

FAMILY NUTRITION GUIDE

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Preface

Eating well is vital for a healthy and active life. Most people know that we need to eat in order to have the strength to work. However, not everybody has a clear idea about precisely what it means to eat well and how this can be achieved with limited resources. The problem of eating well with limited resources is a particularly important one for many people in developing countries.

Poverty is a major cause of the nutritional problems found in developing countries. But malnutrition also exists where people are not poor and where they can get enough to eat. This is clearly evident in the fact that there are two – quite opposite – main types of malnutrition. The first type is the result of insufficient intake of good-quality and safe foods. The second type is caused by an excessive or unbalanced intake of food or certain types of food. Both can be prevented by an adequate or healthy, balanced diet.

To be well nourished, families need sufficient resources to produce and/or purchase enough food. They also need to understand which combinations of foods make a healthy diet and they need the skills and motivation to make good decisions on family care and feeding practices.

Whether food supplies are scarce or abundant, it is essential that people know how best to use their resources to obtain a variety of safe and good-quality foods. Nutrition education plays a vital role in promoting good nutrition. It is especially important in developing countries where traditional knowledge alone often is no longer enough to deal with the new challenges of rapid and thorough economic and social changes.

Many governments and non-governmental institutions make great efforts to improve people's nutrition, and nutrition education is often one way to do so. To be most effective, nutrition education must apply the latest findings of the nutrition sciences. Also, it must be carried out in a way that truly succeeds in motivating people to adopt healthy diets and lifestyles. Educational programmes need to take into account the advances made in our understanding of nutrition and behavioural change, and the curricula of programmes need to be updated accordingly.

The *Family Nutrition Guide* is a book that can help in this educational process. It provides an up-to-date summary of the relevant nutrition information and gives many suggestions on how to share this information when working with groups of people. The overall purpose of the *Family Nutrition Guide* is to help health professionals in developing countries to provide more effective nutrition education by

giving families the information they need to prepare nutritious and safe meals and feed each member of the family well, and by motivating people to adopt healthy eating habits.

The guide is designed primarily for professionals who want to improve the feeding and nutrition of families. It may also be useful to individuals or members of a community group who want to know more about nutritious family feeding.

While the illustrations and food examples in this guide mainly reflect the situation in countries of Eastern and Southern Africa, the basic information in this book is relevant for all regions.

We hope that you, the reader, will find this book useful as a technical guide and that it will help you to design new, or improve existing, nutrition education curricula and material. We also hope that it motivates you to become even more involved in nutrition education. Your opinions are important to us. So we invite you, the user of this guide, to send us your comments on its contents, to share your experiences in its use, and to make suggestions for improving future versions.

FAO is ready to collaborate with governments and institutions that want to improve their nutrition education activities. For example, FAO could help where it is necessary to adapt this *Family Nutrition Guide* to the needs of specific regions and/or communities.

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Introduction

A. ABOUT THE GUIDE

This guide is for everyone who wants to improve the feeding and nutrition of families in developing countries. It is for *you* if you are a health worker, nutritionist, agricultural extension worker or any other kind of development worker. It is for *you* if you are a member of a community group or a mother or other caregiver who wants to know more about family feeding. It might also be useful to anyone training health staff and community workers.

If you do not have a basic knowledge of nutrition and feel uncomfortable dealing with some technical parts of the guide, we suggest that you team up with local professionals so they can give you help when you need it.

The purpose of the guide is to:

- ▶ provide the information needed to prepare good, nutritious and safe meals and feed each member of the family well;
- ▶ motivate people to adopt healthy eating habits.

The guide is divided into 11 topics that cover basic nutrition, family food security, meal planning, food hygiene and the special feeding needs of children, women and men, and of old, sick and malnourished people. Each Topic is set out in the same way and has two parts: *Nutrition notes* and *Sharing this information*.

The *Nutrition notes* summarizes up-to-date knowledge on each topic. These can be used to prepare:

- ▶ face-to-face education sessions with families and other community-level groups (including teachers, care workers, traditional health workers, etc.);
- ▶ nutrition education print materials (such as booklets, brochures, flyers, posters) or material for other media (such as radio talks);
- ▶ training materials for different levels of staff in different sectors who deal with family nutrition.

You may also find them useful to update your own and perhaps your colleagues' nutrition knowledge.

Sharing the information is for people working directly with families and community groups. It describes the steps needed to *prepare* an education session. These steps are: finding out the community's present nutritional situation and knowledge; deciding what information to share and with whom to share it; and choosing communication methods. This part also gives some *Examples of questions to start a discussion* which may help to encourage participation and make the session more fun.

Key messages appear throughout the *Nutrition notes* and summarize important points being made in the text. You may use them as 'talking points' or guidelines for structuring a nutrition education session.

The book contains a glossary and three appendixes covering sources of nutrients in foods, energy and nutrient needs, and additional sources of information.

Before using the guide, it is important to adapt the nutrition information to the local area where it will be used. We suggest how to do this in Section B.

B. USING AND ADAPTING THE GUIDE

Diets and eating habits vary from place to place. Families in different areas eat different foods and cook in a variety of ways. They live in different regions where the type and amount of food available can differ considerably. They have different beliefs about foods and how to feed their children. The amount of money, time and other resources they have varies and this affects what they eat. Families differ in what they know about nutrition and they obtain information about nutrition in different ways. Since this guide is written in a 'general' manner and does not reflect a specific country, part of its technical information will always need to be *adapted* so that it is suitable for the areas where it will be used. This will also enrich the guide with local knowledge and experiences. Such adaptation can be seen as regular preparation for the use of the guide and specific guidelines for this process are given below.

Some countries or regions may decide to produce a local (national) version of the guide to make it more focused on their specific situation, regarding food and nutrition problems, type of local foods and eating habits, etc. This will help their national health workers and other users to make good and easy use of the guide. Guidelines for this more thorough process of adaptation, which will result in a new, local version of the guide (or similar materials) are also given below.

Guidelines for using the guide

- 1 Read the guide. Check the *Nutrition notes* in each topic. Do you understand and agree with the information given? Recent nutrition research means that some of the data may be different from those you have learned before. Consult your supervisor if necessary. You may want to include some information, or change the names of foods, etc., to make the guide suitable for the communities with which you work.
- 2 Decide, with colleagues, which of the topics are relevant to the local families. This depends on the nutrition problems in your area and whom they affect. You may want to find answers to the following questions. Are many babies born

with a low birthweight? Are many babies not exclusively breastfed? Are poor feeding practices of children or women a problem? Are old or sick people fed poorly? Is anaemia a problem and who is most affected? Are many people overweight? What are the nutritional and other causes of these disorders? Do people living with HIV/AIDS know which foods help them to stay well? What nutrition information do groups and families request themselves?

- 3 Select the topic(s) you want to share and decide how to do this. Unless you are sure that people understand the basic facts of healthy nutrition, you should try to include Topics 1, 2, 3 and 4 in any nutrition education (or training) course. Box 1 suggests a good order in which to use the Topics. Suggestions for how to select the Topics in different situations are given in the following examples.
- ▶ You may be working with a group or family on several occasions. For example, you may be making several visits to a youth or religious group or you may be working with mothers and caregivers who regularly come to a young child or antenatal clinic, or to community growth monitoring sessions. In this case, you may have sufficient time to follow the order suggested in Box 1. If you have time to cover only a few topics, start with Topic 1 to 'set the scene' and then choose only those topics that are relevant to and/or requested by the group or family.

BOX 1 • SUGGESTED ORDER FOR SHARING THE TOPICS

TOPIC 1
WHY WE
NEED TO
EAT WELL

TOPIC 2
GETTING
ENOUGH
FOOD

TOPIC 3
MAKING
GOOD FAMILY
MEALS

TOPIC 4
KEEPING
FOOD SAFE
AND CLEAN

Then choose one or more or all of the following:

TOPIC 5
FOOD
AND CARE
FOR
WOMEN

TOPIC 6
FEEDING
BABIES
AGED 0–6
MONTHS

TOPIC 7
FEEDING YOUNG
CHILDREN AGED
OVER SIX
MONTHS

TOPIC 8
FEEDING
SCHOOL-AGE
CHILDREN AND
YOUTHS

TOPIC 9
FEEDING
MEN AND
OLD PEOPLE

TOPIC 10
FEEDING
SICK PEOPLE

TOPIC 11
PREVENTING
AND MANAGING
MALNUTRITION

- ▶ You may be invited by a group of women or farmers to talk about one specific topic, such as feeding children. In this case you may need to use parts of Topic 1 (Why we need to eat well), Topic 3 (Making good family meals) and/or Topic 4 (Keeping food safe and clean) so that participants understand the basics of nutrition, meal planning and hygiene. Then use Topic 6, 7 or 8, each of which discusses in full about feeding children of different ages.
 - ▶ You may be visiting the home of a malnourished child. This gives you a chance to assess the particular educational (as well as other) needs of the family. You may need to use parts of Topic 1 (if you think the mother or other caregiver needs a reminder of 'basic nutrition') and perhaps Topic 4 (if poor hygiene is a problem) and then Topic 11 and – depending on the child's age – Topic 7 or 8.
- 4 Select information from the *Nutrition notes* that is relevant and practical for the particular group or family. *Do not try to cover too much at one time*. It is better to share a *small amount of relevant* information than to cover all the material in the Topic. Adapt the information and advice to the situation and resources of the group or family (e.g. suggest local foods that a family can produce or buy; demonstrate recipes using local stoves and fuel; use local words for disorders such as anaemia).
- 5 Select the method for sharing the information. This depends on *whom* you are trying to reach. Some examples are the following.
- ▶ Group discussions. These are useful at clinics and meetings of community groups, such as women's, youth, farmers' and religious groups. Box 2 explains how to use questions to encourage participation and make the discussion livelier.
 - ▶ Counselling of individuals or families. This can be done in private, at clinics, in maternity units or in homes. Counselling is a dialogue between you and another person (e.g. a mother, a father) which helps the person make informed decisions about her/his future behaviour.
 - ▶ Demonstrations (see Figure 1, page 6). Demonstrations are useful to show how to prepare a meal or snack, how to keep food hygienically and how to feed a young child or sick person.
 - ▶ Personal example. In most communities there are people who, in spite of limited resources, are feeding their families successfully. A good way to persuade other families to improve food and feeding practices is to ask these successful people to share information about what they are doing. For example, mothers who exclusively breastfeed can talk with pregnant women; families with healthy young children might explain how they sit with their children at meals and encourage them to eat; schools with successful gardens can share knowledge of gardening methods with other schools; women's groups can share recipes for preserving foods.
 - ▶ Songs, poems and drama. Use these to introduce a topic or reinforce messages.

- 6 Find the blocks that may prevent families from improving their feeding practices. These may be: lack of resources (such as money, women's time); existing beliefs, traditions and food taboos; pressures from other family members, particularly men; unavailability of foods or agricultural inputs; inappropriate or culturally insensitive advice.

If an individual or family is not feeding as recommended, find out why. There may be many reasons and you may have to probe sensitively to discover them (e.g. the family may be embarrassed by lack of money; a mother is not

BOX 2 • DISCUSSION GROUPS – HOW TO ENCOURAGE PARTICIPATION

One way to make a discussion more interesting and effective is to *ask questions* instead of telling people what to do. Asking questions allows you to find out what people already know and believe. It makes people take an active part and discuss together traditional beliefs and new concepts. It is more likely to lead eventually to small or large changes in behaviour.

Example of the start of a discussion on feeding during pregnancy (see Topic 5)

Situation: A meeting of a women's group in a rural area of Africa. The group identified the problem that some women do not eat extra food during pregnancy. You, a nurse, have been invited to the meeting to lead the discussion. Here are some questions that you can use to stimulate participation. You may need to encourage some people, especially shy or young women, to take part. You may have to prevent one or two people from dominating the meeting. Remember to be very polite. Never tell anyone they are 'wrong' but emphasize 'correct' responses and beliefs. Aim to get a group to agree to make at least a small change to improve any poor feeding practices.

Ask: "Thank you for inviting me to this meeting so we can discuss together how to eat well during pregnancy. First, let me ask, should we eat more or less food when we are pregnant?" Wait for a few responses. Then say, "I agree with those of you who said 'more', it is important to eat more during pregnancy".

Ask: "Why do pregnant women need extra food?" Agree with correct responses: for example, "We need extra food to build the placenta and the baby's body". Add other reasons if they are not mentioned. Gently correct 'wrong' answers if necessary. Explain that women who do not eat enough are likely to have small, weak babies.

Ask: "How can pregnant women increase their food intake during pregnancy?" Responses could include 'eating more often' or 'eating more at each meal'. Describe or show an example of the amount of extra local foods needed.

Ask: "Are there any foods that are especially good for pregnant women?" Allow several responses and catch 'correct' ones (e.g. iron-rich foods, such as beef or liver).

Continue asking questions and 'catching' and explaining correct answers. Give people plenty of opportunity to ask you questions. At the end say, "Are there any other questions? Thank you. I have learned a lot from you today".

breastfeeding because she fears she is HIV+). Then discuss together what a family is able and willing to do. It may be best to first encourage a small, easy change in behaviour. A family may agree to make a small change but not a big one. For example, a mother may agree to spend more time feeding a young child but would not be able to give the child an extra meal a day. Discussions with other family members may help a mother make a change. Perhaps the family can do some of the mother's work so she has more time to feed a sick child.

- 7 Evaluate your work. The purpose of the guide is to help families improve feeding practices. You may want to interview families or groups to ask what information they found useful, what they learned that was new and what they have put into practice. When you see an individual family again, find out if they have made any of the suggested behavioural changes. If not, try to find out why. This will help you to modify the information you share and the way you share it. You may need to reinforce advice given by presenting it in different ways. Make sure that you and your colleagues are giving the same nutritional messages.



Figure 1. Demonstrating how to prepare a good meal

Guidelines for adapting the guide

Adapting the guide:

- ▶ makes the information relevant to local families and local nutrition problems;
- ▶ provides an opportunity for nutritionists and others from different sectors and organizations to discuss the material and to update national or local nutrition guidelines. This process helps to create a sense of ownership of the guide.

Adaptation of the guide can be done at national or provincial level. People who might be able to help to prepare and produce a local version of the guide include:

- ▶ staff from a regional nutrition institute or from departments of home economics or of food science and technology;
- ▶ an experienced nutritionist, dietician and/or medical doctor who is familiar with the area and its problems;
- ▶ staff from an appropriate United Nations agency, such as the Food and Agriculture Organization (FAO), the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF).

1 Before you and your colleagues adapt the guide you should discuss, find out and decide the following.

- ▶ Which 'nutrition educators' will use the guide. Will they be trained nurses and other health staff? Agricultural extension or other development workers? Community health workers? Leaders of community groups? Literate parents responsible for feeding the family? You need to know the level of knowledge and education of these educators so you make your guide relevant and easy for them to use. You may need to translate the adapted guide (or only the main messages) into the local language. You also need to know in which situations the guide will be used and what other learning/teaching materials the educators have.
- ▶ The characteristics of families with whom you or other educators will work. You need to know:
 - ▶ what foods are available and eaten at different seasons; what the local feeding practices, knowledge and beliefs are; what local recipes are used; how food is shared among family members; how babies, young children, older children, women, men and old people are fed; what resources are available (e.g. land, money, water, time); how food is produced, stored, preserved and cooked; what the levels of hygiene are; which foods are eaten outside the home and by whom; who makes decisions related to family feeding;
 - ▶ what types of nutrition problems and malnutrition are found in these families; which family members are at risk and what the probable causes are; what peoples' perceptions and beliefs are, as well as their explanations about nutritional disorders and their causes (see Section C).

- 2 Decide which parts in the original guide to alter or delete, and what information to add. You will probably want to make changes to or add information on:
 - ▶ the feeding problems and types of malnutrition found locally;
 - ▶ foods suggested for healthy, balanced diets, adding important local foods that are not mentioned in the guide;
 - ▶ words used for foods, recipes, measures of weight and volume, etc., using local words;
 - ▶ methods used to increase food production;
 - ▶ varieties of legumes, vegetables and fruits to grow and animals and fish to raise;
 - ▶ methods used to store and preserve food, mentioning practices that can contaminate and/or waste food and making suggestions for improved practices;
 - ▶ ways used to preserve nutrients during cooking, emphasizing local methods that should be encouraged and pointing out those that decrease nutrient values;
 - ▶ advice on budgeting and 'good buys';
 - ▶ local recipes for feeding young children and sick people;
 - ▶ food composition tables, trying to use local ones;
 - ▶ sources of more information;
 - ▶ illustrations, making sure that any changes or additions are culturally as well as technically correct.
- 3 Prepare the revised guide. Do not make it too long and only include information that educators need to help families have good, balanced diets.
- 4 Field-test the guide with some educators and target families. Is the information practical as well as technically and culturally correct? Is the advice feasible for the different types of families you want to reach? Do the educators understand the text, concepts and illustrations? Is your guide easy to read and use?
- 5 If changes are still necessary, revise the guide, test it again and then prepare a final version.

C. WHAT HAPPENS IF FAMILIES DO NOT EAT WELL

The consequences of not eating well

(also see Topic 11)

People who have poor diets and do not eat the right amounts of energy-rich food and nutrients are often sick and become malnourished. The type of malnutrition that occurs depends on which nutrients and how much of the required food energy are lacking (or are in excess) and for how long, and the age of the person.

- 1 Children and adults may eat too little food and become undernourished because they do not have enough food or they have a poor appetite. These people lack energy and many nutrients, which means:
 - ▶ they have less energy so they cannot work, study or play as normal;
 - ▶ their immune systems are weak so they become ill easily and/or are seriously ill;
 - ▶ children stop growing and may lose weight. If very little food is eaten (often because of infection), a child may develop severe malnutrition (i.e. kwashi-orkor or marasmus);
 - ▶ adults lose weight. If a pregnant woman is undernourished, her unborn baby grows poorly.
- 2 People may eat unbalanced diets that provide too little of a particular nutrient. For example:
 - ▶ if there is a lack of iron, the mental and physical development of children may be delayed. People of all ages are less active, have less immunity to infections and may become anaemic. Anaemic women have an increased risk of dying during and after pregnancy;
 - ▶ if there is a lack of iodine, people become more apathetic and find it hard to work or study. Sometimes a goitre develops. A woman who lacks iodine in early pregnancy is at high risk of having a child who is mentally and physically damaged. For example, the child may have a lower IQ or be deaf;
 - ▶ if there is a lack of vitamin A, people are more likely to become sick because the immune system is damaged. In severe vitamin A deficiency, there are eye conditions that range from night blindness to dry eyes (xerophthalmia), to corneal damage and blindness. These eye conditions occur most often in young children and pregnant women.
- 3 People may eat more food (especially energy-rich foods with plenty of fat and/or oil) than they need. By taking in too much energy they become too fat

(overweight or obese). These people are at increased risk of chronic conditions, such as heart disease, high blood pressure and diabetes (see “Overweight and obesity”, page 14).

Malnutrition (due to both lack and excess of food energy and/or nutrients) is one of the biggest health problems in the world, especially in developing countries.

- ▶ More than half the deaths of children aged 0–5 years are associated with undernutrition.
- ▶ In many countries a third of the young children are stunted and 10 percent are too thin (wasted).
- ▶ About a sixth of newborns have low birthweights, which makes them more likely to become ill, grow slowly and die.
- ▶ Anaemia caused by lack of iron is the biggest nutrition disorder. In many places half the women are anaemic.
- ▶ Vitamin A, iodine and zinc deficiency disorders are widespread in many countries.
- ▶ Overweight and obesity and their related disorders are on the increase in most countries (see “Overweight and obesity”, page 14).

Causes of malnutrition

There are many reasons why a child or adult becomes undernourished. The causes vary from person to person but we can divide them into immediate, underlying and basic causes.

Immediate causes

These are a poor diet and disease.

- ▶ A poor diet may be due to:
 - ▶ insufficient breastmilk;
 - ▶ meals that are too small;
 - ▶ poor variety of food;
 - ▶ low concentrations of energy and nutrients in meals (i.e. food is too ‘watery’);
 - ▶ infrequent meals.
- ▶ Disease. Sick people may:
 - ▶ not eat much;
 - ▶ absorb few nutrients;
 - ▶ lose nutrients from the body;
 - ▶ use up nutrients in the body more quickly (e.g. during fever).

Underlying causes

These include family food shortages, inadequate care and feeding practices, especially of children and women, and poor living conditions and poor health services.

- ▶ Family food shortages, which may be due to:
 - ▶ lack of money for food;
 - ▶ low production of family food;
 - ▶ poor food storage and preservation;
 - ▶ poor choices and budgeting.
- ▶ Inadequate care and feeding practices:
 - ▶ the way families feed young children and encourage them to eat;
 - ▶ the way families care for women (especially during pregnancy, childbirth and breastfeeding) and for sick and old people;
 - ▶ the way food is prepared and the level of hygiene in the home;
 - ▶ the ways families prevent and treat illnesses at home and use health facilities.
- ▶ Poor living conditions (e.g. insufficient water, inadequate sanitation and overcrowded housing) and poor health services. Shortages of medicines and skilled health staff increase the risk of disease. Inadequate environmental sanitation services increase the risk of food-borne infections.

The role of women in food production, trade and preparation is vital but is often overlooked when causes of malnutrition are analysed and nutrition programmes are planned. In many countries, women produce much or most of the food. The level of care and quality of diet that women can give their families (including themselves) depends largely on their workloads and their social role within the family. For example, when women have heavy workloads (which many do), they may not have time to prepare more than one meal a day (which is especially insufficient for young children). If women have little authority and little control over resources (e.g. land, money), this also affects the type of care they can give different family members. Women's workloads and social roles can be important underlying causes of malnutrition.

Basic causes

For each underlying cause there are 'deeper' causes. These may include:

- ▶ widespread poverty and lack of employment opportunities;
- ▶ unequal distribution and control of resources at community, district, country and international levels;
- ▶ the low status and education of women;
- ▶ population pressures;
- ▶ environmental damage;

- ▶ political unrest and conflict;
- ▶ lack of health, education, and other social services;
- ▶ discrimination.

Figure 2 on the opposite page demonstrates many of the different factors at various levels of society that can lead to malnutrition. Of course, these factors are more complicated in real life. In fact, malnutrition itself can reduce the ability of a family to care for all its members – and so creates a vicious circle of malnutrition and its underlying causes. For example, this happens when a malnourished child needs more attention from caregivers and hence further weakens the family's capacity to look after the needs (food, health, etc.) of other family members. The series of illustrations in Figure 2, nevertheless, helps us to identify the most important reasons why a person, family or community can be malnourished.

Box 3 below shows how HIV/AIDS is both an immediate and underlying cause of malnutrition (also see Topic 10, page 84).

BOX 3 • HOW HIV/AIDS CAUSES MALNUTRITION

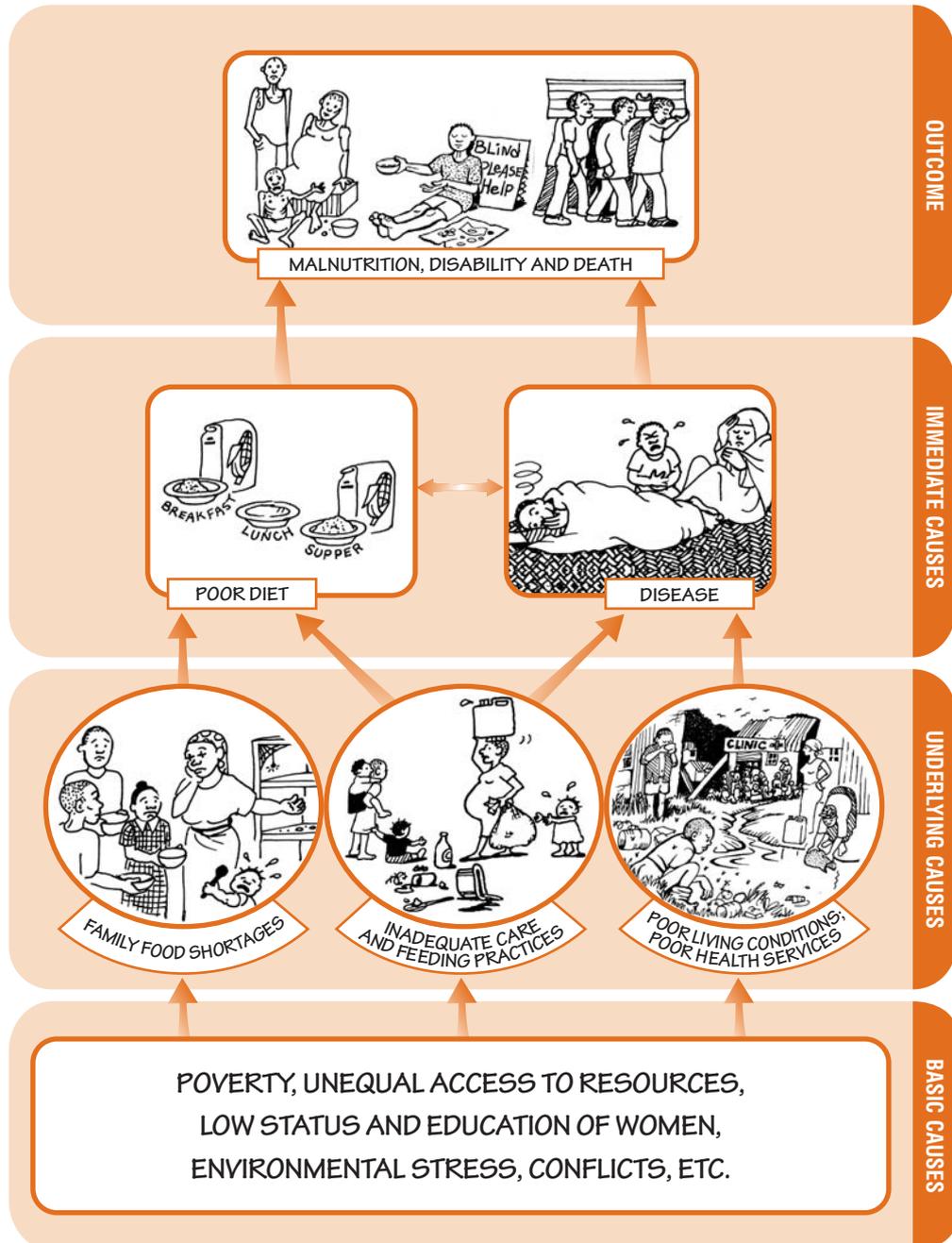
HIV/AIDS can be an *immediate* cause of malnutrition because:

- ▶ a person living with HIV/AIDS:
 - ▶ may have a poor appetite, sore mouth or nausea and so eats less;
 - ▶ absorbs fewer nutrients due to diarrhoea and a damaged gut;
 - ▶ uses nutrients faster because the immune system is working harder than usual.
- ▶ an HIV+ mother who decides not to breastfeed may be unable to give adequate replacement feeds.

HIV/AIDS can be an *underlying* cause of food insecurity and malnutrition if:

- ▶ productive adults become sick and are less able to farm or earn money for food, or if they die;
- ▶ a family sells its assets (e.g. cattle, tools) to get money for food and medicines;
- ▶ family members stop farming or paid work in order to care for a sick relative;
- ▶ orphaned children have to care for younger brothers and sisters. These children often lack the skills and resources to produce enough food or provide good meals. They may have to stop going to school and so reduce their chances of a good job in the future;
- ▶ old people who have to care for young orphans do not have the energy or money to feed them well.

Children often become malnourished if one or more parents is sick or dead. They may lack food and care, or they may eat less because of grief and depression.



Adapted from the UNICEF Framework of Underlying Causes of Malnutrition and Mortality

Figure 2. Immediate, underlying and basic causes of malnutrition

Overweight and obesity

Overweight and obesity are principally caused by regularly:

- ▶ eating too much food, particularly energy-rich food (often containing large amounts of fat and sugar);
- ▶ having a lifestyle (work, sports, travel) that does not involve enough physical activity.

Obesity is now a worldwide epidemic. More than 1 billion adults are overweight and at least 300 million adults are obese (see Glossary for definitions of overweight and obesity). Overweight and obesity affect almost all ages and socio-economic groups, and the increasing numbers of obese children is a major cause for concern. In many developed *and* developing countries the obese proportion of the population has increased threefold since 1980. And this increase is often faster in developing countries than in developed ones. In most developing countries obesity *and* undernutrition are now major problems.

The increase in obesity is one of the main reasons for the increase in diet-related chronic disease and disability.

- ▶ The non-fatal, but debilitating health problems linked to obesity include respiratory difficulties, chronic musculoskeletal problems, skin problems and infertility.
- ▶ The life-threatening problems are cardiovascular diseases, including hypertension and stroke, type 2 diabetes, certain types of cancers, and gallbladder disease.

The health consequences of these conditions range from premature death to disabilities that reduce the quality of life.

TOPIC 1 | WHY WE NEED TO EAT WELL

NUTRITION NOTES

Good meals

Eating good food, especially with family and friends, is one of the pleasures of life. We all know that people who eat healthy, balanced diets are likely to have:

- ▶ plenty of energy to work and enjoy themselves;
- ▶ fewer infections and other illnesses.

Children who eat well usually grow well. Women who eat well are likely to produce healthy babies. That is why it is important to know which combinations of foods make good meals and what the different food needs of different members of the family are.

Foods and nutrients



Foods provide nutrients so we can grow and be active and healthy

A food is something that provides nutrients. Nutrients are substances that provide:

- ▶ energy for activity, growth, and all functions of the body such as breathing, digesting food, and keeping warm;
- ▶ materials for the growth and repair of the body, and for keeping the immune system healthy.

There are many different nutrients. We divide them into:

Macro (big) nutrients that we need in large amounts. These are:

- ▶ carbohydrates (starches, sugars and dietary fibre);
- ▶ fats – there are several kinds (see Box 4);
- ▶ proteins – there are hundreds of different proteins.

Micro (small) nutrients that we need in small amounts. There are many of these but the ones most likely to be lacking in the diet are:

- ▶ minerals – iron (see Box 6, page 19), iodine and zinc;
- ▶ vitamins – vitamin A, B-group vitamins (including folate) and vitamin C.

BOX 4 • FATS, FATTY ACIDS AND CHOLESTEROL

Fats and oils provide a concentrated source of energy and the essential fatty acids needed for growth and health. They aid the absorption of some vitamins such as vitamin A and improve the taste of meals. Some fatty/oily foods contain important vitamins.

Fats and oils contain different ‘fat-nutrients’. These include unsaturated fatty acids, saturated fatty acids, trans fatty acids and cholesterol.

Unsaturated fatty acids

Two of the unsaturated fatty acids are called ‘essential fatty acids’ because the body cannot make them. They are needed for building cells, especially the cells of the brain and nervous system. Unsaturated fatty acids contain a group called ‘omega-3 fatty acids’, which help to protect the body from heart disease.

- ▶ Examples of foods containing mainly unsaturated fatty acids are most vegetable oils, groundnuts, soybeans, sunflower seeds, sesame seeds and other oilseeds, oily fishes and avocados. Foods rich in omega-3 fatty acids are oily sea fish and some seeds and pulses such as linseed and soybeans.

Saturated fatty acids

- ▶ Examples of foods containing mainly saturated fatty acids are butter, ghee, lard/cooking fat, whole milk, cheese, fats from meats and meat products (e.g. sausages) and poultry, red palm oil and coconuts.

Trans fatty acids

When vegetable oils are processed to make them harder (e.g. for use in margarine and other solid fats), some of the unsaturated fatty acids are changed into trans fatty acids. These behave like saturated fatty acids. We should eat as little of the foods containing trans fatty acids as possible.

- ▶ Examples of foods containing trans fatty acids are margarine and lard (shortening), fried foods, such as chips (French fries) and others, commercially fried foods, such as doughnuts, as well as baked goods, biscuits, cakes and ice creams.

Cholesterol

Cholesterol is found only in animal foods but the body can make it from other fat-nutrients. We need some cholesterol for our bodies to grow and function properly.

There are two kinds of cholesterol in the blood.

- ▶ High levels of ‘good’ cholesterol (high-density lipoprotein) seem to *reduce* the risk of heart disease. Eating foods containing mainly unsaturated fatty acids tends to *increase* the level of good cholesterol.
- ▶ High levels of ‘bad’ cholesterol (low-density lipoprotein) seem to increase the risk of heart disease. Eating foods containing mainly saturated fats tends to increase the level of bad cholesterol.

Fat needs

Fat needs are expressed as ‘percent of total energy needs’ (see Appendix 2). The percent of total energy that should come from fat in a healthy balanced diet is:

- ▶ 30–40 percent for children on complementary feeding and up to the age of two years;
- ▶ 15–30 percent for older children and most adults; for active adults up to 35 percent is acceptable;
- ▶ At least 20 percent up to 30 percent for women of reproductive age (15–45 years).

This means the diet of a woman of reproductive age who needs approximately 2 400 kcal/day should contain about 480–720 kcal from fat or oil. This is equivalent to 53–80 g of pure oil (or about 11–16 level teaspoons). Part of the fat in a diet is not added in the kitchen at home but is ‘hidden’ in foods such as meat, milk, groundnuts and oilseeds as well as fried foods.

Fat and health

It is recommended that less than one-third of the fat in the diet is in the form of saturated fatty acids. Red palm oil and coconuts/coconut oil are foods rich in saturated fatty acids but, unlike other such foods, they do not seem to increase the risk of coronary heart disease. Moderate intake of coconut, for instance, seems to be acceptable, providing other foods high in saturated fats are eaten as little as possible. This is particularly true where the overall lifestyle lessens the risk of heart disease. Such a lifestyle could, for example, be one with a high physical activity level, high intake of fish, vegetables and root crops, low intake of salt and little or no use of tobacco or alcohol. Red palm oil is also a good source of other important nutrients, such as vitamin A and vitamin E.

Ideally trans fatty acids should provide less than 1 percent of the total energy intake (or not more than 2 g for most adults).

For many families this means they should, when possible, eat *more* of the foods rich in unsaturated fatty acids (e.g. foods from plants and oily sea fish), *less* of the foods high in saturated fatty acids, and *much less* of the foods high in trans fatty acids.



Foods rich in unsaturated fatty acids are better for the health of the heart than foods high in saturated or trans fatty acids

Our bodies use different nutrients in different ways as shown in Box 5.

BOX 5 • IMPORTANT USES OF SOME NUTRIENTS

Nutrient	Main use in the body
Macronutrients	
Carbohydrates – starches and sugars	To provide energy needed to keep the body breathing and alive, for movement and warmth, and for growth and repair of tissues. Some starch and sugar is changed to body fat.
Carbohydrates – dietary fibre	Fibre makes faeces soft and bulky and absorbs harmful chemicals, and so helps to keep the gut healthy. It slows digestion and absorption of nutrients in meals, and helps to prevent obesity.
Fats	To provide a concentrated source of energy and the fatty acids needed for growth and health. Fat aids the absorption of some vitamins such as vitamin A.
Proteins	To build cells, body fluids, antibodies and other parts of the immune system. Sometimes proteins are used for energy.
Water	To make fluids such as tears, sweat and urine, and to allow chemical processes to happen in the body.
Micronutrients	
Iron	To make haemoglobin, the protein in red blood cells that carries oxygen to the tissues. To allow the muscles and brain to work properly.
Iodine	To make thyroid hormones that help to control the way the body works. Iodine is essential for the development of the brain and nervous system in the foetus.
Zinc	For growth and normal development, for reproduction and to keep the immune system working properly.
Vitamin A	To prevent infection and to keep the immune system working properly. To keep the skin, eyes and lining of the gut and lungs healthy. To see in dim light.
B-group vitamins	To help the body use macronutrients for energy and other purposes. To help the nervous system to work properly.
Folate	To make healthy red blood cells and to prevent abnormalities in the foetus.
Vitamin C	To aid the absorption of some forms of iron (see Box 6). To destroy harmful molecules (free radicals) in the body. To help wound healing.

BOX 6 • IRON ABSORPTION

Iron from meat, liver and other offal, poultry, fish and breastmilk is well absorbed in the gut. Iron from other milks, eggs and all plant foods is poorly absorbed, but other foods in the same meal affect the absorption of this type of iron.

- ▶ Meat, fish and vitamin C-rich foods (fresh fruits and vegetables) *increase* the absorption of this type of iron so *more* is absorbed.
- ▶ Some foods, such as tea, coffee and wholegrain cereals, contain ‘antinutrients’ (e.g. phytate) that *decrease* the absorption of this type of iron.

The best way to make sure that we get enough of each nutrient and enough energy is to eat a *mixture* of foods. Topic 3 explains how to combine foods to make good meals. Appendix 1 lists sources of each nutrient (see Tables 1 and 3) and the nutrient content of different foods (see Table 2).

Different types of foods

 **Different foods contain different mixtures of nutrients**

Staple foods are usually cheap and supply plenty of starch (for energy), some protein, some micronutrients (especially some of the B-group vitamins) and dietary fibre.



Circle the staple foods used locally and add others to the list.



CEREALS	STARCHY ROOTS AND FRUITS
MAIZE/CORN MEAL	POTATO
MILLET	SWEET POTATO
SORGHUM	YAM
WHEAT FLOUR	FRESH CASSAVA
RICE	CASSAVA FLOUR
	PLANTAIN

Legumes and oilseeds. Legumes are good sources of protein, some micronutrients and dietary fibre. High fat legumes and oilseeds provide fat.



Circle the legumes and oilseeds used locally and add others to the list.



LOW FAT LEGUMES	HIGH FAT LEGUMES AND OILSEEDS
COWPEA	GROUNDNUT
PIGEON PEA	SOYBEAN
KIDNEY BEAN	PUMPKIN SEED
LENTIL	SUNFLOWER SEED
CHICKPEA	SESAME (SIM SIM)
	MELON SEED



Milk. Breastmilk can supply all the nutrients needed for the first six months of life and a useful proportion of the nutrient needs up to at least 2 years of age. Animal milks, and milk foods, such as curds, yoghurts and cheese, are excellent sources of protein, fat and many micronutrients, such as calcium (but not iron).

Eggs are a good source of protein and fat and several micronutrients.

Meat, poultry, fish and offal from these foods are excellent sources of protein and often of fat. They supply important amounts of iron (especially red meat and red offal) and zinc, and many other micronutrients including some B-group vitamins. Liver of all types is a very rich source of iron and vitamin A.



The best sources of iron are meat, offal, poultry and fish

 Circle the animal foods used locally and add others to the list.

MILK AND EGGS	MEAT, OFFAL, POULTRY AND FISH
FRESH COW MILK	BEEF
FRESH GOAT MILK	GOAT
CURDS	SHEEP
YOGHURT	PORK
CHEESE	LIVER
	OTHER OFFAL
EGGS	CHICKEN
	FRESH FISH
	DRIED FISH
	CANNED FISH

Fats and oils are concentrated sources of energy. For example, one spoon of cooking oil contains twice as much energy as one spoon of starch or one spoon of sugar. Fats contain fatty acids some of which are needed for growth. In addition to 'pure' fats (e.g. butter) and 'pure' oils (e.g. maize oil), other rich sources of fats and oils are oilseeds, cheese, fatty meat and fish, avocados and fried foods. Red palm oil is a rich source of vitamin A.



Sugar gives only energy and no other nutrients. It is useful for making foods taste nice and for improving appetite, for instance during illness. However, eating sugary foods too often can be harmful to health for several reasons. Sweet, sticky foods, such as ice lollies, or snacks and pastries prepared with plenty of sugar, honey or syrup, are bad for the teeth if eaten often. Many sugary foods also contain much fat, which increases the risk of 'overeating' for those who should limit their energy intake. People who often eat sugary foods and consume sweet drinks such as sodas (bottled fizzy drinks) are more likely

to become overweight and to develop diabetes. These people also often eat less of other, more nutrient-rich foods. There is much sugar in sweets (candy), lollies, sodas, jam and sweet cakes and biscuits.



Eating too much sweet sticky food is bad for the teeth



Eating too much sugary food often means eating less of other, more nutrient-rich foods



Circle the fats, oils and sugars used locally and add others to the list.

FATS	OILS	SUGARS
BUTTER	COCONUT OIL	TABLE SUGAR
MARGARINE	SUNFLOWER OIL	HONEY
FAT FROM MEAT	GROUNDNUT OIL	JAM
GHEE	RED PALM OIL	SUGAR CANE
	MAIZE OIL	

Vegetables and fruits are important sources of micronutrients and dietary fibre but the amounts vary according to the type of vegetable or fruit. Orange vegetables, such as orange sweet potato and carrots, and orange fruits, such as mango and pawpaw but not citrus fruits (e.g. oranges and lemons), are excellent sources of vitamin A. Most fruit and fresh (not-overcooked) vegetables provide vitamin C. Dark green vegetables supply folate and some vitamin A. Many vegetables (e.g. tomatoes, onions) provide additional important micronutrients that may protect against some chronic conditions such as heart disease. The best way to make sure we get enough of each micronutrient and enough fibre is to eat a *variety* of vegetables and fruits every day.



 Circle the vegetables and fruits used locally and add others to the list.

VEGETABLES	FRUITS
TOMATO	MANGO
PUMPKIN	PAWPAW
CARROT	PASSION FRUIT
SPINACH	ORANGE
OTHER LEAVES	PINEAPPLE
ORANGE SWEET POTATO	BANANA
SWEET PEPPER	DATES
EGGPLANT	
OKRA	

Flavouring foods. Everyone uses salt in cooking and there is salt in many processed foods. Too much salt is harmful and can lead to high blood pressure. Iodized salt is an important source of iodine. Herbs, spices, garlic and onions are examples of other flavouring foods that help to make meals tasty.

Water. We need about eight cups of water each day and more if we are sweating or have a fever or diarrhoea. In addition to drinking water, we get water from tea, coffee, juices and soups, and from fruits and vegetables.

Food needs of the family

The amounts of different nutrients a person needs varies with age, sex, activity and whether menstruating, pregnant or breastfeeding. Needs also vary during sickness and recovery. The nutrient needs of different family members are listed in Appendix 2, Table 4, and are discussed in Topics 3 and 5–10.



SHARING THIS INFORMATION

Before sharing this information with families, you may need to:

- 1 **Find out.** What different types of local foods are eaten. What people already know about foods and nutrients.
- 2 **Prioritize.** Decide which information is *most important* to share with groups or individual families.
- 3 **Decide whom to reach.** For example: parents and other caregivers, teachers, older school children, youths and leaders of community groups.
- 4 **Choose communication methods.** For example: illustrated talks, discussions, and demonstrations of foods.

Examples of questions to start a discussion

(choose only one or two questions that deal with the information families need most)

Why do we need to eat well?

Can you list some important minerals and vitamins?

Which important nutrients are found in: cereals, legumes, milks, meats?

Why is too much sugar bad for us?

Why is the fat in plant foods usually more healthy than the fat in margarine or street foods?

Why do we need iron? Which foods are the best sources of iron?

TOPIC 2 | GETTING ENOUGH FOOD

NUTRITION NOTES

Food security

BOX 7 • FAMILY FOOD SECURITY

A family is food secure if it has sufficient safe and nutritious food throughout the year so that all members can meet their nutrient needs with foods they like/prefer for an active and healthy life.

People usually get food by producing or buying it. Sometimes they gather wild foods. In times of food shortages they may receive free or subsidized food. To be food secure, people need *enough* food and a *variety* of foods.

- ▶ Signs that a family is short of food include: people say they are hungry; they eat fewer meals or smaller than usual meals each day; children grow slowly and/or there is little food in the home.
- ▶ Signs that a family has little variety in their diet are: the same few foods are eaten daily; the family eats few vegetables or fruits or little food from animals; and/or they say they have a dull monotonous diet.

Families may become more food secure if you help them to improve:

- ▶ food production and storage;
- ▶ food preservation;
- ▶ food budgeting;
- ▶ incomes.

Improving food production and storage

Family farmers may be able to increase the amount and types of foods they produce by:

- ▶ improving farming methods (e.g. mulching, composting, intercropping, fertilizing, including use of green manure);

- ▶ joining cooperatives to buy fertilizer or other agricultural resources;
- ▶ harvesting water for small-scale irrigation;
- ▶ using higher yielding seeds or growing crops that mature early or are drought resistant;
- ▶ increasing the variety of foods grown, especially vegetables and fruits.

Some rural families may be able to make fish ponds or raise small animals (e.g. poultry, rabbits). Pastoralists may be able to get more productive breeds of animals or learn how to care better for them. Fishermen may be able to increase catches by using better fishing methods.



Figure 3. Families may be able to produce more food

Even people with small amounts of land may be able to improve kitchen gardens or grow vegetables in containers. Refer families that need help to the relevant extension services or to successful local farmers and fishermen. Also see FAO. 2001. *Improving nutrition through home gardening. A training package for preparing field workers in Africa* (listed in Appendix 3).

Improving stores reduces losses of harvested food crops

Much food is lost in on-farm storage. Improved secure stores and safe use of pesticides increase the amount of food available. Sometimes community stores are a good way for farmers to store their crops and seeds. Ask an agricultural extension worker to give families information on better storage if they need it. Food storage in the kitchen is discussed in Topic 4.

Improving food preservation

Some foods can be preserved so they keep longer (e.g. by drying). If necessary, show families practical methods for preserving foods, such as drying vegetables, fruits or fish. Or ask a home economics colleague to demonstrate food preservation methods.

Flour, porridges and milks keep longer if they are soured or fermented. This also improves the digestion of these foods and increases the absorption of iron from the food.

Improving budgeting for food

Find out which foods give the best 'value for money'

Some families need advice on how to budget for food and how to use their money in a more efficient way. They may need to know which foods give *value for money*. This depends on the prices of available foods and this may vary with season, type of shop, etc. To be able to advise families on which foods may be 'good buys' in your area:

- ▶ look in Appendix 1 (see Tables 1, 2 and 3) at the lists of foods that are useful sources of different nutrients;
- ▶ then compare the prices of similar foods (e.g. different legumes, different iron-rich foods) in different shops and markets (see Figure 4, page 28).

Remember that different foods have different amounts of waste (skin, bones) and some may be adulterated (e.g. milk diluted with water; spices mixed with ground up bricks or stones).

Buying food in large quantities may save money. Most families do not have the money or storage space to do this, but sometimes a group of families can buy in bulk and share the food (e.g. beans, sugar).



Figure 4. Finding out which foods are good value for money

Food that is of *poor quality* is poor value for money. Box 8 below lists signs of poor-quality food.

BOX 8 • SIGNS OF POOR-QUALITY FOOD

Cereals and other dry foods	Contain insects or dirt; look or smell damp or mouldy; bag is broken; legumes are wrinkled; flour is lumpy.
Roots	Soft, sprouting, bruised or damaged; rotten spots.
Vegetables and fruits	Wilted, too soft, rotten spots, bruised.
Meat, poultry and fish	Bad smell or colour; fish have dull eyes or loose scales. Uninspected meat, liver and other offal may contain dangerous parasites.
Fresh milk	Smells bad; is, or has been, exposed to dirt and flies.
Canned foods	Can is swollen, rusty or damaged; food has leaked out; food looks, smells or tastes bad. Any of these signs means the food may be very poisonous.
Advise people to check 'sell by' (and 'use by') dates on labels and not to buy (or use) foods after these dates.	

Source: Adapted from Burgess and others. 1994. *Community nutrition for Eastern Africa*. AMREF, Nairobi.

Some foods are poor value for money because they contain *few nutrients* and are expensive. Examples are sodas (bottled fizzy drinks), ice lollies and sweets, which are mainly sugar and so are bad for the teeth (see Topic 1, page 21). These foods should be kept as treats and not given often to children.

Foods fortified with micronutrients are often '*poor buys*' especially if they cost a lot. Exceptions to this rule are salt and fortified staple foods (cereal flours). Usually they do not cost much more than the non-fortified variety and can therefore bring some nutritional advantage at an acceptable cost.

 **Buy iodized salt if available**

In general, it is best to obtain nutrients by eating a healthy diet. Buying a food fortified with a micronutrient is only justified if there is a serious lack of foods containing that particular micronutrient. An example is iodized salt. Unless people can regularly eat fish and other foods from the sea (which are rich in iodine), they are likely to develop iodine deficiency. This is because soils in many parts of the world, and the plant and animal foods raised on them, are low in iodine (Section C explains what happens if people lack iodine). Iodine deficiency disorders are serious and widespread and so, in most places, iodized salt is more than a good buy – it is a ‘must buy’.

Nutrient supplements and ‘tonics’ are usually poor buys. They are often expensive and we should get the nutrients we need by eating a variety of different foods.

Gathering wild foods

Wild foods increase the variety of foods in the diet – and make meals more tasty. The list below gives some examples of useful, nutritious wild foods.

 Circle the wild foods used locally; add others, local names and methods of preparation to the list.

WILD FOODS	LOCAL NAMES	WAYS TO PREPARE
BAOBAB LEAVES		
WILD FIGS		
OYSTER NUTS		
BERRIES		
MICE/RATS		
SMALL BIRDS		
CATFISH		
SHELLFISH		
LOCUSTS		
FLYING ANTS		



SHARING THIS INFORMATION

Before sharing this information with families, you may need to:

- 1 Find out.** Whether most families have enough to eat throughout the year. If not, why not. Whether most people eat a variety of foods. If not, why not. What staple and other foods are produced and eaten locally. What the blocks to increasing food production are. Whether much food is lost during on-farm storage. Who can help farmers and other food producers to produce more foods and improve storage. Which foods people buy. Which foods are good buys. What the availability of iodized salt is. What the blocks to people buying more or better food are. Whether people gather wild foods. If so, which ones. What other good wild foods could be gathered.
- 2 Prioritize.** Decide which information is *most important* to share with groups or individual families.
- 3 Decide whom to reach.** For example: women and men who produce, store, preserve or buy the family food, especially those from food-poor families.
- 4 Choose communication methods.** For example: discussions and demonstrations with community and farmers' groups and at schools and youth clubs.

Examples of questions to start a discussion

(choose only one or two questions that deal with the information families need most)

Are there some local families who do not have enough to eat? Can we help them?

How can we produce more food? Can we produce more, different foods?

How do we store food on the farm? How can we improve our stores?

How can we budget better for food? Which local foods are best value for money? Which foods are poor buys?

Why is iodized salt a must buy?

Which wild foods do we eat? Are there others we can eat?

TOPIC 3 | MAKING GOOD FAMILY MEALS

NUTRITION NOTES

Healthy, balanced diets

BOX 9 • A BALANCED DIET

A balanced diet provides the correct amounts of food energy and nutrients needed during the day to cover the dietary requirements of the person eating it. A balanced diet must be composed of a variety of different foods from different food groups so that it contains all the many macronutrients and micronutrients the person needs (see Topic 1).

In Figure 5 (page 34), the size of the various food group circles indicates the approximate, recommended (or tolerable, as in the case of sugars) amounts of each of these food groups in a healthy diet.

Topic 1 listed the main groups of foods. Topic 3 shows how to combine foods to make healthy, balanced diets. It discusses how to share meals so all of the family members get enough to cover their dietary needs.



A healthy, balanced diet contains a variety of foods

The meals and snacks a family eats during the day should provide:

- ▶ a combination of different foods. Figure 5 on page 34 shows the wide variety of foods needed to provide all the many different nutrients we require;
- ▶ enough of each nutrient to satisfy the energy and nutrient needs of each family member.

A good meal should contain:

- ▶ a staple food. Look at the list of staple foods in Topic 1, page 19, and see if it contains the local staple foods. Add them if necessary;

- ▶ other foods that may be made into a sauce, stew or relish. These should include:
 - ▶ legumes and/or foods from animals;
 - ▶ at least one vegetable;
 - ▶ some fat or oil (but not too much) to increase the energy and improve taste. Most of the fat or oil should be from foods containing unsaturated fatty acids (see Box 4 in Topic 1).

It is good to eat fruits with a meal (or as a snack) and to drink plenty of water during the day. Avoid drinking tea or coffee until 1–2 hours after a meal (when food will have left the stomach) as these reduce the absorption of iron from food.



Figure 5. Use a variety of foods to make healthy meals

How to increase variety



Eat a variety of vegetables and fruits to get plenty of micronutrients and fibre

Encourage families to use:

- ▶ several groups of foods at each meal;
- ▶ different vegetables and fruits at different meals because different vegetables and fruits contain varying amounts of the different micronutrients;
- ▶ meat, poultry, offal and fish daily if possible because these foods are the best sources of iron and zinc (which are often lacking in diets, especially the diets of young children and women).

Snacks

Snacks are foods eaten between meals. Below are examples of foods that make good snacks, particularly when more than one food is eaten.



Circle the ones available in your area and add other local nutritious snacks to the list.

SNACKS	
<input type="checkbox"/>	FRESH MILK, SOURED MILK, YOGHURT, CHEESE
<input type="checkbox"/>	ROASTED GROUNDNUTS, SOYBEANS, MELON SEEDS AND OTHER OILSEEDS
<input type="checkbox"/>	EGGS
<input type="checkbox"/>	FRIED FISH
<input type="checkbox"/>	BREAD, PARTICULARLY WHEN EATEN WITH MARGARINE OR GROUNDNUT PASTE/PEANUT BUTTER
<input type="checkbox"/>	BOILED OR ROASTED MAIZE COBS
<input type="checkbox"/>	BOILED OR FRIED CASSAVA, PLANTAIN, YAM, SWEET POTATOES AND POTATOES
<input type="checkbox"/>	CHAPATIS, BEAN CAKES
<input type="checkbox"/>	BANANAS, AVOCADOS, TOMATOES, MANGOES, ORANGES AND OTHER FRUITS (INCLUDING DRIED FRUITS)
<input type="checkbox"/>	YOUNG COCONUT FLESH
<input type="checkbox"/>	DATES
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	

Eating snacks like these is a good way of improving a diet which may lack food energy and nutrients. However, people should also know that eating often throughout the day increases the risk of tooth decay, particularly where oral hygiene is poor. This is particularly true for sweet (sugary) foods that stick to the teeth.

Eating away from home

Many people buy meals and snacks from vendors or eat in bars, restaurants or hotels; some students receive snacks or a meal at school. While eating out can be a special treat, eating outside the home too often can mean getting too many calories, fat and salt and not enough fruits, vegetables and essential nutrients. The nutrient composition of food eaten away is often not of the same quality as food prepared at home.

Encourage people to choose meals and snacks that provide a mixture of nutrients, especially if they regularly eat away from home. Warn them not to eat too many fried street foods as these may contain unhealthy fats and increase the risk of overweight. Encourage people who make and sell meals and snacks to prepare good-quality foods in a hygienic way (see Topic 4).

Sharing meals



Share family meals according to energy and nutrient needs

Look at Appendix 2, Table 4. It compares the energy and nutrient needs of children, women and men of average size. If we change these nutrient needs into food needs, we find that families should:

- ▶ share staple foods and legumes according to energy needs (see Figure 6). Children aged 1–3 years need about a third of the amount needed by men. Note that energy needs increase greatly during puberty and adolescence, especially for boys, and during pregnancy and breastfeeding;
- ▶ share vegetables and fruits almost equally among all family members but make sure pregnant and breastfeeding women have bigger shares;
- ▶ give bigger shares of iron-rich foods (meat, offal, poultry and fish) to older girls and women, especially when they are pregnant. Young children are often anaemic and need a fair share of these foods too;

- ▶ make sure young children get plenty of fat-rich foods, such as milk, groundnuts, oils and fats that give them enough energy even though they eat smaller amounts of foods. Sugar, jaggery and honey are also ways to increase the energy content, and they can be added to porridge and other foods in small quantities.
- ▶ give young children their own bowl or plate. This allows them to get their share of the food if the rest of the family members are all eating from the same bowl.

 **Women need more iron-rich foods than men**

The food needs of different family members are discussed in more detail in Topics 5–10.



Figure 6. Sharing meals according to need

Preparing and cooking good meals

Cook vegetables quickly to preserve nutrients

The way we store, prepare and cook our food affects the nutrients in it. For example, some vitamin C and folate are lost during cooking. Ways to reduce nutrient losses are:

- ▶ buying or picking vegetables and fruits on the day you use them and storing them in a cool place;
- ▶ cleaning and cutting vegetables and fresh starchy roots immediately before cooking;
- ▶ cooking vegetables in little water or with a stew until just tender; other cooking methods for vegetables that preserve nutrients are stir frying (i.e. frying very quickly over high heat), or sautéing (i.e. cooking in fat or oil in a pan or on a griddle);
- ▶ eating food soon after cooking.

We absorb the vitamin A in plant foods better when the food is cooked (but not overcooked) and eaten with fat.

Families may cook and eat less often if fuel is scarce or expensive. Ways to save fuel include:

- ▶ using fuel-efficient stoves and cooking methods;
- ▶ using dry firewood;
- ▶ soaking legumes for several hours;
- ▶ cutting food into small pieces just before cooking;
- ▶ putting a tight-fitting lid on the pot;
- ▶ cleaning soot off pans;
- ▶ putting out fires promptly.

Topic 4 explains how to prepare foods in a hygienic way.

Enjoying meals

We all enjoy our meals if they are tasty and we eat them in a comfortable happy environment. Mealtime can be a time when families talk together, entertain guests and teach young children good habits and customs. It is a time when parents can give children loving attention as they encourage them to eat.



SHARING THIS INFORMATION

Before sharing this information with families, you may need to:

- 1 Find out.** What foods are eaten at different meals. What types of snacks are eaten. Which foods need promoting. What the different foods eaten by different family members are. How food is shared. What foods are eaten away from home. What the cooking facilities are. Whether people have enough different foods to make healthy meals. If not, why not. What local recipes are used.
- 2 Prioritize.** Decide which information is *most important* to share with groups or individual families.
- 3 Decide whom to reach.** For example: people who prepare family meals, food vendors, cooks, and school-age children.
- 4 Choose communication methods.** For example: discussions and demonstrations of meal planning with women's and other community groups and at schools; leaflets with recipes.

Examples of questions to start a discussion

(choose only a few questions that deal with the information families need most)

Which combinations of local foods make good meals? How many of us make these sorts of meals regularly? If not, why not?

What can we do to improve our family meals? Which foods should we add or use more often?

Could we use more meat, offal, poultry or fish?

Could we use more different kinds of fruits and vegetables?

How do we share meals among the family? Do young children and women get their fair share? Demonstrate how a local meal should be shared. Do we share meals like this? If not, why not?

