

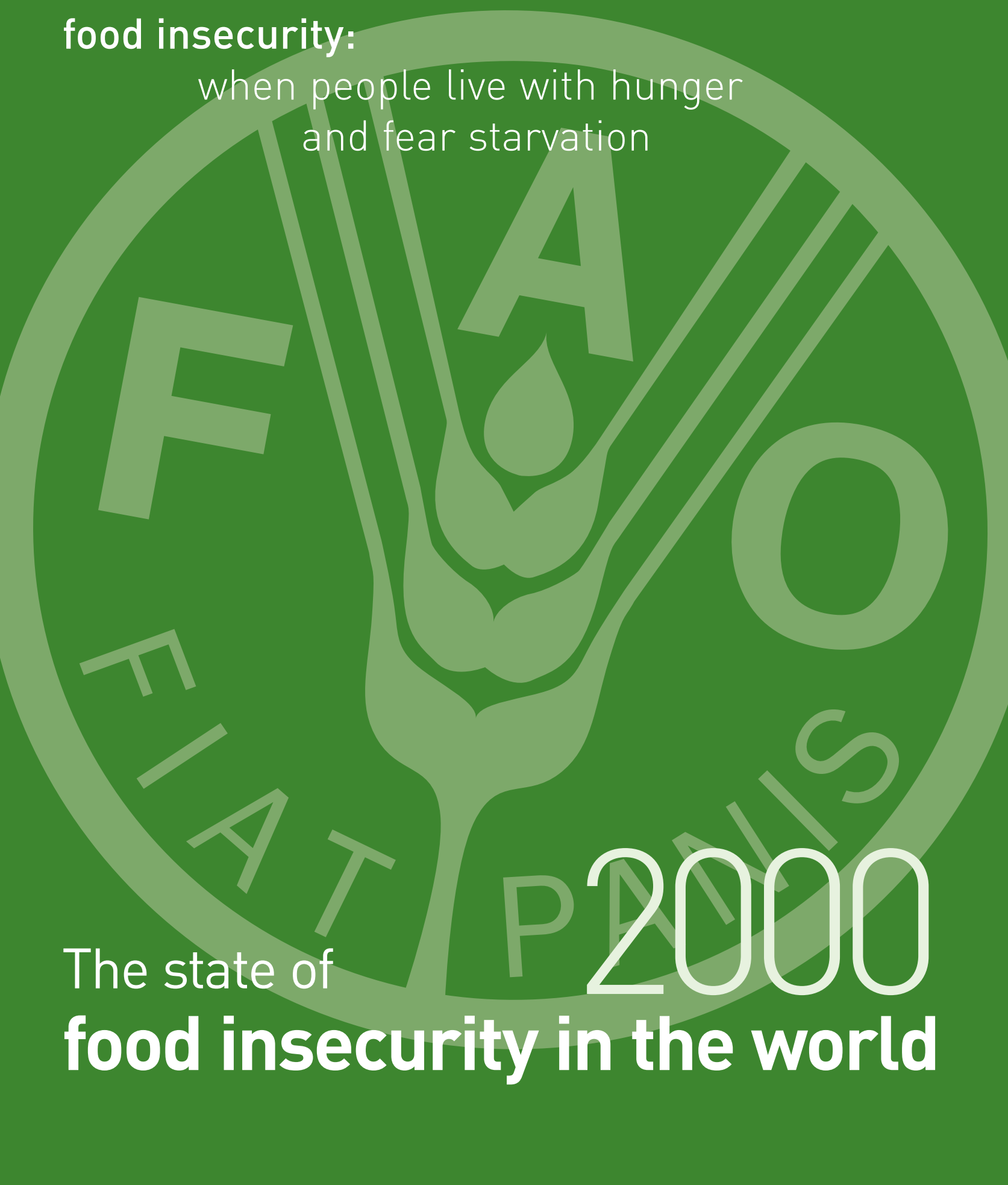
food insecurity:

when people live with hunger
and fear starvation

The state of

food insecurity in the world

2000





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Acronyms

AIDS	acquired immunodeficiency syndrome
BMI	body mass index
CGIAR	Consultative Group on International Agricultural Research
CIS	Commonwealth of Independent States
DES	dietary energy supply
FAO	Food and Agriculture Organization of the United Nations
FIVIMS	Food Insecurity and Vulnerability Information and Mapping System
GDP	gross domestic product
HIPC	heavily indebted poor countries
IFAD	International Fund for Agricultural Development
IITA	International Institute of Tropical Agriculture
LIFDCs	low-income food-deficit countries
NGO	non-governmental organization
PPP	people's participation programme
SOFI	State of food insecurity in the world
WHO	World Health Organization

About this report

The *state of food insecurity in the world*, now in its second edition, reports on global and national efforts to reach the goal set by the 1996 World Food Summit: to reduce by half the number of undernourished people in the world by the year 2015.

The first chapter of this year's report, "Undernourishment around the world", updates last year's estimate of the prevalence of chronically undernourished people in developing countries and adds prevalence estimates for countries in transition. In addition, it presents an important new dimension to these estimates of undernourishment: the depth

of hunger experienced by the undernourished. Other highlights of this year's report include:

"Nutritional status and vulnerability" advances last year's discussion of malnutrition through the use of the body mass index and the study of women's special nutritional needs. It also illustrates cases of food insecurity through an examination of sample diets and the ongoing research into the causes of vulnerability in different livelihood groups.

"Dynamics of change" explores two diverse examples of how progress can be made in reducing food insecurity. These are the impact of agricultural research on

higher-yielding cassava varieties in Africa and the dramatic success in reducing malnutrition among children under five years in Thailand.

The state of food insecurity in the world draws on FAO's ongoing work of monitoring the nutritional status of populations worldwide and analysing their degree of food insecurity and vulnerability. This work represents part of FAO's contribution to the Food Insecurity and Vulnerability Information and Mapping System (FIVIMS) initiative, which is being established at the global and national levels.

Food Insecurity and Vulnerability Information and Mapping System

On behalf of members of the Inter-Agency Working Group (IAWG) on FIVIMS, it is my pleasure to associate the IAWG with this second edition of SOFI. This publication represents a substantial contribution to the objectives of FIVIMS, namely, to:

- increase global attention to problems of food insecurity;
- improve data quality and analysis through the development of new tools and capacity building in developing countries;
- promote effective and better directed action aimed at reducing food insecurity and poverty;
- promote donor collaboration on food security information systems at the global and country levels;
- improve access to information through networking and sharing.

Although IAWG-FIVIMS members are a diverse group, we are united by a shared commitment to reduce food insecurity and vulnerability and its multidimensional causes rooted in poverty. Development agencies and countries need solid information on who the food insecure are, where they are located, what their livelihood systems are, and why they are in this situation. With answers to these questions, development partners at all levels can combine their efforts to reduce food insecurity and poverty through better policies and better designed and targeted interventions.

Before the launching of FIVIMS in 1997, IAWG member institutions were already working to improve food security information systems around the world. We still are. Through FIVIMS, we are also increasing efforts within our institutions while reducing duplication and ensuring that our collective work is efficient and complementary. As part of the UN system reform process, we also aim to collaborate more effectively at the country level within the UN Development Assistance Framework. Despite the inevitable institutional challenges, FIVIMS is making significant progress based on solid technical fieldwork enhanced by new computational and communication technologies.

IAWG members congratulate the FAO team on this year's report. And we stand committed to making even more substantial contributions in the future to *The state of food insecurity in the world*.

Peter Matlon, UNDP, Chair, IAWG- FIVIMS

IAWG-FIVIMS membership



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Canadian International Development Agency (CIDA)
European Commission (EC)
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For more information, see the IAWG-FIVIMS Web site at www.fivims.org

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Towards the World Food Summit target

Within every society, rich and poor, there are children too hungry to concentrate in school, underweight mothers who give birth to sickly children and chronically hungry adults who lack the energy to raise their families above the subsistence level. Where hunger is widespread, it is also a basic development issue impeding national economic growth and keeping millions trapped in poverty.

The state of food insecurity in the world (SOFI) was created to track progress towards ending this profound obstacle to human rights, quality of life and dignity. It was spurred by the 1996 World Food Summit in Rome, where leaders of 186 countries pledged to reduce by half the number of hungry people in the world by 2015.

In this, the second edition, we introduce a new tool for measuring the severity of want: the depth of hunger. This is a measure of the per person food deficit of the undernourished population within each country. Measured in kilocalories, it aims to assess just how empty people's plates are each day.

Measurements of the depth of hunger demonstrate that undernourishment is far more debilitating in some places than in others. In the industrialized countries, hungry people lack 130 kilocalories per day on average, while in five of the poorest countries, the daily food deficit is more than three times that, 450 kilocalories.

Most of the countries with the most extreme depth of hunger (more than 300 kilocalories per person per day) are located in Africa; others are found in the Near East (Afghanistan), the Caribbean (Haiti) and Asia (Bangladesh, Democratic People's Republic of Korea and Mongolia). Many of these countries face extraordinary obstacles such as conflict or recurrent natural disasters. They require special attention to lift them out of their current state of deep poverty and dire food insecurity.

SOFI 2000 also updates the estimate of the number of undernourished people. And I am disturbed to report that we find no significant change for the latest period, 1996-98, compared with the 1995-97 period reported last year.

We still estimate that 792 million people in 98 developing nations are not getting enough food to lead normal, healthy and active lives. Even in the industrialized nations and the countries in transition (those in Eastern Europe and the former Soviet Union) the number of undernourished remains the same: 34 million children, women and men. In a world of unprecedented wealth, these levels of need are disgraceful.

To realize the Summit target, we have to achieve a reduction of at least 20 million every year between now and 2015. The actual rate of decline, of slightly fewer than 8 million per year since the early 1990s, is woefully inadequate. We cannot sit by and hope that hunger will decrease simply as a by-product of rising

incomes and slower population growth. Under that "business as usual" scenario we would reduce global hunger by slightly less than one-third, not one-half.

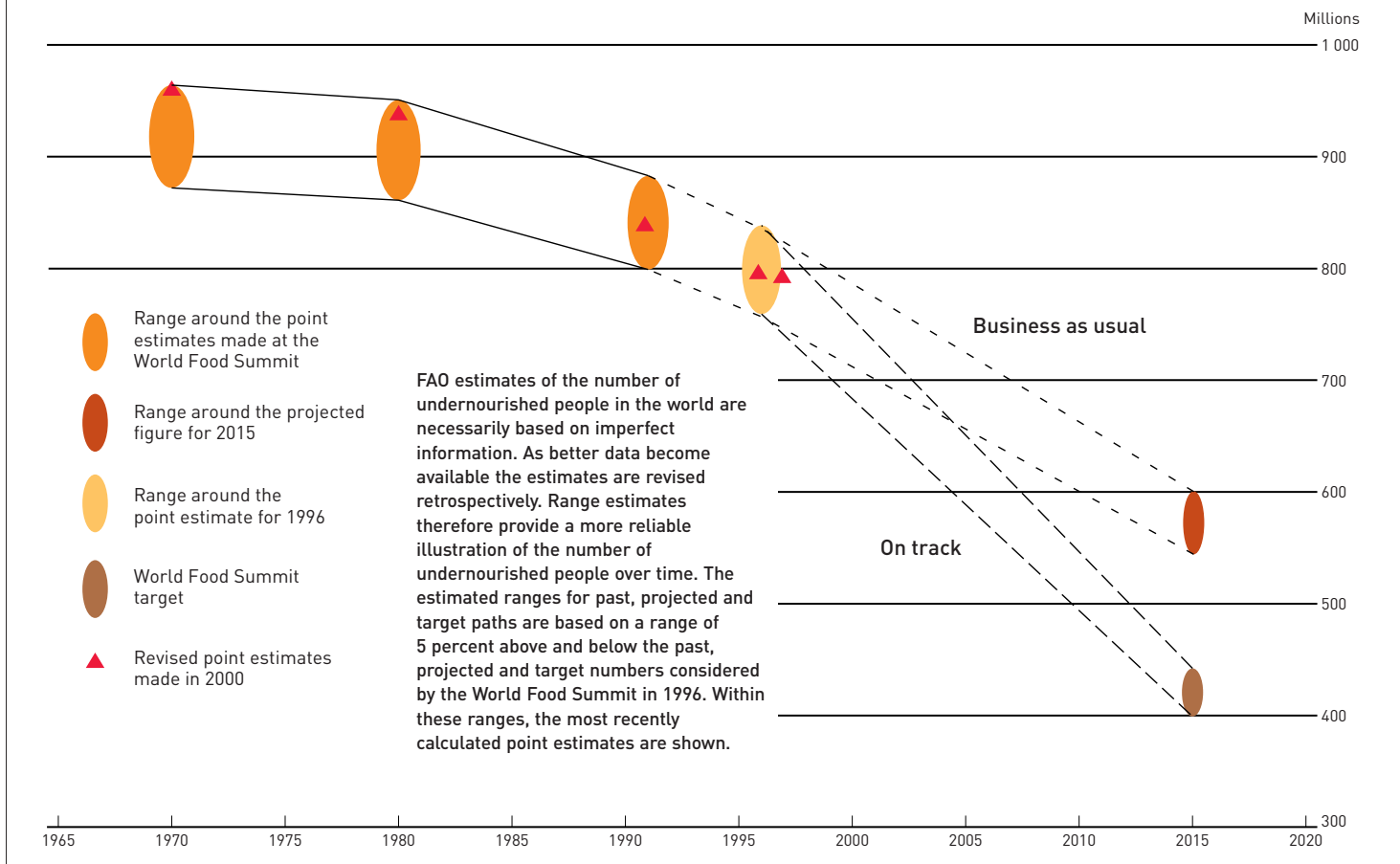
Can we direct our efforts to get "on track" for reducing hunger by 50 percent? The World Food Summit goal is reachable, just as other seemingly impossible aims have been met, such as the eradication of polio or putting a person on the moon. What we need to do is adopt more urgent, targeted measures quickly.

As in last year's edition, SOFI 2000 highlights short-term and long-term measures that together offer possible solutions to hunger:

- We must address conflict, the cause of the deepest hunger in most of the poorest countries of the world. Conflict resolution and peacekeeping activities must be seen as vital tools in fighting hunger. Once peace is achieved, war-shattered economies must be rebuilt.
- We must make the investment needed to build foundations for sustainable, longer-term economic growth and poverty reduction. Our story on Thailand shows how undernourishment was greatly reduced over 15 years as a result of economic growth and specific policies to reduce poverty and improve nutrition levels.
- We must set priorities. Countries and their development partners must target the people who are suffering the deepest hunger. Safety nets – from cash transfers



Number of undernourished in the developing world: observed and projected ranges compared with the World Food Summit target



to school lunch programmes – must be in place to protect the most vulnerable.

- We must orient agricultural research towards improvement of agricultural commodity production, which helps the poor in the cities as well as in the countryside. This is illustrated by our story on the research efforts that vastly increased cassava production in Ghana and Nigeria.

FAO and its partners will continue to monitor progress towards the goal of reducing chronic undernourishment by half by 2015. In this era of global abundance, why

does the world continue to tolerate the daily hunger and deprivation of more than 800 million people? We must work together, and quickly. I am convinced we will see the day when FAO ceases to publish a report titled *The state of food insecurity in the world* because the world will have lived up to its promise to end hunger.

Jacques Diouf
Director-General
FAO

Undernourishment around the world

Depth of hunger: how hungry are the hungry?

Meaningful action to end hunger requires knowledge of not just the number of hungry people around the world but also of the depth of their hunger.

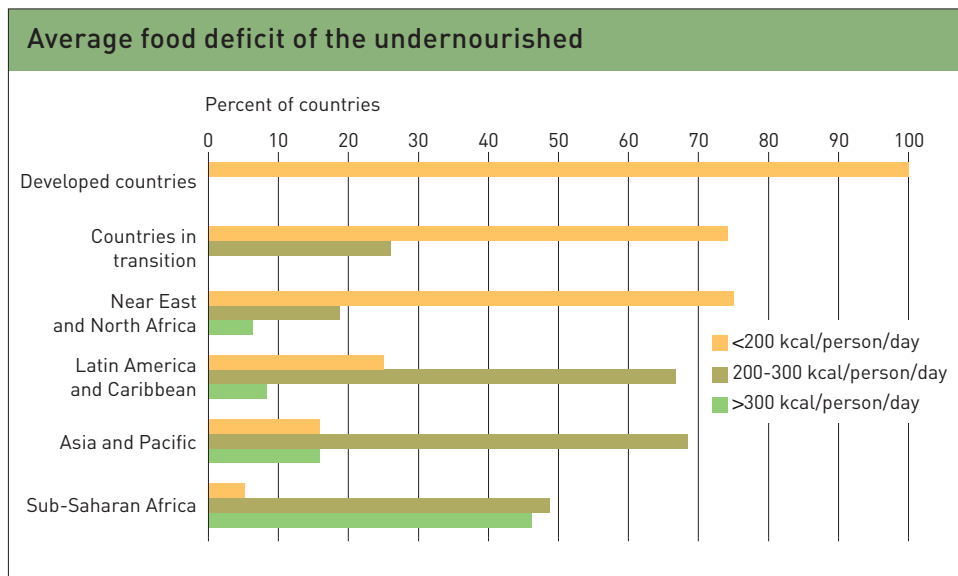
Knowing the number of kilocalories missing from the diets of undernourished people helps round out the picture of food deprivation in a country. Where the undernourished lack 400 kilocalories a day, the situation is more dire than in a country where the average shortage is 100 kilocalories. The greater the deficit, the greater the susceptibility to nutrition-related health risks. A weak, sickly person cannot fulfil his or her individual potential. A nation of weak, sickly people cannot advance.

The state of food insecurity in the world regularly reports on the latest estimates of the number and prevalence of chronically hungry people (see pages 8-9). This year the report goes one step further, calculating the food deficit of hungry people. This measurement indicates how deeply the dietary energy intake of undernourished people falls short of their minimum needs.

The depth of hunger, or food deficit, is measured by comparing the average amount of dietary energy that undernourished people get from the foods they eat with the minimum amount of dietary energy they need to maintain body weight and undertake light activity. (See box on page 11 for more details.)

The diets of most of the 800 million chronically hungry people lack 100-400 kilocalories per day. Most of these people are not dying of starvation. Often they are thin but not emaciated. The presence of chronic hunger is not always apparent because the body compensates for an inadequate diet by slowing down physical activity and, in the case of children, growth. In addition to increasing susceptibility to disease, chronic hunger means that children may be listless and unable to concentrate in school, mothers may give birth to underweight babies and adults may lack the energy to fulfil their potential.

In terms of sheer numbers, there are more chronically hungry people in Asia and the Pacific, but the depth of hunger is clearly the greatest in sub-Saharan Africa. There, in 46 percent of the countries, the



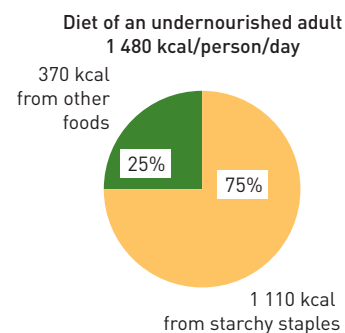
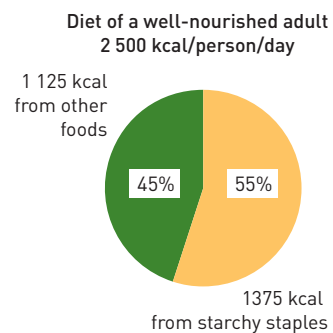
undernourished have an average deficit of more than 300 kilocalories per person per day. By contrast, in only 16 percent of the countries in Asia and the Pacific do the undernourished suffer from average food deficits this high.

Where the average kilocalorie deficit is very high, many people's diets are deficient in everything, including the starchy staple foods (carbohydrate-rich maize, potatoes, rice, wheat and cassava) that provide mostly energy. But where the deficit is more moderate, people generally get enough of the staple foods. What they often lack is a nutritious diet: legumes, meat, fish, oils, dairy products, vegetables and fruit that provide protein, fat and micronutrients as well as energy. Rounding out their diets is crucial to food security.

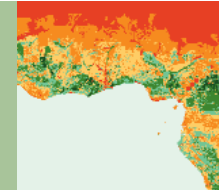
Lack of cash income is one of the most important factors hindering both urban and rural people from obtaining the diverse foods needed for an adequate diet. Even when poor rural families are helped to produce a greater variety of foods on their household plots, they will often sell these items rather than consume them because of their high market value. Thus, their food security improves only when overall household income rises to a level that permits them to afford the other foods they need.

Improving the quantity and quality of diets: an example from China

When dietary intake is adequate, the variety of foods is generally greater, providing more energy and better nutrition.



Source: National Survey of Income and Expenditure of Urban Households, Government of China, 1990



Falling short

The depth of hunger is measured by the average dietary energy deficit of undernourished people – not of the population as a whole – expressed in kilocalories per person per day. The higher the number, the deeper the hunger.

Asia and Pacific	kcal
Bangladesh	340
Korea DPR	340
Mongolia	310
India	290
Lao PDR	280
Viet Nam	280
Cambodia	270
Pakistan	270
Philippines	270
Nepal	260
Papua New Guinea	260
Sri Lanka	260
Thailand	260
China*	250
Indonesia	200
Myanmar	200
China, Hong Kong SAR	140
Malaysia	140
Korea, Rep	130

Latin America and Caribbean	kcal
Haiti	460
Nicaragua	300
Honduras	270
Brazil	250
Dominican Rep	250
Guatemala	250
Peru	240
Bolivia	230
Guyana	230
Panama	230
Trinidad and Tobago	230
Colombia	220
Paraguay	220
Cuba	210
Mexico	210
Venezuela	210
El Salvador	200
Jamaica	200
Suriname	190
Costa Rica	160
Ecuador	160
Chile	150
Uruguay	150
Argentina	140

Near East and North Africa	kcal
Afghanistan	480
Yemen	290
Iraq	210
Morocco	210
Algeria	190
Egypt	190
Iran	190
Kuwait	180
Jordan	170
Turkey	170
Lebanon	160
Syria	160
Saudi Arabia	150
United Arab Emirates	140
Libya	130
Tunisia	130

Sub-Saharan Africa	kcal
Somalia	490
Mozambique	420
Burundi	410
Liberia	390
Congo, Dem Rep	380
Sierra Leone	380
Eritrea	370
Niger	350
Ethiopia	340
Zambia	340
Zimbabwe	340
Chad	330
Rwanda	330
Angola	320
Guinea	320
Central African Rep	310
Madagascar	310
Malawi	310
Tanzania	300
Burkina Faso	290
Congo, Rep	290
Kenya	290
Mali	290
Lesotho	280
Uganda	280
Cameroon	260
Namibia	260
Togo	260
Botswana	240
Gambia	240
Mauritania	240
Senegal	240
Sudan	240
Côte d'Ivoire	230
Benin	220
Ghana	210
Nigeria	210
Swaziland	210
Mauritius	180
Gabon	160

Countries in transition	kcal
Tajikistan	250
Azerbaijan	240
Kyrgyzstan	230
Bulgaria	220
Armenia	210
Georgia	210
Moldova Rep	210
Bosnia and Herzegovina	190
Turkmenistan	190
Croatia	180
Estonia	180
Uzbekistan	180
FYR Macedonia	170
Russian Fed	170
Kazakhstan	160
Slovakia	160
Ukraine	160
Albania	150
Latvia	150
Slovenia	150
Yugoslavia**	150
Hungary	140
Lithuania	140
Belarus	130
Czech Rep	130
Poland	130
Romania	130

Developed countries	kcal
South Africa	160
Sweden	150
Finland	140
Greece	140
Italy	140
Netherlands	140
Switzerland	140
United States	140
Australia	130
Austria	130
Belgium	130
Canada	130
Denmark	130
France	130
Germany	130
Iceland	130
Ireland	130
Japan	130
Luxembourg	130
New Zealand	130
Norway	130
Spain	130
United Kingdom	130
Israel	120
Malta	120
Portugal	110

* Includes Taiwan Province of China

** Serbia and Montenegro

Undernourishment around the world

Estimates and projections of hunger

Latest estimates indicate that 826 million people remained undernourished in 1996-98: 792 million people in the developing world and 34 million in the developed world. These figures represent no change from 1995-97, the previous reporting period. Information shown in the charts and figures reveals that the overall picture at regional level has also altered little.

But short-term events are not necessarily indicative of long-term trends, and new projections for 2015 and 2030 show an improving course. The number of undernourished people in the developing world is expected to fall to around 580 million by 2015 – an improvement, but still far short of the World Food Summit goal of a reduction by half, to about 400 million people. Projections indicate that the 400 million figure will not be reached until 2030.

The figures for 2015 indicate that the overall proportion of the developing countries' population that is undernourished will be half what it was in 1990-92, the base period for the World Food Summit target. But the number of undernourished people will still be around 70 percent of what it was in 1990-92.

If the goal were applied regionally, South and East Asia would be on track to approach it by 2015. Sub-Saharan Africa and the Near East would remain far from the target, and Latin America would be in between.

Overall, these outcomes would reflect the continuation of long-term declines in the prevalence of undernourishment in Asia, which began in 1969-71 in East Asia and a decade later in South Asia. In the world's two

largest countries – China and India – slowing population growth and strong economic growth would bring significant increases in per capita food availability between 1996-98 and 2015.

For these two countries combined, the prevalence of undernourishment is projected to decline from 16 percent in 1996-98 to 7 percent in 2015. Together they represent more than one third of the world's population, so any change in their levels of undernourishment has a large effect on world averages.

Sub-Saharan Africa faces greater challenges. This region is home to most of the world's poorest countries, where prevalence of undernourishment is high and prospects for immediate and rapid economic growth limited. The central, southern and eastern parts of the continent are especially hard hit.

Although the prevalence of undernourishment in sub-Saharan Africa is projected to decline from 34 percent of the population in 1996-98 to 22 percent in 2015, high population growth rates mean that the actual number of undernourished people could increase slightly between now and 2015 before beginning to decline. Some very poor countries in East Asia, the Caribbean and the Near East have similar characteristics and also have poor prospects for achieving the Summit target.

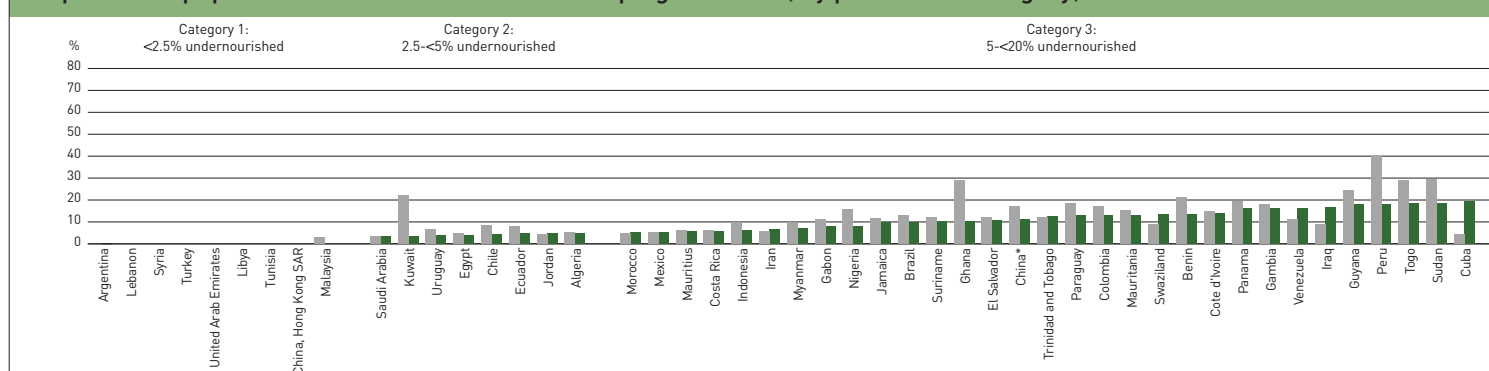
As explained further throughout this report, the countries and regions where progress is slow are caught in a trap of poverty and hunger that requires particular attention. But, as the successes achieved in other parts of the world demonstrate, a concerted, focused effort can make a difference and prove the projections wrong.

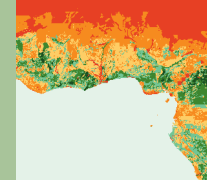
Projected trends in undernourishment

	1996-98	2015	2030	1996-98	2015	2030
	percent of population			millions of people		
Sub-Saharan Africa	34	22	15	186	184	165
Near East / North Africa	10	8	6	36	38	35
Latin America and the Caribbean	11	7	5	55	45	32
China* and India	16	7	3	348	195	98
Other Asia	19	10	5	166	114	70
Developing countries	18	10	6	791	576	400

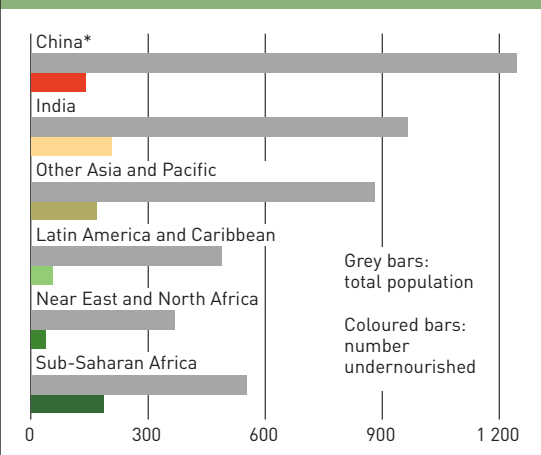
Source: Agriculture: Towards 2015/30, Technical Interim Report, FAO, April 2000

Proportion of population undernourished in developing countries, by prevalence category, 1990-92 and 1996-98

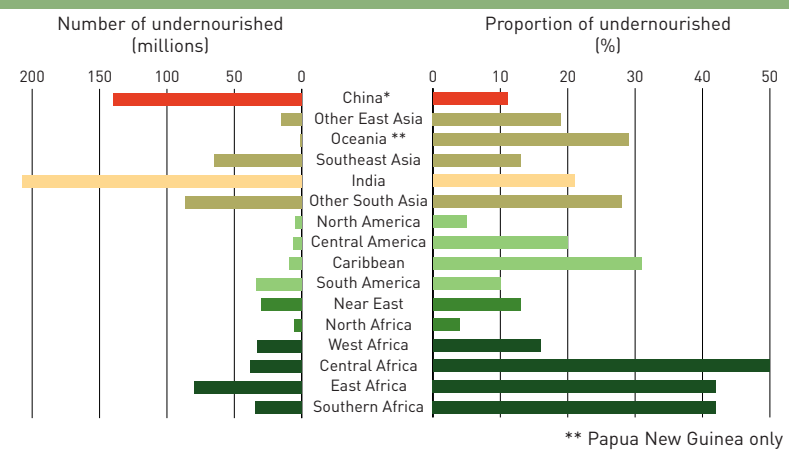




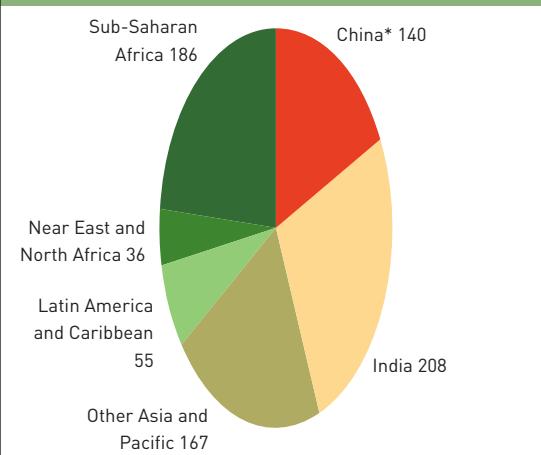
Total population and number of undernourished, by region, 1996-98 (millions)



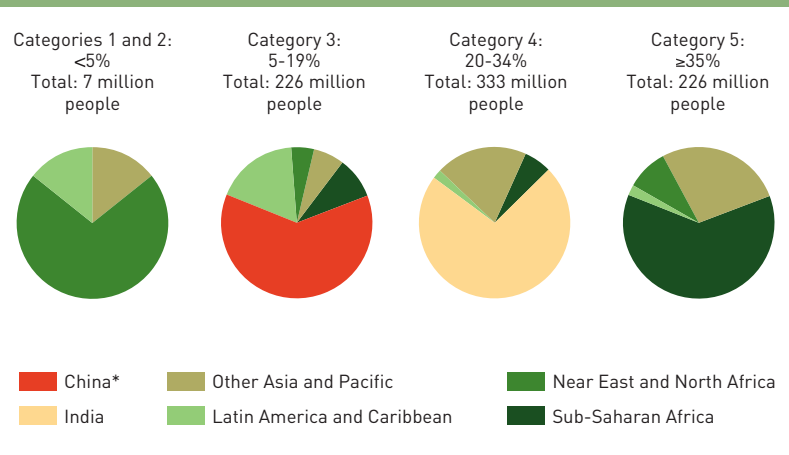
Number and proportion of undernourished, by region and subregion, 1996-98



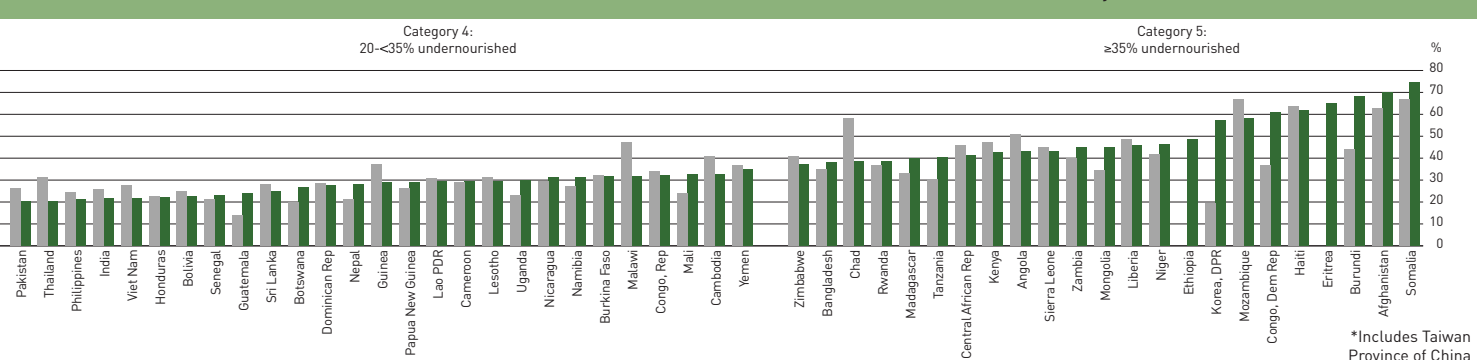
Number of undernourished, by region, 1996-98 (millions)



Proportion of population undernourished by prevalence category and region, 1996-98



Grey bars: 1990-92 Green bars: 1996-98



Undernourishment around the world

Food deprivation: prevalence and depth of hunger

To get the most accurate picture possible of how hungry people are, FAO has combined the estimates of both prevalence and depth of hunger (presented on pages 6-9) into five food deprivation groups. Shown by country on the map, the groups range from the least deprived (Group 1 – low prevalence of undernourishment in the population and low dietary energy deficit among the undernourished) to the most deprived (Group 5 – high prevalence of undernourishment and high energy deficit).

The 23 countries in Group 5 face the most pressing and difficult problems in feeding their people. Chronic instability and conflict, poor governance, erratic weather, endemic poverty, agricultural failure, population pressure and fragile ecosystems go hand in hand with deep, widespread and persistent hunger.

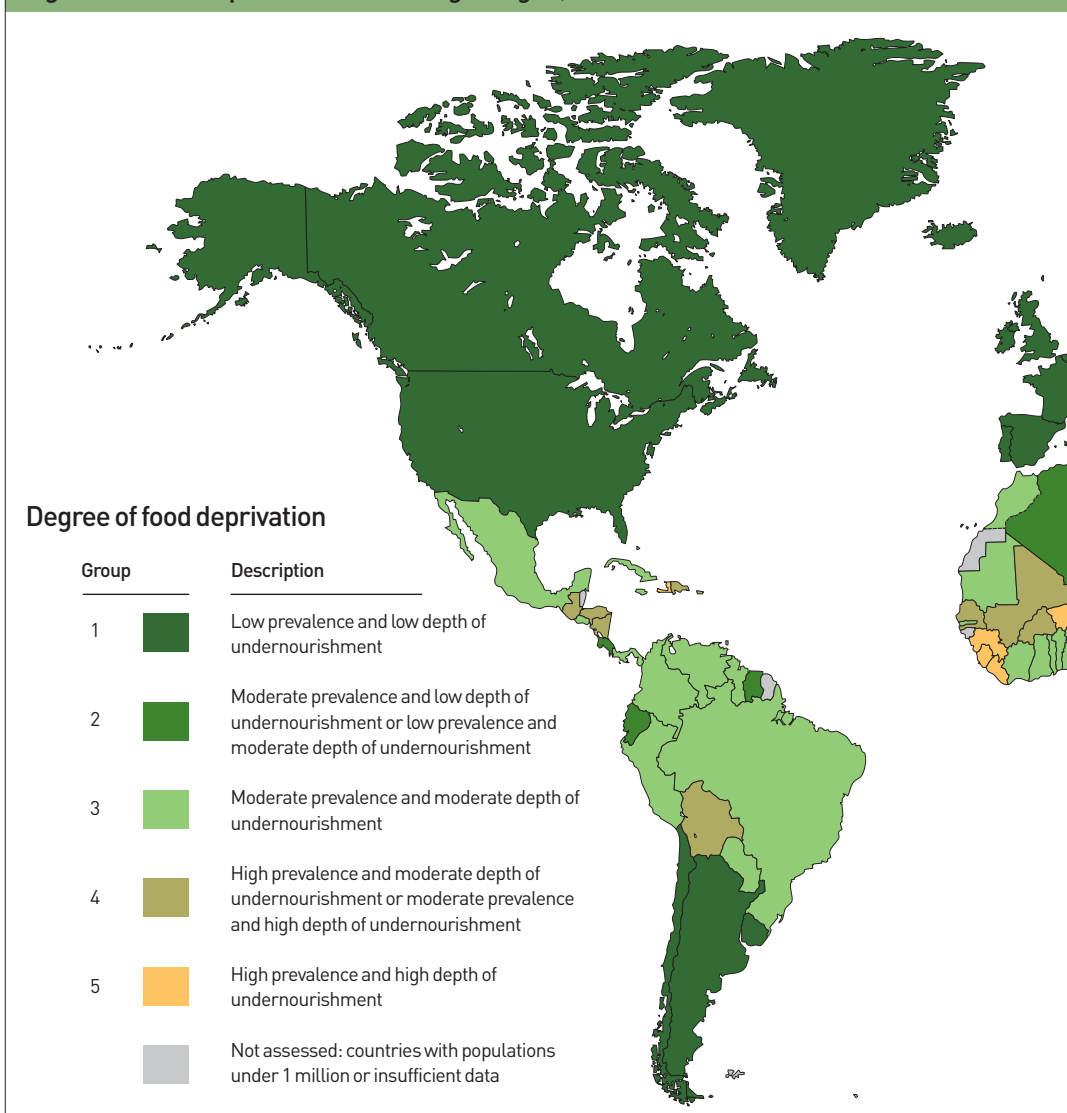
Eighteen countries in sub-Saharan Africa, nearly half the African nations covered in this report, are in this group. So are Afghanistan, Bangladesh, Haiti, Mongolia and the Democratic People's Republic of Korea.

At the other extreme are the 52 countries in Group 1 – all of the industrialized countries, 11 countries in transition (see pages 12-13 for details) and 15 relatively high-income developing countries. Peace and economic prosperity characterize all these countries.

The World Food Summit target is to reduce the overall number of undernourished people around the world. However, significant improvement could also be achieved by concentrating first on lessening the depth of hunger.

In this scenario, a country with higher prevalence of undernourishment and a daily dietary energy deficit of over 300 kilocalories per person would strive to reduce the depth of hunger as a top priority. This strategy might not permit a country to report an immediate decrease in the number of undernourished people, but it would mean the undernourished were not as hungry as they had been. Their susceptibility to nutrition-related health risks would therefore decline, and the country would be on the path to a sustainable reduction in hunger prevalence.

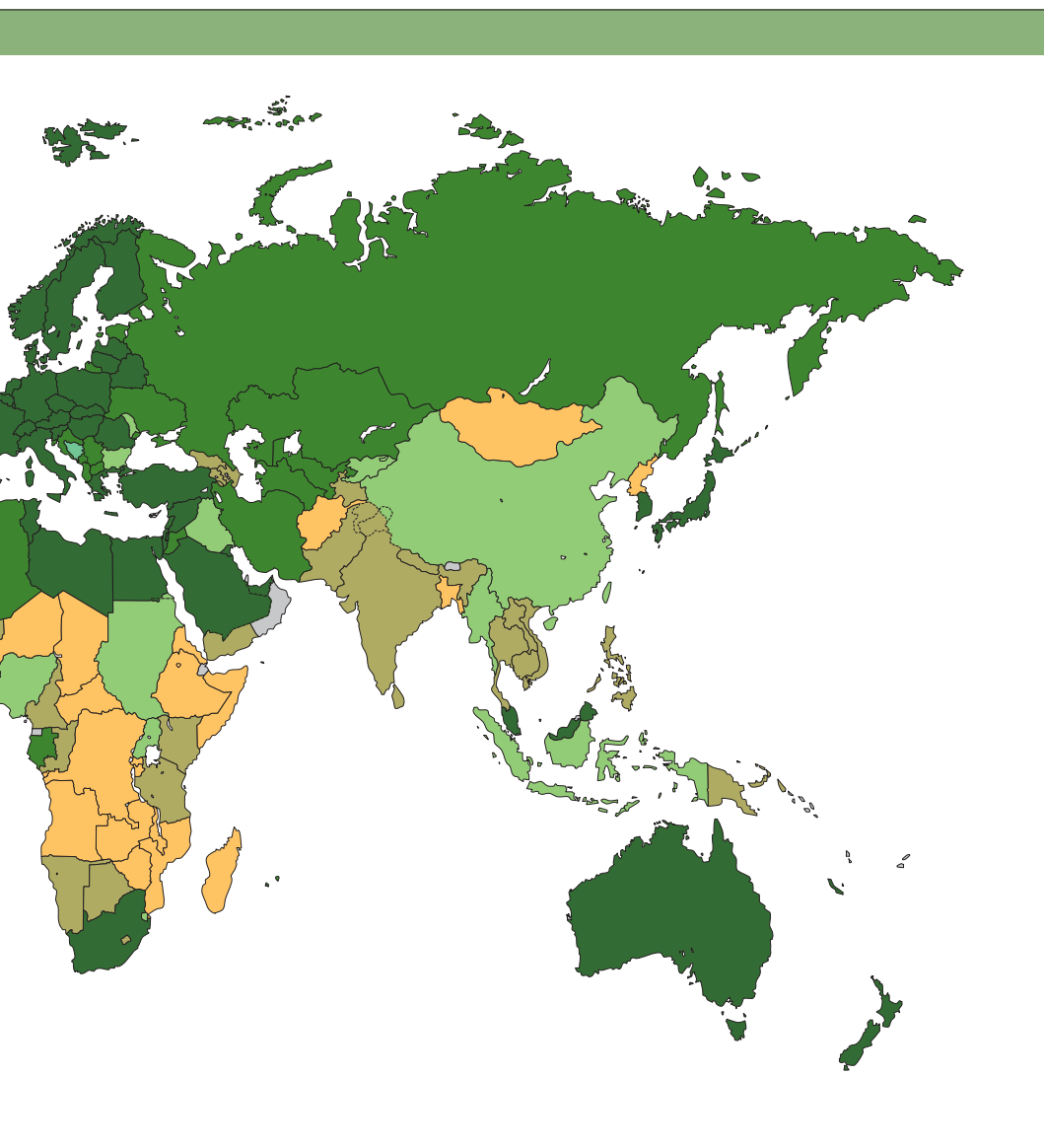
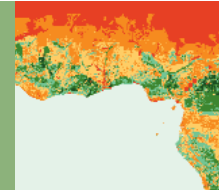
Degree of food deprivation: Charting hunger, 1996-98



Extent of food deprivation, 1996-98

Combining prevalence and depth of hunger results in five food deprivation groups

Prevalence of hunger: percent of population undernourished	Depth of hunger: number of kilocalories missing from the diets of the undernourished			
	< 200 (Low)	200-300 (Moderate)	> 300 (High)	TOTAL
Number of countries, colour-coded by group				
< 5% (Low prevalence)	52	0	0	52
5-19% (Moderate prevalence)	17	29	0	46
≥ 20% (High prevalence)	0	31	23	54
TOTAL	69	60	23	152



Estimating prevalence and depth of hunger

Here is a brief description of the method FAO uses to estimate the prevalence and depth of undernourishment:

- Calculate the total number of calories available from local food production, trade and stocks.
- Calculate an average minimum calorie requirement for the population, based on the number of calories needed by different age and gender groups and the proportion of the population represented by each group.
- Divide the total number of calories available by the number of people in the country.
- Factor in a coefficient for distribution to take account of inequality in access to food.
- Combine the above information to construct the distribution of the food supply within the country and determine the percentage of the population whose food intake falls below the minimum requirement. This is the prevalence of undernourishment.
- Multiply this percentage by the size of the population to obtain the number of undernourished people.
- Divide the total calories available to the undernourished by the number of undernourished to obtain the average dietary energy intake per undernourished person.
- Subtract the average dietary energy intake of undernourished people from their minimum energy requirement (expressed in kilocalories per person per day) to get the average dietary energy deficit of the undernourished. This is the depth of hunger.

Calculating food energy requirements

How much people need to eat each day – their daily dietary energy requirement – depends on their weight, height, age, sex and activity level.

The table gives examples of light, moderate and heavy activity levels and the amount of food energy required for such activities by men and women of differing body weight. The energy requirements for elderly people are somewhat less, and those for children are much less.

The prevalence and depth of hunger are calculated using the minimum daily energy requirements of the different sex and age groups in a population. The minimum requirement for each group is based on the lowest acceptable weight for the typical height of the group in a country and the light activity norm.

Physical activity norms for adults

Light activity: Activity associated with sitting at a desk or behind a counter with reliance on automated appliances.

Moderate activity: Continual light physical activity such as in light industry or during off-season farm work.

Heavy activity: Heavy and occasionally strenuous work (e.g. agricultural production, mining or steel work).

Approximate daily energy requirement for adults

	Light activity (kcal)	Moderate activity (kcal)	Heavy activity (kcal)
Men (height 1.71 m)*			
lowest acceptable body weight (54 kg)	2 335	2 682	3 164
highest acceptable body weight (73 kg)	2 786	3 199	3 775
Women (height 1.59m)*			
lowest acceptable body weight (47 kg)	1 846	1 941	2 154
highest acceptable body weight (63 kg)	2 223	2 337	2 594

* Requirements would be higher for taller people and lower for shorter people.

Norms based on Report of the Joint FAO/WHO/UNU Expert Consultation on Energy and Protein Requirements, 1985

Undernourishment around the world

Locating the hungry in countries in transition

Less than ten years after the break-up of the Soviet Union in 1991, undernourishment remains a persistent challenge in many of the successor countries now part of the Commonwealth of Independent States (CIS). By contrast, the Eastern European and Baltic countries have largely managed to escape this problem.

These findings emerged from FAO's first estimates of the number and proportion of undernourished people in countries in transition (for more details, see Table 1, page 32). In nine of the 12 CIS countries, at least 5 percent of the population is undernourished. In four countries – Armenia, Azerbaijan, Georgia and Tajikistan – at least 20 percent of the population suffers from undernourishment. Only one country,

Belarus, has a level of undernourishment comparable to levels found in the industrialized world (less than 2.5 percent of the population).

Seven CIS states – Armenia, Azerbaijan, Georgia, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan – with a combined population of 53 million, are now classified by the United Nations as low-income food-deficit countries, with an annual gross national product of less than US\$1 505 per capita.

A number of reasons are commonly cited to explain this difficult situation. Economic transition in the CIS countries has been accompanied by far-reaching political and administrative changes that have disrupted previous trade and exchange relations and led to serious foreign exchange shortages. In addition

there has been a breakdown of agricultural production and marketing systems, spiralling inflation, temporary bread shortages and, in several instances, outright conflict. The gross domestic product has plummeted along with the purchasing power of large numbers of ordinary citizens. In most CIS countries, levels of production are now only a fraction of what they were in 1991, and levels of unemployment and underemployment are quite high, although often disguised because of work in the informal sector.

But the data for Eastern Europe and the Baltic countries, where similar disruptions have occurred, illustrate that economic transition need not diminish food security. As of 1996-98, only five of the 12 Eastern European and three Baltic

Note on the estimates

The FAO estimate of the number of undernourished people is derived from available data on population, food production, trade and distribution of food or income within the population.

For many countries these data are weak. In the CIS the problem is further complicated by the difficulties associated with ongoing changes in data collection systems.

In the centrally planned system, data were obtained mainly from administrative records. To replace them, sample surveys must be implemented, but this work is still at an early stage. Therefore the estimates of the number and proportion of undernourished people in the CIS should be read with particular caution.

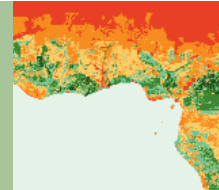
As the reliability of current data in many CIS countries is uncertain, experts working in the field supplement quantitative data with qualitative assessments. Field evidence supports the data, finding that a substantial number of people are living in hardship as a result of low purchasing power, lack of employment, dietary inadequacies and insufficient fuel, shelter, transport and health facilities.

Commonwealth of Independent States



Vulnerability to food insecurity in CIS countries

Very high vulnerability	Intermediate vulnerability	Relatively low vulnerability
Azerbaijan Tajikistan	Moldova, Rep Turkmenistan Uzbekistan	Kazakhstan Russian Federation Ukraine
Relatively high vulnerability		Very low vulnerability
Armenia Georgia Kyrgyzstan		Belarus



countries were experiencing undernourishment levels of more than 5 percent of the population, and in none were more than 20 percent undernourished.

The risk of undernourishment in the CIS countries has also fallen since 1995, although not as far as in Eastern Europe and the Baltic states. Agricultural market liberalization and privatization of agricultural production have led to improved food distribution in most of the countries. Control of grain and bread prices has largely been lifted, the role of private trade has increased and shortages have mostly disappeared. As a result, emergency food aid programmes have been terminated in most CIS countries. By 1997, the majority of farm commodities in most CIS countries were produced in the private sector. Private producers were marketing as much as 30-40 percent of their production, usually directly to consumers for cash payment.

Focus: Azerbaijan

Although food is available in both urban and rural markets, the purchasing power of the bulk of the country's 7.6 million inhabitants remains low. Costing on average US\$68 per month for a family of five, food continues to account for around 70 percent of total expenditures among the most economically vulnerable.

Humanitarian assistance has been provided since the early 1990s. Nearly 500 000 people (half of whom have fled the areas affected by political conflict with Armenia) still need this help. By now, most have sold any valuable possessions and have little margin of security left.

A survey of internally displaced families conducted in 1998 found that 30 percent showed some signs of malnutrition.

Source: Special Report: FAO/World Food Programme Crop and Food Supply Assessment Mission to Azerbaijan, December 1999

Focus: Georgia

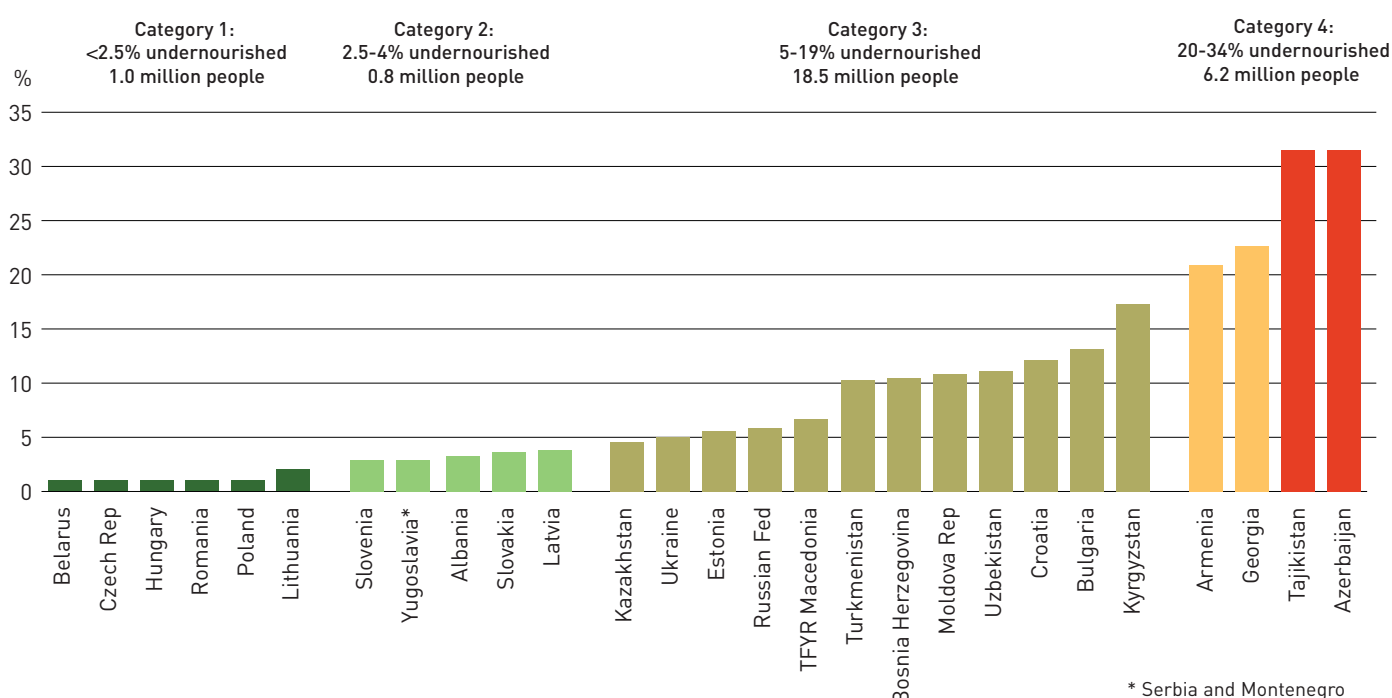
Rural incomes have remained practically stagnant despite rapid growth in the agriculture sector since 1995. Income disparity has increased greatly, and a large proportion of the country's population of 5.1 million remains poor. Expenditures on food absorb 60-70 percent of the average family budget.

The social safety net system remains relatively ineffective, with very low pensions and benefits and long arrears in payments. The elderly, disabled, unemployed and geographically isolated remain highly vulnerable to food insecurity.

Although there is no officially recognized acute malnutrition, a slow but clear increase of malnutrition among children is being observed, despite targeted distribution of supplementary food aid.

Source: Crop and Food Supply Situation in Georgia, FAO Global Information and Early Warning System on Food and Agriculture, December 1999

Proportion of undernourished in countries in transition, by prevalence category, 1996-98



Nutritional status and vulnerability

The spectrum of malnutrition

The spectrum of malnutrition encompasses the entire range of problems that can occur when dietary energy and/or nutrient intake are insufficient, excessive or simply imbalanced.

At one end of the energy malnutrition spectrum is the problem of undernourishment and undernutrition, often described in terms of *macronutrients*. Low dietary energy supply, wasting, stunting, underweight and low body mass index (BMI) are all used to identify the problem. This energy deficit leaves its victims prone to illness and early death; it also makes them listless and unable to concentrate.

At the other end of the spectrum is the problem of overnourishment, leading to overweight and obesity. A high BMI is one indicator of the problem. Already a well-known phenomenon in developed countries, obesity is increasing among new urban dwellers in the developing world. This issue has not been given much attention in developing countries because of the more compelling problems at the other end of the scale. However, the consequences of obesity – which decreases productivity and increases the risk of heart disease, hypertension, diabetes and certain cancers – can be as serious as the consequences of underweight.

The figures on these pages show the energy spectrum and related physical manifestations in adults, as well as the latest information on children's undernutrition. Nutritional status of adult

women is discussed on pages 11-12.

A diet unbalanced in macronutrients, the energy-providing food components, is also a cause for concern even when total energy intake is adequate. However, the healthy range of macronutrient intake, expressed as a percent of total energy, can be broad: 55-75 percent from carbohydrates, 15-35 percent from fats and 10-15 percent from proteins.

Superimposed upon the energy intake spectrum is the global problem of *micronutrient malnutrition*. Micronutrients – minerals and vitamins – are needed for proper growth, development and function. Deficiencies are particularly common among women of reproductive age, children and people with compromised immune systems, such as people with AIDS.

Micronutrient deficiencies invariably affect people whose energy intake is low, but those consuming too much energy can also be victims. The following are some common micronutrient deficiencies:

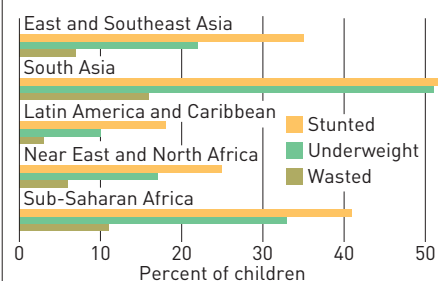
- Iron deficiency anaemia affects approximately 1.5 billion people, mostly women and children.
- Iodine deficiency disorders affect about 740 million people worldwide.
- Vitamin A deficiency blindness affects around 2.8 million children under five years old. More than 200 million people are considered vitamin A deficient.
- Calcium deficiency in pregnant and lactating women can affect the development of their children, and appears as osteoporosis later in life.

- Severe vitamin C deficiency, scurvy, is mostly a problem in very deprived and refugee populations.

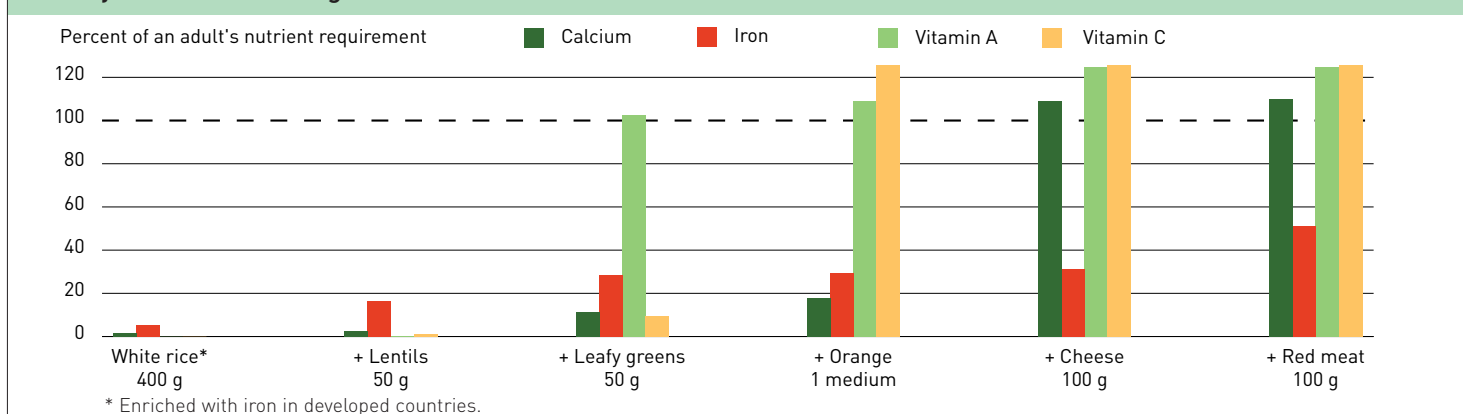
Specific requirements have been established for most micronutrients. In most cases, deficiencies can be corrected by consuming a well-balanced diet. Variety is the key.

Undernutrition among children under five in developing countries

Because they are growing rapidly, infants and young children, especially under two years old, need foods rich in energy and nutrients. Poor diets prevent children from achieving their full genetic potential. Severe malnutrition can cause early death, permanent disabilities and increased susceptibility to life-threatening illnesses. The growth of children is a good indicator of their overall health status. The graph below shows the prevalence of undernutrition among young children in developing countries.



Variety in the diet: adding foods to boost micronutrient intake





Interpreting the body mass index

Body mass index (BMI) is an anthropometric standard for defining the body composition of men and women. Initially it was used to measure obesity in developed countries, but it is now applied to underweight and overweight adults in countries throughout the world.

BMI provides a simple, convenient and relatively inexpensive indicator for assessing whether a person is taking in too little or too much energy. BMI is a crude measure of nutritional status; additional information is needed to determine a person's health status. Thresholds may have to be adapted for specific groups of adults, such as adolescents, pregnant women and the elderly.

How to measure BMI

A person's BMI score is calculated by dividing the individual's weight (in

kilograms) by his or her height (in meters) squared:

$$\text{BMI} = \text{body weight (kg)} / \text{height}^2 \text{ (m)}$$

What does it mean to have a low or high BMI?

The figure below shows a range of BMI scores from severely underweight (<16) to severely obese (>40). The risk of health problems is greater for people with BMI at either end of the spectrum than for those in the middle range (18.5-25).

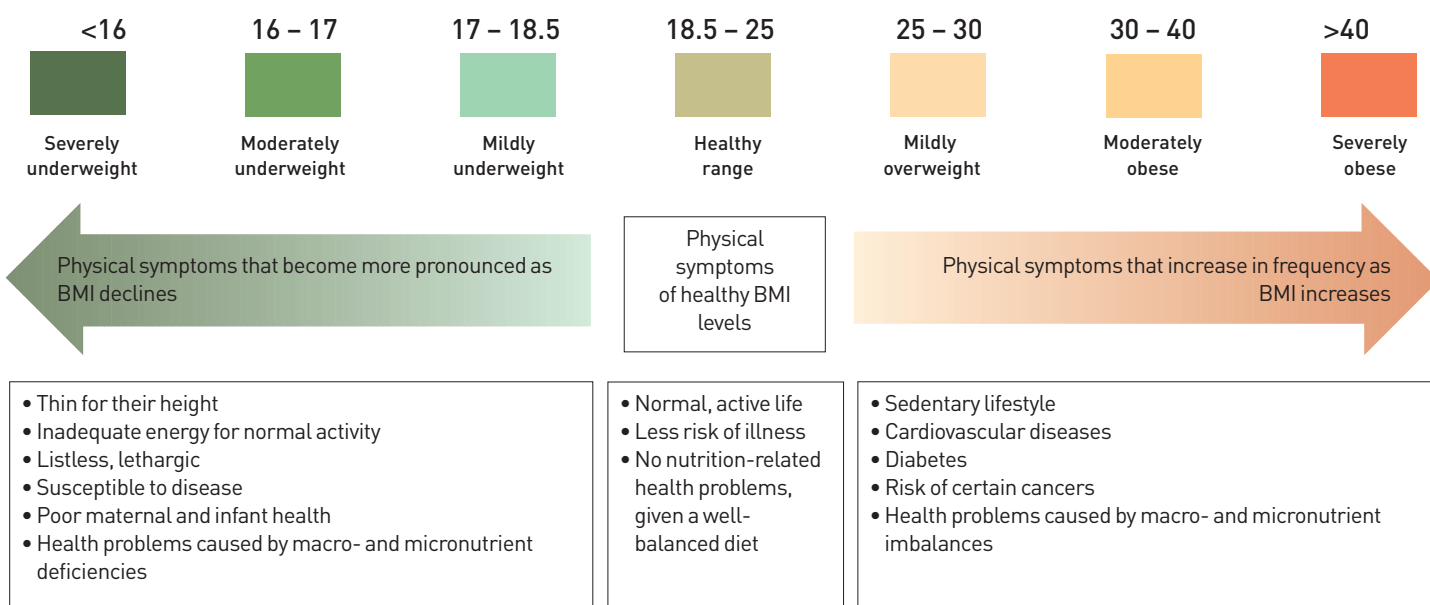
Current debates about BMI

In this publication, 18.5-25 is considered to be the healthy range of BMI for adults. These thresholds are recommended by FAO, the World Health Organization and the International Dietary Energy Consultative Group, and their use is increasing all over the world.

The cut-off point of 18.5 for defining underweight and 25 for defining overweight is not universally accepted. Some researchers believe that cut-off points based on country-specific reference groups should be established to reflect differences in height and muscle mass. Concerns about the universal applicability of the body mass index should be kept in mind when interpreting the prevalence of underweight and overweight people in selected countries. (See page 12.)

From deficiency to excess: the BMI spectrum in adults

BMI score



Nutritional status and vulnerability

Women: different needs, greater risks

In households where food security is precarious, women are often more vulnerable than men to malnutrition because of their different physiological requirements. Women are smaller and have lower metabolic rates and less muscle on average than men, which means they need about 25 percent less dietary energy per day. Yet women require the same amount or more of many nutrients. To compensate for their smaller portions of food, they have to eat a much higher proportion of nutrient-rich foods.

The result of recent research on men's and women's requirements for some nutrients is shown in the table below. Looking at daily requirements alone, however, can present a misleading picture of the actual needs of women.

In most cases, a woman requires a higher intake of vitamins and minerals in proportion to total dietary energy intake than a man. For example, a woman needs 2.5 times more iron than a man. Translated into units of food energy in the context of her smaller intake, her requirement is 3.5 times greater. Women and men need the same amount of calcium and vitamin C, but women's diets need to be 40 percent richer in these nutrients.

When women are pregnant or lactating, their foods need to be even richer in energy and nutrients. During pregnancy a woman needs an additional 300 kilocalories per day

after the first trimester and 500 kilocalories more while her baby is breastfeeding. During pregnancy she requires almost as much protein as a man (60 g vs. 63 g daily) and more when lactating (65 g/day). A pregnant woman needs up to four times more iron, 1.5 times more folate and 20 percent more calcium than a non-pregnant woman. During lactation, she needs 40 percent more vitamin A and C, at least 15 percent more vitamin B12 and extra levels of micronutrients.

Lack of access to adequate amounts and variety of food places pregnant women at greater risk of complications during pregnancy and delivery. Many infant and young-child deaths in developing countries are attributable to the poor nutritional status of their mothers.

Teenage mothers and their babies are particularly vulnerable to malnutrition. Girls generally grow in height and weight until the age of 18 and do not achieve peak bone mass until about 25. The diet of a chronically hungry adolescent girl (such as the Pakistani bride described on page 14) cannot support adequately both her own growth and that of her foetus. Malnourished young women often give birth to underweight babies.

One way to assess nutritional status in women is through use of the body mass index (BMI). The figure opposite charts the spectrum of BMI among women in a number of countries.

BMI tells us two things about the nutritional status of women. First, since many nutrition-related problems are linked to underweight or overweight (see pages 9-10), BMI gives an indication of women's health status. Second, BMI is an important indicator of the probable outcome of a woman's pregnancy. A study in India, for example, found that 41 percent of babies born to moderately underweight women (BMIs of 16 to 17) were born underweight (less than 2 500 g). The figure climbed to 53 percent when the mother's BMI dropped below 16. Likewise, an obese woman runs a much higher risk of complications during pregnancy and of having a difficult delivery.

Discrimination at dinner?

In some societies, tradition dictates that able-bodied men eat first – before women, children and the elderly. Some observers have taken this practice as a probable indication of undernutrition for those waiting at mealtime.

However, many studies of food distribution within households have not fully analysed all the issues relevant to food need, especially:

- energy expenditure – What are the family members doing during the day? How much energy is needed to plough by hand, fetch fuelwood, work in the house, operate a market stall?
- body mass – How big are the family members? Is their weight in keeping with their height, age and reproductive status?

A 1996 review of literature by the International Food Policy Research Institute concluded that, despite extensive study, "evidence of pro-male biases in food consumption is scarce". Indeed, once adjusted for activity patterns and body weight, the pro-male bias seen in many of these studies turned out to be slight.

Still, research is needed on how people make decisions about household food allocation. Caretakers should be educated about the specific nutritional needs of all members of their households.

Nutrient requirements for women* and men

Nutrient	Adult female per day	Adult male per day	Adult female per 1 000 kcal ¹	Adult male per 1 000 kcal ²
Calcium (mg)	1 000	1 000	500	350
Iron (mg) ³	24	11	12	4
Vitamin A (µg RE)	500	600	250	210
Vitamin C (mg)	45	45	23	16
Vitamin E (mg)	7.5	10	3.6	3.6
Niacin (mg)	14	16	7	6
Protein (g)	50	63	25	22.5

¹ Based on total dietary energy intake of 2 000 kcal per day.

² Based on total dietary energy intake of 2 800 kcal per day.

³ Based on 12 percent bioavailability.

* These figures do not reflect the greater needs of pregnant and lactating women. See text for details.

Source: For vitamins and minerals; Joint FAO/WHO Expert Consultation on Human Vitamin and Mineral Requirements, Report on Recommended Nutrient Intakes. FAO Bangkok, September 1998 (in press).



Nutritional status and vulnerability

Diets of hungry people

Undernourishment is typically reported in terms of the percentage of a population with inadequate diets, but what does it mean for an individual to live day in and day out without enough food?

These profiles present actual diets of three chronically hungry people – a Bolivian man, a Zambian boy and a recently married Pakistani adolescent girl.* These individuals face continuous nutritional vulnerability because they live in households lacking the resources to produce, buy and prepare enough food for a healthy diet, although meals may vary by day and by season.

Even when a country has enough to feed its population adequately, some groups within a society may be vulnerable to food insecurity. Within communities, some families are at greater risk of malnutrition than others, and within families some members are at greater risk than others. Young children and pregnant and lactating women are the most vulnerable groups (for more details see pages 11–12). But undernourishment cuts across all of society: it means a child of school age may not gain the full benefits of education, a labourer may be less productive and a young woman may risk miscarriage.

The Zambian diet demonstrates how a person can be adequately fed in one season and undernourished in another, especially dangerous for a growing child, as it can lead to stunting and other problems. This diet also shows that important nutrients can be lacking even when dietary energy is sufficient.

The Bolivian diet is an example of the importance of indigenous foodstuffs, which often do not appear in official statistics on food supply. Yet even with these nutritious traditional foods, people can be seriously undernourished.

The Pakistani diet illustrates concerns about poor nutritional status in adolescent mothers, a factor contributing to high levels of infant and maternal mortality in many parts of the world.

The diets described here show what these individuals ate during two 24-hour periods and are presented to illustrate common eating patterns; they are not statistically representative of the diets of the larger population.

* Individuals' names have been changed.

How diets are studied

In conducting diet studies, project staff collect information about the ways foods are prepared, the size of servings consumed and the frequency of consumption. Information is generally collected for one day, but since meals vary and one day may not be representative of the overall diet, it is preferable to obtain information for three days or even a full week. Some studies look at seasonal changes in diets. The next step is analysis of the nutrient values of the foods consumed. These calculations reveal the sources and total amounts of dietary energy and nutrients in the diet.

Zambian boy

Seven-year-old Mumba Mwansa lives in northern Zambia near a lake on which his father fishes in the employ of another man. Mumba's mother grows vegetables such as sweet potato, cowpeas, pumpkin and groundnuts. His father grows cassava during the rainy season, when the lake is closed to fishing.

During the dry season, Mumba has boiled sweet potato with some roasted groundnuts in the morning. He takes a snack of roasted cassava to eat at school, and in the afternoon he shares a family meal of cassava nshima (a thick porridge) and boiled bream fish. At night, his family has a fresh pot of nshima with fish relish.

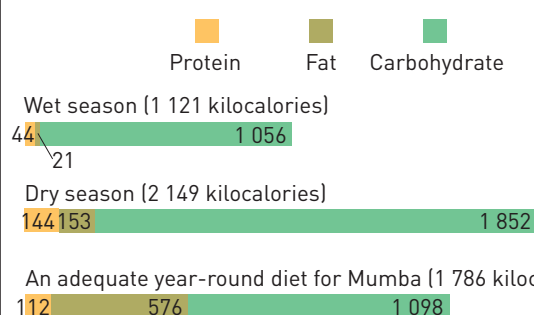
Thanks to fish and cassava flour, Mumba's dry-season diet is above minimum requirements in terms of carbohydrates and protein. However, he does not get enough fat, iron or calcium, all necessary for growth and health.

The wet season is more difficult. Mumba's parents go to the fields early, so he either roasts cassava himself or goes without breakfast. In the afternoon, Mrs Mwansa prepares nshima and a relish of vegetables and groundnut flour. The boy snacks on three small mangoes in the morning and again in the afternoon, the Mwansas do not have an evening meal.

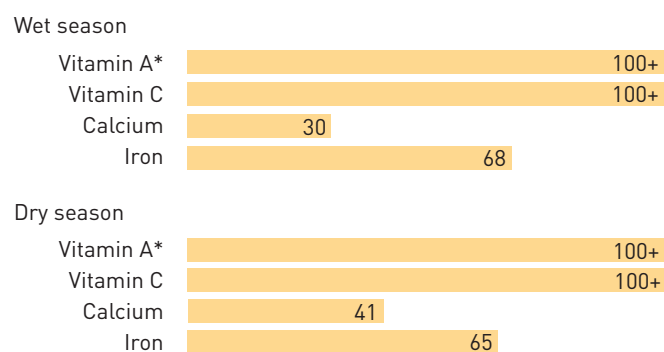
At this time of year, Mumba's diet does not provide enough energy for daily activities, health and growth. A boy of his age needs 1 800 kilocalories each day, yet on this day, he only consumed 1 121 kilocalories.

Seasonal hunger and lack of some essential foods throughout the year contribute to the high levels of stunting found in the area where Mumba lives.

Macronutrients in Mumba's diet, in kilocalories



Micronutrients as percent of requirement



*Absorption of vitamin A is limited because of inadequate fat in his diet.



Bolivian man

Pedro Quispe, 35, supports four children and his wife by working on a farm near Lake Titicaca in Bolivia. Some mornings he begins the day with a meal of boiled maize, some chuño (a preserved potato) and fried broad beans. Two or three times a week, his wife serves him wallake, a soup made of carachi fish from the lake plus potato, onion, peppers (ají amarillo), koa (an aromatic herb), lard and salt.

Mr Quispe walks one hour to get to the fields. After working for several hours he has a snack of chuño eaten with sauce made of peppers (ají molido), onion and tomatoes.

On his return home in the evening his wife serves him soup made of rice, potato, onion, carrots, lard and salt. The soup is eaten with a paste called quispina made from a grain (*Chenopodium quinoa*) indigenous to the Andean Highlands. He enjoys a cold barley drink, called pito de cebada retostada, with water and sugar.

Mr Quispe needs a lot of energy to do agricultural work, walk long distances and do the heavy tasks that his wife cannot do in the home. It is estimated that a man in this mountainous region needs at least 2 800 kcal per day to maintain his level of activity and health. Yet Mr Quispe's diet provides only 75 percent of the dietary energy he requires because he consumes too little fat and carbohydrate. Because his diet is poor, he also lacks calcium and vitamin C.

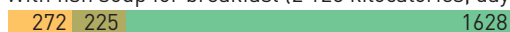
Macronutrients in Mr Quispe's diet, in kilocalories



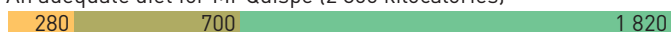
With boiled maize for breakfast (1 984 kilocalories, day 1)



With fish soup for breakfast (2 125 kilocalories, day 2)

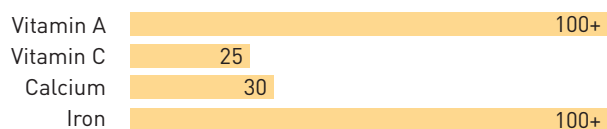


An adequate diet for Mr Quispe (2 800 kilocalories)

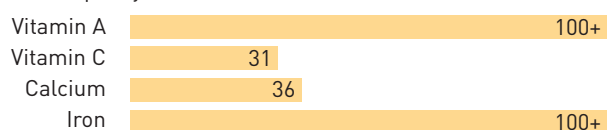


Micronutrients as percent of requirement

With boiled maize (day 1)



With fish soup (day 2)



Pakistani adolescent girl

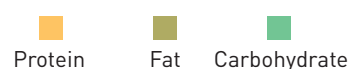
Tahira Khan is a newly married 15-year-old in an isolated hill community in Pakistan. In the morning she fetches water to boil for chai (tea), which she drinks with milk and sugar. She and her mother-in-law prepare the family breakfast; after the men leave for the fields Tahira eats her share, one paratha (a type of pancake) made of whole wheat flour and ghee (butter). Once or twice a week she also has an egg fried in ghee.

She and her mother-in-law spend most of the day on household chores. In the afternoon Tahira eats a chapati, a light white bread, with potato and eggplant flavoured with tomatoes, onions and red pepper, cooked in ghee. When the men return from the fields, Tahira serves their evening meal and then eats hers: another chapati and mixed vegetables cooked in ghee.

As the village is difficult to reach, the family depends on their gardens for most of their food, so the variety is limited. Tahira's diet contains nearly adequate levels of protein, but it is of low quality because it comes mostly from wheat. Pulses improve the quality of the protein but she does not get enough of them. Her diet is particularly deficient in fats and also lacks sufficient carbohydrates.

Her limited diet is a concern because she is still growing. In particular, she needs more calcium to nourish her future children and to be stored for her later years. If Tahira becomes pregnant, she and her infant will be at risk because of her diet. Poor nutritional status contributes to high levels of infant and maternal mortality in Pakistan.

Macronutrients in Tahira's diet, in kilocalories



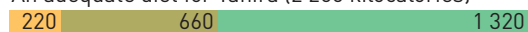
Without egg (1 549 kilocalories)



With egg (1 640 kilocalories)

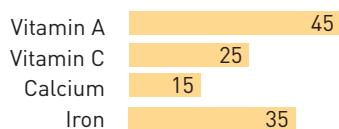


An adequate diet for Tahira (2 200 kilocalories)

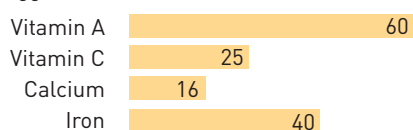


Micronutrients as percent of requirement

Without egg



With egg



Nutritional status and vulnerability

Finding out who is hungry: profiling vulnerable groups

In the battle against global hunger a new tool has emerged to help decision-makers direct interventions to people most vulnerable to food insecurity. "Vulnerable group profiling" is a means of identifying who in a given population is hungry, why and, by implication, what can be done about it. This analytical method has been developed as part of the Food Insecurity and Vulnerability Information and Mapping System (FIVIMS) initiative. It can be applied alone or in combination with other vulnerability assessment methods.

The results can be startling and should provide powerful impetus to action. For instance, in Benin a profiling exercise showed that almost half the population is vulnerable to food insecurity; FAO estimates that about a third of these vulnerable people are already undernourished (see pages 17-18).

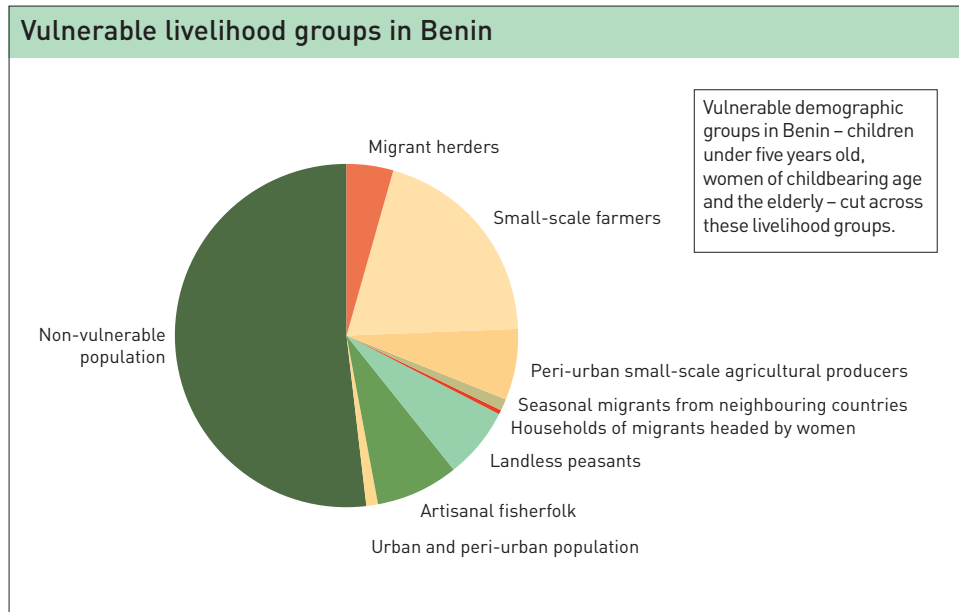
Determining the vulnerable groups in a country requires extensive consultation. A good starting point is a national brainstorming session that engages a broad group of stakeholders, including representatives of academic institutions, business associations, cooperatives, farmers' groups, government ministries and agencies, local authorities, non-governmental organizations, tribal groups, and women's associations.

Such a session was held in Benin in May 1999, with 40 participants representing all regions and sectors of society. Chosen for their practical knowledge and experience of food security conditions in the country, the participants identified eight livelihood groups and three demographic groups vulnerable to food insecurity.

In an exercise that can be replicated around the world, the participants' varied perceptions and experiences allowed them to identify:

- who in the country is vulnerable;
- where they live;
- their main sources of livelihood;
- the foods they typically eat;
- factors making them vulnerable to hunger and malnutrition.

There are as many ways to classify hungry people as there are causes for



their hunger. A particularly useful means of classification is by primary source of livelihood, since it is easy to apply and integrates the multiple factors underlying food insecurity. Other bases for classification can also be effective provided that they are comprehensive and can be applied across the country without double-counting.

Census data and other survey results can then be used to calculate the proportion of the national population represented by each vulnerable group. Groups that are broadly defined initially may have to be broken into distinct subgroups to ensure that food security actions are appropriate.

As shown in the framework, each profile should contain information on the factors that influence livelihoods and thus the food security of those being profiled. These factors include:

- the variety of assets controlled by the households or to which they have access;
- mediating factors, such as laws, policies and regulations directly affecting the households, development programmes and projects operating in the area, and local attitudes and beliefs;
- external factors, such as

demographic trends, the condition of the natural resource base, and national macroeconomic performance;

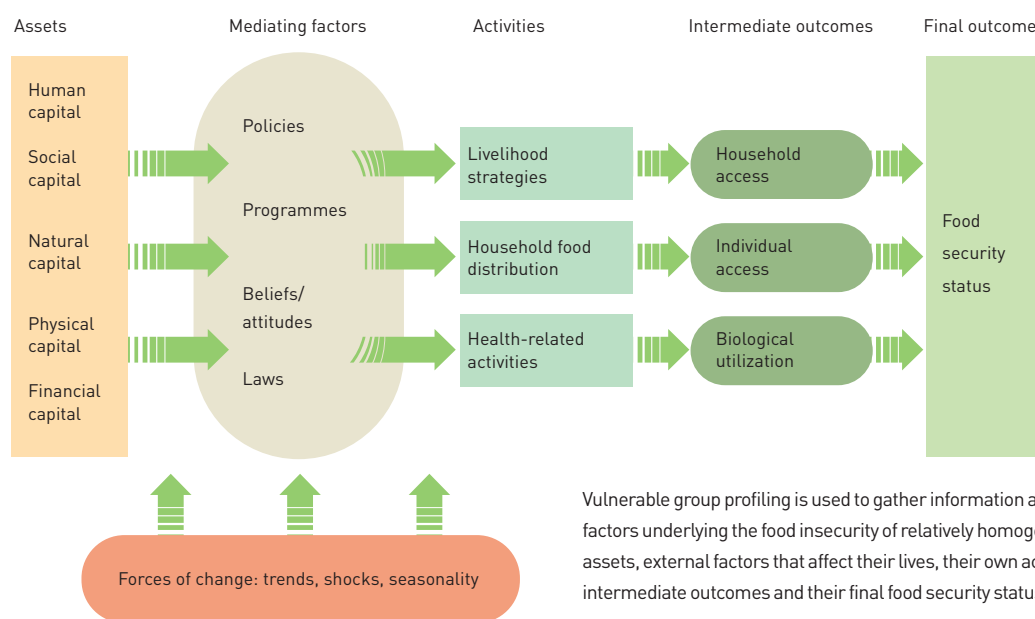
- the probability of shocks, such as falling commodity prices, drought, conflict and catastrophic illness.

Artisanal (small-scale) fisherfolk are an example of a livelihood group that is relatively homogenous, common throughout the world and becoming increasingly vulnerable to food insecurity. For these reasons and because of the availability of relevant data, artisanal fishers were the first livelihood group to be profiled using the new FIVIMS approach. Between April and June 2000, a general review of conditions contributing to the vulnerability of this group was conducted, and vulnerability profiles were developed for artisanal fishers in Benin, Guatemala and Viet Nam.

To develop these profiles, FAO turned to secondary literature and consulted people with knowledge of artisanal fishing communities. In the cases of Guatemala and Viet Nam, light surveys were required to supplement the information.



Framework for gathering information about a vulnerable group



Criteria for classifying food-insecure and vulnerable groups, with examples

- Livelihood (artisanal fishers in Viet Nam)
- Location (marginal urban dwellers in Guatemala)
- Relation to environment (forest dwellers in Turkey)
- Demographics (children under five in Benin)
- Culture (San bushmen in Namibia)
- Social condition (refugees from Sierra Leone in Liberia)
- Physical condition (handicapped people in Chad)
- A complex combination of characteristics (sedentary indigenous urban and semi-urban people in Mauritania)

Source: Results of national brainstorming sessions held in 1999 in the countries mentioned.

Common characteristics of artisanal fishers

Comprising about 8 million people, or more than half the seagoing fishers worldwide, artisanal fishers work from unmotorized boats without decks and/or cast large nets from the beach. Unlike large-scale fishing fleets that remain at sea for days or weeks at a time, most return to shore each day.

Coastal artisanal fishing is a communal activity centred around the village landing site from which boat crews set out each day. Buyers and sellers congregate at the landing site; nearby, women clean and smoke or dry part of the catch.

Artisanal fishing communities are closely knit social units, often comprising one or a few extended families who are proud of their fishing tradition. However, these communities are often isolated from the rest of society and thus tend to be marginalized. Artisanal fishers constitute one of the weakest livelihood groups in terms of market power and political influence.

Specific factors that contribute to their vulnerability and indicate possible priorities for action include:

- poor fisheries management;
- competition with tourism and nature reserves for access to beach front and near-shore waters;
- dangerous working conditions (including exposure to weather extremes) which lead to high mortality rates;
- apprenticeship method of acquiring skills, which requires boys to leave school at an early age;
- lack of skills transferable to more productive sectors;
- lack of investment capital and consequent low return on labour;
- seasonal variations in income and food availability;
- ill health caused in part by poor quality drinking-water, inadequate shelter and high incidence of communicable disease.

Nutritional status and vulnerability

Profiling artisanal fishers in Benin

Artisanal fishers and their families number nearly 400 000, or 8 percent of Benin's population. Among the most food insecure are full-time sedentary fishers without land. They live in settled fishing communities on the seacoast, where sandy soil precludes agricultural activity and fishing is the main source of family income. The worst-off in this group own no equipment or gear, receive very low wages as members of fishing crews and have limited cash to cover basic expenses.

These pages present a profile of the typical characteristics of artisanal fisher households, particularly the poorest, which was developed in a workshop in Benin in May 1999. Each variable shown has been assessed as to its potential for creating either risk or opportunity. The box on page 18 elaborates on the most pressing food security concerns identified in this profile and indicates actions to address them.

Key: Impact on food security	
Potentially adverse	●
Neutral	●
Potentially positive	●
No information	●

LIVELIHOOD ASSETS

Human capital

A typical household has two income earners, one male and one female, and four to five dependents, of whom at least one is under five years. ●

At any given time, at least one household member is likely to be suffering from malaria. ●

School is free and school-age children are enrolled. ●

Children attend school irregularly. ●

Gender roles are clearly defined:

- The mother cares for children, maintains a kitchen garden and provides food other than fish. ●
- The father provides fish as well as cash for expenses such as school costs, clothes, ceremonies and gifts. ●

Social capital

The mother is a member of a tontine, a traditional social insurance and microcredit society for women. ●

The father has strong links with other members of the fishing unit. ●

Natural capital

Access to the sea and to landing areas on the beach is free. ●

Mangroves provide fuelwood for cooking and smoking fish; coco tree trunks are used for shelter. ●

Physical capital

The household lives in a shelter made of coco trunks. ●

The mother keeps a kitchen garden in which she grows tomatoes, onions and green vegetables for home consumption and sale. ●

The household does not own any animals. ●

The father does not own any fishing equipment. ●

There is a basic health care unit nearby. ●

The health care unit is rarely used. ●

There is a road along the coast. ●

Water is available from wells in the village. ●

Well-water is often not clean. ●

Financial capital

The household has no private savings. ●

The mother owns a stake in the revolving fund of the tontine. ●

MEDIATING FACTORS

Policies

There are regulations restricting overuse of large nets. ●

Programmes/projects

A regional project to support artisanal fishing in coastal West Africa, funded by the United Kingdom, has just started. ●

Lack of coordination among increasing numbers of NGOs is perceived as a problem. ●

Beliefs/attitudes

One day a week the fisherfolk refrain from fishing and from eating fish to avoid "bad luck". This helps to diminish overfishing. ●

Laws

No laws with food security impact reported. ●

LIVELIHOOD STRATEGIES

Income-generating activities

Dry (high fishing) season: September to March

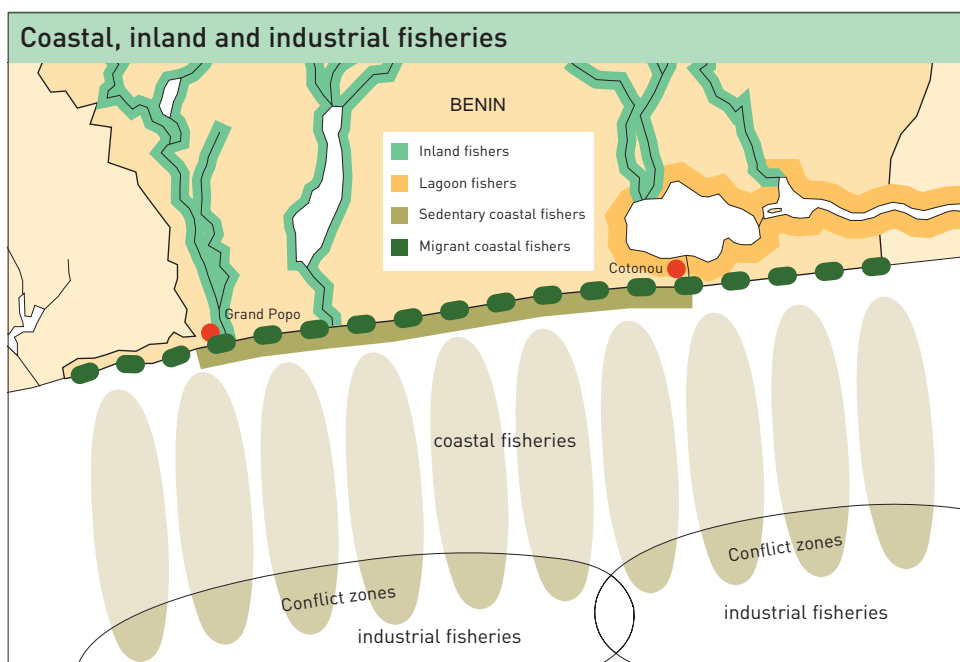
Each day boat owner gives the father a small share of cash earned from sale of the day's catch and some fish. ●

Mother earns cash from fish she buys, smokes and resells. ●

Rainy (low fishing) season: April to August

Father migrates with fishing crew to look for work in Cotonou port and occasionally sends back small remittances. ●

Mother sells garden produce and prepares and sells coconut oil and artisanal salt. ●





Expenditures

Dry season

Food, loan repayments, tontine payments, other (alcohol, school costs). ●

Rainy season

Food, tontine payments, other (alcohol, health costs). ●

Diet and food sources

Dry season

Maize with sauce of tomatoes, palm oil, onion, green vegetables; fish, usually cooked in sauce or smoked. ●

Rainy season

Cassava and sauce of tomatoes, palm oil, vegetables; smoked fish on rare occasions. ●

Short-term coping mechanisms

Households switch to cheaper foods and consume less during rainy season. ●

HOUSEHOLD FOOD DISTRIBUTION

Discriminatory behaviour

None observed. ●

Eating habits

Mother and children eat together; father eats on his own. All eat the same foods. ●

HEALTH-RELATED ACTIVITIES

Care practices

Infants are breastfed; weaning starts too soon, at three months, with a maize porridge. ●

Health and hygiene practices

Well-water is not boiled. ●

FORCES OF CHANGE

Trends

Depletion of fish stocks and destruction of natural sea habitats. ●

Shocks

Devaluation of CFA (West African) franc in January 1994 caused many boat owners' costs to increase substantially more than price of fish. To compensate, they now take a greater share of the fish catch, leaving less for crew. ●

Seasonality

Rainy season

Income declines sharply during the low fishing season. ●

Diet is less varied and malaria and respiratory infections are more frequent. ●

MEASURABLE OUTCOMES

Income

No information available. ●

Health status

Incidence of malaria, head colds and diarrhoea is high among children under five years. ●

Nutrition status

Stunting (low height for age) affects around one-quarter of children under five years in coastal areas of Benin. ●

In administrative districts on the coast, 62 percent of children under two years suffer from iron deficiency and 52 percent are anaemic. ●

Key concerns and possible actions emerging from the profiling exercise

HEALTH RISKS

Health risks constitute a major vulnerability factor for maritime artisanal fishers in Benin. Malaria is endemic and diarrhoea and respiratory infections are common, especially in the rainy season when people are weakened by food shortages. Although basic health care is available, vulnerable households rarely use it. Little effort is made to boil well-water or observe other hygiene practices that help prevent disease. Available food is shared equally, but infants are weaned too early and weaning foods do not provide adequate nutrition.

Malaria eradication, a global WHO priority, would be of great benefit. Other possible actions include programmes that support improved weaning practices, supplementary feeding for malnourished children and protecting the drinking-water. These should be managed locally to avoid uncoordinated and duplicated actions that demand too much of the intended beneficiaries' time.

INDEBTEDNESS AND LACK OF CAPITAL

Lack of financial and physical capital is a major problem for vulnerable fishing households. A fisher's wage is based on the amount of capital he brings to the boat crew. A crew member who does not own at least a share of the fishing nets and other gear earns a very low wage. In the rainy season, when the husband migrates with the crew to find non-fishing work in Cotonou, the remittances he sends home are paltry.

During the rainy season the wife's only other source of income is the sale of artisanal products and food from her garden. Often this is not enough to cover basic needs and she must resort to the use of credit to buy food. The result is greater indebtedness and hunger.

Women in coastal communities of Benin belong to tontines, traditional social insurance and microcredit societies for women, to which they contribute and from which they can borrow in time of need. These constitute a useful but small capital asset which could be strengthened to provide funds for investment in small-scale, income-generating enterprises.

NATURAL RESOURCE MANAGEMENT

Sedentary artisanal fishers in Benin have access to good fishing waters near shore, and their landing sites are located near a road leading to urban markets. Mangroves and coco trees provide fuelwood, shelter and supplementary income and freshwater is readily available. Weather patterns do not pose a major risk.

However, although customary practices and regulations exist to prevent overfishing, traditional methods of fishery management are breaking down, regulations are not enforced and industrial fishers regularly encroach on fishing grounds traditionally used by artisanal fishers. These factors threaten the sustainability of the small-scale fishers' livelihoods.

Here, as elsewhere, local measures will be effective only if they are accompanied by increased efforts to control overfishing in international waters.

Benin is benefiting from a major programme to strengthen community-based fishery management procedures, financed by the United Kingdom with technical support from FAO.

Dynamics of change

The dividends of food security

In most poor, food-insecure countries, the two greatest potential resources are the people and the productivity of the land and water. To defeat chronic hunger and poverty, investments will have to be made in both people and productivity.

Investing in people will need to come in the form of education, clean water and sanitation, health and social services and, in some cases, direct food and nutrition support. In rural areas, such expenditures are essential if the corresponding investments in agriculture and its productive subsectors are to pay off. Those who argue that people-oriented development is expensive should remember that leaving people hungry is also expensive in terms of economic growth foregone, as recent FAO-sponsored research shows.

FAO's projections for the next 15 years indicate that, if agricultural innovation continues at a reasonable rate, food production can increase by 2 percent per year in the developing world. Without this growth, the World Food Summit goals cannot be met. But overall growth is not enough – it must be directed to the hungriest.

For countries that are still largely rural, investment in small-scale agriculture is one way to target growth that benefits the poor. The importance of putting resources into the production and post-production processes is now well recognized. But funding for agricultural research is also vital, particularly for commodities and farming systems that can provide growth opportunities for the poor.

If the natural resource base offers good potential for agricultural development, supporting agriculture research can bring big benefits in reducing food insecurity and malnutrition. One case in point is the story of the multiple payoffs obtained from cassava research in West Africa (pages 21–22).

Even if the anticipated growth in food production is achieved, nearly 600 million people will remain undernourished in 2015 – unless the growth takes place in areas where food insecurity is worst and unless public policies are implemented that make elimination of food insecurity their primary objective.

Participation in community action programmes by the poor is a powerful

The economic benefits of ending hunger

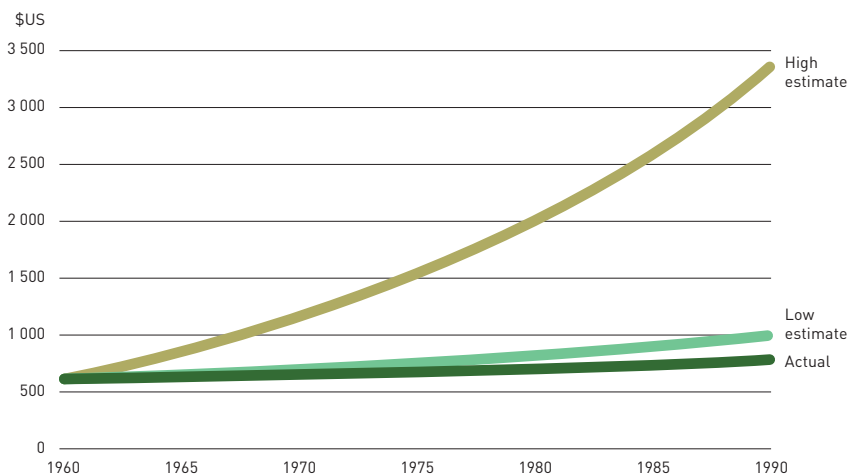
Reducing hunger has not only a humanitarian justification but also a strong economic rationale. The economic cost of hunger and malnutrition as reflected in lost productivity, illness and death, is extremely high. Undernourishment significantly lowers physical ability, cognitive development and learning achievement, resulting in lower productivity. It not only blights the lives of individuals and families but also reduces the return on investment in social and economic progress.

This insight is borne out by a recent study sponsored by FAO that examined 110 countries from 1960 to 1990. The study uses statistical techniques to investigate the links between economic growth and

nutritional well-being. The research found that if all countries with average dietary energy supply (DES) below the minimum requirement in 1960 had eliminated hunger by raising average per capita DES to 2 770 kilocalories per day, their GDP growth rates would have been significantly higher.

This growth can be quite large. As the graph below illustrates, per-capita GDP in sub-Saharan Africa could have reached levels of US\$1 000 to US\$3 500 by 1990 if undernourishment had been eliminated. (The difference between the two estimates depends on the method used for statistical analysis.) Instead, the region's average GDP per capita in 1990 was just US \$800 per year.

Mean per capita GDP in sub-Saharan Africa and estimates assuming no undernourishment



Source: Arcand, Jean-Louis, Malnutrition and growth: The efficiency cost of hunger. FAO, July 2000

mechanism for ensuring that policies of this kind are implemented. Traditional rural development policies focused on infrastructure and services. The poor were not consulted because it was assumed that the benefits of growth would "trickle down".

FAO's experience indicates that small, self-reliant groups of people engaged in similar activities can contribute effectively to their own development.

The story of Thailand's successful experience with community-based action to reduce poverty and malnutrition throughout the country (pages 23–24) provides a model that could be applied widely.

However, it takes time for programmes that improve agricultural productivity and

increase the purchasing power of the poor to become effective. And it takes even longer if the day-to-day food needs of the poor are not met, because hungry people tend to be less productive. In addition, short-term crises are certain to arise during the transition period and those who are already food insecure are likely to suffer the worst.



Reducing hunger through basic crop research

A recent study has emphasized the benefits of international agricultural research in reducing undernourishment among children by improving crop variety and productivity. The study was performed by the Impact Assessment and Evaluation Group of the Consultative Group on International Agricultural Research (CGIAR).

Between 1970 and 1995, international agricultural research centres released a large number of new crop varieties resulting from their breeding programmes on staple food crops – wheat, rice, maize, sorghum, pearl millet, cassava, potatoes, barley and lentils. According to the study, this represented 70 to 100 new varieties per year and led to additional productivity gains of 0.5 percent per year.

The resulting additional food production brought a reduction in grain prices of 27-41 percent. As a direct consequence, 1-3 percent fewer children were undernourished than would have been without this research.

The benefit of people's participation

In 1980, FAO launched its People's Participation Programme (PPP) to support community action groups. The benefits of such programmes include:

Higher agricultural productivity. In Ghana, PPP groups produced 20 percent more maize per hectare than non-participating farmers. Similar results occurred in Kenya, Sierra Leone and Sri Lanka.

Higher net family incomes. High loan repayment rates and rising levels of group savings indicate growing incomes.

Increased employment. Participants had higher output per hectare, which generated demand for more farm labour.

Higher rates of saving. The savings registered in PPP projects – US\$38.78 per group in Zambia in 2000 and US\$35.14 per group in Pakistan in 1997 – are large sums for people who previously had no savings at all.

Community improvement activities. All PPP groups have participated in activities ranging from construction of primary schools to village electrification.

Acquisition of new skills. Technical, organizational and leadership skills have given people control over schools and other public and semi-public institutions.

Safety nets: a foundation for development

Safety nets protect livelihoods and ensure the survival of vulnerable people. Safety nets that protect food security include community support systems, direct public transfers and indirect public transfers.

Community support systems. In traditional communities, strong kinship networks and religious groups protect people facing hard times. Associations that link urban dwellers with families in rural areas are creating new forms of support, as are charities.

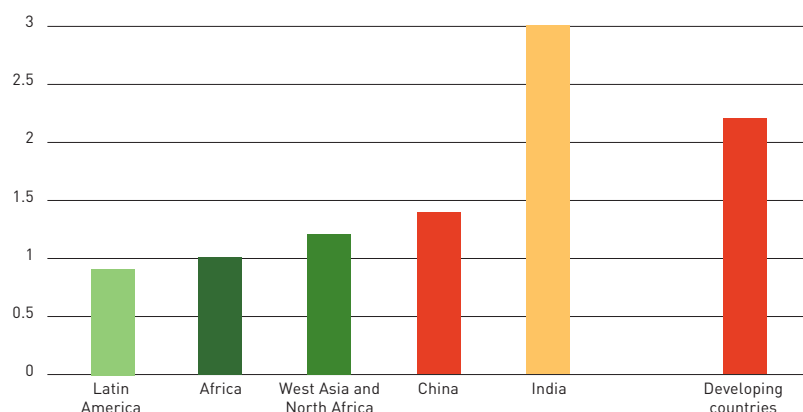
Direct transfers. Public transfers that provide food or cash directly to needy people are commonly referred to as food assistance schemes. These include emergency food relief, supplementary feeding programmes, food-for-work and food ration schemes.

Indirect transfers. Many kinds of welfare transfers provide their benefits indirectly. Examples of indirect transfers that protect food security include:

- regulatory measures, such as minimum wage laws, price controls and financial and labour market regulations, backed up by food security reserves;
- subsidies and credit programmes, including targeted food subsidies, consumer credit programmes and community savings and loan schemes;
- job creation, through skills-training programmes, placement services and publicly backed employment guarantee schemes;
- publicly backed insurance schemes, such as crop insurance, unemployment benefits, pension funds and social welfare programmes.

Benefits of international agricultural research

Percent reduction in malnourished children under 5 years owing to productivity gains resulting from CGIAR research



Source: Evenson, R. et al, Crop genetic improvement and agricultural development TAC Secretariat, CGIAR, May 2000

Dynamics of change

Cassava research: boosting food security in Ghana and Nigeria

Ghana and Nigeria are among the few countries in the world that managed to reduce the prevalence of undernourishment by more than 30 percentage points between 1979-81 and 1996-98. In Ghana, the number dropped from 62 percent to 10 percent and in Nigeria from 44 percent to 8 percent.

An important underlying factor was the rapid increase in the supply of cassava products during the period, which especially benefited the poor and undernourished. Cassava roots are an excellent source of energy, while the leaves are rich in vitamins A and C, iron and calcium, as well as being a source of protein.

Farmers were able to exploit new market opportunities for cassava thanks to an aggressive cassava research and market promotion programme carried out by the International Institute of Tropical Agriculture (IITA) at Ibadan, Nigeria. In 1984, following more than ten years of research, IITA introduced improved varieties with many advantages. These new varieties:

- yielded up to 55 tonnes per hectare, compared with about 10 tonnes per hectare from traditional varieties;
- matured early;
- were highly resistant to disease; particularly cassava bacterial blight and the African cassava mosaic;
- were suitable for processing into flour and starch;
- developed a broad leaf canopy, thus optimizing both weed control and yield potential;
- had compact root shapes, facilitating harvest and allowing the mature root to retain quality while remaining in the soil for long periods;
- contained low levels of cyanide, a naturally occurring toxin that is poisonous if consumed in large quantities.

The availability of the new varieties was very timely. Widespread crop failure following a major drought over much of Africa in 1982-83 had caused many farmers to turn to cassava because it tolerates drought and grows in relatively poor soils. It can also remain in the ground for up to three years prior to harvest, thus providing an easily maintained food reserve.

Farmers initially introduced cassava as a food security crop in places where it had not

previously been grown, especially in dry areas and marginal lands. However, with the growing acceptance of cassava as a staple food for urban dwellers, more farmers also began to grow it as a commercial crop.

In West Africa cassava is eaten most commonly as gari, toasted coarse cassava flour granules that are cooked and used like rice. Gari is eaten with various sauces, both at home and as a street food. Growing demand for gari in the rapidly expanding cities of the region has been an important factor in encouraging farmers to produce more cassava.

In Nigeria, the big jump in production occurred between 1983 and 1992, when per capita consumption doubled – from 63 kg to 129 kg annually. Estimates suggest that improved varieties made possible the production of an additional 1.4 million tonnes of gari in 1991 compared with the amount that could have been produced using traditional varieties. By 1998, production from new varieties had more than doubled to 3.4 million tonnes of gari equivalent. As a result, new varieties as a share of total production increased from 8 percent to around 30 percent of a much larger total.

Cassava's success in Nigeria was made possible by deliberate policy measures, growing urban demand, government investment in distribution of planting material and the availability of mechanized equipment, which overcame the problem of labour shortages during post-harvest processing. Production has now begun to slow, perhaps representing a new equilibrium between supply and demand.

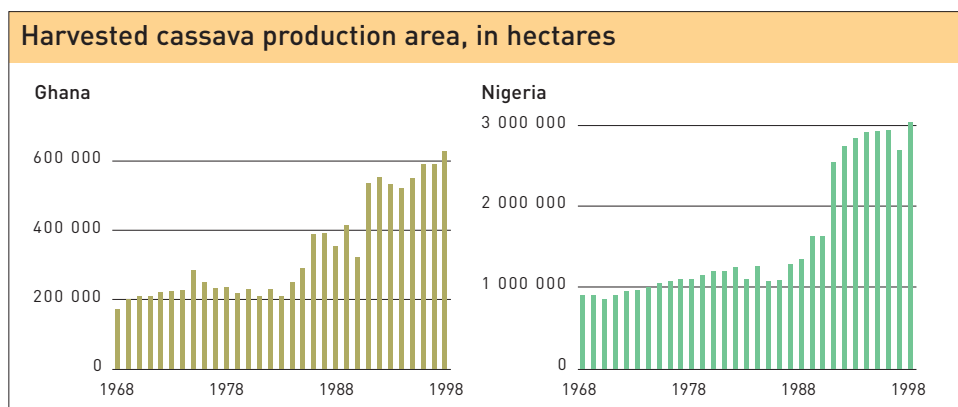
In Ghana, the cassava boom came later, although the pattern of growth was similar.

New high-yielding varieties from IITA had to be adapted to local climatic and soil conditions before they could be released for widespread adoption. But production grew rapidly beginning in the early 1990s, following the inception of a government programme to promote roots and tubers as well as a shift in economic policy that encouraged the spread of cassava production. Between 1990 and 1998, annual consumption of cassava increased from 126 kg to 232 kg per capita.

Cassava is now the major source of carbohydrates and an inexpensive source of food energy for the majority of Ghanaians. People of all social classes eat it, mainly as gari and fufu (boiled and pounded cassava). The consumption of these foods reaches a peak during the "hunger season" just before the harvest, when crops such as maize are in short supply or too expensive to purchase. Cassava is now the largest agricultural commodity produced in Ghana and, in 1998, represented 22 percent of agricultural GDP.

Large areas of central and southern Africa are suitable for growing cassava. Most of the expansion in production between 1961 and 1991 occurred in humid areas, where most of the large cities offering the best market prospects are located. These zones are likely to dominate the future expansion of cassava production.

Meanwhile, cassava is expanding into drier mid-altitude zones, reflecting its growing importance as a food security crop in drought-prone areas. In response, new varieties particularly suited to semi-arid areas are being developed by IITA using parent varieties from South America.





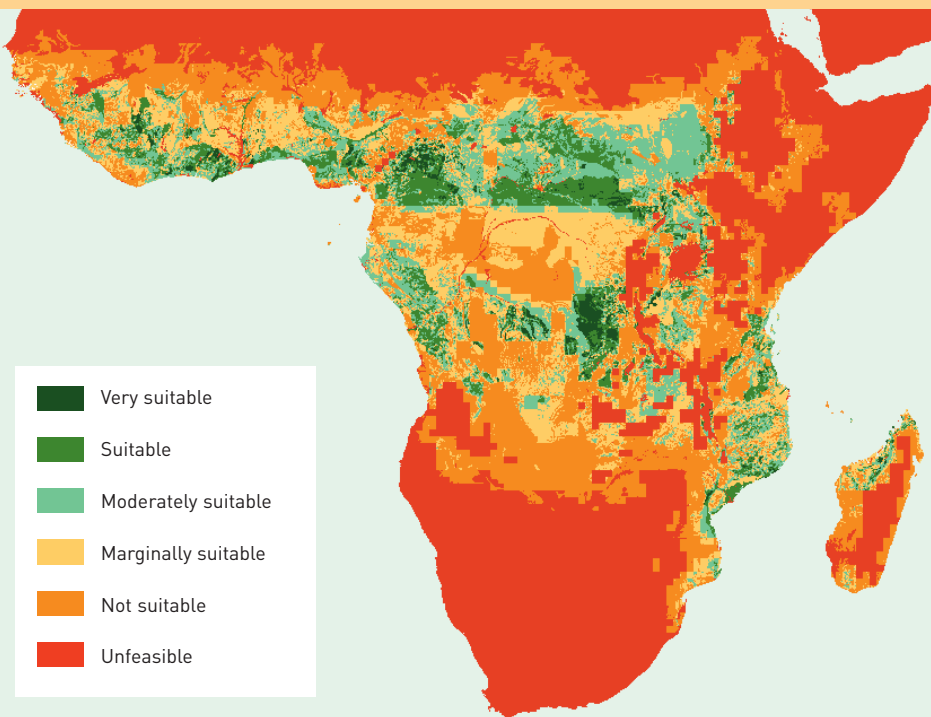
The global cassava strategy

Since 1998, the International Fund for Agricultural Development (IFAD) has led a collaborative effort aimed at developing a global strategy to promote cassava as an important staple food and income source for its producers. One important goal of the effort is to spur rural industrial development that will increase work opportunities and raise incomes of producers, processors and traders.

The strategy aims to promote products with good market potential, including cassava flour as an ingredient for home cooking and industrial use; prepared foods such as fufu, cooked leaves and boiled fresh roots; animal feed; alcohol for chemical industries; glue; starches for sizing textiles and paper; and industrial sweeteners. The strategy also calls for broadening the recognition of cassava's important role in food security.

At a forum in April 2000 hosted by FAO and IFAD, the strategy was endorsed by participants from 20 countries representing private companies, farmers' groups, NGOs, researchers and donor agencies. Various research and market promotion activities were devised, and plans for their implementation were outlined.

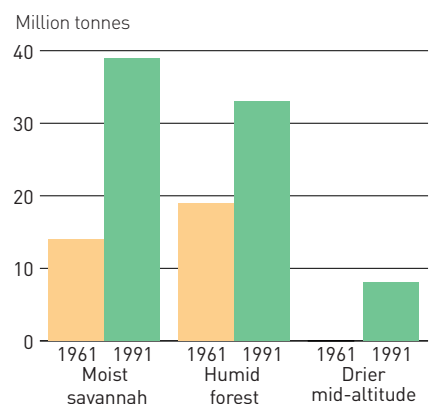
Areas suitable for cassava production in Africa



The suitability of a zone for growing cassava depends on climate, terrain and soil conditions. Areas that are particularly good for cassava production in Africa include humid tropical zones, moist savannah zones and drier mid-altitude zones where soils have medium to coarse texture and are sufficiently deep and well drained and not too acidic. Additions of lime are generally needed to overcome the acidity of soil in humid tropical and moist savannah zones, where the majority of cassava in Africa is grown.

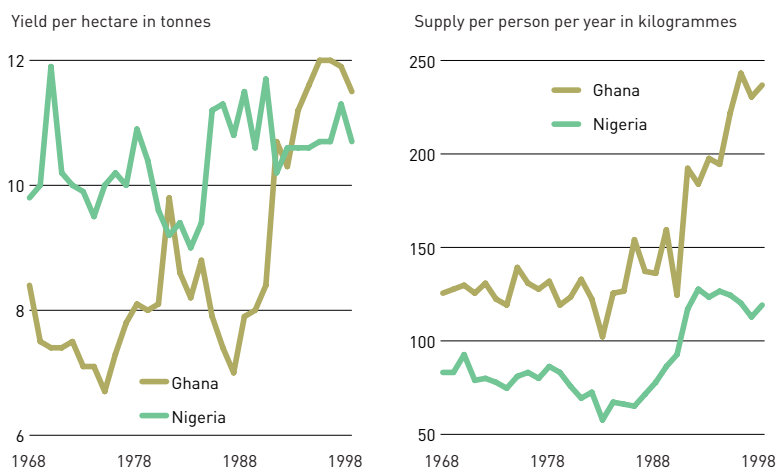
Source: Land suitability maps for rainfed cropping, FAO, 2000

Increase in production in cassava growing zones of sub-Saharan Africa, 1961-1991



Source: Dunstan Spencer and Associates, Cassava in Africa: past, present and future, International Institute of Tropical Agriculture, 1997

Cassava: trends in yield and supply, 1968-98



Source: FAOSTAT

Dynamics of change

Thailand: Steady reduction in poverty and malnutrition

The incidence of poverty and malnutrition fell dramatically in Thailand during the 1980s, thanks to a poverty alleviation strategy focused on reducing malnutrition and supporting sustainable rural development. As a result of the countrywide effort, the prevalence of poverty fell from 32.6 percent of the population in 1988 to 11.4 percent in 1996.

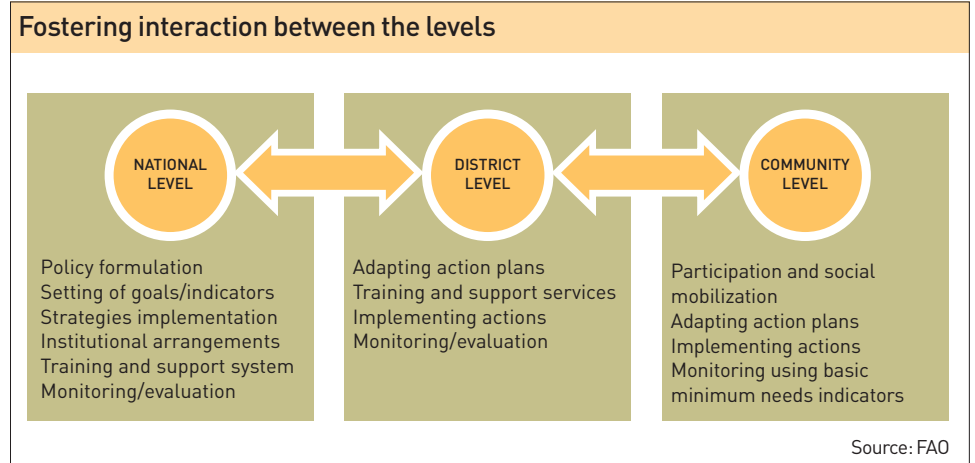
The poverty alleviation plan resulted from a series of surveys in the early 1980s, which revealed that protein-energy malnutrition was a major problem in poor rural areas. The surveys were supplemented with other data on living standards to create a poverty index. It pinpointed 286 especially needy districts, home to about 40 percent of the population.

Undernutrition was especially severe among infants and young children, a result of the poor nutritional status of their mothers. Already undernourished when they entered their reproductive years, women suffered declining nutritional levels during pregnancy because of inadequate food intake and traditional customs. These customs inhibited them from eating such nutritious foods as eggs and other animal protein as well as fruits and vegetables.

As a result, pregnant women in rural areas gained only 5-7 kg on average, instead of the normal 12.5 kg. Their babies were born 350-450 g lighter and 2 cm shorter than babies born in an urban hospital associated with a Bangkok medical school.

Children born underweight tend to remain so throughout their early years, leaving them extremely vulnerable to malnutrition, illness and death. In Thailand, more than 50 percent of children under five years of age were underweight in 1982, and the figure was up to 70 percent in the most disadvantaged areas.

Equipped with this information, the Government launched its strategy to combat poverty and malnutrition through community action in 1982. The 286 districts identified as the poorest in the country were particularly remote and lacked infrastructure, as the map reveals. The poverty alleviation programme was implemented first in these districts. However, poverty and malnutrition were not limited to these areas; they were



widespread throughout the country. Therefore, the poverty alleviation programme was extended nationwide in 1984. It was based on five principles that still form its core today: give priority to specific areas where poverty is concentrated; ensure that minimum subsistence-level living standards are met and basic services are available to everyone; encourage people to assume responsibility for their own care; emphasize use of low-cost technology; and support people's participation in decision-making and problem solving.

Actions initially concentrated on alleviating the most serious nutrition problems found among the rural poor: protein-energy malnutrition, vitamin A deficiency and iodine deficiency.

The programme – combining nutrition surveillance, supplementary feeding of young children, nutrition education, better primary health care and production of nutritious foods – was directed at entire communities. It included a public information campaign, and training and mobilization of volunteers – one for every ten households. Actions were aimed at increasing production of fish, chicken, vegetables and fruits, promoting appropriate eating patterns and correcting detrimental food beliefs. Efforts were also made to improve primary health care in rural communities.

In addition, villages produced nutritious food mixtures (rice, legumes and sesame or peanuts) to supplement the diets of young children who were found to be malnourished. Vegetable gardens, fish ponds and chicken raising were also

encouraged to supplement school lunch programmes.

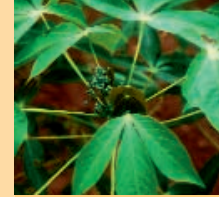
The approach has led to a steady reduction in poverty over time (see table) and has brought about significant progress in reducing the percentage of underweight pre-school children. In fact, within ten years, the more severe forms of malnutrition were virtually eliminated among these children. Between 1982 and 1998, cases of mild malnutrition were reduced from 35 to 8 percent of this age group, moderate malnutrition from 13 to less than 1 percent and severe malnutrition from 2 percent to an insignificant level.

Beginning in 1990, the government adjusted the programme to ensure maintenance of the gains already achieved and to address a wider array of issues. Institutional arrangements were reorganized to strengthen collaboration among relevant government ministries from the national level down to the communities. While the community remained at the heart of the programme, a stronger partnership role was built in for public service managers at district and national levels.

The scope of actions was also broadened. Having brought protein-energy malnutrition under control, the government was able to give attention to a wider range of food and nutrition issues and to make other improvements to the quality of life.

The expanded programme has seven elements:

- production of diversified foods for home consumption;
- skills development and credit schemes for commercially viable food processing

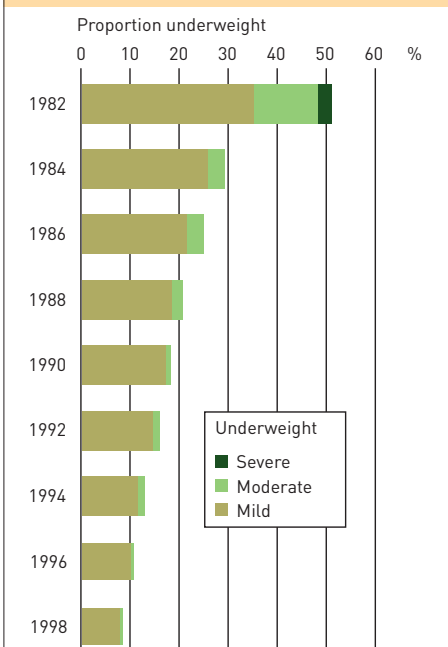


and marketing activities;

- fortification of Thai instant noodle seasoning with vitamin A, iron and iodine;
- mandatory nutrition labelling of food products;
- dissemination and promotion of nine healthy diets, with special advice for age-specific vulnerable groups such as infants and young children, adolescent girls and pregnant women;
- free or highly subsidized health services;
- a monitoring, surveillance and special feeding programme for children under five years, and children in primary school.

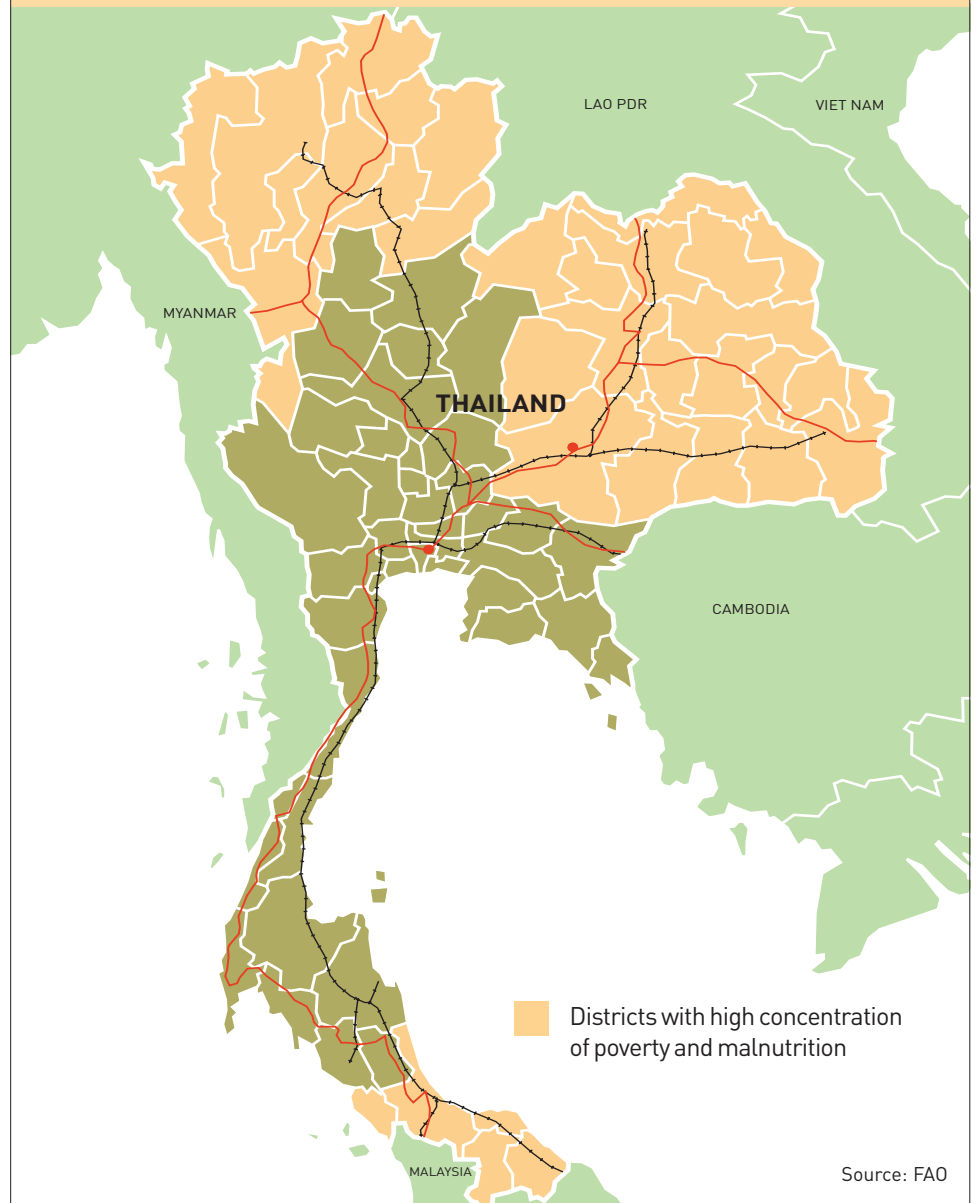
The Thai experience is unique in its systematic implementation in every community in the country. It provides a model for a food safety net programme that not only meets the immediate needs of the food-insecure but also lays the foundation for their permanent escape from the hunger trap.

Progress in reducing underweight in children under five, 1982-98



Source: Bureau of Health Promotion, Ministry of Public Health, Government of Thailand, 1998

Thailand: Concentration of poverty and malnutrition, 1982



Source: FAO

Reduction in percent of people living in poverty, 1988-96

Region	1988	1990	1992	1994	1996
Central	32.9	20.7	15.4	7.2	6.2
East	15.5	19.4	11.9	7.5	3.8
West	32.0	26.4	13.1	12.5	9.3
North	32.0	23.2	22.6	13.2	11.2
Northeast	48.4	43.1	39.9	28.6	19.4
South	32.5	27.6	19.7	17.3	11.5
Bangkok metropolitan	8.0	6.9	3.6	2.4	1.9
Urban	21.8	18.2	12.7	9.6	5.8
Rural	40.3	33.8	29.7	21.2	14.9
National	32.6	27.2	23.2	16.3	11.4

Source: The Poor Thai, Chulalongkorn University, Bangkok, Thailand, 1998

The way ahead

Accelerating the pace of progress

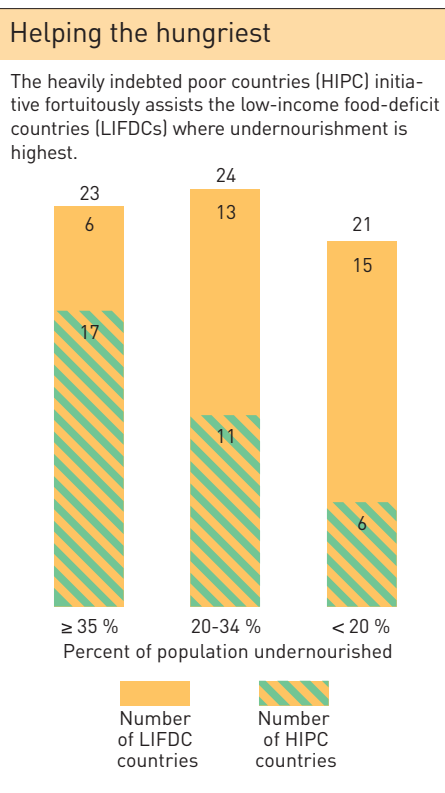
No one can deny that progress towards the eradication of hunger is too slow. The number of undernourished people reported in this edition of *The state of food insecurity in the world* has not declined since last year's issue. This underlines the urgency of immediate, determined and truly effective action.

The problem of hunger can be viewed from two broad perspectives. One is the view of the mayor or village chief, who sees the faces of the hungry every day and knows that, with the proper tools and resources, they could feed themselves. The other is the view of the statesperson in the national capital or the international agency. He or she sees the statistics and the causes of hunger and knows that, with the proper policies, the villager could obtain the necessary tools and resources.

Both views, the local and the global, must orient action. We must target and tailor specific remedies to the diverse needs of the groups in every society who are vulnerable to or suffer from hunger. We must also address the policies and enabling environments at the national and international levels that hamper people's ability to find the opportunities and the means to conduct their own fight against hunger and poverty. There is no one "way ahead" – there are many.

SOFI 2000 moves beyond overall statistics by pinpointing more narrowly the specific groups who are vulnerable. This edition presents, for the first time, indicators of the depth of people's hunger and statistics on the number of hungry in the countries in transition. It also uses nutritional measures to highlight potential problems for women which, inevitably cause problems for the children they bear.

This refining of information is an important tool for policy-makers. It will allow them to move forward in a more focused way, directing their actions and resources more precisely and effectively to the places where the need is greatest.



Local action, even if well targeted, can only be effective if the policy environment at both national and international levels offers food-insecure countries and their people a set of choices to help them move beyond the margin of survival. The Plan of Action of the World Food Summit of 1996 indicates the way ahead.

At the same time, countries must also take up this task. Systematic collection of reliable data on the state of food insecurity in every nation is crucial if they are to follow through on the promises made at the Summit.

Action is particularly urgent in 82 low-income, food-deficit countries. Many of them have neither the capacity to produce all the food they need nor the foreign exchange to import it. Many of them are also heavily indebted to foreign creditors, which drains away the few resources available to invest in development. The burden of debt servicing and repayment severely limits their options both for meeting the urgent needs of their deprived populations and for making

lasting improvements that lift people out of hunger.

However, there is some good news. The international financing institutions and the donor community have recently given much greater emphasis to the use of debt relief in the fight against poverty. In particular, the debt relief initiative of the World Bank and the International Monetary Fund for the heavily indebted poor countries (HIPC), launched in 1996, was further strengthened this year to provide substantially more relief. Under the initiative, eligible countries are relieved of debt servicing obligations – subject to the condition that the money saved is channelled to poverty reduction and other social investments for the poorest segments of their societies.

Many food-insecure people live in rural areas, where they are dependent on agriculture and related industries for their livelihoods. Debt relief can spur progress towards reducing hunger, provided the resources freed up are used, not only to feed the hungry now, but also to put countries and communities on to a longer-term path of sustainable development by investing in food security. SOFI 2000 shows that creating sustainable productivity improvements and building on the strengths of community action constitute a way forward that will benefit the poor in the countryside as well as in the cities.

At its most basic level, the way ahead is a matter of creating the conditions that enable people to secure their right to adequate food in a dignified manner. The immediate goal must be to lift the constraints and open up new livelihood opportunities. There can be no single solution to alleviating undernourishment, nor will the solutions be simple. But progress can be achieved if individual countries and the international community act consciously on the commitments they made at the World Food Summit. The way forward will be long and challenging. The time to strengthen the resolve is now.

**Anthropometry**

Use of human body measurements to obtain information about nutritional status.

Body mass index (BMI)

A ratio of weight for height often used to estimate body fat. It is obtained by dividing the weight (in kilograms) by the square of the height (in meters). BMI is not appropriate for assessment of growing children, frail and sedentary elderly individuals, or women who are pregnant or breastfeeding.

Dietary energy deficit

The difference between the average daily dietary energy intake of an undernourished population and its average minimum energy requirement.

Dietary energy intake

The energy content of food consumed.

Dietary energy requirement

The amount of dietary energy required by an individual to maintain body functions, health and normal activity.

Dietary energy supply

Food available for human consumption, expressed in kilocalories per person per day (kcal/person/day). At country level, it is calculated as the food remaining for human use after deduction of all non-food consumption (exports, animal feed, industrial use, seed and wastage).

Degree of food deprivation

A measure of the overall food insecurity situation in a country, based on a classification system that combines prevalence of undernourishment, i.e. proportion of the total population suffering from dietary energy deficit, and depth of undernourishment, i.e. magnitude of the dietary energy deficit of the undernourished population.

Food insecurity

A situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. It may be caused by the unavailability of

food, insufficient purchasing power, inappropriate distribution, or inadequate use of food at the household level. Food insecurity, poor conditions of health and sanitation, and inappropriate care and feeding practices are the major causes of poor nutritional status. Food insecurity may be chronic, seasonal or transitory.

Food security

A situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

Kilocalorie (kcal)

A unit of measurement of energy. One kilocalorie equals 1 000 calories. In the International System of Units (ISU), the universal unit of energy is the joule (J). One kilocalorie = 4.184 kilojoules (kJ).

Macronutrients

In this document, the proteins, carbohydrates and fats that are required by the body in large amounts and, available to be used for energy. They are measured in grams.

Malnutrition

An abnormal physiological condition caused by deficiencies, excesses or imbalances in energy, protein and/or other nutrients.

Micronutrients

The vitamins, minerals and certain other substances that are required by the body in small amounts. They are measured in milligrams or micrograms.

Minimum dietary energy requirement

In a specified age/sex category, the amount of dietary energy per person that is considered adequate to meet the energy needs for light activity and good health. For an entire population, the minimum energy requirement is the weighted average of the minimum energy requirements of the different age/sex groups in the population. It is expressed as kilocalories per person per day.

Nutritional status

The physiological state of an individual that results from the relationship between nutrient intake and requirements and from the body's ability to digest, absorb and use these nutrients.

Overnourishment

Food intake that is in excess of dietary energy requirements continuously.

Overweight and obesity

Body weight that is above normal as a result of an excessive accumulation of fat. It is usually a manifestation of overnourishment. Overweight is defined here as BMI >25-30 and obesity as BMI >30.

Stunting

Low height for age, reflecting a sustained past episode or episodes of undernutrition.

Undernourishment

Food intake that is insufficient to meet dietary energy requirements continuously.

Undernutrition

The result of undernourishment, poor absorption and/or poor biological use of nutrients consumed.

Underweight

Low weight for age in children, and BMI <18.5 in adults, reflecting a current condition resulting from inadequate food intake, past episodes of undernutrition or poor health conditions.

Vulnerability

The presence of factors that place people at risk of becoming food insecure or malnourished, including those factors that affect their ability to cope.

Vulnerable group

A group of people with common characteristics, a high proportion of whom are food-insecure or at risk of becoming food-insecure.

Wasting

Low weight for height, generally the result of weight loss associated with a recent period of starvation or disease.

Tables

Table 1: PREVALENCE OF UNDERNOURISHMENT in developing countries and countries in transition

Region, subregion, country	Total population	UNDERNOURISHED IN TOTAL POPULATION			Region, subregion, country	Total population	UNDERNOURISHED IN TOTAL POPULATION				
		Number of people	Proportion population	Proportion population			Number of people	Proportion population	Proportion population		
	1997 (millions)	1996-98 (millions)	1979-81 (%)	1990-92 (%)	1996-98 (%)	1997 (millions)	1996-98 (millions)	1979-81 (%)	1990-92 (%)	1996-98 (%)	
DEVELOPING WORLD	4 501.2	791.9	29	21	18	Panama (3)	2.7	0.4	21	19	16
ASIA AND PACIFIC	3 091.2	515.2	32	21	17	SOUTH AMERICA	330.5	33.6	14	14	10
EAST ASIA	1 321.9	155.0	29	16	12	Argentina (1)	35.7	0.4	...	...	...
China * (3)	1 244.1	140.1	30	17	11	Bolivia (4)	7.8	1.8	26	25	23
China, H. Kong SAR (1)	6.5	0.1	...	...	...	Brazil (3)	163.7	15.9	15	13	10
Korea, DPR (5)	23.0	13.2	19	19	57	Chile (2)	14.6	0.6	7	8	4
Korea, Rep (1)	45.7	0.5	...	...	...	Colombia (3)	40.0	5.2	22	17	13
Mongolia (5)	2.5	1.1	16	34	45	Ecuador (3)	11.9	0.5	11	8	5
OCEANIA	4.5	1.3	31	26	29	Guyana (3)	0.8	0.2	13	24	18
Papua New Guinea (4)	4.5	1.3	31	26	29	Paraguay (3)	5.1	0.7	13	18	13
SOUTHEAST ASIA	491.3	64.7	26	18	13	Peru (3)	24.4	4.4	28	40	18
Cambodia (4)	10.5	3.4	61	41	33	Suriname (3)	0.4	0.0	18	12	10
Indonesia (3)	203.4	12.3	26	10	6	Uruguay (2)	3.3	0.1	3	7	4
Lao PDR (4)	5.0	1.5	32	31	29	Venezuela (3)	22.8	3.7	4	11	16
Malaysia (1)	21.0	0.5	4	3	...	NEAR EAST AND NORTH AFRICA	368.0	35.9	9	8	10
Myanmar (3)	43.9	3.1	19	10	7	NEAR EAST	232.5	30.3	10	11	13
Philippines (4)	71.4	15.2	27	24	21	Afghanistan (5)	20.9	14.6	34	63	70
Thailand (4)	59.7	12.2	25	31	21	Iran, Islamic Rep (3)	64.6	4.1	9	6	6
Viet Nam (4)	76.4	16.5	33	28	22	Iraq (3)	21.2	3.5	4	9	17
SOUTH ASIA	1 273.5	294.2	38	27	23	Jordan (3)	4.5	0.2	5	4	5
Bangladesh (5)	122.7	46.8	42	35	38	Kuwait (2)	1.7	0.1	4	22	4
India (4)	966.1	207.6	38	26	21	Lebanon (1)	3.1	0.1	8	...	...
Nepal (4)	22.3	6.2	47	21	28	Saudi Arabia (2)	19.5	0.6	3	3	3
Pakistan (4)	144.1	28.9	31	26	20	Syrian Arab Rep (1)	15.0	0.2	3	...	...
Sri Lanka (4)	18.3	4.5	22	28	25	Turkey (1)	63.4	1.2	3	...	...
LATIN AMERICA AND CARIBBEAN	489.1	54.9	13	13	11	United Arab Emirates (1)	2.3	0.0	...	...	...
NORTH AMERICA	94.3	5.1	5	5	5	Yemen (5)	16.3	5.7	39	37	35
Mexico (3)	94.3	5.1	5	5	5	NORTH AFRICA	135.4	5.6	8	4	4
CARIBBEAN	30.8	9.6	19	26	31	Algeria (3)	29.4	1.4	9	5	5
Cuba (3)	11.1	2.1	4	4	19	Egypt (2)	64.7	2.6	8	5	4
Dominican Rep (4)	8.1	2.2	25	29	28	Libyan Arab Jamahiriya (1)	5.2	0.0	...	...	...
Haiti (5)	7.8	4.8	48	64	62	Morocco (3)	26.9	1.4	10	5	5
Jamaica (3)	2.5	0.2	9	12	10	Tunisia (1)	9.2	0.1	...	...	...
Trinidad & Tobago (3)	1.3	0.2	6	12	13	SUB-SAHARAN AFRICA	552.9	185.9	38	35	34
CENTRAL AMERICA	33.6	6.6	20	17	20	CENTRAL AFRICA	76.2	38.5	36	37	50
Costa Rica (3)	3.7	0.2	8	6	6	Cameroon (4)	13.9	4.1	20	29	29
El Salvador (3)	5.9	0.6	17	12	11	Cent Afr Rep (5)	3.4	1.4	22	46	41
Guatemala (4)	10.5	2.5	18	14	24	Chad (5)	7.1	2.7	69	58	38
Honduras (4)	6.0	1.3	31	23	22	Congo, Dem Rep (5)	48.0	29.3	38	37	61
Nicaragua (4)	4.7	1.5	26	29	31	Congo, Rep (4)	2.7	0.9	29	34	32
						Gabon (3)	1.1	0.1	13	11	8

NOTES:

Figure following country name refers to prevalence category, (proportion of the population undernourished in 1996-98):

- Category (1) < 2.5% undernourished
 (2) 2.5 - 4% undernourished
 (3) 5 - 19% undernourished
 (4) 20 - 34% undernourished
 (5) ≥35% undernourished

KEY:

- na not available
 * Including Taiwan Province of China
 ** Serbia and Montenegro

SOURCES: Total population: *UN World Population Prospects, 1998 Revision*
 Undernourished in total population: FAO estimates

Table does not include countries with population of less than one million or having insufficient data.

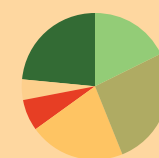


Table 1, cont.: PREVALENCE OF UNDERNOURISHMENT in developing countries and countries in transition

Region, subregion, country	Total population 1997 (millions)	UNDERNOURISHED IN TOTAL POPULATION				Region, subregion, country	Total population 1997 (millions)	UNDERNOURISHED IN TOTAL POPULATION			
		Number of people 1996-98 (millions)	Proportion population 1979-81 (%)	Proportion population 1990-92 (%)	Proportion population 1996-98 (%)			Number of people 1996-98 (millions)	Proportion population 1979-81 (%)	Proportion population 1990-92 (%)	Proportion population 1996-98 (%)
EAST AFRICA	190.4	79.9	35	44	42	COUNTRIES					
Burundi (5)	6.4	4.3	39	44	68	IN TRANSITION	413.0	26.4	na	na	6
Eritrea (5)	3.4	2.2	na	na	65	COMMONWEALTH OF					
Ethiopia (5)	58.2	28.4	na	na	49	INDEPENDENT STATES	405.3	26.2	na	na	6
Kenya (5)	28.4	12.2	26	47	43	Armenia [4]	3.6	0.7	na	na	21
Rwanda (5)	6.0	2.3	24	37	39	Azerbaijan [4]	7.6	2.4	na	na	32
Somalia (5)	8.8	6.6	55	67	75	Belarus [1]	10.3	0.1	na	na	...
Sudan (3)	27.7	5.1	24	30	18	Georgia [4]	5.1	1.2	na	na	23
Tanzania, United Rep (5)	31.4	12.7	23	31	41	Kazakhstan [3]	16.4	0.7	na	na	5
Uganda (4)	20.0	6.0	32	23	30	Kyrgyzstan [3]	4.6	0.8	na	na	17
SOUTHERN AFRICA	81.9	34.5	33	45	42	Moldova, Rep [3]	4.4	0.5	na	na	11
Angola (5)	11.7	5.0	31	51	43	Russian Fed [3]	147.7	8.6	na	na	6
Botswana (4)	1.5	0.4	29	20	27	Tajikistan [4]	5.9	1.9	na	na	32
Lesotho (4)	2.0	0.6	27	31	29	Turkmenistan [3]	4.2	0.4	na	na	10
Madagascar (5)	14.6	5.8	18	33	40	Ukraine [3]	51.1	2.6	na	na	5
Malawi (4)	10.1	3.2	26	47	32	Uzbekistan [3]	23.2	2.6	na	na	11
Mauritius (3)	1.1	0.1	10	6	6	BALTIC STATES	7.6	0.2	na	na	3
Mozambique (5)	18.4	10.7	54	67	58	Estonia [3]	1.4	0.1	na	na	6
Namibia (4)	1.6	0.5	25	27	31	Latvia [2]	2.5	0.1	na	na	4
Swaziland (3)	0.9	0.1	14	9	14	Lithuania [1]	3.7	0.1	na	na	...
Zambia (5)	8.6	3.9	30	40	45	EASTERN EUROPE	121.2	3.6	na	na	3
Zimbabwe (5)	11.2	4.2	30	41	37	Albania [2]	3.1	0.1	9	14	3
WEST AFRICA	204.3	33.0	42	22	16	Bosnia & Herzegovina [3]	3.5	0.4	na	na	10
Benin (3)	5.6	0.8	37	21	14	Bulgaria [3]	8.4	1.1	...	...	13
Burkina Faso (4)	11.0	3.5	64	32	32	Croatia [3]	4.5	0.5	na	na	12
Côte d'Ivoire (3)	14.1	1.9	8	15	14	Czech Rep [1]	10.3	0.1	na	na	...
Gambia (3)	1.2	0.2	58	18	16	Hungary [1]	10.2	0.1	...	...	...
Ghana (3)	18.7	1.9	62	29	10	TFYR Macedonia [3]	2.0	0.1	na	na	7
Guinea (4)	7.3	2.1	30	37	29	Poland [1]	38.7	0.3	...	...	...
Liberia (5)	2.4	1.1	22	49	46	Romania [1]	22.6	0.3	...	3	...
Mali (4)	10.4	3.4	60	24	32	Slovakia [2]	5.4	0.2	na	na	4
Mauritania (3)	2.5	0.3	35	15	13	Slovenia [2]	2.0	0.1	na	na	3
Niger (5)	9.8	4.5	34	42	46	Yugoslavia** [2]	10.6	0.3	na	na	3
Nigeria (3)	103.9	8.6	44	16	8						
Senegal (4)	8.8	2.0	20	21	23						
Sierra Leone (5)	4.4	1.9	40	45	43						
Togo (3)	4.3	0.8	31	29	18						

Tables

Table 2: FOOD AVAILABILITY AND DEPTH OF UNDERNOURISHMENT in developing countries and countries in transition, 1996-98

Region, subregion, country	FOOD AVAILABILITY Dietary energy supply (kcal/person/day)	Dietary energy supply of the undernourished (kcal/person/day)	DEPTH OF UNDERNOURISHMENT Minimum energy requirement (kcal/person/day)	Food deficit of the undernourished (kcal/person/day)	DIET COMPOSITION Share of cereals and roots and tubers in total DES* (%)
DEVELOPING WORLD					
ASIA AND PACIFIC					
EAST ASIA					
China** (3)	2 930	1 670	1 920	250	62
China, H. Kong SAR (1)	3 200	1 820	1 960	140	32
Korea, DPR (5)	1 860	1 550	1 890	340	64
Korea, Rep (1)	3 120	1 790	1 920	130	51
Mongolia (5)	1 960	1 530	1 840	310	49
OCEANIA					
Papua New Guinea (4)	2 140	1 530	1 790	260	56
SOUTHEAST ASIA					
Cambodia (4)	2 060	1 490	1 760	270	79
Indonesia (3)	2 880	1 630	1 830	200	70
Lao PDR (4)	2 120	1 430	1 710	280	82
Malaysia (1)	2 890	1 690	1 830	140	43
Myanmar (3)	2 830	1 630	1 830	200	78
Philippines (4)	2 390	1 520	1 790	270	56
Thailand (4)	2 440	1 610	1 870	260	49
Viet Nam (4)	2 410	1 520	1 800	280	76
SOUTH ASIA					
Bangladesh (5)	2 060	1 460	1 790	340	84
India (4)	2 470	1 520	1 810	290	64
Nepal (4)	2 190	1 530	1 800	260	80
Pakistan (4)	2 430	1 490	1 760	270	57
Sri Lanka (4)	2 300	1 570	1 830	260	56
LATIN AMERICA AND CARIBBEAN					
NORTH AMERICA					
Mexico (3)	3 130	1 680	1 890	210	47
CARIBBEAN					
Cuba (3)	2 420	1 740	1 960	210	42
Dominican Rep (4)	2 270	1 660	1 920	250	32
Haiti (5)	1 840	1 470	1 930	460	56
Jamaica (3)	2 660	1 720	1 920	200	40
Trinidad & Tobago (3)	2 690	1 700	1 930	230	39
CENTRAL AMERICA					
Costa Rica (3)	2 740	1 750	1 910	160	35
El Salvador (3)	2 540	1 590	1 790	200	57
Guatemala (4)	2 180	1 510	1 750	250	57
Honduras (4)	2 340	1 490	1 760	270	46
Nicaragua (4)	2 190	1 500	1 800	300	54
Panama (3)	2 450	1 590	1 820	230	40

NOTES:

Figure following country name refers to prevalence category, (proportion of the population undernourished in 1996-98):

- Category (1) < 2.5% undernourished
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(3) 5 - 19% undernourished
(4) 20 - 34% undernourished
(5) ≥35% undernourished

Table does not include countries with population of less than one million or having insufficient data.

Key:

- na not available
* High values of DES indicate low diet diversification and vice versa
** Including Taiwan Province of China
*** Serbia and Montenegro

SOURCES: Total population: *UN World Population Prospects, 1998 Revision*
Undernourished in total population: FAO estimates

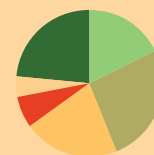


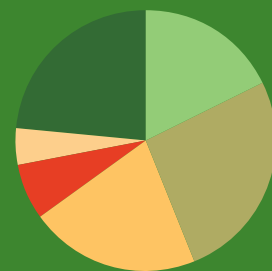
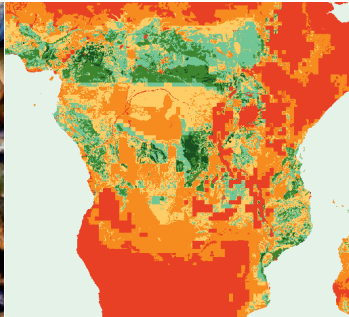
Table 2 cont.: FOOD AVAILABILITY AND DEPTH OF UNDERNOURISHMENT in developing countries and countries in transition, 1996-98

Region, subregion, country	FOOD AVAILABILITY		DEPTH OF UNDERNOURISHMENT		DIET COMPOSITION
	Dietary energy supply (kcal/person/day)	Dietary energy supply of the undernourished (kcal/person/day)	Minimum energy requirement (kcal/person/day)	Food deficit of the undernourished (kcal/person/day)	Share of cereals and roots and tubers in total DES* (%)
SOUTH AMERICA					
Argentina (1)	3 140	1 800	1 940	140	35
Bolivia (4)	2 200	1 540	1 770	230	48
Brazil (3)	2 960	1 650	1 900	250	35
Chile (2)	2 820	1 760	1 910	150	42
Colombia (3)	2 580	1 590	1 810	220	40
Ecuador (3)	2 710	1 650	1 810	160	38
Guyana (3)	2 450	1 650	1 880	230	52
Paraguay (3)	2 570	1 610	1 830	220	42
Peru (3)	2 390	1 570	1 810	240	51
Suriname (3)	2 640	1 720	1 910	190	44
Uruguay (2)	2 810	1 760	1 910	150	34
Venezuela (3)	2 360	1 640	1 840	210	39
NEAR EAST AND NORTH AFRICA					
NEAR EAST					
Afghanistan (5)	1 620	1 350	1 820	480	82
Iran, Islamic Rep (3)	2 830	1 610	1 800	190	56
Iraq (3)	2 340	1 560	1 770	210	58
Jordan (3)	2 790	1 600	1 770	170	54
Kuwait (2)	3 050	1 710	1 890	180	39
Lebanon (1)	3 270	1 730	1 890	160	39
Saudi Arabia (2)	2 850	1 710	1 860	150	49
Syrian Arab Rep (1)	3 350	1 660	1 820	160	55
Turkey (1)	3 500	1 800	1 970	170	51
United Arab Emirates (1)	3 370	1 850	1 990	140	35
Yemen (5)	2 050	1 470	1 760	290	69
NORTH AFRICA					
Algeria (3)	2 980	1 640	1 830	190	62
Egypt (2)	3 280	1 700	1 900	190	67
Libyan Arab Jamahiriya (1)	3 250	1 730	1 860	130	48
Morocco (3)	3 130	1 640	1 850	210	63
Tunisia (1)	3 260	1 730	1 860	130	55
SUB-SAHARAN AFRICA					
CENTRAL AFRICA					
Cameroon (4)	2 190	1 590	1 850	260	57
Central Afr. Rep (5)	2 000	1 490	1 800	310	54
Chad (5)	2 070	1 490	1 820	330	63
Congo, Dem. Rep (5)	1 750	1 440	1 820	380	75
Congo, Rep (4)	2 170	1 540	1 830	290	62
Gabon (3)	2 540	1 680	1 840	160	47
EAST AFRICA					
Burundi (5)	1 640	1 380	1 790	410	47
Eritrea (5)	1 650	1 390	1 760	370	78
Ethiopia (5)	1 840	1 410	1 750	340	79
Kenya (5)	1 970	1 530	1 820	290	61
Rwanda (5)	2 030	1 430	1 760	330	46
Somalia (5)	1 550	1 330	1 820	490	35
Sudan (3)	2 430	1 600	1 840	240	57
Tanzania, United Rep (5)	2 000	1 500	1 800	300	68
Uganda	2 140	1 500	1 780	280	42
SOUTHERN AFRICA					
Angola (5)	1 910	1 410	1 730	320	66
Botswana (4)	2 210	1 600	1 840	240	50
Lesotho (4)	2 230	1 580	1 860	280	80
Madagascar (5)	2 010	1 490	1 800	310	74

Tables

Table 2 cont.: FOOD AVAILABILITY AND DEPTH OF UNDERNOURISHMENT in developing countries and countries in transition, 1996-98

Region, subregion, country	FOOD AVAILABILITY		DEPTH OF UNDERNOURISHMENT		DIET COMPOSITION
	Dietary energy supply (kcal/person/day)	Dietary energy supply of the undernourished (kcal/person/day)	Minimum energy requirement (kcal/person/day)	Food deficit of the undernourished (kcal/person/day)	Share of cereals and roots and tubers in total DES* (%)
Malawi (4)	2 170	1 480	1 790	310	74
Mauritius (3)	2 940	1 720	1 900	180	46
Mozambique (5)	1 860	1 470	1 890	420	79
Namibia (4)	2 130	1 570	1 830	260	66
Swaziland (3)	2 490	1 630	1 840	210	50
Zambia (5)	1 960	1 470	1 810	340	79
Zimbabwe (5)	2 140	1 510	1 850	340	63
WEST AFRICA					
Benin (3)	2 540	1 570	1 790	220	74
Burkina Faso (4)	2 160	1 520	1 810	290	75
Côte d'Ivoire (3)	2 610	1 610	1 840	230	66
Gambia (3)	2 520	1 610	1 850	240	56
Ghana (3)	2 670	1 620	1 830	210	75
Guinea (4)	2 310	1 510	1 830	320	58
Liberia (5)	2 000	1 430	1 820	390	60
Mali (4)	2 150	1 520	1 810	290	73
Mauritania (3)	2 630	1 600	1 840	240	56
Niger (5)	1 940	1 450	1 800	350	74
Nigeria (4)	2 760	1 620	1 830	210	64
Senegal (4)	2 290	1 590	1 830	240	59
Sierra Leone (5)	2 050	1 440	1 820	380	63
Togo (3)	2 460	1 560	1 820	260	77
COUNTRIES IN TRANSITION					
COMMONWEALTH OF INDEPENDENT STATES					
Armenia (4)	2 350	1 740	1 950	210	61
Azerbaijan (4)	2 190	1 690	1 930	240	69
Belarus (1)	3 160	1 820	1 960	130	47
Georgia (4)	2 320	1 730	1 940	210	67
Kazakhstan (3)	2 860	1 780	1 940	160	63
Kyrgyzstan (3)	2 490	1 670	1 900	230	65
Moldova, Rep (3)	2 690	1 740	1 950	210	52
Russian Fed (3)	2 840	1 800	1 970	170	49
Tajikistan (4)	2 160	1 630	1 880	250	70
Turkmenistan (3)	2 620	1 700	1 890	190	58
Ukraine (3)	2 830	1 800	1 960	160	53
Uzbekistan (3)	2 550	1 710	1 890	180	59
BALTIC STATES					
Estonia (3)	2 950	1 780	1 960	180	44
Latvia (2)	2 930	1 800	1 950	150	43
Lithuania (1)	3 110	1 810	1 950	140	53
EASTERN EUROPE					
Albania (2)	3 030	1 810	1 960	150	53
Bosnia and Herzegovina (3)	2 660	1 810	2 000	190	67
Bulgaria (3)	2 700	1 760	1 980	220	41
Croatia (3)	2 610	1 830	2 010	180	38
Czech Rep (1)	3 280	1 890	2 020	130	33
Hungary (1)	3 350	1 860	2 000	140	29
TFYR Macedonia (3)	2 780	1 800	1 970	170	45
Poland (1)	3 330	1 860	1 990	130	42
Romania (1)	3 280	1 870	2 010	130	54
Slovakia (2)	2 960	1 870	2 020	160	34
Slovenia (2)	2 970	1 850	1 990	150	40
Yugoslavia*** (2)	3 040	1 840	1 990	150	32



The state of **2000** food insecurity in the world

Just how deep is the hunger suffered by the world's more than 800 million undernourished people? The second edition of *The state of food insecurity in the world* introduces a new tool for assessing the severity of want: the depth of hunger. This measure of how much food the hungry lack rounds out the picture of food deprivation.

This edition also presents the latest estimates of the numbers of hungry people around the world. It finds that 826 million people do not get enough to eat – 792 million people in developing countries and another 34 million in industrialized countries and countries in transition – essentially no change since the last count. This is a sad indictment of the world's failure to respond adequately in a time of unprecedented plenty.

FAO estimates that the number of hungry people in developing countries was declining by 8 million a year in the first half of the 1990s. But if we are to fulfil the pledge made at the 1996 World Food Summit, that number must reach 20 million a year.

Some progress is on the horizon, however. FAO projections to 2015 suggest that, due to slowing population growth and increases in productivity and income, more people will escape the prison of hunger.

But hungry people cannot wait another 15 years. The many causes of undernourishment – from poverty and conflict to poor infrastructure and limited investment in agriculture – will require sustained attention everywhere, from the village to the international community. In a world enjoying record wealth, it is a moral imperative to ensure that every person on the planet realizes their right to be free from hunger.



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