Part one: Reasons for developing Food-Based Dietary Guidelines

1. Political commitment to improving nutrition

The United Nations (UN) and governments worldwide have declared that all people have the right to a nutritionally adequate diet at all times. The FBDGs are a tool for helping countries to achieve this goal. FAO and the World Health Organization (WHO) have promoted the concept of FBDGs since the International Conference on Nutrition (ICN) in 1992 (FAO/WHO, 1992), when the "World Declaration and Plan of Action for Nutrition" called upon governments to promote appropriate diets and healthy lifestyles. At the World Food Summit, held at FAO Headquarters in 1996, 180 countries approved the "Rome Declaration on World Food Security" in which the heads of state pledged that:

We will implement policies aimed at eradicating poverty and inequality and improving physical and economic access by all, at all times, to ***sufficient, nutritionally adequate and safe*** *food and its effective utilization. (FAO 1996, emphasis added) (FAO, 1996)*

At the Millennium Summit in 2000, governments established the Millennium Development Goals (MDGs) (UN, 2006). Three of these goals are related directly to improving nutrition:

- "Eradication of poverty and hunger."
- "Achieve universal primary education."
- "Reduce child mortality."

Improved nutrition education can help to reduce malnutrition and hunger. It can enhance nutritional knowledge, attitudes and behaviours, social and dietary customs, family/childcare and feeding practices, and household hygiene. Better nutrition can improve educational achievements and reduce child mortality.

FBDGs: Tools for achieving nutrition goals

In 1995 FAO and WHO sponsored an Expert Consultation on the Preparation and Use of Food-Based Dietary Guidelines in Cyprus (WHO, 1996). This group of experts reviewed experiences and elaborated a process for developing FBDGs. Following the recommendations of this international meeting, PAHO and INCAP promoted the development and implementation of FBDGs through the: development of a methodology to elaborate FBDGs; organization of five sub-regional workshops with the participation of all Latin American countries; and provision of technical assistance when needed.

In April 1999 the "Development of Food-Based Dietary Guidelines and Nutrition Education for the Caribbean" workshop was held in Bridgetown, Barbados. Jointly organized by FAO and the International Life Sciences Institute (ILSI International) in collaboration with the Caribbean Food and Nutrition Institute (CFNI), the workshop was organized for countries of the English-speaking Caribbean. Its objective was to assist participating countries in developing and implementing FBDGs and to strengthen their capacity to communicate effective nutrition information to the public, in order to bring about lasting improvements in food consumption patterns and nutritional well-being. The Barbados workshop was one of 17 regional workshops held by FAO, involving nearly 100 countries worldwide.

National food and nutrition policies and plans in the Caribbean

Following the ICN, National Plans of Action for Nutrition (NPAN) have been developed by governments in the Caribbean in an effort to improve the nutritional situation of their populations. Each country's NPAN is based on the country's national development plans and is structured around the eight thematic areas identified in the ICN Plan of Action. "Promoting appropriate diets and healthy lifestyles" is included in the plans of all eastern Caribbean countries. Strategies for consideration include:

- promoting better eating habits (e.g. dietary guidelines, variety of foods);
- preventing lifestyle diseases;
- promoting regular exercise; and
- providing nutrition education.

The NPAN for each country is developed by a multi-sectoral group consisting of a wide range of government ministries – such as agriculture, health, planning, trade, industry, social services, education, industry, sport, consumer affairs – as well as cooperation from academia, food processors, non-governmental organizations (NGOs), marketing and distribution sectors. The development of national FBDGs is a major activity emanating from the national plan of action.

2. Purpose and definition of FBDGs

The purpose of FBDGss is to assist the general population in following nutrition and related-health recommendations. FBDGs are a tool for nutrition education and behaviour change to be used by health providers, teachers, journalists, extension agents and others working directly with the public. The FBDGs present information that uses language and symbols that the public can easily understand. FBDGs focus on common foods, portion sizes, and behaviours.

While different countries may share similar trends in dietary patterns, FAO and PAHO consider it important that, whenever possible, each country should develop its own set of guidelines. This is because large variations in food availability and accessibility, in food patterns as well as differences in lifestyles, cultures and public health priorities can exist between countries. Although FBDGs may appear similar, they have been developed to meet the specific needs of a nation's population and to suit the cultural, social and economic contexts. Food graphics or pictorial diagrams associated with FBDGs are indigenous for the population of each country and may become important symbols in a nation's nutrition communication and education strategy.

FBDGs: Global patterns

Throughout the world, several characteristics are commonly found in dietary guidelines – for instance, FBDGs always stress the importance of variety and balance. It is also very common for FBDGs to promote increased fruit and vegetable consumption since daily consumption of fruit and vegetables adds vitamins and fibre to the diet and could help prevent obesity, diabetes, cardiovascular diseases and certain cancers. FBDGs often include advice discouraging excessive consumption of saturated fats, salt, sugar and alcohol. In addition, with increasing attention to sedentary lifestyles, guidelines concerning the importance of physical activity are more frequent. Information relating to food safety can also be found in FBDGs because of concern about food-borne diseases.

There are also important differences *between* FBDGs. This is not surprising as FBDGs are determined by the specific health, behaviour, culture and economic

conditions within a country. For example, advice about dietary fats and carbohydrates can vary greatly, depending on each country's nutritional problems. While providing one set of guidelines for an entire nation is challenging, even very large countries with extremely diverse populations have decided to have one set of FBDGs for the adult population. For infants and small children, some countries have created separate dietary guidelines, while others have incorporated advice for these groups in their general guidelines.

Box 1: FBDGs around the world

Europe

Dietary guidelines are found in the Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, the Netherlands, Slovenia, Spain, the United Kingdom and Turkey. It addition, the European Union has developed the "Euro diet" and WHO has promoted the "CINDI guidelines" (Countrywide Integrated Non-communicable Diseases Intervention) for Europeans.

The Americas

In the Americas, Canada, Mexico, the United States of America and Venezuela were among the first countries to publish FBDGs. Argentina, Barbados, Brazil, Chile, Colombia, the Commonwealth of the Bahamas, Costa Rica, Cuba, El Salvador, Guatemala, Guyana, Honduras, Panama and Uruguay have FBDGs.

Asia

In Asia and the Pacific, China, Indonesia, India, Japan, Malaysia, Nepal, New Zealand, the Philippines, Singapore and Thailand have developed FBDGs. In addition, there are WHO regional guidelines for the Western Pacific Islands.

Africa

Among African countries, Namibia, Nigeria, and South Africa have published FBDGs.

Near East

In the Near East, Iran has developed FBDGs and Lebanon and Egypt also have food guides.

3. Rationale for FBDGs in the Caribbean

Health and Nutrition Situation

Epidemiological profile

Since the 1980s an epidemiological transition has taken place across the Caribbean region. This transition has manifested itself in a decrease in infectious diseases and an increase in chronic non-communicable diseases (NCDs). Infant and child mortality have decreased precipitously with improvements in access to pre-natal care, nutrition, sanitation, immunization, and oral rehydration therapy. Between 1980 and 1995, communicable-disease mortality rates in children aged 1–14 years declined by 67 percent (WHO, 2001). For the year 2000, infant mortality rates (deaths per 1 000 live births) for Grenada, Saint Lucia, Dominica, and Saint Vincent and the Grenadines were 12.5; 13.4; 17.5 and 22.0, respectively (PAHO, 2002).

Most eastern Caribbean countries experienced similar crude death rates (deaths per 1000 persons) during the period 1998–1999 with Grenada, Saint Vincent and the Grenadines, Dominica and Saint Lucia recording crude death rates of 7.9, 7.2, 8.0 and 6.4, respectively (PAHO, 2002). An examination of the overall mortality figures reveals that diseases of the circulatory system accounted for the largest proportion of deaths in most eastern Caribbean countries during 1999. Diseases of the circulatory system were the leading cause of death in Dominica, Saint Lucia and Saint Vincent and the Grenadines, accounting for 54.7 percent, 38.0 percent and 42.0 percent of total deaths, respectively (PAHO, 2002). Cerebrovascular diseases, ischemic heart disease and hypertension comprised 23 percent of all deaths as reported in Grenada during 2000.

Nutritional status of children under 5

Both under-nutrition and obesity constitute problems in children under 5 years of age in Caribbean countries. While comprehensive data are not available for all countries, PAHO's (2002) publication *Health in the Americas* provides data for some countries. PAHO reported a 6 percent prevalence of under-nutrition among children aged 1–4 years in Saint Vincent and the Grenadines in 1999. However, the Nutrition Unit Surveillance System of the Ministry of Health reported that in 2001

under-nutrition among young children was a low 0.23 percent while obesity among this age-group stood at 11 percent.

In the Commonwealth of Dominica, the Health Information System of the Ministry of Health reported under-nutrition among children under 5 as 0.7 percent while obesity in this age-group was 9.4 percent. In Guyana under-nutrition ranged from 12 percent in the 0–11-month age-group to 15 percent in the 12–23-month age-group.

The Young Child Surveillance System of the Grenada Food and Nutrition Council reported that in 2001 under-nutrition among young children was 4.0 percent while 4.5 percent of this population was overweight.

The birth weight of infants continues to be monitored and used as an indicator of nutritional status. During 1998–99 low birth weight (<2,500 grams) was recorded among 8 percent of total births in Grenada; 4.1 percent in Saint Vincent and the Grenadines and 14 percent in Guyana (PAHO, 2002).

Changing morbidity patterns

As a result of the improvement in childhood mortality, there has been a general increase in average life expectancy throughout the English-speaking Caribbean. In 2000, this was estimated at 71.3 years, ranging from 64.5 to 78.9 years (Henry, 2001). In the same year, the gap between male and female life expectancy was 4.9 years. The average proportion of the population aged 60 years and older in these countries is 9 percent. This means there is an ageing population, with women in particular living longer and being more at risk of non-communicable diseases (NCDs). The most prevalent NCDs in the region include cardiovascular disease, hypertension, diabetes and cancer. All are linked by common risk factors related to lifestyle – such as obesity, physical inactivity, poor nutrition and tobacco use.

Diet-Related Non-Communicable Diseases (NCDs)

Hypertension

The Ministry of Health in Saint Vincent and the Grenadines reported that in 2000 the prevalence of hypertension was 5.8 percent in the 15–34 years age-group and 14.3 percent in the 35 and over age-group. In Dominica, a study conducted by using an upper limit of 140/90, recorded a 20-percent prevalence of hypertension in the 18–60 year age-group. Grenada's ministry reported that 8.8 percent of clinic attendees in 2003 were affected by hypertension.

Hypertension prevalence among males aged 25–74 years in Saint Lucia is 19–25 percent and among females is approximately 28 percent (Riopel et al., 1986). At the threshold of 160/95 mm Hg, just 74 percent of individuals in Saint Lucia were aware of their condition; 59 percent were treated pharmacologically; and only 35 percent were controlled. Men, particularly those under 55 years, were less likely than women to have their blood pressure treated and controlled (Friesinger and Ryan, 1999).

Diabetes

Although diabetes is under-reported on death certificates in the Caribbean (Reddy, 1998), it was estimated to be the fourth leading cause of death in 1995. Diabetes accounted for one in ten deaths that year out of a total of approximately 4,000 deaths. Of note is the rapid increase in proportional mortality for diabetes, up from seventh place (4 percent) in 1980.

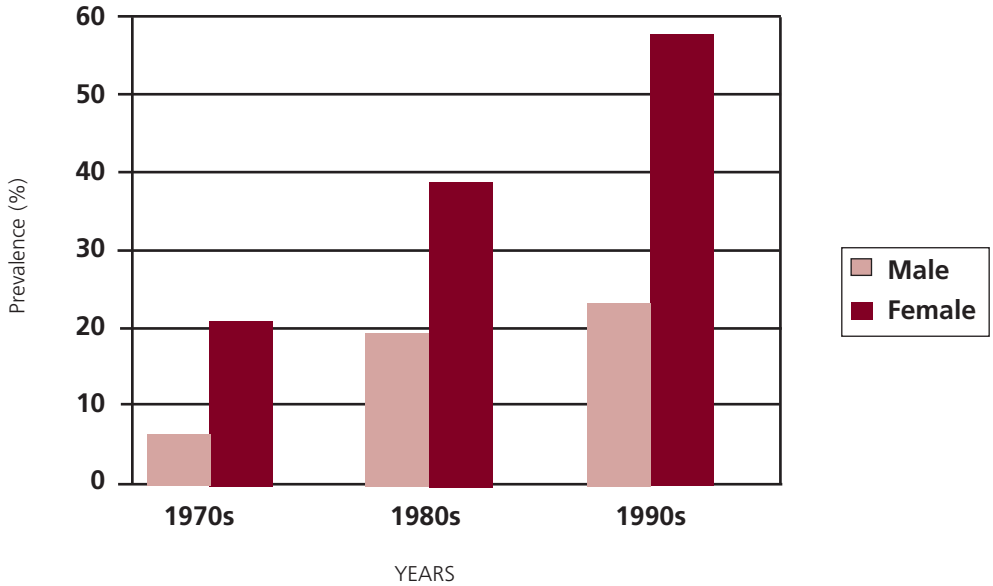
Prevalence data for diabetes are not available for most eastern Caribbean countries. However, clinic and hospital admission data do provide useful information. Using clinic data, the Ministry of Health in Grenada reported that, in 2003, 12 percent of clinic attendees were diabetic, while in Saint Vincent and the Grenadines, the Ministry of Health reported that diabetes was found in 2.7 percent of the 15–34 age-group and 6.6 percent of the 35 and over age-group. In Dominica, 25 percent of admissions to the medical ward in 2000 were related to diabetes.

Obesity

The increasing trend in obesity is considered a major contributory factor in chronic disease prevalence in the Caribbean. Rising obesity levels – particularly among women – may be attributable to changes in traditional diets and the adoption of relatively more sedentary lifestyles. In some countries more than half of adult women and more than a quarter of males are reported to be obese.

Empiric data on obesity are not available for all countries; however, available data do indicate that since the 1970s obesity among adults has risen to epidemic proportions in the English-speaking Caribbean. This is illustrated in Figure 1 (Henry, 2004). The most striking features of Figure 1 are: (a) the high prevalence of overweight, as indicated by Body Mass Index (BMI>25) and obesity (BMI>30); and (b) the consistent gender difference, showing that about 25 percent of adult Caribbean women are seriously overweight, i.e. obese, which is almost twice as many as their male counterparts.

Figure 1: Trends in adult overweight/obesity in the Caribbean



Source: Henry, 2004.

In 1996, results of the Dominica Food and Nutrition Council (DFNC) national Food Consumption Pattern and Lifestyle survey revealed that 47.9 percent of the adult population were obese (BMI >30.0).

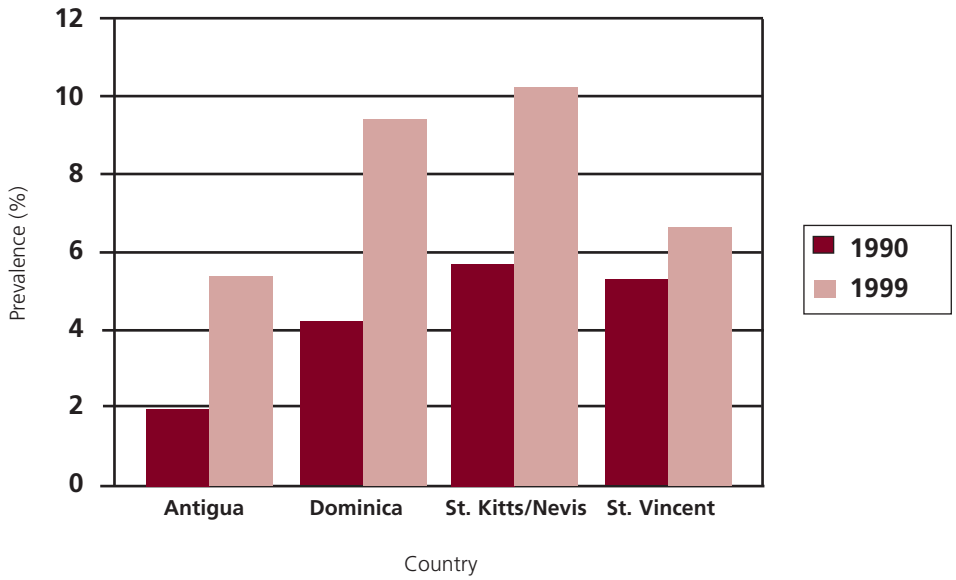
When the data for obesity in young children and adolescents in the Caribbean are reviewed, the obesity epidemic in the region becomes even more worrying (see Figure 2). Although the global prevalence of overweight amongst preschool children is estimated at 3.3 percent, data collected from the Caribbean region show higher rates, such as 9.0 percent for Dominica and 7.0 percent for Saint Vincent and the Grenadines (CFNI, 2001).

Iron deficiency anaemia

Despite supplementation, fortification and dietary diversification programmes being implemented in the English-speaking Caribbean countries, iron deficiency anaemia persists as a public health problem in all countries. The population subgroups most adversely affected by this condition are young children (1–4 years); school-age children (5–16 years) and prenatal women.

A review of the data available on the prevalence of iron deficiency anaemia in the Caribbean indicates varying trends over the years, although the analysis of study results is compounded by the varying definitions of anaemia used. Based on the

Figure 2: Trends in young child (0-5 yrs) obesity in the Caribbean



Source: Unpublished data CFNI, 2001.

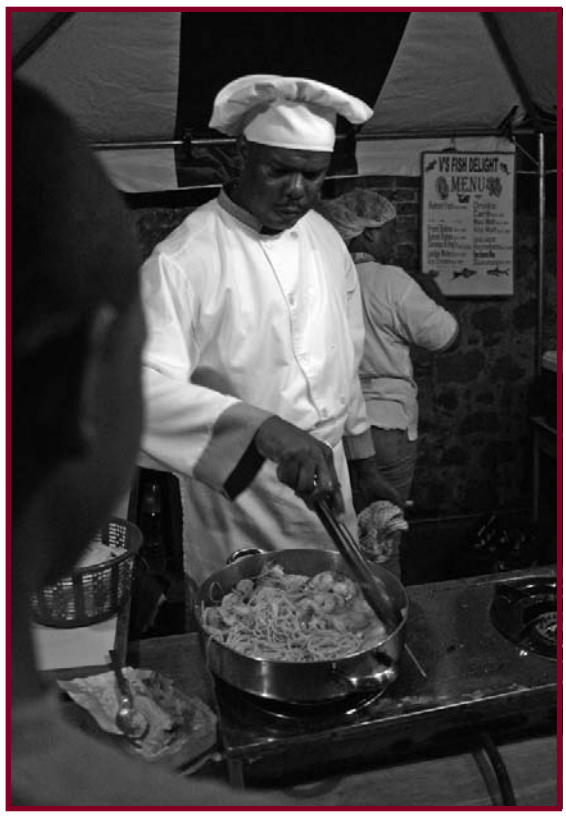
WHO standards for anaemia, in 2003, the Grenada Ministry of Health (MoH) reported anaemia among infants (12 months) to be 65.2 percent; 14 percent among antenatal women and 3 percent among postnatal women.

Dominica and Saint Vincent and the Grenadines were included in a three-country study conducted by the CFNI in 1996 aimed at determining micronutrient status among the population (CFNI, 1997). The study results showed that for Dominica 34.4 percent of young children (1–4 years) were anaemic based on the WHO standard, as were 30.7 percent of school-age children (5–16 years) and 35.6 percent of prenatal women. For Saint Vincent and the Grenadines, the study was able to report only on serum ferritin levels as haemoglobin levels were not measured. Based on serum ferritin levels, 18.9 percent of young children were anaemic as were 42.2 percent of school-age children and 41.8 percent of prenatal women (CFNI, 1997).

Food Consumption

Empirical food-consumption data over extended periods are not available for Caribbean countries, but crude estimates of energy intake can be gleaned from ecological analysis of FAO food-disappearance data. Since the 1970s there has been evidence of an increasing availability of kilocalories (kcals) per person in the Caribbean, representing an abundance of energy to meet nutritional needs. Since

the 1990s, there has also been a proliferation of food outlets where the major offerings are fatty foods and refined carbohydrates. Added to this, a larger proportion of the population eat away from home on a daily basis.



Changing infostyles include more meals outside the home

Using a per capita recommended daily allowance of 2 250 kcals in 12 countries, food-disappearance data indicate that during the 1960s there was an overall insufficiency of kilocalories: approximately 1900 kcal/daily/per person. This insufficiency was reflected in the high rates of under-nutrition at that time. From the 1970s onwards, the average daily availability of kilocalories per person increased rapidly and currently stands at approximately 2 750.

FAO food-balance sheets for Dominica, for example, show an increasing trend in per caput supply per day energy requirement. For example, availability of the per capita kilocalories food supplies increased from 2 254 kcal in 1980 to 2 866 kcal in 1993, indicating increased supplies relative to standard requirements. For 2002, the trends in food supply were not significantly different, with per caput supplies per day for energy, protein and fat being 2 763 kcal, 82.4 g and 77.4 g, respectively. The 1996 food-consumption survey identified high intakes of meats (pork and chicken) and fish, and inadequate consumption of fruits and vegetables among the population surveyed.

Qualitative food-consumption data from the Caribbean indicate that the consumption of food from animals and intake of sugar and salt have been increasing steadily since the 1980s. In contrast, consumption of fruits, vegetables, roots, tubers and legumes (ground provision) has been low or declining. During this period, the dependence on imported foodstuffs has also increased progressively, while consumption of local agricultural production has declined. An increase in the intake of high-calorie foods and the decline in the consumption of cereals, fruit, vegetables, legumes and ground provision, accompanied by a sedentary lifestyle and changing patterns of physical activity, contribute to the growing problem of obesity.

Physical Activity

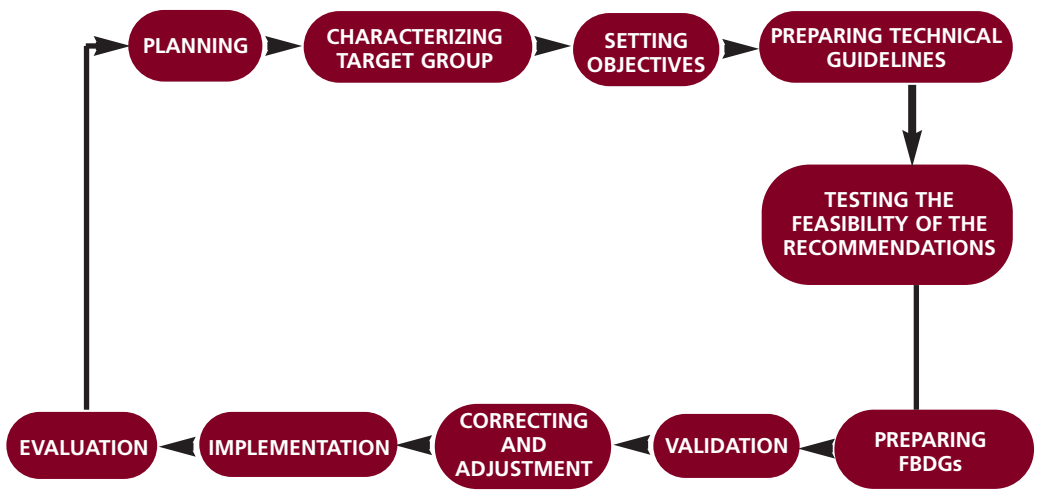
The protective effects of physical activity against obesity are substantial and well known (Hill, *et. al*. 2000). As with food consumption patterns there are no trend analyses of physical-activity patterns in the Caribbean. There is, however, documentation of increased mechanization and decreased manual labour, improvement in transportation and low levels of physical exercise (Sinha, 1995; Henry et al, 2001). Results from a small study conducted by CFNI in three member countries show that, on average, 45 percent of adults were sedentary (spent more time in sleep and light activity than other activities).

Part two: Process of Developing FBDGs

Introduction

This chapter describes the process of developing FBDGs. Figure 3 shows the steps for preparing dietary guidelines that were used in Dominica, Saint Lucia, Grenada and Saint Vincent and the Grenadines. Each step in the process is explained in detail below.

Figure 3: Steps for preparing food based dietary guidelines



Source: Peña, M. & Molina, V. 1999.

FBDGs development in the four eastern Caribbean countries followed the model proposed by INCAP as published by Peña and Molina (1999) and depicted in Figure 3.1 this model was first published in Spanish by Molina.

STEP 1: Planning and organizing the work

The purpose of this step is the formation of the multi-sectoral national committee. The ideas and perspectives of different public and private sector institutions and the users should be considered from the beginning in preparing the nutritional guidelines. This step comprises:

- Identification of the project coordinator.
- Training of project coordinators and resource personnel.
- Mobilizing political support and sensitization of key stakeholders.
- Convening a multi-sectorial national committee.
- Formation of a task force.

Identification of project coordinators

Before the process of developing FBDGs can begin, a coordinator should be designated to lead the process. This coordinator should be able to dedicate a substantial amount of time to working on the FBDGs. Training is required so that the coordinator has a clear understanding of the rationale for national FBDGs and the steps for developing FBDGs.

In this project, project coordinators were appointed by their respective governments and mandated with the task of leading the development process at the country level. In all four countries, the coordinators, appointed by their permanent secretaries, were drawn from the ministries of health and agriculture and were all nutritionists by profession. Other resource personnel who were trained included agriculturalists and communications specialists. Training was deemed necessary since coordinators and other resource staff lacked all of the skills needed for carrying out the task of developing FBDGs in their respective countries

Training of project coordinators and resource persons

Training allowed participants and facilitators to discuss issues such as strategies for mobilizing political support; establishing multi-sectoral national committees and the formation of national task forces. Political support from the highest level of government was deemed critical if the FBDGs were to form part of the National Plan Action for Nutrition (NPANs) and be used as tools for public education.

Mobilizing political support and sensitization of key stakeholders

To be effective, the development and dissemination of FBDGs require the participation of various sectors of society. The mobilization of political support from the highest level of government is important and it is also vital that key personnel in the various sectors be sensitized at the outset regarding the process to be used as well as their expected level of involvement. The following activities were conducted in order to seek political support:

- Project coordinator informed the permanent secretaries and key personnel in the ministries of agriculture, health, education and social development of this project.
- FAO wrote to relevant ministries requesting their cooperation with the project.
- A sensitization workshop was held (see below). Its aim was to sensitize key stakeholders on the objectives and proposed activities of the project and help the project coordinators of the participating countries to obtain political support.

Sensitization in the Caribbean was facilitated through the hosting of a "virtual workshop" (teleconference) using the facilities of the University of the West Indies Distance Education Centre (UWIDEC). The UWIDEC site in each country served as the meeting place for participants while the meeting was "chaired" from the site at the Mona campus in Jamaica and lasted for approximately three hours. This obviated the need for a face-to-face meeting of participants from all four countries, thereby minimizing cost.

The teleconference was facilitated by CFNI and FAO, Rome. The 56 participants were drawn from a number of agencies and organizations involved in food and nutrition-related programmes and services including the ministries of health, agriculture, education, social services and youth and culture. There were also representatives from the trade and commerce sector, academia, bureaux of standards and the media. The main issues discussed were:

- an overview of the TCP project under which the FBDGs would be developed;
- the process to be used in developing the guidelines;
- the benefits to individual countries in having culturally appropriate dietary guidelines;
- the role of various sectors in both development and dissemination of FBDGs information;
- the technical support which would be available to the countries; and
- a review of individual country's plans of action.

The virtual meeting ended with countries agreeing to continue discussing country-

specific strategies, preparing budgets based on local costs and finalizing work plans for developing the FBDGs.

Convening multi-sectoral national committees

An important part of the process is the formation of a multi-sectoral national committee on FBDGs. The main task of the multi-sectoral committee is to "take ownership" of the national FBDGs and to appoint a task force**.** It is recommended that the national committee is composed of representatives from the public sector (health, education, agriculture, economy, etc.), academia and the private sector (universities, professional associations, research institutes, consumer groups, chambers of commerce and industry, non-governmental organizations, etc.) and international and bilateral agencies. The participation of the various sectors allows for the multidisciplinary approach required for preparing the guidelines and facilitates their implementation in the different entities.

Each of the four countries had a multi-sectoral national committee comprised of over 30 personnel representing a wide range of government and non-government organizations (NGOs) and agencies.

Formation of a task force

Realistically, most of the members of the multi-sectoral committee cannot be expected to participate in development of the FBDGs on a frequent basis. Following the multi-sectoral committee meetings in the four countries, national FBDGs task forces were formed, comprising approximately 10 members chosen from the multi-sectoral committee. This task force guided the process of developing the national FBDGs, and task force members dedicated time for work on the development process.

The national committee appointed the task force (which was answerable to the national committee). Task force members need to be appointed officially and given enough time to work on the project. Box 2 gives examples of task force members in Grenada. (The task force is an interdisciplinary group as Box 2shows.)

Box 2: Membership of the Grenada National FBDGs Task Force

Ministry of Health.
Ministry of Agriculture.
Ministry of Education.
Ministry Social Development.
Grenada Food & Nutrition Council.
St George University.
Grenada Chamber Industry and Commerce.
Conference of Churches of Grenada.
Grenada Media Workers' Association.
Marketing and National Importing Board.
Grenada Bureau of Standards.
Department of Youth.

The task forces used the first meeting to introduce the project, outline steps for developing guidelines, identify data sources, and discuss the scope of work. The task force prepared a work plan document.

It is important that minutes of each meeting are kept so that good records of decisions exist – the process is a long one and there needs to be a consistent focus. Moreover, all commitment and consensus decisions should be recorded for each meeting in order to ensure the group keeps track of its objectives throughout the project and does not become sidetracked.

STEP 2: Characterizing the target group

The purpose of this phase is to identify the target group, in order to diagnose the health and nutritional status of the target group to whom the dietary guidelines are directed. The end product of this phase is a descriptive document that includes the risk factors and problems associated with the diet of the target group.

The diagnosis is based on a review of existing surveys, reports, and publications. The report should include information on the risk factors and problems associated with diet; epidemiological profiles; changes in morbidity mortality rates; nutritional status; education of the population; food availability, accessibility, consumption patterns, food composition and eating habits, distribution, classification and acquisition. The dietary patterns are analysed and the risk factors and problems associated with diets determined. This phase comprises:

- Identification of the target group/ population.
- Situation analysis on nutrition, health and risk factor.
- Prioritization of health problems associated with diet and risk factor.

Identification of the target group/ population

There was consensus among the four countries that guidelines should be developed for healthy families, using population over two years from urban and rural areas.

Situational analysis on nutrition, health and risk factors

The product of this activity is a descriptive document highlighting the risk factors and problems associated with the population's diet. This stage included collection and analyses of information on nutrition, health and risk factors and preparation of the report on the nutrition situation in the country. Box 3 suggests the type of information that needs to be collected and included in the situation analysis.

Information for compiling the situational analysis was obtained from the various agencies within each country. Sources used included annual reports from the ministries of health, agriculture and education in addition to reports from the various national statistical institutes/units. Data from published and unpublished national and community-based surveys and studies were also used.

Box 3: Contents for the situational analysis document

A. INTRODUCTION

B. RISK FACTORS AND PROBLEMS ASSOCIATED WITH DIET

1. Epidemiological Profile
   - 1.1 Changes in morbidity
   - 1.2 Nutritional Status
2. Education of the population
3. Foods
   - 3.1 Availability
   - 3.2 Accessibility
   - 3.3 Consumption
   - 3.4 Composition
4. Eating Habits - family
   - 4.1 Distribution - intra familial
   - 4.2 Classification - fads and fallacies
   - 4.3 Acquisition - food purchase, food storage

C. CONCLUSIONS

Information on the eating habits of population groups was available for the Commonwealth of Dominica and Grenada. Data for Dominica were obtained from a national food consumption survey undertaken in 1996. For Grenada, information was available from a qualitative food consumption study undertaken on a representative sample of the population in 2003. Dietary pattern data were not available for Saint Lucia and Saint Vincent and the Grenadines and consequently had to be obtained from the population groups quickly.

At times, the cost of conducting quantitative food consumption studies and also the time needed to carry them out is prohibitive. In the case of two countries in the project, the countries conducted qualitative studies using the focus-group methodology to obtain information on the dietary habits of their population. Training in the methodology was facilitated in-country and involved eight participants from Saint Vincent and the Grenadines and six from Saint Lucia. Those trained were mainly nutrition personnel drawn from the ministries of health and agriculture. Additional personnel trained were from the Bureau of Statistics (Saint Vincent and the Grenadines) and the Ministry of Social Transformation (Saint Lucia).

The training involved both theory and practice, and enabled participants to design and conduct focus group discussions on information collected. The core of trained

persons in each country was then able to carry out studies on the dietary patterns of their respective populations using the focus group methodology. This allowed for the provision of information on dietary habits for the situational analysis which would form the basis of characterizing the target group to whom the dietary guidelines would be directed.

Meetings are held to discuss nutrition priorities.

Prioritization of health problems associated with diet and risk factors

A two-day meeting with the multi-sectoral committee in each country was conducted with the following objectives:

- Present the health and nutrition situation of the country.
- Discuss implications of the health and nutrition situation and determine strategies for alleviating them.
- Determine priority problems and set national objectives to be addressed through food-based dietary guidelines.

Table 1 presents the problems identified by the multi-sectoral group. The problems are prioritized in terms of their scope, the feasibility of solving them, recommendations and priorities selected.

Based on the health and nutrition situation presented at the multi-sectoral committee meeting, the task force participants were asked to prioritize the problems in order to arrive at a list of key issues that could be addressed through FBDGs.

Table 1: Problems identified by the multi-sectoral groups

Saint Lucia	Grenada	Saint Vincent the Grenadines	Dominica
1 Obesity	1 Chronic diseases	1 Obesity	1 Chronic non-communicable disease/obesity
2 Physical inactivity	2 Physical Inactivity	2 Chronic disease	2 Physical inactivity
3 Food consumption Quality Quantity Choice	3 Food consumption	3 Physical inactivity	3 Food preparation
4 Food handling	4 Nutrition intake of fat, sugar and salt	4 Unhealthy lifestyles	4 Inequitable distribution
5 Teen pregnancy	5 Food preparation use of barbeque	5 Inadequate consumption of fruit and vegetables	5 Iron deficiency
6 Food accessibility and availability	6 Iron deficiency	6 Anaemia (iron deficiency)	6 Knowledge and education
7 Ageing population	7 Low birth weight	7 Food preparation and preservation	7 Unemployment/poverty
8 Protein, Energy Malnutrition (PEM)	8 Accessibility and availability	8 High consumption of fats, salt, sugar	8 Food security/policy
9 Poverty		9 Inadequate consumption of fat and processed food	9 Female head of household
10 Low birth weight		10 Low availability of food (fruit and vegetables)	10 Culture
11 Alcoholism			

To assist in this process, each member of the committee is provided with a "Decision Matrix" (Molina et al., 2001). The matrix ranks problems in terms of **magnitude, viability** and **impact** on a scale of zero to ten. Once the points are assigned to each problem, scores are added and the problems with the highest scores are selected. Table 2 shows the decision matrix prioritization of food and nutrition problems for Saint Lucia and Saint Vincent and the Grenadines.

Table 2: Decision matrix prioritization of food and nutrition problems, Saint Lucia and Saint Vincent and the Grenadines

Saint Lucia	M	V	I	S	Saint Vincent + the Grenadines	M	V	I	S
1 Obesity	9	10	10	29	1 High consumption fats, salt, sugar	10	10	10	30
2 Physical inactivity	9	8	9	26	2 Physical inactivity	9	9	9	27
3 Food consumption quality, quantity choice	9	8	10	30	3 Unhealthy lifestyles	6	8	7	21
4 Food handling	9	8	8	25	4 Obesity	10	9	10	29
5 Teen pregnancy	5	4	8	17	5 Chronic disease	9	10	9	28
6 Food availability	5	4	8	17	6 Inadequate consumption of fruit and vegetables	8	9	9	26
7 Aging population	-	-	-	-	7 Inadequate consumption of fast and processed food	9	10	10	29
8 PEM	9	8	8	25	8 Low availability of food (fruit and vegetables)	6	7	8	21
9 Poverty	-	-	-	-	9 Anaemia (iron deficiency)	9	9	9	27
10 LBW - low birth weight					10 Food preparation and preservation				
11 Alcoholism	9	8	9	26					

Note: Qualify the problems on scale where 0 = less to 10 = more. **M:** Expresses Magnitude and refers to the magnitude of the problem. **V:** Represents Viability or feasibility to solve the problem through the proposed educational intervention. **I:** Represents the impact on health if the problem is solved. **S:** Is the sum of the results of the three considered factors.

The problems were qualified on a scale of zero to ten, using the three criteria of (i) magnitude, (ii) viability and (iii) impact. The problems with high scores were selected, and grouped into categories. The nine priority problems in the four project countries were listed and rankedo.

These problems were then put into three categories: diet related; related to nutrition status and related to beliefs and practices (see Box 4).

Box 4: Categorization of major problems

Diet-related

1. High consumption of fat, sugar, salt.

Related to nutrition status

2. Obesity.
3. Iron deficiency anaemia.
4. Chronic diseases.
5. Physical inactivity.
6. Protein energy malnutrition (PEM)

Related to beliefs and practices

7. Inappropriate food preparation food handling.
8. Low consumption of fruit and vegetables.
9. Alcoholism.

STEP 3: Setting the objectives for the FBDGs

3

The purpose of this step is the definition of the FBDGs objectives, which should be aimed at preventing and reducing the priority risks and problems detected in the previous step, as well as promoting healthy diets and lifestyles. Based on the priority areas agreed at the multi-sectoral committee, nutrition personnel set general objectives for the FBDGs. Table 3 outlines the objectives for each problem.

Multisectoral committees ensure that FBDGs are suited to the food situation in the country.

Table 3: Prioritized problems and objectives of nutrition guidelines

Problem	Objective of nutrition guidelines
Obesity Chronic diseases High consumption of fat, sugar, salt	**For Saint Lucia, Grenada and Saint Vincent the Grenadines** Reduce prevalence of obesity and nutrition related chronic diseases. **For Dominica** To decrease the prevalence of chronic diseases and obesity in the population
Physical inactivity High alcohol consumption	**For Saint Lucia, Grenada and Saint Vincent the Grenadines** Promote healthy lifestyle behaviours with special focus on increased physical activity and decreased alcohol consumption **For Dominica** To promote the importance of healthy lifestyle with special focus on physical activity
Low consumption of fruits and vegetables Inappropriate food preparation food-handling practices	**For Saint Lucia, Grenada and Saint Vincent the Grenadines** Promote healthy food choices with respect to variety, quality, quantity. **For Dominica** To encourage the use of proper food preparation and practices in order to improve the quality of food consumed.
Protein energy malnutrition (PEM) Iron deficiency anaemia	Reduce the incidence of PEM and iron deficiency anaemia. To decrease the incidence of anemia in the population.
Dominica only Inequitable distribution Food security Knowledge and education	To ensure adequate quantities and quality of food for each member of the household. To provide relevant nutrition information using appropriate methodology to promote healthy food choices with respect to variety, quality and quantity.

STEP 4: Preparing the technical guidelines

Once objectives are established, the next step is to define the technical recommendations. This step must be carried out by nutrition experts and it is comprised of the following:

- Definition of the nutrition goals and nutrient recommendations (calories, macro- and micro-nutrients).
- Definition of the food groups, the profile of nutrients for each group, the size and number of portions that ensure appropriate food intake in terms of quantity and variety.
- Definition of technical recommendations.

The end product of this step is a technical document that summarizes the nutritional goals, nutrient recommendations, and additional suggestions for preventing the problems detected and promoting a healthy diet and lifestyle.

This technical document contains the scientific foundations that support the nutritional guidelines and is aimed at health and nutrition professionals and not the general public.

Definition of nutrient goals and nutrient recommendations (calories, macro- and micro-nutrients)

In the project, risk factors for the target group and the daily Caribbean recommendations from CFNI were used to define the nutrient goals for the Caribbean population. A reference framework which covers the energy requirements of the majority of the population was established. For each country's population, the framework or categories of reference established was: 2 800, 2 200 and 1 600 kcals, to ensure that energy intake needs from different age- and gender-groups are covered (see Table 4).

Once groups were defined, nutrient goals for each group were calculated (these included kilocalories, macro- and micronutrients). Results of the Nutrient goals are presented in Table 5.

Table 4: Population groups covered by three energy requirement levels

1 600 kcals	2 200 kcals	2 800 kcals
• Preschool children (both sexes).	• Schoolchildren (both sexes). • Male adults (low activity). • Elderly people • Adolescents/adult women. • Pregnant women (low activity).	• Male adolescents (moderate to intense activity). • Male adults (moderate to intense activity). • Adult women (moderate to intense activity). • Pregnant women (moderate to intense activity). • Breastfeeding women.

Table 5: Population framework nutrient goals

Nutrients (%)	Nutrient distribution	
	Kcal	Grams
2 800 Kcal		
Carbohydrate 60	1 680	420
Protein 15	420	105
Fat 25	700	78
Total 100	2 700	-
2 200 Kcal		
Carbohydrate 60	1 320	330
Protein 15	330	83
Fat 25	549	61
Total 100	2 199	-
1 600 Kcal		
Nutrients (%)	Kcal	Grams
Carbohydrate 60	960	240
Protein 15	240	60
Fat 25	400	44
Total 100	1 600	

Definition of food groups and calculation of the recommended diet

Food groups also need to be defined. The food groups from the Food Exchange Lists and CFNI food composition tables for use in the English-speaking Caribbean were used as the basis for the steps (see Box 5).

Box 5: Food groups that should be used in the FBDGs

1. Staple food which includes bread, rice and cereal.
2. Legumes and nuts.
3. Dark green leafy, yellow and other starchy vegetables.
4. Citrus fruit and juice.
5. Food from animals.
6. Fat and substitutes.
7. Sugars.

Calculation of the recommended diet

Using the defined food groups, the profile of nutrients of each group, the size and number of portions that ensure appropriate food intake in terms on quantity and variety were determined. Table 6 outlines a summary of recommended diets.

Table 6: Summary of portions from different food groups needed for the three energy requirement levels established*

Food group	No. of portions per diet		
	1 600 kcal	2 200 kcal	2 800 kcal
Staples	7	11	12
Legumes/nuts	1	2	8
Vegetable	2	5	5
Fruits	5	8	11
Food From Animals	4	3	7
Fats	3	7	6
Sugar	5	6	8

* For reference, see Table 4 above.

Definition of technical recommendations

The technical recommendations from the guidelines are selected on the basis of two criteria: the objectives of the guidelines and their potential for implementation by the target group. The potential for implementation is assessed through behavioural tests, which are discussed below under Step 5. In order for the population to remember them and to facilitate their dissemination through the media, the ideal number of messages in the nutrition guidelines is between six and eight. It was recommended that the food guide should have three characteristics: promote variety, appropriate portion size and be culturally acceptable to the population.

During this step the nutrition recommendations are written by technical experts in order to solve the problems identified earlier. To facilitate the process the chart that is presented as Table 7 was used. The chart will allow nutritionists to analyse each problem, and identify critical nutrients related to the problem, pinpoint critical foods and practices related to the problem and give specific recommendations to solve the problem.

Table 7: Formulation and Analysis of the Technical Recommendation for FBDGs*

Problem of health and nutrition	Critical nutrient	Critical food	Practices/habits/beliefs related to the problem	Technical recommendation to solve the problem
Refers to the prioritized problem established in Step 2 (see Table 2).	Refers to nutrients involved in the problem.	Refers to foods related with nutrients identified.	Refers to behaviours which affect the problem.	Refers to the technical advice that experts give to solve the problem.
Examples				
Obesity	High fats, high Cabohydrate (especially sugar) and alcohol intake. Low fibre intake.	High pork, beef, poultry, goat and mutton meat, refined products, white flour, white rice, carbonated and sweetened beverages, cakes, pastries and pies. Low intake of vegetables, cereals and fruits.	Belief of wealth and prosperity. Cultural perception that men are more attracted to heavier women. Addition of fats when cooking. Easy access/convenience. Large portion sizes. Sedentary lifestyles.	Increase physical activity. Decrease consumption of products with added sugar. Increase consumption of water. Increase consumption of high-fibre foods, vegetables, fruits. Decrease intake of stewed and fried foods. Trim fats off meats before cooking. Reduce portions of high-energy foods

Table 7 (continued): Formulation and Analysis of the Technical Recommendation for FBDGs*

Problem of health and nutrition	Critical nutrient	Critical food	Practices/habits/beliefs related to the problem	Technical recommendation to solve the problem
High consumption of fats, sugar and salt	High consumption of total and saturated fats. High consumption of refined carbohydrate. High consumption of sodium.	High consumption of meats and fried foods/bakes/fish/ vegetable cakes (spinach and callaloo), vegetable patties and pastries. High consumption of sweetened, drinks, candies, chocolates, sweet biscuits. High consumption of salted meats (pigtail, codfish), canned meats and vegetables and seasonings, salty snacks such as chips and cheese curls.	Easy access/convenience. Preference for the taste of fried foods. Frequent use of fast foods. Traditional holiday meals (ham, cakes, soft drinks). Addition of salt to food.	Use low fat method in cooking and food preparation. Reduce the use of processed, packaged and canned food. Reduce intake of salt and sodium. Reduce the use of fast foods. Reduce fat intake. Reduce intake of sugar and sweet products.

Table 7 (continued): Formulation and Analysis of the Technical Recommendation for FBDGs*

Problem of health and nutrition	Critical nutrient	Critical food	Practices/habits/beliefs related to the problem	Technical recommendation to solve the problem
Physical Inactivity	Carbohydrate.	Complex carbohydrate food. Water.	Increased use of TV/DVD/cable.	Increase physical activity.
			Increased use of vehicles for mobilization.	Choose a variety of foods.
			Belief that physical activity is inappropriate for older persons.	Increase water consumption.
			Low level of scheduled physical education activity in schools. Non-supportive environment to physical education.	Build physical activity into daily life.
Inappropriate food preparation and handling	Increased saturated fats. Loss of critical water soluble vitamins (C & B).	Meats - beef, pork, poultry. Vegetables and fruits.	Convenience of BBQ and fried fast foods Overcooking/boiling vegetables. Unsafe food preparation and handling practices. Peeling and soaking vegetables before cooking and use.	Use cooking methods that conserve nutrients. Use safe food handling and sanitation practices.

Table 7 (continued): Formulation and Analysis of the Technical Recommendation for FBDGs*

Problem of health and nutrition	Critical nutrient	Critical food	Practices/habits/beliefs related to the problem	Technical recommendation to solve the problem
Iron deficiency anaemia	Iron, Vitamin C, B6 protein.	Low consumption of callaloo, spinach, dried peas and beans, red meats, organ meats (liver, kidney, hearts), pak choi and beets. Vitamin C rich fruits and vegetables.	Green banana is believed to be high in iron. Organ meats are avoided because of high cholesterol content. Not eating Vitamin C and iron rich food together.	Increase consumption of green leafy vegetables. Use organ and red meats moderately. Include legumes peas and beans in the diet. Include fruit or fruit juices with iron-rich meals. Increase consumption of Vitamin C rich fruits and vegetables. Encourage practices which increase bioavailabity of iron.

* The chart was developed by INCAP and the Nutrition Institute and Food Hygiene from Cuba

Table 8 gives a summary of the range of technical recommendation for the FBDGs and the frequency in which this recommendation was mentioned by committee members. Table 9 outlines the preliminary recommendations for the Caribbean.

Table 8: Summary of technical recommendation for FBDGs

Technical Recommendations	Frequency
Reduce fat intake.	
• Saturated fats and cholesterol.	
• Trim fat off meats before cooking.	4
Reduce portion size.	
• Reduce portions of high-energy foods.	2
Reduce sugar intake.	
• Refined carbohydrates.	
• Sweet products.	4
Reduce alcohol intake.	
• Use alcohol sparingly.	
• Less alcohol in food preparation.	3
Less frequency in snacks and fast foods.	
• Salty snacks.	
• Use dense, more nutritious snacks.	3
Select foods low in energy.	1
Reduce intake of salt and sodium.	2
Increase physical activity.	
• Build physical activity into daily life.	4
Increase water consumption.	3
Increase fibre intake of food.	2
Increase vegetable and fruits.	
• Increase frequency and quantity.	
• Increase portion size.	
• Timely introduction in the diet of young children.	8
Reduce processed, canned and packaged foods.	1
Appropriate preparation methods.	
• Nutrient saving methods.	
• Low fat cooking methods.	4
Safe food handling and sanitation practices.	2
Reduce smoked, salted and cured food.	1
Moderate red meat intake.	1
Increase legumes intake.	1
Appropriate food combination.	
• Increase bioavailabilty of iron.	3
Variety of food.	4
Increase calcium-rich food.	1
Increase fish, seeds, nuts.	1

Table 9: Preliminary Technical Recommendations

Technical Recommendations for the Caribbean

- Eat a variety of foods every day.
- Eat larger portions of vegetables and fruits daily.
- Reduce fat intake using less fat in cooking.
- Trim fat off meat before cooking.
- Reduce sugar and sweet products intake.
- Avoid high fat/salty snacks and fast foods.
- Increase physical activity, build physical activity into daily life.
- Consume at least 8 glasses of water a day.
- Use alcohol sparingly also in food preparation.
- Appropriate food combination.
- Increase bioavailabilty of iron.
- Use appropriate preparation methods:
  - nutrient saving methods
  - low fat cooking methods
  - salt consumption.

Table 10 shows a comparison of the problems, objectives and technical recommendations. These recommendations need to be tested on the population.

Table 10: Comparison of problems, objectives and technical recommendations

Problem	Objective	Technical Recommendation
Obesity Chronic diseases High consumption of fat, sugar and salt	Reduce incidence of obesity and nutrition related chronic diseases,	1. Reduce fat intake using less fat in cooking and trimming fat off meats before cooking 2. Reduce the amount of sugar used. Choose to have less sweet beverages and sweet products. 3. Use less salt when cooking and when eating.
Physical inactivity High alcohol consumption	Promote healthy lifestyle behaviours with special focus increase physical activity and decrease alcohol consumption.	4. Build physical activity into your daily life. Exercise at least one hour every day. 5. Make water your drink of choice several times every day. (Drink at least 8 glasses of water a day.) 6. If you use alcohol do so sparingly both in drinking and in food preparation. 7. Choose to eat a variety of foods every day.
Low consumption of fruits and vegetables Inappropriate food preparation and food-handling practices Protein Protein Energy Malnutrition (PEM) Iron deficiency anaemia	Promote healthy food choices with respect to variety, quality, quantity, Reduce the incidence of PEM and iron deficiency anaemia,	8. Eat larger amounts of vegetables and fruits daily. 9. As frequently as possible, use steaming, boiling and baking instead of frying and barbequing. 10. Every day, add to your regular meals foods such as citrus fruits, guavas, garden cherries or fresh tomatoes,

STEP 5: Testing the feasibility of the recommendations and developing the pictorial food graphic

The purpose of this step is to test the feasibility of the recommendations through behavioural trials and to develop a graphic that will be understood by the population. This step comprises:

Testing the feasibility of the recommendation

This step included: design of field-testing methodology for behavioural trails; training in field methods for household trials; collection of the information analysis and interpretation (see Figure 3 below).

Behavioural trials: Behavioural trials must be conducted in order to ascertain whether the messages are understood and if there is willingness and capacities, motivations of the target population to follow the recommended FBDGs. Behavioural trials are a small-scale field test with sample groups from the target population to see if the target population will be able to practise behaviours that will be promoted.

The trial investigates whether the target audience likes and can carry out the recommendations and its reactions to such recommendations. In addition, the trial helps ascertain the appropriate language to be used in the messages about the guidelines and the motivation for implementing the recommendations. The result of this step is a reconciliation between technical theory and what is feasible from the standpoint of the target population.

Box 6: Reasons for behavioural trials

Behavioural trials can help in developing FBDGs in a number of ways, including:

- Identifying and analysing if behaviours or aspects of recommended behaviours for each food group and portions per age were (or were not) adopted.
- Pinpointing the changes that could be made in the adoption of behaviours or aspects of behaviours.
- Detecting the reasons (cognitive, resource oriented or skill oriented) that facilitated or hindered the adoption of recommended behaviours.
- Ascertaining how to reinforce the teaching of recommended behaviours.
- Refining the teaching strategies and reinforcing the recommended behaviours.

Recommendations in terms of food need to be:

- based on foods that are already available in houses or in communities;
- based on foods that are accessible with respect to cost;
- consistent with resources and local technology; and
- compatible with cultural beliefs related to the correct way of eating.

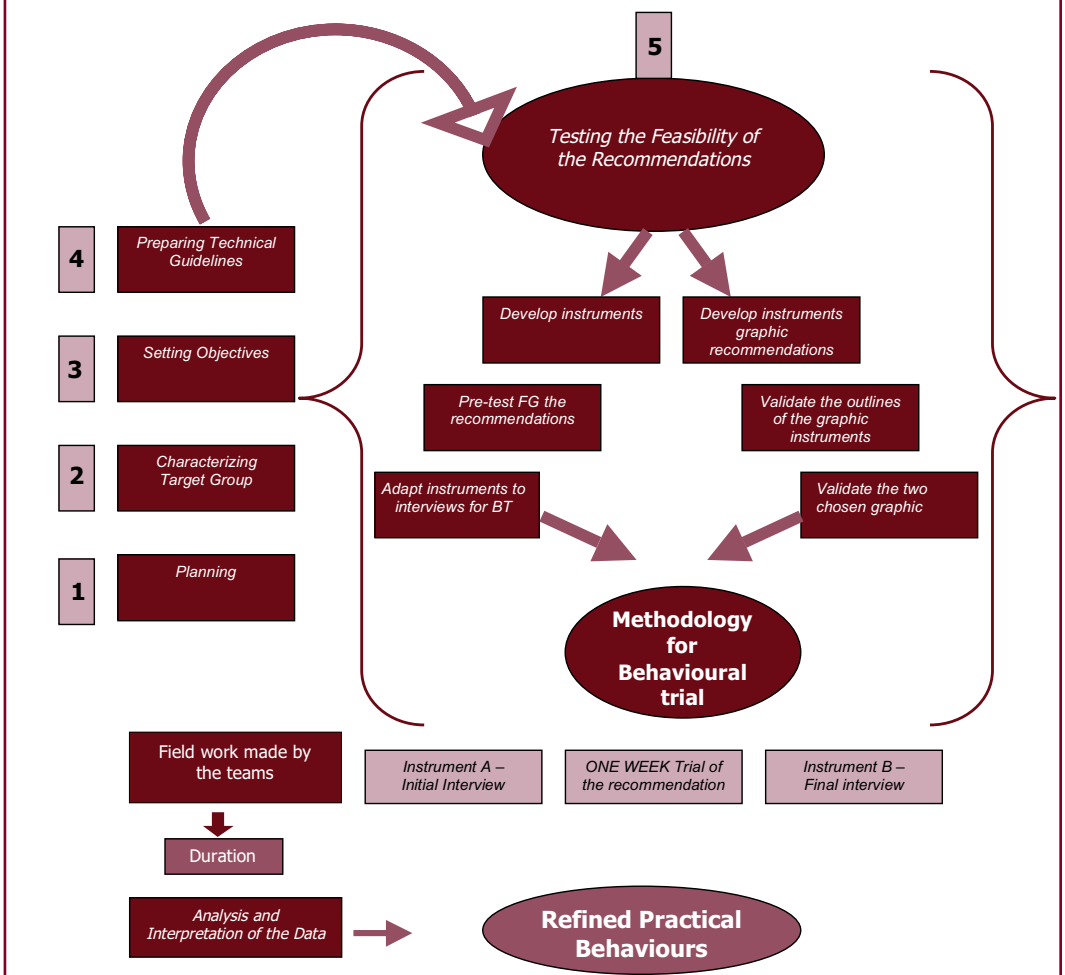
Design of the field-testing methodology

The design of the field testing includes:

- Developing and pre-testing the instrument.

5

Figure 3: Testing the feasibility of the recommendations



Source: Christa de Valverde, INCAP

- Sample selection.
- Training staff.
- Defining the timetable, data collection and tabulation
- Analysing data.

Developing and pre-testing the instrument

Specific forms were developed in order to compile and record the information, depending on the technique to be used and the information required:

Focus Group Form: Preliminary forms to carry out focus groups were developed for each of the recommendations in order to validate them with the target population. The purpose of this activity was: (a) to adapt the technical recommendations to the local language; (b) to assess if respondents understood them; (c) determine if respondents agreed with the statement (or not) and why. In addition, the forms were developed to compile information regarding respondents' food practices and, by doing so, if they perceived benefits and barriers in addition to describing people's perceptions regarding variety and food groups.

Initial Interview Form: For these instruments, the project staff, were asked to adapt the focus groups instruments into individual interviews, leaving enough space to take notes and write some observations (see Annex 1 and 2).

Recommended Practices/Reminder Card of the Recommendation: These cards are used to give an explanation of the recommendation and motivate the head of household to follow it. For these instruments field workers were asked to:

- Develop an introduction.
- Make cards with reminders of each recommendation to be left in each household.
- Write the benefits that the population would experience if they practised the recommendation. These benefits should come from participants in the pre-testing, as to what they perceive as benefits .

Graphic/Diagram Validation Form: This form was developed to validate the different graphics in order to identify which graphic the population thought best represented their country (and why) and which graphic respondents would like to have their FBDGs (see Annex 3).

Final Interview Form: This was the final form used to conduct individual interviews in the behaviour trials. This form was used to ascertain if the mother/father followed the recommendation, what happened when they did, if they were prepared to follow the recommendation and why.

Sample selection

The sample selection for the behaviour trials was conducted by dividing the island into four sections, corresponding to the cardinal points. Variables used were age, education, and geographic location. In each of the sections or constituency the team was asked to test the nine recommended practices twice (urban and rural) (one recommended practice for each household). The largest villages in the constituency were selected. Box 7 describes the profile of participants.

Staff training

The team and the coordinator responsible for carrying out the behavioural trials had previous training in techniques such as focus groups. The team was trained in the field-testing methodology and participated in all the steps mentioned above.

5

Box 7: Saint Vincent and the Grenadines behavioural trial

Profile of participants

Behavioural trials were conducted with 87 households in Saint Vincent and the Grenadines: 78 on the mainland and 9 in the Grenadines. The trials were conducted in order to test the efficacy of nine technical recommendations from the FBDGs.

Ten homes in each constituency of Saint Vincent and the Grenadines were surveyed, and the largest villages in the constituency selected. Variables were age and education (primary and secondary and tertiary) and geographic location.

The age range was from 18-79 years. More than two-thirds of respondents had attained primary school education; less than one-third had attained secondary and tertiary education. Of those interviewed, the majority of respondents were females: less than 10 men were interviewed.

Interviews were carried out with heads of households. Respondents received two visits: an initial visit to discuss the recommendation with the household head, and a final visit one week later to ascertain the respondent's reactions to the recommendation and if the recommendation was followed.

The ten houses in each constituency were tested on all nine recommendations. Respondents were given reminder card of the recommendations, which they cards fried to follow for one week. One week later during the final interview they were reminded of the recommendation and questioned on their ability to follow it.

Design the timetable, data collection and tabulation

Figure 4 gives an example of the timetable that was devised to allow teams to begin the field work.

Figure 4: Timetable in St. Vincent and the Grenadines

HOUSEHOLD TRIALS FOR FBDGs SAMPLE SELECTION

Form	Dates	Location	No. of households	Interviewer's name	Constituencies
Initial interview (A) Week trial Final interview (B)					Southern Grenadines
Initial interview (A) Week trial Final interview (B)					Northern Grenadines
Initial interview (A) Week trial Final interview (B)					Rural North
Initial interview (A) Week trial Final interview (B)					Urban North

The duration of the behavioural trials depended specifically on the number of field workers each of the countries had. The basic process used 13 described below:

The **Home visit** or a meeting with the selected household.

The **Initial interview** with the head of the household to discuss the recommendation with the household head, where an explanation of the recommendation was given and the woman or man was encouraged to follow the recommendation for a week (Annex 2). In some cases, a demonstration and sampling of recommended foods were offered. The card "**Recommended Practice**" was given to the household.

The **Final interview** included a follow-up visit and final interview in order to find

out if the women/men followed the recommendation, what happened when they did, if they were prepared to continue to follow the recommendation and why (see Annex 2).

Box 7 gives details of how a recommendation 1 was tested in Saint Vincent and the Grenadines:

Data analysis

After the team recorded the data in the specific forms developed for that purpose, the next step was to code, tabulate and organize the data for each of the recommendations tested.

In each country the first activity was to examine and tally both sets of interviewes (initial and final) for the recommendation to be used. The forms used in the

Box 8: Saint Vincent and the Grenadines behavioral trial example

Recommendation 1: Use less fat in cooking and trim fat off meats before cooking.

This recommendation was tested by 10 women, 7 from the rural area, 2 from the urban area and 1 from the Grenadines. The respondents were aged between 21 and 79 years old, had primary- and secondary-level education, and there was an average of 7 people in each of the respondent's homes.

- Eight persons or less added butter or margarine to bread, corn, rice.
- Seven or less used vegetable oil for frying (chicken, fish, chips, luncheon, salt fish, vegetables),
- Ten added margarine or butter to already cooked foods.
- Less added fat (mayonnaise/salad cream) to different salad (potato, breadfruit, coleslaw, vegetables).
- Nine out of ten trimmed fat off meat and chicken before cooking or when cleaning the meat, while six reported trimming fat after cooking.
- Persons fried the fat from chicken and reused it as oil.
- When asked if they could prepare foods in other ways, all answered yes for boiling (6), steaming (5), baking (3), roast, grill or BBQ (1).
- Four of them remembered the recommendation very well, 6 partially.

Most respondents stated that they were able to follow the recommendation, mentioning that they were using less fat and oil and baking instead of frying. They said:

The other three were able to state they were able to follow it somewhat. One person stated that it was difficult to cut down on fats because it made the food taste good.

"It's not hard and I can do without using the oil and butter, the food does not taste any different."
"It is healthier."
"To make me live longer and stop me from getting bad heart."
"Because of my weight I know I must cut down on lots of fats and oil I do less frying and stewing and since you encourage me."

behaviour trials pertaining to respondents' thoughts, knowledge, beliefs and perceptions regarding food and dietary practices were tallied and analysed.

Second, the teams were divided into groups. Each group was given one recommendation to analyse. In order to interpret the information, the groups examined and tallied what the informants actually said, taking into account their feelings and beliefs and the veracity of their intentions. The interpretation of the information was as simple and direct as possible. Although it was time consuming, the groups tried to focus on issues that were mentioned frequently or that were outstanding, they tried to discover the relationships between the different aspects and look for similarities and differences based on the objectives of the research. Also they were asked to find any relationship among the different recommendations.

For each of the recommendations, the group reviewed the actual behaviours, obstacles, and messages that were sent to the target population who participated in the trial and the following aspects were analysed:

1. Were the messages understood by them?
2. Did respondents recognize the six food groups that were being promoted?
3. Were respondents able to follow the recommendations or follow them to some extent?
4. For how many days were they able to follow the recommendations?
5. What changes did they make to the recommendations?
6. Reasons for following or not following the recommendations.
7. Suggestions from respondents about informing other people of the recommendations.

The recommendations were then based on the results. These reflected the needs and perceptions of the participants in the behaviour trial and specified the actions that should be adopted.

In order to facilitate the development of conclusions for each statement, the problem, the objective, and the variables that were causing the problems were reviewed.

FBDGs graphic design

The graphic representation of the FBDGs serves a number of important functions. It allows easy identification and is usually in the shape of an important cultural symbol. Pictures or a diagram are used to help the target group easily recall what food it should include in its diet at and in what proportions. Three major criteria must be met by the graphic: cultural acceptability; proportionality; and variety. The graphic artist should be involved in the development of the FBDGs so that they appreciate the concepts that are supposed to be conveyed.

5

Cultural acceptability

To meet this criterion the graphic must be selected by the target population. Task-force members, using their knowledge of the culture, suggest six to eight potential graphics which are then sketched by a local artist. The graphics are shown without the food initially. **Focus-group** participants were then asked to select a graphic based on two questions:

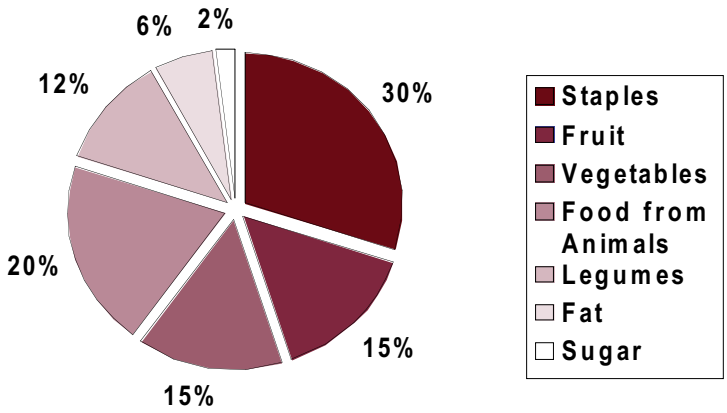
1. Which of these diagrams makes you think of your country?
2. If we were to show you how to divide the different types of food you should eat every day, which of these diagrams would you like to see them on?

Based on the results of the participants' ranking of the graphic, the first and second choices were then returned to the population with depictions of food added. This was carried out during the field testing of the messages when respondents are asked to select the one that best answers the two questions above. Annex 3 present the instruments for choosing the diagram in Saint Vincent and the Grenadines and Grenada.

Proportionality

The graphic should at a glance send a message of *proportionality*. This means that it should indicate which food group should form the largest or smallest portion of the daily food intake. Based on the objectives (Step 3) and the technical recommendations and diet calculations (Step 4) a distribution of food could be depicted as shown in Figure 5.

Fig. 5 Proportionality



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Variety

To meet the criterion of variety, the graphic should indicate *all* food groupings. Each grouping must contain examples of foods that are easily available and are commonly eaten by the population.

STEP 6: Finalizing the FBDGs

The purpose of this step is to prepare the FBDGs messages using the results of the behavioural trials and to link the concept of variety of foods and portion sizes to the diagram.

An inter-country meeting was held between the four countries which focused on ways to improve the recommendations, to review the results of the field testing of technical recommendations and to define the communication strategy and tools needed to implement the FBDGs. This step comprises:

- Review the results of the behavioural trials
- Messages development

Review the results of the behavioural trials

Through the testing of the recommendations, the national teams found that the consumers' abilities to understand the recommendations varied and that messages needed to be revised to make them clearer and more useful.

The field work enabled the national teams to acquire information that was useful for developing realistic messages. The respondents gave information for developing tips for following recommendations and used everyday language which could be incorporated into the messages so that the public would understand the messages and find them motivating.

The findings from the behavioural trials indicated that:

- Food costs and seasonal availability were major constraints which affected the households' ability to follow recommendations. This was especially true in the case of vegetables.
- Consumers were aware of the associations between salt and fat and cardiovascular diseases.
- Preparation time and taste were obstacles to following the recommendation to trim off the fat from meats prior to cooking.
- Consumers could reduce the salt used in home-made foods but could not control the salt in purchased foods.
- Eating a variety of foods was difficult because of the cost of foods and the time needed for preparation.

- Eating more fruits and vegetables was too costly for many households. There was some concern about alcohol consumption, especially consumption by young men.

Messages development

After the behavioural trials, the guidelines were prepared and the messages and diagram were approved. The guidelines are the recommendations that the population will receive through messages, which may be complemented by the diagram.

The recommendations from the guidelines are selected on the basis of two criteria: (i) the objectives of the guidelines and (ii) their potential for implementation by the target group. In order for the population to remember them and to facilitate their dissemination through the media, the ideal number of messages in the nutrition guidelines is between six and eight.

The national teams developed their draft FDBG based on the results of their testing of the messages and the workshop discussions. All of the workshop participants and resource persons reviewed each set of FBDGs and made suggestions to the national teams. The four sets of draft recommendations are included in Table 11.

Table 11: Draft FBDGs Recommendations from Dominica, Grenada, Saint Lucia and Saint Vincent and the Grenadines

Dominica - Revised Recommendations	**Grenada - Revised recommendations**
• Start the day with breakfast. • Always try to eat a variety of foods every day. Use the basket to help you make the choices. • Eat more vegetables and fruits every day. • Reduce fat and oil intake. • Choose less sweet foods and drinks. • Use less salt, salted foods, seasonings and salty snacks. • Make physical activity a part of your daily life. • Drink water several times a day. • If you use alcohol, do so in moderation.	• Choose to eat a variety of foods every day • Eat larger amounts of fruits and coloured vegetables every day. • Eat less fatty, oily, greasy and barbequed foods. • Use less salt, salty foods, seasonings and snacks. • Choose to have less sweet foods and drinks. • Make water your drink of choice several times a day. • Satisfy your thirst with water. Drink more! • If you drink alcohol, do so sparingly. • Get moving! Be more physically active everyday.

Table 11 (continued): Draft FBDGs Recommendations from Dominica, Grenada, Saint Lucia and Saint Vincent and the Grenadines

Dietary Guidelines for Saint Lucia - Revised Recommendations	**Saint Vincent and the Grenadines - Revised Recommendations**
• Always try to include more ground provisions, peas and beans in your meals every day. • Eat more vegetables and fruits daily. • Buy less fatty and greasy foods and when you cook use less fats and oils. • Use less salt, salted foods, packaged seasonings and salty snacks. • Choose less sweet beverages and foods preserved or prepared with added sugar. • If you drink alcohol, do so in moderation. • Drink water several times a day. • Make exercise a part of your daily life.	• Eat more vegetables and fruits every day. • Reduce fats and oils by cutting back on fatty, oily and greasy foods. • As frequently as possible, use steaming, boiling, and baking instead of frying, stewing and barbecuing. • Reduce the intake of sugar: • Choose to use less sugar, sweet foods and drinks. • When cooking use less salt and salted seasonings. Eat less salted foods and snacks. • Water is a natural drink; choose to drink it several times a day. • If you drink alcohol, do so sparingly

Following approval by the multi-sectoral committees in each country, the final messages were validated with focus group testing to ensure that they were understood by the lay person.

In addition to drafting the messages, the workshop participants brainstormed about tips for assisting people to follow the FBDGs. Some examples of recommendations and tips are listed in Box 9:

Box 9: Tips and motivational messages

Recommendation	Tips and messages
Drink water	"Keep a glass of water on your desk everyday"; "Set your mobile phone to announce another drink water time"; "If you don't like plain water, drink coconut water."
Reduce fat intake	"Use a teaspoon, not a pot spoon"; "Read labels, choose salad dressing wisely"; "Fewer fats, healthier hearts"; "Use less grease and take out skin and fat"
Reduce salt	"Use less salty seasonings"; "Use less salty snacks"; "Use less salt when cooking and eat less salted foods and products"
Drink alcohol sparingly	"Make one drink last longer"; "Replace at least one alcoholic drink with a non-alcoholic drink"; "Drink by choice- not by chance"; "Less alcohol - more self confidence and control"
Reduce sugar	"Get sugar from natural sources, like fruits"; "Love yourself more - choose to share all your sweets with a friend"; "Take less sugar to have a sweet smile"

Messages of the FBDGs were refined using advice from communication experts. These are summarized in Box 11:

Box 10: Advice for writing messages

- Give messages that help consumers use their common sense to improve their lifestyle.
- Use positive, short and simple recommendations.
- Be specific and describe a specific action.
- Don't assume that the consumers know the benefits. Tell them.
- Make it easy: divide the process in easy and short steps.
- Offer concrete and measurable results. Don't make false promises.
- Include many examples according to the audience habits.
- Use sense of humour when it is possible and appropriate.
- Incorporate recommendations that save time.

STEP 7: Validating the FBDGs

The purpose of this step is to link the messages with the diagram and to field test the FBDGs messages and diagram.

The guidelines should be field tested on people representative of the target population to determine whether or not the message or picture are understood, relevant, acceptable and persuasive. The guidelines may be theoretically correct, but if they are not understood, remembered and applied by the people for whom they are intended, they will not achieve their purpose. It is suggested that the testing be conducted in three phases: (i) the message alone, (ii) the diagram and (iii) the two together in the testing stage.

In Step 5, the national team pre-tested concepts and drawings of graphics to ensure that that they were culturally appropriate. The options for each country were varied from commonly available foods, such as breadfruit to the national bird to traditional baskets to women in traditional dress. The multi-sectoral committees made the final decision about the graphic.

In Step 6, the national team developed their draft FBDGs messages / recommendations (Table 11) based on the result of the behavioural trials. The multi-sectoral committees made the final decision about the messages. The final messages were validated with focus groups to ensure that they were understood by the lay person.

After the food groups were added to the graphic, the mock-ups were tested with focus groups in each country to ensure that the meaning was understood.

STEP 8: Correcting and adjusting the FBDGs

The purpose of this step is to prepare the final version of the FBDGs. Correction and adjustments were made to messages and diagram based on the test result and an additional technical review by the multi-sectoral committees. A graphic artist prepared the last version of the diagram.

The final guidelines and pictorial diagram are aproved by the committee.

STEP 9: Implementing the FBDGs

The purpose of this step is to reproduce, disseminate and implement the FBDGs a nationally through the public and private sector, using a sound communication strategy. This step comprises:

- Approval of the FBDGs by government.
- Development of the communication strategy
- Development of the educational material
- Planning the official national launch

Approval of the FBDGs and food diagram

The draft guidelines were submitted for approval by the relevant government body in each country so that they could become the official FBDGs and food diagram of the respective national governments. In some countries this process took more than three months.

Development of the communication strategy

Once the FBDGs have been developed and approved by the government, a strategy and funds are needed to disseminate the guidelines to reach the target population groups. The most common methods for disseminating the guidelines focus on providing materials and training through the health and education systems. For instance, school teachers may incorporate FBDGs into their class curricula and nurses and home economists can make use of them during counseling sessions. FBDGs can be distributed to workplaces, food markets, restaurants and food outlets. They can also be promoted at agricultural fairs, sports events and festivals.

FBDGs are also widely distributed to the target population as brochures, posters or radio or television messages. It is best to provide related educational materials and programmes to elaborate and explain the guidelines so as to in turn support the FBDGs. Further, messages should be reinforced by using a number of channels of communication. Regional and national mass media campaigns when used should ensure a coordinated and consistent dissemination of the messages.

Common obstacles to promoting FBDGs are the lack of expertise in communication strategies and lack of resources for producing materials. Some

countries have procedures for obtaining and approving sponsorship of materials and activities from the private sector. This allows for the promotion of nutrition messages and food guides on food packages or through other commercial channels.

Communication strategies

Experiences in other regions show that FBDGs are not always promoted effectively and that a strategy for communication, as well as resources, is needed.

The teams identified their main goals within the communication strategies (e.g. slogan competition, production and airing of jingles on radio and television); they elaborated the objectives, indicators, messages, priorities, audiences (primary and secondary), channels, lead agencies, timeframes and budget for each goal. The draft communication strategy from Saint Vincent and the Grenadines is provided as an example in Annex 6.

For each country, the communication strategy included as a minimum the publication of a poster and a booklet to be disseminated widely. Other activities such as parades, theatre, promotions in grocery stores, and messages on products, radio programmes and training in schools were included in the plans.

The countries identified **short-term and long-term** activities for promoting the FBDGs. It was agreed that the countries would produce their first sets of materials (flyer, poster, radio spot and booklets) through the project budget to be available at the time of the launch of the FBDGs. In the long term, other methods were identified for sustained promotion such as billboards, television, packages and promotions in markets. The national coordinators and communication specialists identify potential partners to support these more costly campaigns. It was noted that social organizations and private sector partners may be able to assist in promoting the FBDGs.

Long-term communication strategy

Planning a long-term communication strategy frequently requires advice from communication experts. This step usually requires substantial amounts of money – sponsoring events, designing educational materials, printing information and broadcasting messages can be costly. Working with communication specialists and finding the funds to produce information are two of the most challenging aspects of implementing FBDGs. At this stage, the multi-sectoral committee needs to be mobilized to provide contacts, ideas and resources for promoting the FBDGs.

This phase of implementation of FBDGs was considered so vital to the successful implementation of FBDGs that FAO held an inter-country workshop to focus specifically on how to develop a communication strategy. In every country, there

was a range of ways that the FBDGs messages and food guides could be disseminated. Box 11 indicates where the FBDGs can be implemented and Box 12 offers ideas of media that can be used to promote the FBDGs.

Box 11: Places and events where FBDGs can be disseminated

- Health centres and health workers.
- Schools, teachers and food services
- Workplace canteens/cafeterias, employers and employees.
- Social Welfare Organizations/Services and social workers.
- Sports facilities and events/coaches/athletes.
- Food markets.
- Restaurants and food outlets.
- Meetings of professional societies (e.g. medical associations) and authoritative speakers/endorsements.
- Special events - e.g. Nutrition Week, Agricultural Fairs and exhibitions, holidays, parades.
- Extension agents/community workers.
- Religious centres and religious leaders.
- Non-governmental organizations.

Box 12: Media for disseminating FBDGs

- Radio.
- Television.
- Billboards/posters.
- Newspapers/magazines.
- Websites.
- Product packages and commercial spaces.

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Educational material design

Once each country has the messages and graphic design tested and refined, educational material should be developed. For the purposes of developing FBDGs, three kinds of educational material were proposed:

1) Poster.

2) Brochure.

3) Booklet.

An outline for the booklet was prepared and explained to the group, which is presented in Box 13.

Box 13: Outlines for booklets

I. Description of the process
- A. Institutions that participated in the multi-sectoral group.
- B. Explanation of why the FBDGs were developed.
- C. Description of how the FBDGs were developed and by whom.

II. Explanation of the body's need for food and nutrients
- A. Carbohydrates, fats and proteins.
- B. Vitamins and minerals.

III. Individual messages in the FBDGs
- A. Food included in the message.
- B. Characteristics of the foods.
- C. Advice and tips for changing behaviour.
- D. Advice and tips for overcoming barriers to change in diet.
- E. Benefits of the recommendation.

IV. Self-Assessment

V. Portion sizes (with examples from a range of diets).

VI. Healthy recipes.

VII. Glossary of terms used in the booklet.

Official national launch of the FBDGs

To achieve the desired behavioural change, FBDGs should be communicated to the public through a variety of materials, programmes, settings and media. Official national launches were used in countries as the first step in communicating the FBDGs to the general public. Each national team prepared their plans for the launch.

The first public announcement or launch of the FBDGs is considered to be essential to the implementation process. Launches are complex events involving ceremonies, entertaining jingles, influential persons, distribution of materials and media coverage. Since they require careful planning and expenditures, the workshop participants devoted considerable time to discussing the launches.

The activity of planning and organizing the launch is usually undertaken by the national task force under the direction of the permanent secretary of the host ministry (health or agriculture). The venues selected tended to be places of prominence in the country with large holding capacity such as a memorial hall, a trade centre or a national park. Several strategies have been used to sensitize and attract the public to the event, including using a “Town Crier” on the day of the event; press briefing prior to the launch and a radio panel discussion on FBDGs. In all in the project countries, banners announcing the event were mounted at strategic locations throughout the country. In addition, educational institutions and organizations represented on the multisectorial committee were sent special letters of invitation.

The format of the launching ceremony varied in each country but generally featured the following:

- **Presentations**. Speeches delivered by prominent national and international officials such as ministers of health and/or agriculture, FAO regional representatives and director/representative of CFNI.
- **Feature address and official launch of the guidelines.** This was usually done by the minister of health or agriculture.
- **Unveiling of the guidelines.** This was carried out by the governor general or president.
- **Cultural items**. These were usually done by school children or local artists and use message from the FBDGs as the content of their presentations in songs, poems, dance or drama. Musical presentations by local cultural groups also took place.
- **Dissemination of promotional materials**. The official launch was used as a channel for disseminating materials developed for promoting the FBDGs. Materials included FBDGs graphic, posters, brochures, flyers, shopping bags and other promotional items. Box 17 suggests some other activities to support the national launch.

Box 14: Suggested activities in support of the national launch

Radio discussions.
Motorcade from launch to exhibition.
Food exhibition highlighting each FBDGs.
Development of a video.
Composition of a song.
TV panel discussion.
Radio interactive show.
Radio slots during the week.
Radio talk shows.
Radio quiz.
Billboards.
Banners.
Physical activity in open spaces.
Jingle.
Development of promotional materials (pens, bags).
Newspaper pull-out/inserts.
Mass dissemination (schools).
Poster exhibition.
Mascot demonstration.