency. Following the implementation of a national supplementation programme, the prevalence of night-blindness was reduced from 0.37% in 1985-88 to 0.05% among children less than six years in 1994. Great success was also achieved in controlling iodine deficiency disorders through universal iodization of salt. Nevertheless, iron deficiency anaemia remains a burden that affects a large segment of the population: 45% of children under 5 years of age, 40% of non-pregnant women and 53% pregnant women are anaemic.

Control programmes for infectious diseases, better distribution of the food available, a better access to public health services as well as a reduction in the under-five mortality rate are required to improve the overall nutritional situation.

Main focus areas covered in FBDGs, 2006-2010

- (1) Eat **diversified** meals with a wide variety of foods.
- (2) Initiate breastfeeding within 30 minutes after birth and continue **exclusive breastfeeding** in the first six months. Give children weaning food properly and breastfeed them until 18-24 months old.
- (3) Eat protein-rich foods in a good balance between vegetable and animal sources. Increase fish intake.

- (4) Eat **appropriate amount of fats/oils** with a good combination.
- (5) Have **milk and dairy products** properly for each age.
- (6) Do not use too much **salt**. Use **iodized salt** in food preparation.
- (7) Eat more **vegetables**, tubers and **fruits** every day.
- (8) Select and use **safe and healthy foods** and drinks. Use **safe water** in food preparation.
- (9) Drink enough boiled water every day (safe/clean water). Limit the intake of **alcoholic** beverage and soft drinks.
- (10) Follow a healthy and active **lifestyle**. Take regular physical exercise. Maintain appropriate weight. Abstain from smoking.

Food-based dietary guidelines have been developed using a multisectoral approach – health/nutrition, education, agriculture and sociology and others. The FBDCs have been developed and updated every five years. FBDCs in Viet Nam were developed in 1995 and have been updated three times: 1995-2000; 2001-2005; 2006-2010. Presently, FBDCs for 2011-2015 are being developed.

Multiple approaches are used for dissemination of the FBDCs: strengthening commitment from policy makers and stakeholders by advocacy activities; socio-mobilization; strengthening the involvement of mass media agencies. Official dissemination is done through health, education, agriculture and the mass media system. An effectiveness implementation network from central to grass-root level has also been set up for effective dissemination. Moreover, communication campaigns are organized annually such as “breastfeeding week”, “nutrition and development week” and “micronutrient day”.

5. Working group sessions

5.1 Working Group 1 – Infant and young child nutrition, school-age and adolescent nutrition

Facilitators: *Prof. Kraisid Tontisirin, Dr Kumud Khanna*

Members: Bangladesh – Dr S M Mustafizur Rahman
Cambodia – Mr Hoksrun Aing
DPR Korea – Dr Ryu Tok Su, Dr Sok Yong Guk
Maldives – Ms Mariyam Najla
Nepal – Mr Raj Kumar Pokharel, Mr Ganesh Dawadi
Timor-Leste – Mrs Dirce Maria Soares
WHO India – Dr Nidhi Chaudhary
World Food Programme – Dr Shariqua Yunus
FAO-RAP – Ms Arika Nagata

The working group first outlined the objectives of developing dietary messages for infants and young children, school-age children and adolescents. These were:

- (1) To ensure proper growth and development
- (2) To prevent under-and over-nutrition
- (3) To ensure proper eating habits
- (4) To ensure healthy food culture and lifestyle.

Based on these objectives, the group developed messages for different age groups – birth to 24 months, 2-5, 6-12, 12-18 years. The importance of early initiation of breastfeeding (within 1 hour of birth), exclusive breastfeeding for the first six months and continuing breastfeeding for at least two years and beyond was emphasized. From six months of age, complementary feeding with small quantities of semisolid food should be initiated. Only one food at a time for at least 5-7 days should be introduced, for the child to adjust to it. Further, for complementary feeding, foods should be selected from all food groups – cereals, pulses, animal products, fruits, vegetables and fats. Only iodized salt should be used for cooking.

At one year of age, the child should be eating modified family food, at least three times a day. Breastfeeding should continue. Daily inclusion of some iron-rich food is essential (egg yolk, fish, liver, jaggery, green leafy vegetables, sprouts, beans, red meat). The group also quantified the amount of food to be eaten at each meal to be $\frac{3}{4}$ cups of food (one cup is equivalent to approx 200ml; every country can use their own measure). The variety, amount and frequency of food needs to be increased in the second year of life. An important message was to encourage active feeding. Food safety was also dealt with in a message on preparing complementary food hygienically using safe drinking water.

Children aged 2-5 years should be encouraged to eat on their own under the supervision of an adult. They should be given at least three meals and two snacks daily. At least two servings of milk and milk products as well as 3-4 servings of green leafy and yellow/orange vegetables and fruits should be included in their daily diet. High sugar and high fat foods such as candies, sweetened drink, chips etc. should be discouraged. Proper feeding will ensure desirable growth and development of the baby, which can be monitored by periodic measurement of weight and length/height.

For the 6-12-year-olds, similar messages on eating three meals and two snacks, eating foods from all food groups in every meal to ensure healthy growth, including green leafy and yellow/orange vegetables and fruits daily, discouraging high sugar, salty and fatty foods such as candies, sweetened drink, chips etc as well as eating clean and safe foods were formulated. In view of the increasing prevalence of childhood obesity, a message on promoting healthy lifestyles with outdoor physical activity has also been included.

For the 12-18-year-olds, additional messages formulated were that all children specially girls need iron-rich foods daily (egg yolk, fish, liver, jaggery, green leafy vegetables, sprouts, beans, red meat) and smoking and alcohol consumption should be avoided. The meal frequency during this period was three meals and one snack.

The group also suggested a framework for the dissemination of the messages. They suggested formulation of a task force, which should meet regularly. Once the key messages were agreed upon, they should be field tested. For each key message, an education, communication message and educational tools must be developed. All stakeholders must help in the dissemination of the messages (mass media, service providers – health

academia/education, agriculture, non-state sectors). Supportive activities such as extension in agricultural activity will be required. For evaluation there is a need to have a baseline survey. Evaluation should be used as a feedback loop for further revision of developing the key messages and the education tool along with using the data and information of the country's nutrition and health situation.

The technical assistance required by all Member States for these activities was also outlined as follows:

Bangladesh – Technical support in formulating the FBDGs.

Cambodia – Technical assistance in food consumption survey, formulating and strengthening FBDGs as they have not yet developed FBDGs.

DPR Korea – Strengthening of laboratory capacity regarding analysis of food components. Training of laboratory technical staff and possible procurement of necessary laboratory equipment.

Maldives – Technical assistance to carry out a National Nutrient Intake Survey and to develop FBDGs.

Nepal – Technical support in designing methodology for evaluation of the effectiveness (clarity, understandability and practicality) of messages of the draft FBDGs. In designing a baseline survey to know the level of awareness before and changes after dissemination of FBDGs. A household food consumption pattern survey to look at food availability, security and per capita consumption.

Timor-Leste – Technical support for development of FBDGs and development of food composition tables. Baseline survey for food consumption. Dissemination of FBDGs.

5.2 Working Group 2 – Adults, pregnant and lactating women and women of child-bearing age

Facilitators: *Dr Este Vorster, Mrs Shashi Sareen*

Members: Bhutan – Ms Sonam Pemo
Lao DPR – Dr Keonakhone Houamboun
Myanmar – Dr (Mrs) Khin Saw Hla
Philippines – Dr Celeste C. Tanchoco
Viet Nam – Dr Trinh Hong Son

Institute of Home Economics- Ms Sonal Gupta

The working group formulated 11 dietary messages for adults and women of child-bearing age and six for pregnant and lactating women. All countries can adapt these generic messages depending upon their local situation.

The group also prepared a plan of implementation for these generic FBDGs. The objectives of formulating and disseminating the FBDGs were also framed by the group. These were:

- To lower the prevalence of low birth weight babies by 20% in four years.
- To improve exclusive breastfeeding to 50% in one year, 70% in three years, 80% in four years.
- To raise haemoglobin level of pregnant women by 1.0 mg/dl in four years.
- To change the food environment so that more healthy choices are available.
- To increase the number of adults with BMI between 18-25 kg/m² by 25% in four years.

Further, they identified the target groups for these messages. These include pregnant and lactating women, householders (women, husbands), adults, working men, the food industry and policy makers in different sectors. The places where such messages could be disseminated were: antenatal clinics, all shops that sell food, work places for adult men – army, government offices, schools, factories, etc. Appropriate nutrition education material include pamphlets which could be distributed at all shops that sell food; plus focus group discussions to educate nurses in antenatal care (ANC), so that they are empowered to educate pregnant women; TV

debates, radio talks. Other suggestions included a monthly national competition for the best slogan, to promote one of the messages and an audit of the lunch packets in a workplace. These activities were to be continued for at least 12 months.

The group also recommended procedures for both process and outcome evaluation. For process evaluation, to be undertaken for two years, one could assess the number of pamphlets distributed, the number of pregnant women and lactating women reached, the number of other men and women exposed to the dietary messages as well as test the understanding of all FBDGs among the population exposed. The outcome evaluation could be done by measuring knowledge of nurses in ANC about healthy eating with a focus on change in knowledge by measuring changes in the lunch packets of workers in terms of the nutrient composition and by measuring the attitude of the lactating women regarding breastfeeding. This outcome evaluation could continue for 12 months. The programme may be stopped/adapted wherever necessary depending on the evaluation being carried out.

The effectiveness of this campaign could be evaluated in terms of the changes in the prevalence of low birth weight babies, the haemoglobin status of pregnant women, the weight status of adult men and women and the percentage of babies being exclusively breast-fed.

5.3 Working Group 3

- **Elderly age group**
- **Dietary messages for chronic diseases**

Facilitators: *Dr Janice Albert, Professor Anura Kurpad*

Members: Malaysia – Dr Mohd. Ismail Noor
Indonesia – Mr IIP Syaiful, Mr Eko Prihastono
Sri Lanka – Dr U. M.M. Samaranayake
Thailand – Ms Suchitra Polprapai
India – Mr Rajeev K Sharma
Indian Dietetic Association – Ms Anuja Agarwala
Institute of Home Economics – Dr Parveen Pannu
Dr Seema Puri
Ms Deepa Shokeen

The group first defined the scope of their work. The elderly were considered to be those over 60 years. The chronic diseases to be addressed in the formulation of dietary messages included obesity, diabetes, hypertension, cardiovascular diseases, osteoporosis and cancer. The messages formulated focussed on maintaining healthy weight, consuming a variety of foods and restricting foods high in fat, salt and sugar. These generic messages could be adapted to suit individual countries.

The group also outlined a dissemination plan for the messages. Firstly, every country needs to define the target group in terms of characteristics, income levels, literacy levels etc. Based on the availability of resources and the groups targeted, the use of media – mass media, audio, print, electronic, traditional, community-based, also needs to be prioritized. Other suggestions included organization of seminars and workshops and quizzes at schools/colleges. At the village/town level, the services of NGOs and civil society, senior citizen associations and resident welfare associations as well as extension workers, village level volunteers (ASHA, USHA) could be utilized for dissemination of the messages.

6. Key dietary messages

Infant and young child nutrition

Age group: birth to two years

- Early initiation of breastfeeding (within one hour of birth).
- Exclusive breastfeeding for first six months.
- Continue breastfeeding for at least two years and beyond.
- Start complementary feeding in small quantity of semi-solid food from six months of age.
- Introduce one food at a time for at least 5-7 days for a child to adjust to it.
- Select food from all food groups for complementary feeding.
- Use only iodized salt for cooking.
- A one-year-old child should be eating a modified family diet at least three times a day.
- The child should be eating $\frac{3}{4}$ cups of food at each meal (each country can use their own measure for portions. One cup is equivalent to approx 200ml).
- Prepare complementary food hygienically using safe drinking water.

Age group: 2-5 years

- Children have to be encouraged to eat on their own.
- At least two servings of milk and milk products should be included in their diet daily.
- A child should be given at least three meals and two snacks daily.
- Include green, leafy and yellow and orange vegetables and fruits daily.
- Discourage high sugar and high fat foods such as candies, sweetened drinks, chips etc.
- Proper feeding will ensure desirable growth and development of the child.

School-age and adolescent nutrition

Age group: 6-12 years

- Eat a variety of foods.
- Eat three meals and two snacks daily.
- Include green, leafy and yellow and orange vegetables and fruits daily.
- Avoid high sugar, salt and fat foods such as candies, sweetened drinks, chips etc.
- Eat clean and safe foods.
- Avoid caffeinated beverages.
- Promote a healthy lifestyle.

Age group: 12-18 years

- Eat a variety of foods.
- Eat three meals and one snack daily.
- All children especially girls need iron rich foods daily (egg yolk, fish, liver, jaggery, green leafy vegetables, sprouts, beans, red meat).
- Include green, leafy and yellow and orange vegetables and fruits daily.
- Avoid high sugar, salt and fat foods such as candies, sweetened drinks, chips etc.
- Eat clean and safe foods.
- Promote healthy lifestyle.
- Avoid smoking and alcohol consumption.

Adults and females of child-bearing age

- Eat and enjoy a variety of foods; at least three meals a day.
- Consume clean and safe food.
- Achieve and maintain a healthy weight.
- Eat plenty of vegetables and fruits every day.
- Eat staple cereals in an unrefined form – wholegrain, minimally processed.
- Consume legumes, lean meat and/or chicken and/or egg, and/or fish, and/or milk or milk products every day.
- Use an adequate amount of fats/oils in good combination in the diet.
- Use iodized salt.
- Restrict the amount of sugar and salt intake.
- Practice healthy lifestyle/exercise regularly/do not smoke, limit intake of alcoholic beverages.
- Drink plenty of safe, clean and potable water.

Pregnant and lactating women

- Restrict the amount of sugar and salt intake.
- Drink plenty of fluids.
- Have more protein foods and more vegetables.
- Practice healthy lifestyle/exercise regularly/do not smoke or drink alcoholic beverages.
- Pregnant and lactating women should follow the FBDGs with extra focus on foods of animal origin and green, leafy vegetables.
- Breastfeeding should start immediately after delivery and should continue exclusively for six months and continue up to two years.

Chronic diseases and diseases of the elderly

- Achieve and maintain healthy weight.
- Include physical activity in daily routine.
- Consume a variety of foods.
- Restrict intake of fried foods.
- Use vegetable oils in moderation for cooking.
- Avoid sweetened foods.
- Consume whole grains and legumes.
- Consume more naturally coloured fresh vegetables and fruits.
- Use salt, sauces and monosodium glutamate sparingly.
- Drink an adequate amount of clean water.

7. Conclusions

- (1) There was agreement among all Member States that appropriate dietary information and messages remain a major tool for the promotion and protection of the health and nutrition of all population groups while also serving as an important primary preventive measure against noncommunicable diseases across all age groups.
- (2) Food-based dietary guidelines [FBDGs] provide the necessary dietary information and knowledge in an easy to understand and population-friendly manner and may influence a change in dietary behaviour. There was consensus that all Member States should work towards the development/strengthening of their national food-based dietary guidelines programmes.
- (3) Several participating Member States had developed national food-based dietary guidelines: DPR Korea, India, Indonesia, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand and Viet Nam.

In other Member States (Bangladesh, Bhutan, Cambodia, Laos, Maldives, Timor-Leste] national task forces/technical committees/working groups for the development of FBDGs had been established or some work had been initiated.

- (4) It was observed that existing FBDGs in some Member States contained too many messages some of which were contradictory in content and used complicated text that made such messages difficult to understand by the general public.
- (5) The participants were informed that the World Health Organization and the Food and Agriculture Organization were committed to provide technical assistance to Member States in the formulation/improvement of the national FBDGs programme. This assistance could be coordinated to ensure effective support and utilization of resources.
- (6) Several existing FBDGs had not been updated for several years and in view of the emerging knowledge on all aspects of food and nutrition, participants agreed that national FBDGs should be reviewed periodically according to national needs and capacity.
- (7) The group concluded that regular and appropriate monitoring and evaluation is essential to ensure effective implementation of the FBDGs programme.

8. Recommendations

- (1) Member States who do not have national FBDGs should formulate a FBDGs programme on a priority basis.
- (2) Member States that have FBDGs should review and update their national FBDGs programmes using current knowledge and information every 5-10 years. Technical advice on monitoring and evaluation of FBDGs needs to be provided to support this process.
- (3) National task forces/working group/working committees to formulate FBDGs would need to expedite their activities. Technical assistance could be sought from WHO, FAO and other interested partners as per the procedures of these organizations.
- (4) In view of similarities amongst several Member States, technical expertise in the development/improvement of national FBDGs could be shared between them.
- (5) The core dietary messages developed at this consultation could be used as an example for consideration in each Member State. Each Member State should also identify the target or priority population groups for the dissemination of such messages.
- (6) Dietary messages need to be evidence-based, limited in number, concise in form and be based on a life-course approach.
- (7) The procedure outlined by FAO/WHO needs to be followed in the formulation/improvement of national FBDGs.
- (8) A strong communication plan should be devised to make dissemination of messages more effective.
- (9) A follow-up, regional-level consultation may be needed to review progress and share experiences on the development/strengthening of national FBDGs.

Annex 1

Agenda

- Overview of FBDGs in South-East Asia Region;
- FBDGs: Global patterns, opportunities and challenges;
- Process for developing national FBDGs;
- Role of food safety in developing FBDGs;
- Obesity in Children: Nutritional concerns;
- Chronic NCDs in India: Scenario and determinants;
- Estimating food and nutrient requirements: Current status;
- Effective communication of FBDGs, and
- Media advocacy as a tool for dissemination.

Annex 2

Instructions for group work

General instructions

- Three groups
- Six categories of dietary considerations
- Each group comprises Members States, facilitators and experts
- Each group to identify a suitable location within this hall/outside lobby as appropriate
- One full day – 8 December 2010 – has been allotted – please space your work appropriately and utilize the expertise available
- Each group to elect a rapporteur who will prepare the group work and present at the plenary session on 9 December 2010
- Each group to record discussion and relevant information
- Presentation will be in power point

Feel free to consult/refer to available information and materials.

Group I: Infant and young child nutrition School-age and adolescents nutrition
Facilitators: Professor Kraissid Tontisirin & Dr Kumud Khanna
Rapporteur & presenter: To be selected by the group
Tasks: <ol style="list-style-type: none">(1) Develop appropriate dietary messages for promoting infant and young child nutrition.(2) Develop appropriate dietary messages for promoting nutrition among school-age children and adolescents.<ul style="list-style-type: none">➤ Messages should address the specific dietary needs for the age groups 0 – 6 months/6 – 24 months/24 – 59 months/6 – 12 years/12 – 18 years (or into age categories as considered appropriate by the working group)

- Messages should target the general population; health and nutrition professional bodies; planners and policy-makers.
- Group should prepare a brief text providing clarification for the basis of the dietary messages.
- Group should identify a framework for optimal dissemination of these messages
- Identify the technical assistance required for formulating/strengthening the national food-based dietary guidelines in the countries comprising your group.

Members:

- | | |
|---------------|----------------|
| 1. Bangladesh | 5. Nepal |
| 2. Cambodia | 6. Timor-Leste |
| 3. DPR Korea | |
| 4. Maldives | |

**Group II: Adults
Females in child-bearing age, pregnancy and lactation**

Facilitators: Professor Este Vorster & Ms Shashi Sareen

Rapporteur & presenter: To be selected by the group

Tasks:

- (1) Develop appropriate dietary messages for promoting adult nutrition.
- (2) Develop appropriate dietary messages for women in child-bearing group, pregnant and lactating women.
 - Messages could be developed as per different adult age categories (as considered appropriate by the working group).
 - Messages should target the general population, health and nutrition professional bodies, planners and policy-makers.
 - Group should prepare a brief text providing clarification for the basis of the dietary messages.
 - Group should identify a framework for optimal dissemination of these messages.
- (3) Identify the technical assistance required for formulating/strengthening the national food-based dietary guidelines in the countries comprising your group.

Members:

1. Bhutan
2. Philippines
3. Myanmar
4. Laos
5. Viet Nam

Group III: Elderly Chronic diseases

Facilitators: Dr Janice Albert & Professor Anura Kurpad

Rapporteur & presenter: To be selected by the group

Tasks:

- (1) Develop appropriate dietary messages for promoting elderly nutrition.
- (2) Develop appropriate dietary messages for common chronic/noncommunicable diseases
 - Messages could address the specific dietary needs of the elderly: 60-70 years/ 70-80 years/above 80 years. (Appropriate age categories may be identified by the working group).
 - Selection of chronic diseases as considered appropriate by the group; in this selection, the working group may refer to work earlier undertaken through WHO-SEARO.
 - Messages should target the general population; health and nutrition professional bodies; planners and policy-makers.
 - Group should prepare a brief text providing clarification for the basis of the dietary messages.
 - Group should identify a framework for optimal dissemination of these messages.
- (3) Identify the technical assistance required for formulating/strengthening the national food-based dietary guidelines in the countries of your group.

Members:

1. Indonesia
2. Malaysia
3. Sri Lanka
4. Thailand
5. Indian Dietetics Association

Annex 3

List of participants

Bangladesh

Dr S M Mustafizur Rahman
Assistant Director
National Nutrition Program
Ministry of Health & Family Welfare
Dhaka, Bangladesh.
Tele: + (880 2) 9661313
(Cell No 01711-056953)
Fax: + (880 2) 9665314
Email: mmm09us@yahoo.com

Bhutan

Ms Sonam Pemo
Staff Nurse
Paediatric Ward
Jigme Dorji Wangchuk National Referral
Hospital
Thimphu
Tele: 0097517633245 (M)
E-mail: Sompem369@yahoo.com;
sompem@gmail.com

Cambodia

Mr Hoksrun Aing
Chief of Food Safety Bureau
Department of Drugs and Food
Ministry of Health, Cambodia
151-153 Av. Kampuchea Krom
Phnom Penh
Cambodia
Tel: 855 85 538 066
E-mail: hoksrun02@yahoo.com

DPR Korea

Dr Ryu Tok Su
Senior Official
MoPH, DPR Korea, NPM

Dr Sok Yong Guk
National Professional Officer
WR Office to DPR Korea
Munsudong, Pyongyang
DPR Korea
Tele: (850-2)381-7913, 381-7914
Fax: (850-2)381-7916
E-mail: guks@searo.who.int

India

Mr Rajeev K. Sharma
Deputy Director (Tech)
Food Safety and Standards Authority of India
FDA Bhavan, Kotla Road
New Delhi
Tele: 9971203584 (M)
E-mail: sharma.rajeev2008@indiatimes.com
Rajeevsharma_2006@rediff.com

Indonesia

Mr IIP Syaiful, SKM. MKes.
Chief, Sub Directorate of Food Consumption,
Directorate of Community Nutrition
Ministry of Health
Republic of Indonesia
Tele: 08128658296
Fax: +62(021)5210176
E-mail: iip-syaiful@yahoo.co.id

Mr Eko Prihastono, SKM, MA
Staff
Sub Directorate of Food Consumption
Directorate of Community Nutrition
Ministry of Health
Republic of Indonesia
Jakarta
Tele: +62(021) 5277152
Fax: +62 (021) 5210176.
E-mail: ekolondo@gmail.com

Laos

Dr Keonakhone Houamboun
Director of Health Research Dept.
National Institute of Public Health,
MOH, Lao PDR
Samsenthai road, Ban Kaognot
Sisattanak District
Vientiane Capital 856
Lao PDR
Tele: 856 21 250670
Fax: 856 21 214012
E-mail: Keonak2002@yahoo.com

Malaysia

Dr Mohd Ismail Noor
Chairman
TWG Nutritional Guidelines (NCCFN)
c/o Department of Nutrition and Dietetics
Universiti Kebangsaan Malaysia
Jalan Raja Muda Abdul Aziz
Kuala Lumpur 50300
Malaysia
Fax No. 603-26941296
E-mail: ismailnoor49@gmail.com

Maldives

Ms Mariyam Najla
Public Health Program Coordinator
Center for Community Health and
Disease Control
Tele:(960) 7785518
Fax: (960) 3314635
E-mail: mariyamnajla@gmail.com

Myanmar

Dr (Mrs) Khin Saw Hla
Assistant Director
Food & Drug Administration
Department of Health
Ministry of Health
Yangon, Myanmar
Tele: +95 67 4 311036
Fax: +95 67 4 311034
E-mail: khinsawhlanpt15@gmail.com

Nepal

Mr Raj Kumar Pokharel
Chief
Nutrition Section
Child Health Division
Ministry of Health & Population
The Government of Nepal
Teku, Kathmandu, Nepal
Tel: +977-1-4 225558 (Direct line)
Fax: +977-1-4 262238
Email: rajkumarpokharel@gmail.com

Mr Ganesh Dawadi
Senior Food Research Officer
Department of Food Technology and
Quality Control (DFTQC)
The Government of Nepal
Kathmandu, Nepal
Tele: 09841364722
Fax: +977-1-4262337
E-mail: ganeshdawadi@gmail.com

Philippines

Dr Celeste C. Tanchoco
NSTD Chief & Scientist III
Food and Nutrition Research Institute
Department of Science and Technology
FNRI Bldg., DOST Compound,
Gen. Santos Avenue
Bicutan, Taguig City, Metro Manila
Philippines 1631
Tel: 632 837 5113-14 Loc 2288/
632 837 2071
E-mail: cctanchoco112@yahoo.com

Sri Lanka

Dr U.M.M. Samaranayake
Director (Nutrition)
Nutrition Coordination Division
Colombo 5
Tele: 071-4400904
Fax: 0112-559250
E-mail: nutritiondiv@sltnet.lk

Thailand

Mrs Suchitra Polprapai
Chief of Nutritional Health Promotion
Section,
Bureau of Nutrition
Department of Health
Ministry of public Health
Tiwanon Road, Nonthaburi 11000
Tel: +66(0)2 590 4327
Mobile: +6683 999 1408
Fax: +66(0)2 590 4339
Email: suchitra.p@anamai.mail.go.th.

Timor-Leste

Mrs Dirce Maria Soares
Head
Nutrition Department
Ministry of Health
Tel: (+670) 7254899
+670 (390) 3339412
Email: dominut_2006@yahoo.com

Viet Nam

Dr Trinh Hong Son
Vice-Director of Nutrition Information,
Education and Communication Center (NIEC)
National Institute of Nutrition (NIN)
48B, Tang Bat Ho Str., Hanoi
Ministry of Health
Viet Nam
Phone: 84-4-39720608
Email: niec2000@hotmail.com,
trinhhongson@dinhduong.org.vn

WHO Temporary Advisers

Dr Anoop Misra
Director
Department of Diabetes & Metabolic Diseases
Fortis Hospitals, New Delhi.
Fortis Hospital, Vasant Kunj: 91-11-4277-
6222, Fortis Hospital,
NOIDA: 91 120 240 0222
Center for Diabetes, Obesity, and Cholesterol
Disorders (C-DOC) and Diabetes
Foundation (India) at Safdarjang
Development Area: 91-11-41759672
Telefax: 91-11-4277-6221
Tele: 98111-53997 (M)
E-mail: anoopmisra@yahoo.com

Dr Anura V Kurpad
Dean
St John's Research Institute,
100 ft Road, Koramangala, Bengaluru 560034
Tele: +91-80-25532037, Ext 102 (Secretary)
E-mail: a.kurpad@sjri.res.in

Prof. Hester Hendrina Vorster (Este)
Professor and Director of Research
(Centre of Excellence for Nutrition)
North West University, South Africa
Tele: +27 082 9231958 (M)
+27 182 994237 (Direct)
+27 18 297 1326 (Res)
Fax: 0027-182992466
E-mail: Este.Vorster@nwu.ac.za

Prof. Emeritus Kraisid Tontisirin
Chairman - Policy Board
The Thailand Research Fund
14th Floor, SM Tower
979/17-21 Phaholyothin Road,
Sansaen-Nai Phayathai
Bangkok 10400, Thailand
Tele: 087-717-0126
E-mail: kraisid@trf.or.th;
kraisid.tontisirin@gmail.com

All India Institute of Medical Sciences, India

Prof. Nikhil Tandon
Dept of Endocrinology
All India Institute of Medical Sciences
Ansari Nagar
New Delhi
Tel: + 91 9818211663 (Mob)
Email: nikhil_tandon@hotmail.com

Centre for Advocacy & Research, India

Ms Akhila Sivasdas
Executive Director
Centre for Advocacy & Research
H-2, B 1st floor
Kalkaji
New Delhi- 110019, India
Tele: +911-011-26410133 (Off)
+911-011-24535567 (Off)
+911-011-26418846/47 (Off)
+91- 9810415066 (Mob)
Email: akhilashivasdas1@gmail.com,
cfardelhi@gmail.com

Indian Dietetic Association

Ms Anuja Aggarwal
President, IDA Delhi Chapter
Dietician, AIIMS
Ansari Nagar
New Delhi
Tele: +91-9873164643 (Mob)
Email: anujamarch26@yahoo.co.in

Prasar Bharati, Govt of India

Dr Usha Bhasin
Deputy Director
Prasar Bharti
Doordarshan Bhavan
Copernicus Marg
New Delhi- 110001
Tele: +911-011-23382452 (Off)
+91- 9810403244 (Mob)
Email: ushabhasin@gmail.com

University of Delhi, India

Dr Anupa Siddhu
Director
Lady Irwin College
Sikandara road
New Delhi
Tele: +911-011-23711222 (Off)
+911-011-23753317 (Off)

World Food Programme

Dr Shariqua Yunus
World Food Programme
2, Poorvi Marg
Vasant Vihar
New Delhi- 110057
Tele: +911-011-26150000 (Off)
+91- 9911089124 (Mob)

WHO-SEARO

Dr Quazi Monir Islam
Director
Department of Family Health and Research
WHO Regional Office for South-East Asia
World Health House, Indraprastha Estate
Mahatama Gandhi Marg
New Delhi 110 002, India
Tele: +91 11 23370804; 23370809-11
Fax: +91 11 23370197; 23379395;
23379507

Dr Kunal Bagchi
Regional Adviser
Nutrition and Food Safety (NFS)
World Health Organization
Regional Office for South-East Asia
New Delhi, India
Tele: (91-11)-23309313 (Direct)
(91-11)-23370804 (Extn.26313)
Fax: (91-11)-23378510; 23370197
Email: bagchik@searo.who.int

Ms Santosh Katyaj
Sr. Administrative Secretary
Nutrition and Food Safety (NFS)
World Health Organization
Regional Office for South-East Asia
New Delhi, India
Tele: (91-11)-23309312 (Direct)
(91-11)-23370804 (Extn.26312)
Fax: (91-11)-23378510, (91-11)-23370197
Email: santoshk@searo.who.int

WHO, India

Dr Nidhi Chaudhary
National Professional Officer Nutrition for
Health & Development
WHO, India Office
517 " A" Wing, Nirman Bhavan
New Delhi
Tele: +91-9818531474 (Mob)
Email: chaudharyn@searo.who.int

FAORAP, Thailand

Mr Man Ho So
Deputy Regional Representative
FAO Regional Office for Asia and the Pacific
39 Phra Atit Road
Bangkok 10200
Thailand
Phone: 66-2-697-4335
Fax: 66-2-697-4499
Email: Manho.So@fao.org

Ms Shashi Sareen
Senior Food Safety and Nutrition Officer
FAO Regional Office for Asia and the Pacific
39 Phra Atit Road, Bangkok 10200
Thailand
Tel: 66-2-697-4143
Fax: 66-2-697-4445
E-mail: Shashi.Sareen@fao.org

Ms Arika Nagata
UNV Associate Nutrition Officer
FAO Regional Office for Asia and the Pacific
39 Phra Atit Road
Bangkok 10200, Thailand
Tel: (66-2) 697-4281
Fax: (66-2) 697-4445
E-mail: Arika.Nagata@fao.org

FAO, Rome

Dr Janice Albert
Nutrition Officer
Nutrition and Consumer Protection
Division (AGN)
Food and Agriculture Organization of the
United Nations
Viale delle Terme di Caracalla
00153 Rome, Italy
Tel: (+39) 06 570 53552
Fax: (+39) 06 570 53152
E-mail: Albert.Janice@fao.org

Institute of Home Economics

Dr Kumud Khanna
Director
Institute of Home Economics
F4 Hauz Khas Enclave
New Delhi -110016, India
Tele: +91 9810626609 (Mob)
Email id: kumudkhanna_ihe@yahoo.co.in

Dr Seema Puri
Associate Professor
Department of Nutrition
Institute of Home Economics
F4 Hauz Khas Enclave
New Delhi -110016, India
Tele: +91 9810003220 (Mob)
Email: dr.seemapuri@gmail.com

Dr Parveen Pannu
Associate Professor
(Department of Mass media and
Communication)
Institute of Home Economics
F4 Hauz Khas Enclave
New Delhi -110016, India
Tele: +91 8860870664 (Mob)
Email: parveen.pannu@yahoo.com

Ms Sonal Gupta
Research Scholar
Department of Nutrition
Institute of Home Economics
F4 Hauz Khas Enclave
New Delhi -110016, India
Tele: +91 9811749566 (Mob)
Email: sonal.gupta26@gmail.com

Ms Deepa Shokeen
Project Associate
Department of Nutrition
Institute of Home Economics
F4 Hauz Khas Enclave
New Delhi -110016, India

Appropriate dietary information and messages remain a major tool for the promotion and protection of the health and nutrition of all population groups while also serving as an important primary preventive measure against chronic diseases across all age groups. In this regard, food-based dietary guidelines (FBDG) provide the necessary information and knowledge in an easy-to-understand and population-friendly manner with the possibility of influencing changes in dietary behaviours.

The Regional Consultation on Food-Based Dietary Guidelines for countries in the Asia Region, held in New Delhi, India, from 6 to 9 December, 2010, was attended by 16 Member States. It discussed the existing food-based dietary guidelines, explored the development of a set of core dietary messages to be adapted to the local conditions by Member States, and addressed the framework for dissemination, implementation and evaluation of these messages.



**World Health
Organization**

Regional Office for South-East Asia
World Health House
Indraprastha Estate,
Mahatma Gandhi Marg,
New Delhi-110002, India
Website: www.searo.who.int



SEA-NUT-180