

# 2

secondary level

lesson 2

## Why are People Hungry and Malnourished?

The lesson has been designed to be covered in 45 minutes, but it can be covered in greater or less detail to fit the needs of the class. Teachers are encouraged to cover all objectives and content areas.

For each objective, a variety of activities and discussion points are provided from which teachers can select those most appropriate for their students.

The materials for each lesson can be found in the Materials section beginning on page 75.

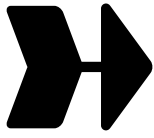


### Information for teachers

Students should understand that hunger and malnutrition are caused and perpetuated by a number of factors, all of which need to be addressed to ensure that all people get the food they need for an active and healthy life. Poverty, social inequality and lack of education are primary among these causes and are major obstacles to ending hunger and malnutrition in the world.

Objective 1 provides an overview of the food supply system in order to help students understand where food comes from and how any breakdown in this complex process can affect the food supply, creating hunger in an area or among certain populations.

Objective 2 introduces the concept of food security – having access at all times to the food we need to lead an active and healthy life – and emphasizes the need to ensure that all people are well nourished and food-secure. The three fundamental pillars of food security – availability, accessibility, and use of food – are discussed, using case studies to learn from actual country experiences in fighting hunger and malnutrition. If time permits, these case studies can be presented in detail and studied for several class periods; if not, teachers can provide brief summaries of the major points of each case study for use in class discussions.



## Objective 1 To understand the food system that feeds people

### Materials



Table: Food System Chart

### Concept

The system that provides food is complex

### Content



Steps involved in the food system include:

- Getting ready to grow the food
- Growing the food
- Moving food from the field
- Processing, selling or storing the food
- Preparing and eating the food.



Each of these steps involves many processes and considerations (table *Food System Chart*). And each process may involve many people such as bankers, agriculture suppliers, farmers, farm workers, truck drivers, food handlers, millers and bakers, as well as different conditions, such as weather, roads and economic and political stability. It is this complexity that makes our food supply vulnerable.



The number of steps involved and the processes in each step depend on the specific situation for each community and family. The *Food System Chart* outlines steps and processes that may be involved in local and commercial food systems.



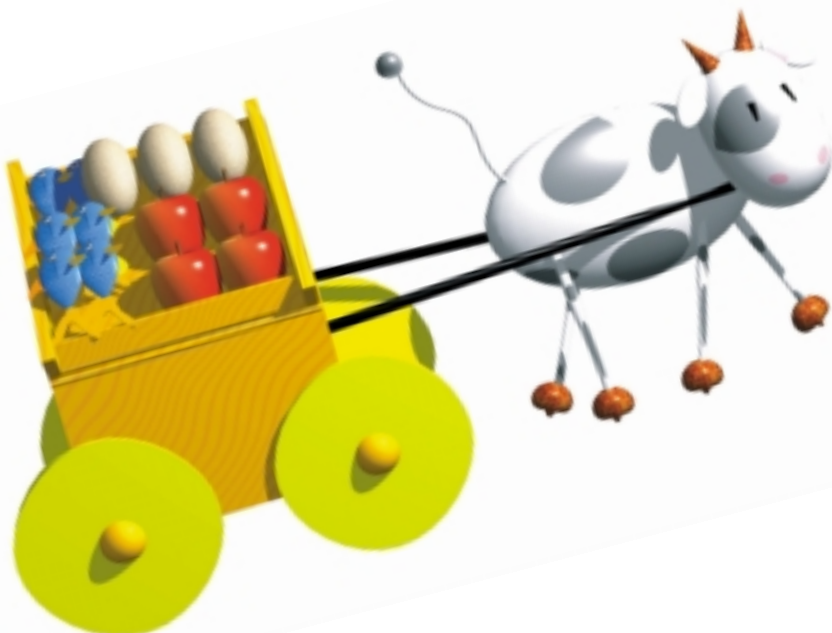
An important concept to consider is the waste of food that happens because of pests and spoilage at the commercial and home levels. Protecting the food supply from insects, rodents, moulds and spoilage can greatly increase the amount of food available for people. Every year, poor post-harvest handling and contamination ruin millions of tonnes of food.

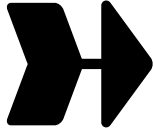
### Activity



Using the *Food System Chart* have students develop and complete the listing of the processes and considerations of each of the steps involved in the food system that they depend on for food in their community. Pick one or more commonly eaten foods and trace these from their origin, as an example of how the local food system

works. Discuss where the food system is vulnerable. For instance, if the food system depends heavily on commercial agriculture, what would happen if farm labour were not available, if a severe drought happened, if suddenly all of the roads leading into the city were closed, etc.? If the local food system depends heavily on family gardens, discuss what would happen if conditions (floods, droughts) interrupted the crops.





## Objective 2

### To understand what it means to be food-secure

#### Materials



Fact Sheets: Country Case Studies

#### Concept

To be food-secure means to have access at all times to the food we need for an active and healthy life

#### Content



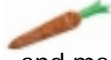
Food security is defined as access by all people at all times to enough nutritionally adequate and safe food (quality, quantity and variety) for an active and healthy life.



We must create the conditions in which all people can secure the food they need and be well nourished in a dignified and sustainable way.



Food security is affected by a number of factors including, primarily, the food supply and access to jobs and such basic services as education, health facilities, sanitation, clean water and safe housing.



Poverty, social inequality and lack of education are primary causes of hunger and malnutrition and are major obstacles to obtaining food security.

#### Concept

Food security has three fundamental pillars: availability, accessibility and use of food

#### Content



Although the global supply of food has increased, the global population continues to grow at a rapid rate. To keep pace, food security for all can only be achieved by producing more food.



Food security, however, cannot be ensured solely by producing more food. If, for example, people cannot afford the food that is available, if their diets lack essential vitamins and minerals or if poor handling during processing and distribution makes their food unsafe to eat, they will not have food security.

To have food security depends on three pillars, or legs of support:

- Food must be **Available**, meaning that adequate amounts of good-quality, safe food must be produced or imported at the national and local levels.
- Food must be **Accessible**, meaning that it must be distributed and available locally, and it must be affordable to all people.
- Food must be **Used** in the best way possible for each person to be healthy and well nourished (sufficient in quantity, quality and variety for each individual's needs).



To achieve national food security, a country must be able to produce or import the food it needs, and be able to store it, distribute it and ensure equitable access to it.




For families to achieve food security, they must have the means to produce or purchase the food that they need and they must have the time and knowledge to ensure that the nutritional needs of all family members are met.





Building on an understanding of the complexity of the food system, students can analyse specific situations faced by countries in order to determine whether


existing hunger issues relate to availability, accessibility or use of food. Understanding the associated factors is a first step in developing solutions.

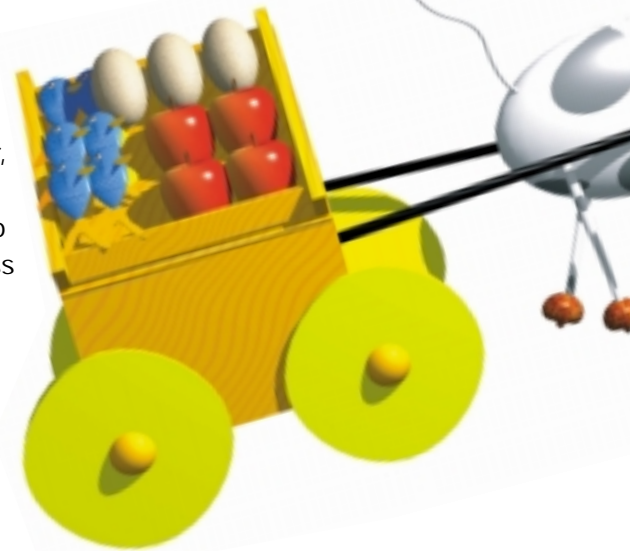
 Valuable lessons can be learned by looking at countries that have been able to reduce hunger and by contrasting their situations with those of countries that have declined in nutritional status. Contrasting the situations and looking for patterns can illustrate the factors that contribute to the problems and solutions of hunger around the world. Case studies of countries with declining and increasing problems with hunger are given in the fact sheets.

### Activities

 Discuss how conditions are vastly different from one place to another, and how certain combinations of situations create problems of food security. By analysing countries with varying degrees of change in their food security status, and comparing the situations that exist in each country, trends can be identified that indicate the future of food security in each country.

 Case studies are provided that contrast past and present conditions in selected countries where changes in hunger and food security have taken place over the past few decades. The case studies are presented in pairs, by region, contrasting a country that has made an impact on hunger with a country that has faced setbacks in feeding its people. Assign individual students or groups of students to read one pair of case studies each, or discuss selected cases in class as a group discussion. With input from the teacher, as appropriate, have students consider the factors causing the current situation related to hunger in each country. Have students discuss the conditions related to hunger in terms of availability, accessibility and use of food.

 Building on the discussion of the food system, discuss how a similar case study would apply to their local situation.



## Summary

Our goal is to be sure that all people are food secure. Getting our food involves many steps. We must understand where our food originates in order to make the right decisions about how to feed everyone in the world. Lesson 2 illustrated the complexity of food systems to explain the many reasons that people may be hungry, and explored the pillars of food security. After completion of Lesson 2, students should be able to list:

- The steps in the food supply system.
- For each step in the food supply system, factors that can put people at risk of hunger and food insecurity.
- The three pillars of food security.
- Factors that lead to either an improvement or a worsening of food security, as shown in the case studies.

We can work together to reduce hunger. Lesson 3 will explore what we can each do to help reduce hunger in our world.



## Table: Food System Chart

Processes and Considerations:		
<i>Steps</i>	<i>Local Food System</i>	<i>Commercial Food Sector</i>
Getting ready to grow the food	Seeds Tools Land Other? ..... ..... .....	Seeds Fertilizer Pesticides Farm equipment Land Other? ..... ..... .....
Growing the food	Labour Weather conditions Safety Other? ..... ..... .....	Labour Weather conditions Safety Other? ..... ..... .....
Moving food from the field	Baskets Boxes Carts Trucks Other? ..... ..... .....	Trucks Roads Warehouses Other? ..... ..... .....
Processing, selling or storing the food	Jars Storage space Marketplace Economic stability Political stability Other? ..... ..... .....	Warehouses Factories Marketplace Economic stability Political stability Other? ..... ..... .....
Preparing and eating the food		Cooking place Knowledge of food and nutrition Sharing the food Other? ..... ..... .....



## Country Case Study: Asia

A period of rapid economic growth has resulted in major gains in food security across most of Asia and the Pacific. Cambodia, where the proportion of undernourished dropped from 62 to 33 percent between 1980 and 1996, led the way. Many other countries in the region also showed strong reductions, including China, India, Indonesia, Myanmar, Nepal, Pakistan and Viet Nam. Undernourishment increased in only two countries – Mongolia and the Democratic People's Republic of Korea. In the latter, it rose from 16 to 48 percent. The financial crisis may have blunted progress in some countries, but the overall trend remains positive.

### Cambodia – reaping the dividends of peace

More land is being farmed, more food is being produced and far fewer people are going hungry in Cambodia, as the country rebounds from decades of conflict. Between 1980 and 1996, farmers almost doubled the area on which they were growing crops. Yields of rice, Cambodia's main staple food, shot up by 64 percent. Pork, beef and poultry production expanded rapidly. Because of the gains in food production, Cambodians are eating substantially better, even though the population has continued to grow rapidly and food imports have declined.

Despite this recent progress, however, Cambodia remains a very poor country, and many of its people still suffer from food insecurity. Even after a 21 percent jump since 1980, Cambodians' average food intake in 1996 is scarcely enough to meet the minimum daily requirement. More than one-third of all households fall below the poverty line. The country's poverty is reflected in the lack of diversity in people's diets. Almost 80 percent of the average daily calorie intake comes from rice.

Decades of war and civil strife left traditional irrigation systems in ruins. Many fields had been abandoned to landmines. The peace settlement in 1979 opened the door for recovery; an economic reform programme introduced in 1992 brought inflation under control. Farmers responded by increasing the area cultivated, expanding rice production and diversifying into crops and animal products for export.

Programmes to remove landmines and rehabilitate irrigation systems are continuing. A programme has also been put in place to reduce poverty by creating jobs for vulnerable groups.

### DPR Korea – a bitter harvest

The Democratic People's Republic of Korea has been hit hard during the 1990s by floods, drought and the collapse of its special trading relationships with China and the former Soviet Union. The impact has been devastating both to food production and to the nutritional status of the population. Total cereal production plummeted to less than half its 1980 level, while the proportion of undernourished people soared to almost half the population.

Rapid economic deterioration left the country without either the cash or the creditworthiness to finance needed food imports. Massive food aid was provided, but logistical problems made it difficult to reach all of the people in need. The crisis strained the national public distribution system to breaking point. The system sells fixed rations of rice and maize to city residents and to people who work on state-run farms and enterprises in the countryside. As crops failed and imports dwindled, reserve stocks held by the system proved far from sufficient to fill the gap. Rations were cut drastically and many people reduced consumption significantly.

The country's collapse came on the heels of a period of rapid economic growth. With limited arable land and a short growing season, gains in food production had been achieved through high-input agriculture. When the country was suddenly cut off from access to spare parts, fertilizers, pesticides and pumped water, yields started to fall sharply. Then, starting in 1995, two years of heavy storms and flooding, followed by a severe drought, devastated large tracts of agricultural land.

The country is now trying to revive agricultural production by introducing improved seed varieties and double-cropping methods, rehabilitating irrigation systems and improving soil fertility.



## Country Case Study: Latin America and the Caribbean

Both the levels and the trends of undernourishment vary considerably in Latin America and the Caribbean. In most South American countries, levels are already low or rapidly declining. In Central America, on the other hand, levels are increasing in several countries, although Honduras registered the strongest gains in the region by bringing its prevalence of undernourishment down from 31 percent to 21 percent. In the Caribbean, Cuba's setback, with the share of undernourished rising from 3 to 19 percent, was in many ways typical of several of its island neighbours, which have experienced increases in undernourishment since 1980.

**Honduras - economic growth helps to reduce hunger**

Steady economic growth, coupled with an effective aid programme for its poorest citizens, has helped Honduras reduce by almost one-third the proportion of its population suffering from undernourishment. Increases in food production, imports and use of stocks all contributed to putting more food on Honduran tables. Maize production nearly doubled between 1980 and 1996. Much of the increase was consumed not by people but as feed for the booming cattle industry. Maize consumption by people actually declined slightly. Vegetable oils and sugar accounted for most of the increase in food intake, with consumption of meat and beans also increasing somewhat.

Since Honduras adopted a far-reaching structural adjustment programme in 1988, the country's economy has been growing at an annual rate of 2.7 percent. The increased prosperity has helped bring safe water to 87 percent of the population and raise the literacy rate to 70 percent. Direct aid to the poor is provided through the Honduran Social Investment Fund, which has reached many of the most deprived. A ration programme supplies coupons to help schoolchildren, mothers and elderly people buy food and other necessities.

Despite its recent gains, Honduras faces difficult challenges. Economic growth has not eliminated wide disparities in wealth and income. Poverty and food insecurity remain relatively widespread. About half of the Honduran population is rural. And in the countryside, nearly 40 percent lives in extreme poverty, with many people working as agricultural labourers on large estates. Commercial agriculture offers good possibilities for growth, but the challenge of achieving a more equitable distribution of the benefits remains.

**Cuba - loss of trading partner erodes food security**

Cuba has seen its economy shrink and levels of undernourishment rise since losing its most important trading partner with the break-up of the former Soviet Union. With much of its agriculture geared to producing commodities for export (primarily sugar and tobacco), Cuba had succeeded in reducing undernourishment to very low levels while relying on trade for more than half of its food.

With the end of Cuba's special trading relationship with the former Soviet Union, daily food intake dropped by more than 500 calories per person, mainly because of a steep decline in food imports. Yields for major food crops also dropped because of a lack of imported fertilizer, but Cuba managed to produce nearly comparable quantities by growing food on more land.

The economic decline has increased the number of people relying on subsidies while reducing productivity and food intake for many workers and their families. Continued restrictions on trade with the United States add to the country's economic difficulties.

Despite its recent problems, Cuba remains relatively prosperous and well fed compared with other countries in the Caribbean and Central America. More than half the country's roads are paved and 95 percent of the population have access to safe water.

Since 1993, the Cuban Government has given priority to increasing food production and restructuring industry. Signs have begun to emerge that the new economic model is taking hold and labour markets are recovering. But the transition process is far from complete.



## Country Case Study: Near East and North Africa

Most countries in the Near East and North Africa have already achieved greatly reduced levels of undernourishment. Indeed, the region accounts for ten of the 14 developing countries where undernourishment affects less than 5 percent of the population. Morocco's decline, from 10 to 5 percent undernourished, represented the best progress among this group of good performers. Significant increases occurred only in Afghanistan, where the proportion of people who are undernourished shot up from 33 percent in 1980 to 62 percent in 1996, and in Iraq, where the share rose from 4 to 15 percent over the same period.

### Morocco - thriving economy boosts food security

With substantial mineral wealth and an established position as a centre for trade and commerce, Morocco has enjoyed steady economic growth that has reduced undernourishment to very low levels. Between 1980 and 1996, daily food intake increased from 2 723 to 3 186 calories, reaching levels comparable with those of some industrialized countries. The gains came almost equally from increases in food production and in trade. Production of cereals and potatoes more than doubled, spurred by substantial increases in both crop yields and the area under cultivation. Much of the increased production was used for feed, while imports grew to meet rising demand for food. With the economy growing at almost 4 percent per year, Morocco has become increasingly urban. Improvements in transportation, sanitation and education have been particularly marked in the cities. However, almost half the population remains in rural areas, where poverty and vulnerability persist, particularly among traditional small-scale farmers and herders. Barely half the population has access to safe water and 56 percent remain illiterate. Environmental problems also loom. Water for agriculture and grazing lands is scarce, and 61 percent of the land is severely degraded. To eradicate remaining pockets of hunger, action will need to be taken to introduce more sustainable agricultural practices and to generate jobs and income in urban areas.

### Afghanistan - war leaves little ground for crops

Food production and food security have both fallen victim to decades of warfare in Afghanistan. Production of cereals fell slightly while returning refugees helped swell the population by 25 percent between 1980 and 1996. As a result, average daily food intake fell from 2 186 to 1 710 calories, significantly below minimum requirements. Two-thirds of the country's provinces are now food-deficit areas; but the war-torn economy cannot generate imports to fill the gap. Afghanistan's problems are unusual in a region where levels of undernourishment are generally low. But they are typical of many war-torn countries facing complex humanitarian emergencies. More than 40 percent of the country's arable land is riddled with landmines and cannot be farmed. Thousands of people who used to make their living from farming have migrated to towns and cities, joining the ranks of a new, impoverished urban underclass. Only 15 percent of the population has access to safe water and some 70 percent are illiterate. Intermittent fighting and restrictions on movement continue to disrupt efforts to rebuild the country. One in every 50 Afghans has been a landmine casualty. Every day, mine blasts kill or maim another ten people, a third of whom are women and children. Many who have been disabled by war injuries or mines are no longer able to work. Their dependent status puts additional pressures on other family members who must feed and care for them. Large volumes of food aid remain far from sufficient to satisfy the minimum needs of such a large number of undernourished. Until peace is restored, there can be little hope of any lasting solutions.



## Country Case Study: Africa

With Ghana leading the way, eight countries in West Africa reduced hunger significantly between 1980 and 1996. Indeed, the five countries worldwide that scored the greatest gains were all from this subregion. The picture was very different in Central, East and Southern Africa, however. There, the proportions and numbers of undernourished people generally increased. Burundi suffered the largest increase, with the proportion of undernourished people rising from 38 percent to 63 percent between 1980 and 1996. But 13 other countries in Central, East and Southern Africa also showed large increases.

### Ghana – economic growth fuels rapid gains

Buoyed by a strong economy and dramatic increases in the yields of staple food crops, Ghana reduced undernourishment more rapidly than any other country in the world between 1980 and 1996. Average food intake soared from 1 790 calories per day to more than 2 600 calories. The gains came entirely from increased food production, with imports remaining virtually unchanged. The introduction of improved varieties of cassava helped boost yields of this main staple by almost 40 percent. Yields of yams, maize and rice also improved dramatically, and the vigorous economy encouraged farmers to increase the area under crops by more than 25 percent.

Overall, the economy grew at an annual rate of 2.3 percent. The increased prosperity brought marked improvements in sanitation, health and education. The proportion of the population with access to safe water increased from 35 to 65 percent. Illiteracy was reduced substantially, from 57 to 36 percent.

Ghana's period of rapid growth was sparked by reforms to invigorate the economy after a long period of decline. A special Programme to Mitigate the Social Costs of Adjustment and other social programmes helped protect vulnerable groups from possible negative effects of the reforms.

Despite Ghana's remarkable progress, almost one-third of the population remains poor, and 10 percent lives in pockets of extreme poverty in rural areas. These high levels of poverty mean that food insecurity and vulnerability persist. Continued economic growth and increased opportunities for off-farm employment will be crucial to maintain the rate of progress.

### Burundi – population growth and conflict

Undernourishment has increased sharply and food production has fallen as Burundi struggles to cope with rapid population growth, severe land degradation and simmering civil conflict. Average daily food intake tumbled between 1980 and 1996 from 2 020 to 1 669 calories, far below minimum requirements. Production of cassava, sweet potatoes and beans, the mainstays of the Burundian diet, also declined.

With an annual growth rate of 2.7 percent, Burundi's population has been expanding far faster than its economy, resulting in a negative growth rate per person. Burundi's weak economy and geographic isolation have left the country overwhelmingly rural (with more than 90 percent of the people living in the countryside) and almost completely dependent on domestic food production.

The rapid pace of population growth has strained the country's limited land resources to the breaking point. More than 80 percent of Burundi's fragile, mountainous land is severely degraded. Both the area being cultivated and crop yields have been falling.

Burundi's production problems have been compounded by poorly developed transport and marketing facilities. In addition, civil conflict has disrupted production and further restricted trade opportunities.

Burundi's physical isolation constitutes a major barrier to trade and has obstructed growth of non-agricultural sectors. But the spiral of population growth, environmental degradation and falling agricultural productivity dictates that solutions to Burundi's food security problems must be found outside agriculture.