Undernourishment around the world

High food prices: another 75 million hungry

Higher food prices have triggered an increase in hunger worldwide. Provisional FAO estimates show that the number of chronically hungry people in 2007 increased by 75 million over and above FAO's estimate of 848 million undernourished in 2003–05, with much of the increase attributed to high food prices (details in Table 1, page 48). This brought the number of undernourished worldwide to 923 million in 2007. Given the continued and drastic price rises in staple cereals and oil crops well into the first quarter of 2008, the number of people suffering from chronic hunger is likely to have increased further.

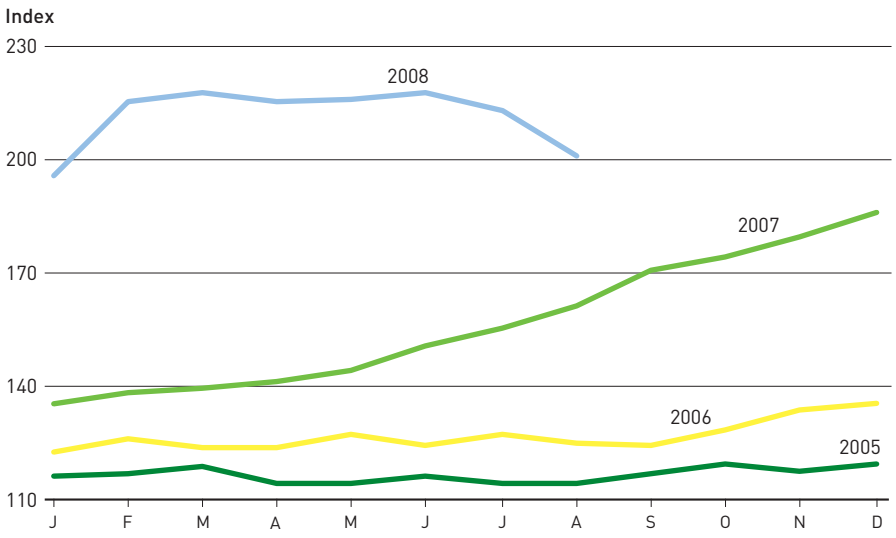
At 923 million people, the number of undernourished in 2007 was more than 80 million higher than in 1990–92, the base period for the World Food Summit (WFS) hunger reduction target. This makes the task of bringing the *number* of undernourished to 420 million by 2015 more difficult, especially in an environment of high food prices and uncertain global economic prospects.

The impact of rising food prices on the *proportion* of undernourished people (the Millennium Development Goal [MDG] 1 hunger indicator) is worrisome. Good progress in reducing the share of hungry people in the developing world had been achieved – down from almost 20 percent in 1990–92 to less than 18 percent in 1995–97 and just above 16 percent in 2003–05. The estimates show that rising food prices have thrown that progress into reverse, with the proportion of undernourished people worldwide moving back towards 17 percent. Hence, amid soaring food prices, progress towards achieving internationally agreed hunger reduction targets has suffered a serious setback in terms of both the number of undernourished and the prevalence of hunger.

The estimated impact of high food prices on the global estimates of undernourishment is confirmed by an analysis of household-level data (pages 22–27). The analysis confirms a negative impact of soaring food prices, especially on the poor and most vulnerable.

1

FAO food price index

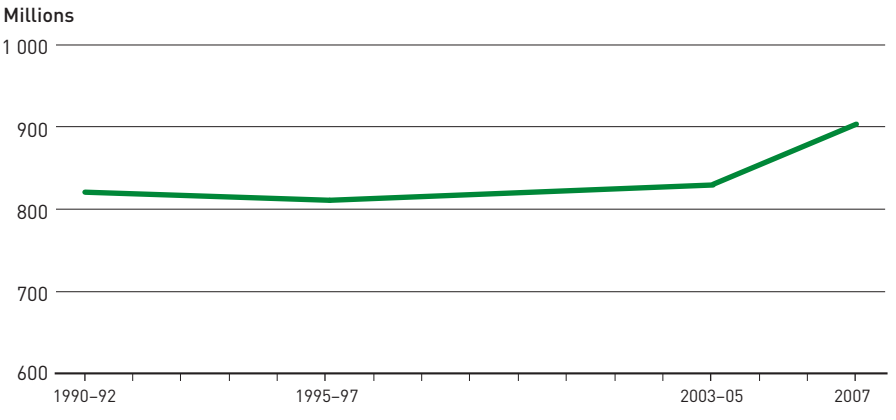


1998–2000 =100

Source: FAO.

2

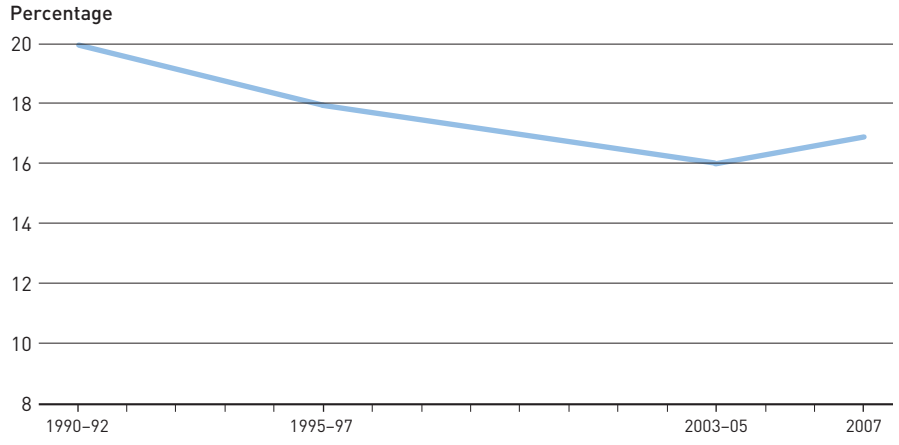
Numbers of undernourished people in the developing world, 1990–92 to 2007



Source: FAO.

3

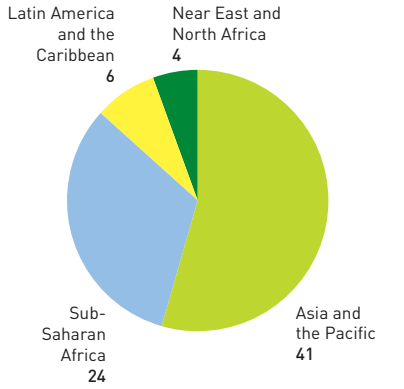
Proportion of undernourished people in the developing world, 1990–92 to 2007



Source: FAO.

4

Regional impacts of high food prices: additional undernourished in 2007 (millions)



Source: FAO.

Price surge halts progress

At the regional level, the largest increases in the number of undernourished people in 2007 occurred in Asia and the Pacific and in sub-Saharan Africa, the two regions that together accounted for 750 million (89 percent) of the hungry people in the world in 2003–05. FAO estimates that rising prices have plunged an additional 41 million people in Asia and the Pacific and 24 million in sub-Saharan Africa into hunger.

Together, Africa and Asia account for more than three-quarters of the developing world's low-income food-deficit countries (LIFDCs). Africa is also home to 15 of the 16 countries where the prevalence of hunger already exceeded 35 percent, making them particularly vulnerable to higher food prices.

While the numbers affected are smaller, Latin America and the

How FAO estimated the impact on undernourishment

The most recent complete estimates of undernourishment at the country level are those for the three-year period 2003–05. These provide the basis for FAO's regular monitoring and analysis on progress towards hunger reduction targets, and they are presented in the section "Taking stock of world hunger".

Responding to growing concerns about the implications of soaring food prices for world food security, FAO developed a methodology to estimate the impact of high food prices on undernourishment in 2007, based on partial data for 2006–08. Trends in dietary energy supply derived from two different databases maintained by FAO were used, namely: (i) detailed "supply utilization accounts" from FAO's core database (FAOSTAT) covering hundreds of commodities per country; and (ii) more recent data covering cereals, oils and meats available for human consumption (accounting for about 80 percent of dietary energy supply). Combining the two was necessary as FAO's core database includes complete data only up to 2005; the second database, while less complete, includes estimates up to 2008, hence capturing much of the period in which food prices were rising rapidly. A relationship between the historical data contained in the two databases was established in order to extrapolate the core database to 2007.

The 2007 estimates capturing the impact of food prices on hunger were generated at the global and regional levels only, and are not available at the country level. As such, and given the way the 2007 data were computed, the estimates should be considered provisional.

Undernourishment around the world

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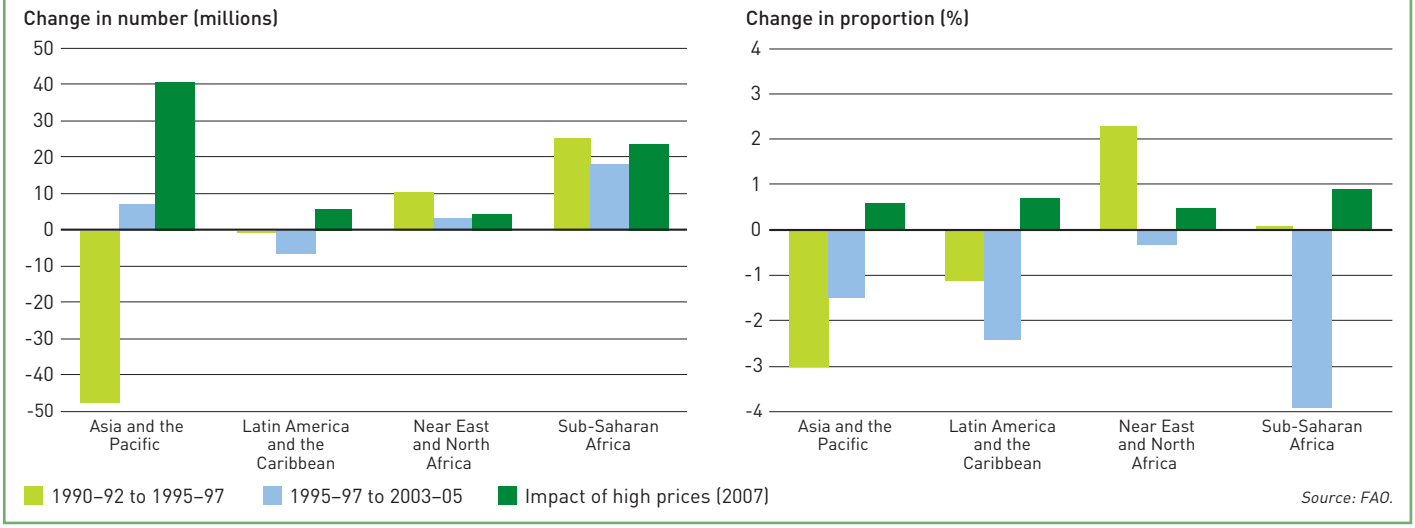
Regional changes in number and proportion of undernourished people



Source: FAO.

Caribbean and the Near East and North Africa regions have also experienced increases in hunger as a result of rising food prices (a sharp reversal for Latin America after more than a decade of steady progress toward the WFS goal).

Overall, the rising prevalence of hunger and the estimated increase of 75 million undernourished people worldwide in 2007 validate concerns about a global food security crisis following high food prices, at least in the short term.

Are FAO estimates conservative?

The box on page 7 describes how FAO produced estimates on world hunger for 2007. Partly as a result of the updated parameters, the calculation of the number of undernourished is based on the assumption that the *distribution* of dietary energy intake within a country or region *remained unchanged* between periods of "low" and "high" food prices. On the other hand, the household-level analysis (pages 22–27) shows that, as a result of higher food prices, the poor are proportionately worse off than the rich in the short run.

In-depth analysis of eight countries has shown that the distribution of per person dietary energy supply among households deteriorates following drastic increases in food prices. Thus, FAO's estimate of the global impact of high food prices on hunger may well be an underestimate. Therefore, it can safely be stated that high food prices have resulted in *at least a further 75 million hungry people* – people being deprived of access to sufficient food on a daily basis.

Using a different methodology, the United States Department of Agriculture (USDA) estimates that the impact of high food prices has resulted in an increase in the number of undernourished of 133 million people in 70 countries analysed.[1] A key distinction between the two approaches for estimating hunger relates to the way in which inequality in the distribution of food available for human consumption is calculated. Compared with FAO, USDA uses a higher (and constant) cut-off point for determining the hunger threshold. It uses a value of 2 100 kilocalories per person per day while FAO values depend on the age and gender distribution in each country, typically ranging from as low as 1 600 to 2 000 kilocalories per person per day.

[1] United States Department of Agriculture. 2008. *Food Security Assessment, 2007*, by S. Rosen, S. Shapouri, K. Quanbeck and B. Meade. Economic Research Service Report GFA-19 (available at www.ers.usda.gov/PUBLICATIONS/GFA19/GFA.PDF).

Driving forces of high food prices

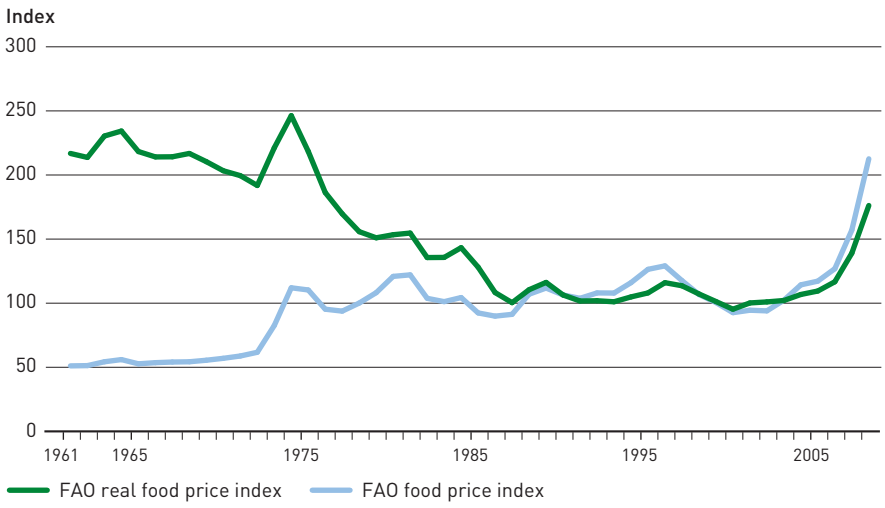
As agricultural commodity prices rose sharply in 2006 and 2007 and continued to rise even further in early 2008, the forces behind soaring food prices were examined from various perspectives in an effort to design response options. This section lists some of the main drivers behind soaring food prices.[1] Medium-term projections indicate that, while food prices should stabilize in 2008–09 and subsequently fall, they will remain above their pre-2004 trend level for the foreseeable future.[2]

The FAO index of nominal food prices doubled between 2002 and 2008. In real terms, the increase was less pronounced but still dramatic. The real food price index began rising in 2002, after four decades of predominantly declining trends, and spiked sharply upwards in 2006 and 2007. By mid-2008, real food prices were 64 percent above their 2002 levels. The only other period of significantly rising real food prices since this data series began occurred in the early 1970s in the wake of the first international oil crisis.

Be they policy measures, investment decisions or emergency interventions, appropriate actions to address the human and economic impacts of soaring food prices require a thorough understanding of the underlying driving forces. These driving forces are many and complex, and they include both supply-side and demand-side factors. Long-term structural trends underlying growth in demand for food have coincided with short-term cyclical or temporary factors adversely affecting food supply, thus resulting in a situation where growth in demand for food commodities continues to outstrip growth in their supply.

6

Evolution of FAO food price indices, 1961–2008

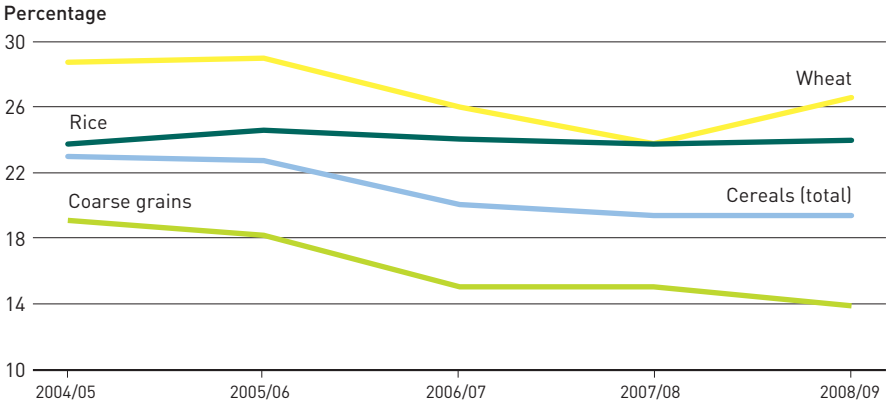


Note: 1998–2000 = 100.

Source: FAO.

7

Ratio of world cereal stocks to utilization



Source: FAO.

Supply-side forces

Stock levels and market volatility. Several of the world's major cereal producers (China, the European Union, India and the United States of America) have changed their agriculture policies in recent years. One result has been significantly lower levels of cereal stocks compared with earlier years. The ratio of world cereal stocks to utilization is estimated at 19.4 percent for 2007/08, the lowest

Food prices: from world to domestic markets

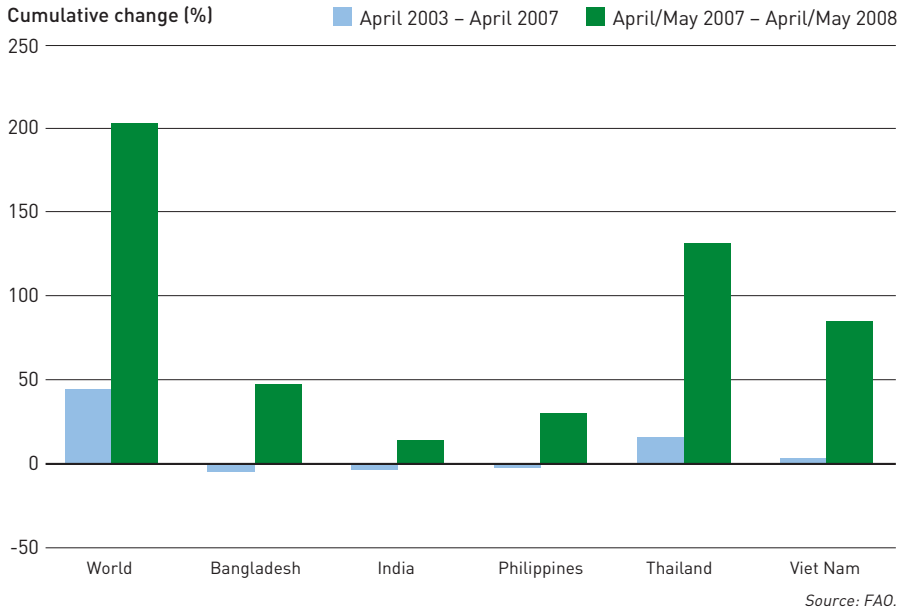
Analysis of country data suggests an incomplete transmission of world prices denominated in US dollars to domestic prices (expressed in local currency). Even before the price hikes of 2008, world cereal prices had risen substantially between 2002 and 2007. In this period, world market prices for rice, wheat and maize increased by 50, 49 and 43 percent, respectively, in real US dollar terms. However, the transmission to domestic prices was usually less than complete, with prices in local currency terms not rising as much as the international market prices – as was the case with rice in various Asian countries.

Several factors contributed to this dampening of the transmission of world to domestic prices. The US dollar has been depreciating for several years against a range of currencies, including those of many developing countries. From 2002 to 2007, low-income countries experienced an average real appreciation of 20 percent against the US dollar (compared with 18 percent for high-income countries). Exchange rate appreciation nullified some of the increase in world market prices (expressed in US dollars) for both food importers and exporters into 2007. Some trade policy and other commodity-specific measures further limited price transmission.

While domestic policies and exchange rate movements mitigated the impact of world price increases for some time, domestic prices eventually increased substantially in many countries in late 2007 and early 2008.

Source: FAO. 2008. *Have recent increases in international cereal prices been transmitted to domestic economies? The experience in seven large Asian countries*, by D. Dawe. ESA Working Paper No. 08–03 (available at ftp://ftp.fao.org/docrep/fao/010/ai506e/ai506e00.pdf).

Rice: consumer price transmission



Source: FAO.

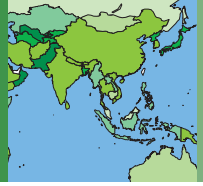
in three decades. Lower stock levels contribute to higher price volatility in world markets because of uncertainties about the adequacy of supplies in times of production shortfalls.

Production shortfalls. Extreme weather events in 2005–07, including drought and floods, affected major cereal-producing countries. World cereal production fell by 3.6 percent in 2005 and 6.9 percent in 2006 before recovering in 2007. Two successive years of lower crop yields in a context of already low stock levels resulted in a worrisome supply situation in world markets. Growing concern over the potential effect of climate change on future availabilities of food supplies aggravated these fears.

Petroleum prices. Until mid-2008, the increase in energy prices had been very rapid and steep, with one major commodity price index (the Reuters-CRB Energy Index) more than tripling since 2003. Petroleum and food prices are highly correlated. The rapid rise in petroleum prices exerted upward pressure on food prices as fertilizer prices nearly tripled and transport costs doubled in 2006–08. High fertilizer prices have direct adverse effects on the cost of production and fertilizer use by producers, especially small-scale farmers.

Demand-side forces

Biofuel demand. The emerging biofuel market is a significant source of demand for some agricultural commodities, such as sugar, maize, cassava, oilseeds and palm oil. The stronger demand for these commodities caused a surge in their prices in world



markets, which in turn has led to higher food prices. While biofuel production and consumption is supported by government policies in a number of countries, rapid increases in crude oil prices have further contributed to growing demand for agricultural commodities for biofuel feedstock. Biofuel production will utilize an estimated 100 million tonnes of cereals (4.7 percent of global cereal production) in 2007–08.

Consumption patterns. The first decade of this century has seen rapid and sustained economic growth and increased urbanization in a number of developing countries, most remarkably in large emerging economies such as China and India. These two countries alone account for more than 40 percent of the world's population. As the purchasing power of hundreds of millions of people has increased, so has their overall demand for food. This new wealth has also led to changes in diet, especially to greater consumption of meat and dairy products, which are heavily dependent on cereal inputs.

However, the recent high commodity prices do not appear to have originated in these emerging markets. Cereal imports by China and India have declined from an average of about 14 million tonnes in the early 1980s to roughly 6 million tonnes in the past three years, suggesting that changes in consumption patterns have largely been met through domestic production. While continued strong economic development in China and India may increasingly affect food prices, this has not yet been an exceptional factor.

Other factors

Trade policies. In an attempt to minimize the impacts of higher food prices on vulnerable population groups within countries, a number of governments and private-sector actors have taken measures that have at times exacerbated the effects of the above-mentioned underlying trends on food prices in international markets. The adoption of export restrictions and bans by some countries has reduced global supply, aggravated shortages and eroded trust among trading partners. In some countries, such actions have also reduced farmers' incentives to respond to higher international prices. Speculative re-stocking or pre-stocking by large importers with relatively strong cash positions has also contributed to higher prices.

Financial markets. The recent turmoil in traditional asset markets has had an impact on food prices, as new types of investors have become involved in derivates markets based on agricultural commodities in the hope of achieving better returns than those available on traditional assets. Global trading activity in futures and options combined has more than doubled in the last five years. In the first nine months of 2007, it grew by 30 percent over the previous year.

This high level of speculative activity in agricultural commodity markets has led some analysts to indicate increased speculation as a significant factor in soaring food prices. However, it is not clear whether speculation is driving prices higher or whether this behaviour is the result of prices that are rising in any case. Either way, large inflows of funds could partly account for the *persistence* of high food prices and their increased *volatility*. Further research is needed. The role of financial investors in influencing food prices and whether there is a need for appropriate regulations to limit the impact of speculative bubbles on food prices are increasingly issues of concern.

Will high prices persist?

Cereal production has recovered, increasing by 4.7 percent in 2007 and a projected 2.8 percent in 2008. However, although food prices may fall from current high levels as some of the short-term factors behind the high prices subside, real prices of food commodities for the next decade are expected to remain above those of the previous ten years.

Three main assumptions underlie this expectation. First, economic growth in the developing world, particularly in large emerging economies, is expected to continue at about 6 percent per year, further raising the purchasing power and changing the dietary preferences of hundreds of millions of consumers. Second, biofuel demand is likely to continue its rapid growth, partly driven by high oil prices and government policies and partly by slow developments in widespread adoption of second-generation biofuels and technologies. According to the International Energy Agency, the share of the world's arable land devoted to growing biomass for liquid biofuels could triple in the next 20 years.[3] Third, in addition to land and water constraints, increasing costs of production, including higher fertilizer prices and rising transportation costs resulting from high petroleum prices, are likely to affect food production adversely, compounding the challenge of meeting global food demand.[4]

Taking stock of world hunger: revised estimates

Global overview

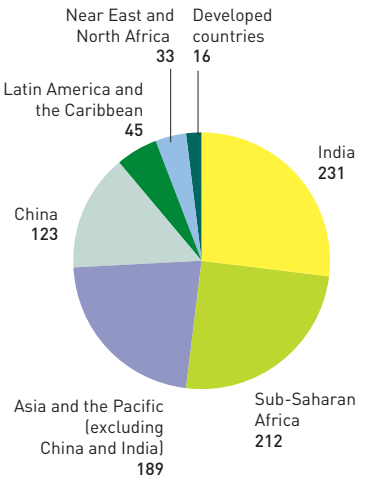
FAO's long-term estimates of undernourishment at the regional and country levels for the period from 1990–92 to 2003–05 (using the FAOSTAT database) confirm insufficient progress towards the WFS and MDG hunger reduction targets even *before* the negative impact of soaring food prices. Worldwide, 848 million people suffered from chronic hunger in 2003–05, the most recent period for which individual country data are available. This number is slightly higher than the 842 million people who were undernourished in 1990–92, the WFS and MDG baseline period.

The vast majority of the world's undernourished people live in developing countries, which were home to 832 million chronically hungry people in 2003–05. Of these people, 65 percent live in only seven countries: India, China, the Democratic Republic of the Congo, Bangladesh, Indonesia, Pakistan and Ethiopia. Progress in these countries with large populations would obviously have an important impact on the overall reduction of hunger in the world. Among these, China has made significant progress in reducing undernourishment following years of rapid economic growth.

The proportion of people who suffer from hunger in the total population remains highest in sub-Saharan Africa, where one in three people is chronically hungry. Latin America and the Caribbean were continuing to make good progress in hunger reduction before the dramatic increase in food prices; together with East Asia and the Near East and North Africa, these regions maintain some of the lowest levels of undernourishment in the developing world (Table 1, page 48).

8

Number of undernourished people in the world, 2003–05 (millions)



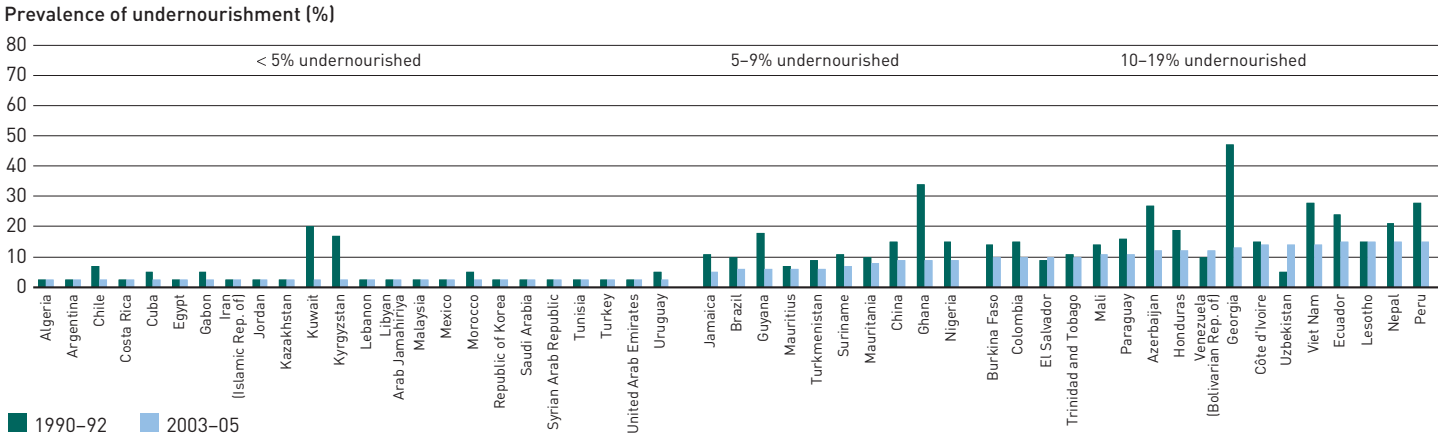
Source: FAO.

Sub-Saharan Africa

Sub-Saharan Africa's population grew by 200 million between the early 1990s and 2003–05, to 700 million. This substantial increase, coupled with insufficient overall and agriculture-sector development, placed a burden on hunger reduction efforts. However, while the overall *number* of undernourished people in the region increased by 43 million (from 169 million to 212 million),

9

Proportions of undernourished people in developing countries, 1990–92 and 2003–05



Revised undernourishment estimates

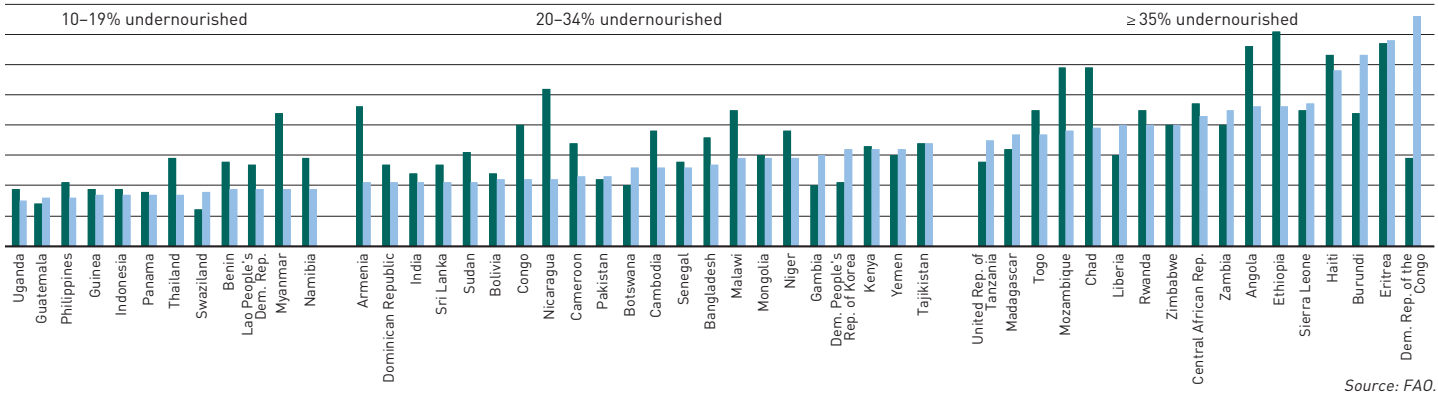
Compared with estimates presented in the 2006 edition of this report, data for both the 1990–92 baseline and subsequent periods have been revised on the basis of the most recent standards for human energy requirements and of new United Nations population statistics incorporated into FAO's undernourishment estimates. The Technical Annex presents the overall impact of the changes in these key parameters, and how they have influenced the estimates (pages 45–47). It is emphasized that the analysis in this section does *not* take into account the effects of high food prices.

sub-Saharan Africa did achieve some progress in reducing the *proportion* of people suffering from chronic hunger (down from 34 to 30 percent).

Most of the increase in the number of hungry people in sub-Saharan Africa occurred in a single country, the Democratic Republic of the Congo. Fuelled by widespread and persistent conflict, the number of its chronically hungry shot up from 11 million to 43 million and the proportion of undernourished rose from 29 to 76 percent. The number of undernourished has risen in another 25 countries in the region since 1990–92, presenting it with a major challenge in moving more rapidly towards the WFS and MDG hunger reduction targets.

At the same time, several of the countries that have achieved the steepest reductions in the proportion of undernourished are also located in sub-Saharan Africa. They include Ghana, the Congo, Nigeria, Mozambique and Malawi, with Ghana being the only country to have reached both the WFS and MDG targets. Key to Ghana's success has been robust growth, both in the economy at large and in the agriculture sector in particular. Spurred by policies that provide a larger return to producers and by relatively strong cocoa prices, Ghana's agricultural gross domestic product (GDP) has grown steadily. A recent World Bank study found that more than twice as many Ghanaians are moving back into agriculture as are leaving it.

In the 14 African countries on track to reach the MDG target of reducing the prevalence of hunger by half by 2015, the agriculture sector has achieved steady and relatively rapid growth, characterized by gains in agricultural value added, food production, cereal production and cereal yields. This is in marked contrast to the 14 African countries that either have failed to reduce the prevalence of undernourishment or have seen it increase since 1990–92. In these countries, food production has fallen sharply, while agricultural value added has edged up at less than one-quarter of the rate achieved by the more successful group. Importantly, countries that have scored successes include several that emerged from decades of civil war and conflict, offering striking evidence of the importance of peace and political stability for hunger reduction.



Source: FAO.

Undernourishment around the world

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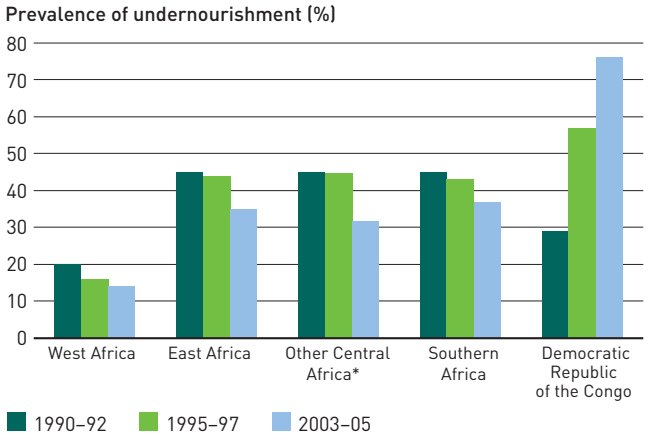
Subregional trends in sub-Saharan Africa

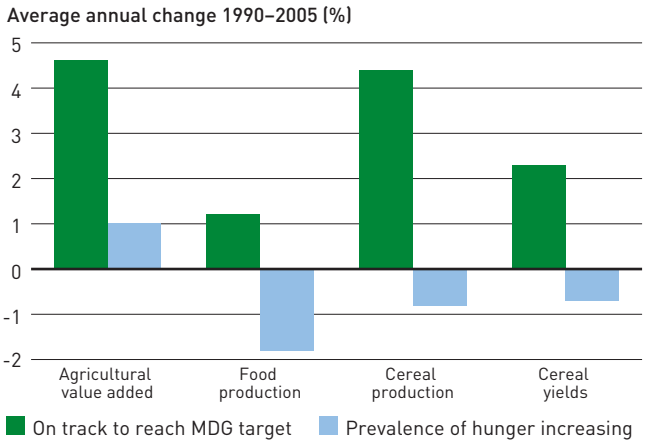


* Excluding the Democratic Republic of the Congo.

Source: FAO.

11

Growth in agriculture for best and worst performers in Africa



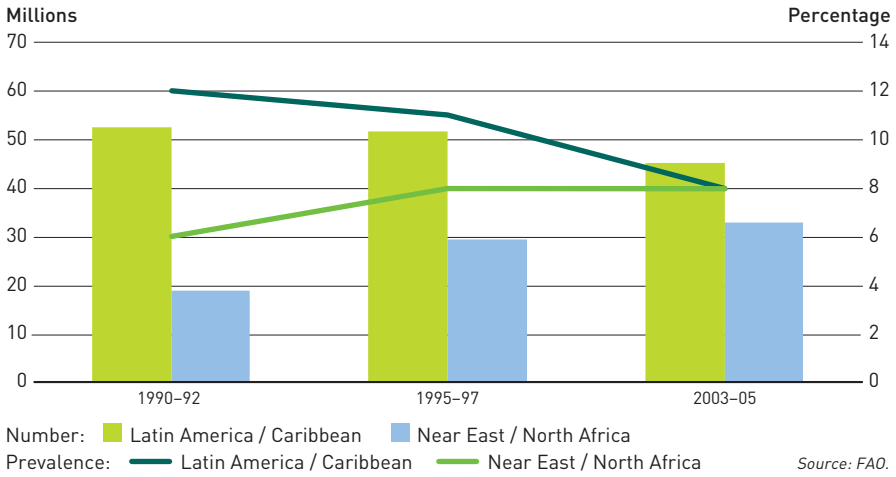
Source: World Bank.

Latin America and the Caribbean

Among all the subregions, South America has been the most successful in reducing hunger, with 10 out of 12 countries well on their way towards achieving the MDG 1 target. Backed by relatively high levels of national income, strong economic growth and strong productivity growth in their agriculture sectors, five countries in South America (Argentina, Chile, Guyana, Peru and Uruguay) have all reached the WFS and MDG targets.

12

Undernourishment in Latin America and the Caribbean and in the Near East and North Africa



Source: FAO.

However, elsewhere in the region, progress has not been as uniform. Costa Rica, Jamaica and Mexico have joined Cuba on the list of countries that successfully reached both the WFS and MDG hunger reduction targets in 2003–05. On the other hand, El Salvador, Guatemala, Haiti and Panama continue to experience difficulties in reducing the prevalence of hunger. Despite facing persistently high levels of political and economic instability, poverty and hunger, Haiti has seen a small reduction in undernourishment since 1990–92. However, with 58 percent of the population suffering from chronic hunger, it has one of the highest levels of undernourishment in the world.

Near East and North Africa

Countries in the Near East and North Africa region generally experience the lowest levels of undernourishment in the developing world. However, for the Near East as a whole, conflict

has had an important impact, with the total number of undernourished people nearly doubling from 15 million in 1990–92 to 28 million in 2003–05. This has largely been due to conflict in Afghanistan and Iraq, where the numbers of undernourished people have increased by 4.9 and 4.1 million, respectively. The number of undernourished has also increased in Yemen, where one in three (6.5 million people) suffers from chronic hunger.

For North Africa, FAO estimates that about 3 percent of the overall population were still chronically hungry in 2003–05 (4.6 million people as against slightly more than 4 million in 1990–92). While the prevalence of undernourishment is generally low, the entire Near East and North Africa region would have to reduce the number of chronically hungry people from the 33 million in 2003–05 to fewer than 10 million by 2015 for the WFS target to be reached.

Asia and the Pacific

Like other regions in the world, the Asia and Pacific region shows a mixed picture of success stories and setbacks in hunger reduction. Asia has recorded modest progress in reducing the prevalence of hunger (from 20 to 16 percent) and a moderate reduction in the number of hungry people (from 582 million to 542 million people). However, with a very large population and relatively slow progress in hunger reduction, nearly two-thirds of the world's hungry people still live in Asia. Among the subregions, South Asia and Central Asia have suffered setbacks in hunger reduction after achieving initial progress in some countries with large populations (e.g. India, Indonesia and Pakistan; see Table 1, page 48). On the positive side, the Southeast Asia subregion as a whole has been well on track towards achieving the MDG hunger reduction target, with Viet Nam being the only country that reached this target by 2003–05. Some, including Thailand and Viet Nam, have made good progress towards the more ambitious WFS target.

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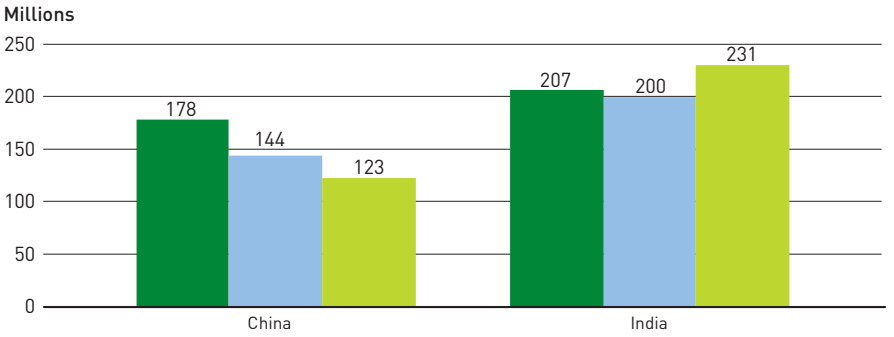
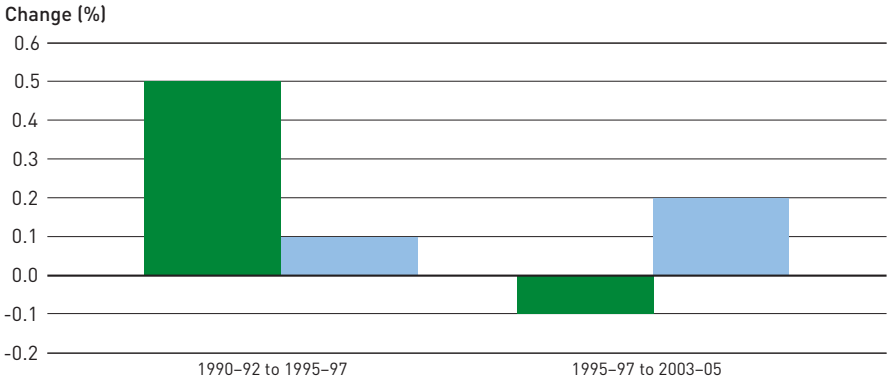
Revised estimates of undernourished in China and India



Source: FAO.

14

India: dietary energy requirements outpace supply



Source: FAO.

China and India

By virtue of their size, China and India combined account for 42 percent of the chronically hungry people in the developing world. The importance of China and India in the overall picture warrants some analysis of the main driving forces behind hunger trends.

After registering impressive gains between 1990–92 and the mid-1990s, progress in reducing hunger in India

Undernourishment around the world

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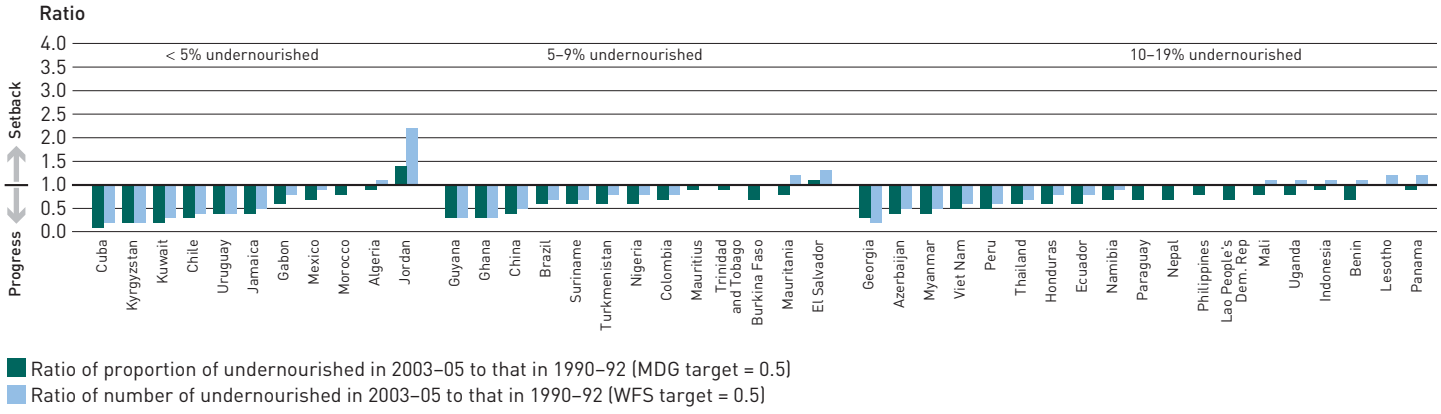
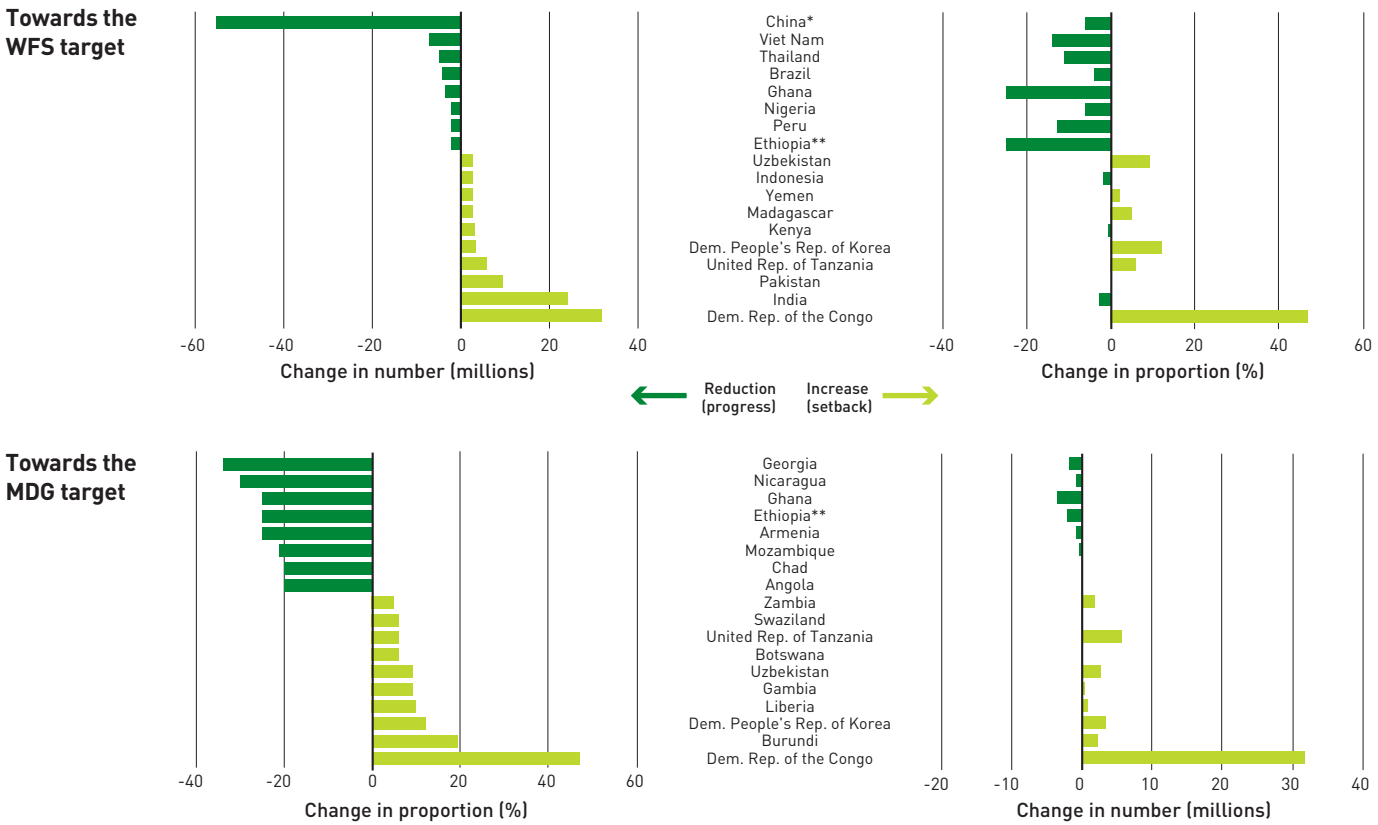
Progress and setbacks: ratios of number of undernourished and prevalence of undernourishment, 1990–92 to 2003–05



Ratio of proportion of undernourished in 2003–05 to that in 1990–92 (MDG target = 0.5)
Ratio of number of undernourished in 2003–05 to that in 1990–92 (WFS target = 0.5)

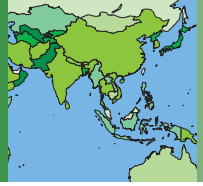
16

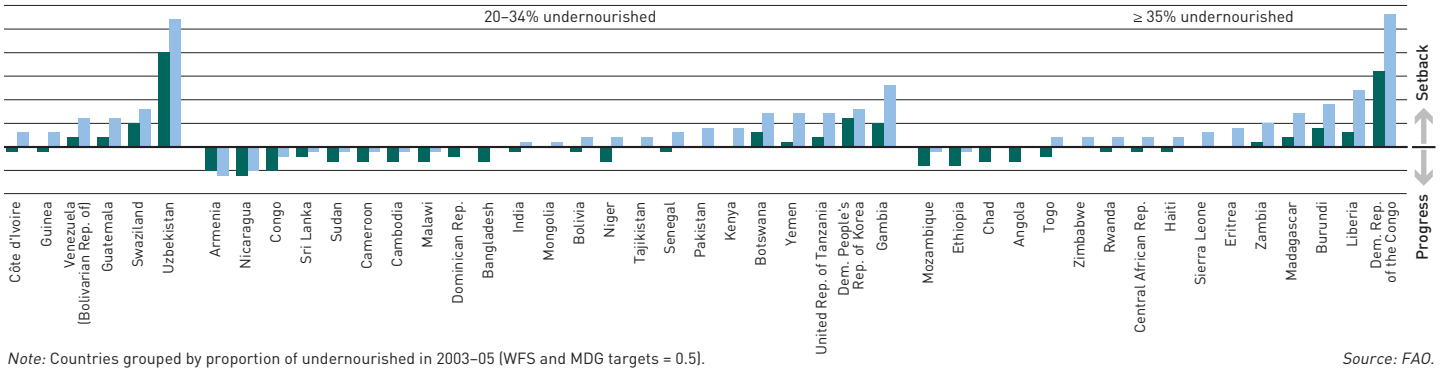
Progress and setbacks in reducing undernourishment



* Includes Taiwan Province of China. ** Estimates for former Ethiopia PDR used for 1990–92.

Source: FAO.





Note: Countries grouped by proportion of undernourished in 2003–05 (WFS and MDG targets = 0.5).

Source: FAO.

has stalled since about 1995–97. The high proportion of undernourished in India in the base period (24 percent) combined with a high population growth rate means that India has had a challenging task in reducing the number of undernourished (Table 1, page 48).

The increase in the number of undernourished in India can be traced to a slowing in the growth (even a slight decline) in per capita dietary energy supply for human consumption since 1995–97. On the demand side, life expectancy in India has increased from 59 to 63 years since 1990–92. This has had an important impact on the overall change in population structure, with the result that in 2003–05 the growth in minimum dietary energy requirements had outpaced that of dietary energy supply.

The combination of the declining per capita growth rate in total dietary energy supply and higher per capita dietary energy requirements resulted in an estimated 24 million more undernourished people in India in 2003–05 compared with the base period. The increased food needs of the ageing population amount to about 6.5 million tonnes per year in cereal equivalent. Nevertheless, the prevalence of hunger in India decreased from 24 percent in 1990–92 to 21 percent in 2003–05, marking progress towards meeting the MDG hunger reduction target.

Progress and setbacks by country

With the number of chronically hungry people in the world in 2003–05 at about the same level as in 1990–92 and rising steeply with soaring food prices, the WFS target of halving that number by 2015 has become much more challenging. Barely one-third of the developing countries included in FAO's estimates have succeeded in reducing the number of undernourished people at all since 1990–92. Of those, only 25 were on track in 2003–05, before the onset of high food prices, to achieve the WFS target. The challenge will be all the greater if high food prices persist, placing an even larger burden on fighting hunger.

Key monitoring ratios

Both the WFS and the MDG targets aim to "halve hunger" by 2015. The 1996 World Food Summit called for the *number* of hungry people to be reduced by 50 percent by 2015, while under MDG 1, countries have committed themselves to "halve, between 1990 and 2015, the *proportion* of people who suffer from hunger". To measure progress or setbacks in terms of achieving these targets, FAO calculates a simple set of ratios for each country, dividing the estimate of the most recent number or proportion of hungry people by the corresponding figure in the base period 1990–92. A value of 0.5 (one-half) means that the target of "halving hunger" has been reached. A value lower than 1.0 means that progress has been achieved, while a value higher than 1.0 implies a setback. Figure 15 presents the values for the WFS and the MDG hunger reduction targets separately for each country (data listed in Table 1 on page 48).

Undernourishment around the world

Hotspots and emergencies

The above analysis of long-term trends in undernourishment highlights the marked prevalence of chronic hunger in countries that have experienced food crises over several consecutive years. Food crises can emerge at any time and anywhere in the world as a consequence of severe adverse weather conditions, natural disasters, economic shocks, conflicts or a combination of these factors. In support of timely action to mitigate – and with the desire to prevent – a further deterioration in the food security situation of affected countries, the FAO Global Information and Early Warning System (GIEWS) continuously monitors the situation on all continents and maintains a list of countries that are in crisis. Many such countries remain on the GIEWS list for a long time, or appear frequently, and are regarded as having "hunger hotspots" – areas where a significant proportion of people are severely affected by persistent or recurring hunger and malnutrition. Figure 17 shows a map of countries in crisis that require external assistance (33 countries as of August 2008).

A retrospective analysis of the nature and underlying causes of past and ongoing food crises is crucial to the framing of appropriate emergency interventions and policy measures to address hunger hotspots. This analysis provides a basis for assessing the impact of the sharp rise in agricultural commodity, food and fuel prices on countries already in crisis (and on many others highly vulnerable to these price shocks). Given the uncertain impact of soaring food and fuel prices on countries, households and individuals around the world, the distinction between countries already "in crisis" and others "at risk" has become much less clear, and this presents a series of challenges for monitoring and for timely and appropriate early warning of impending food crises.

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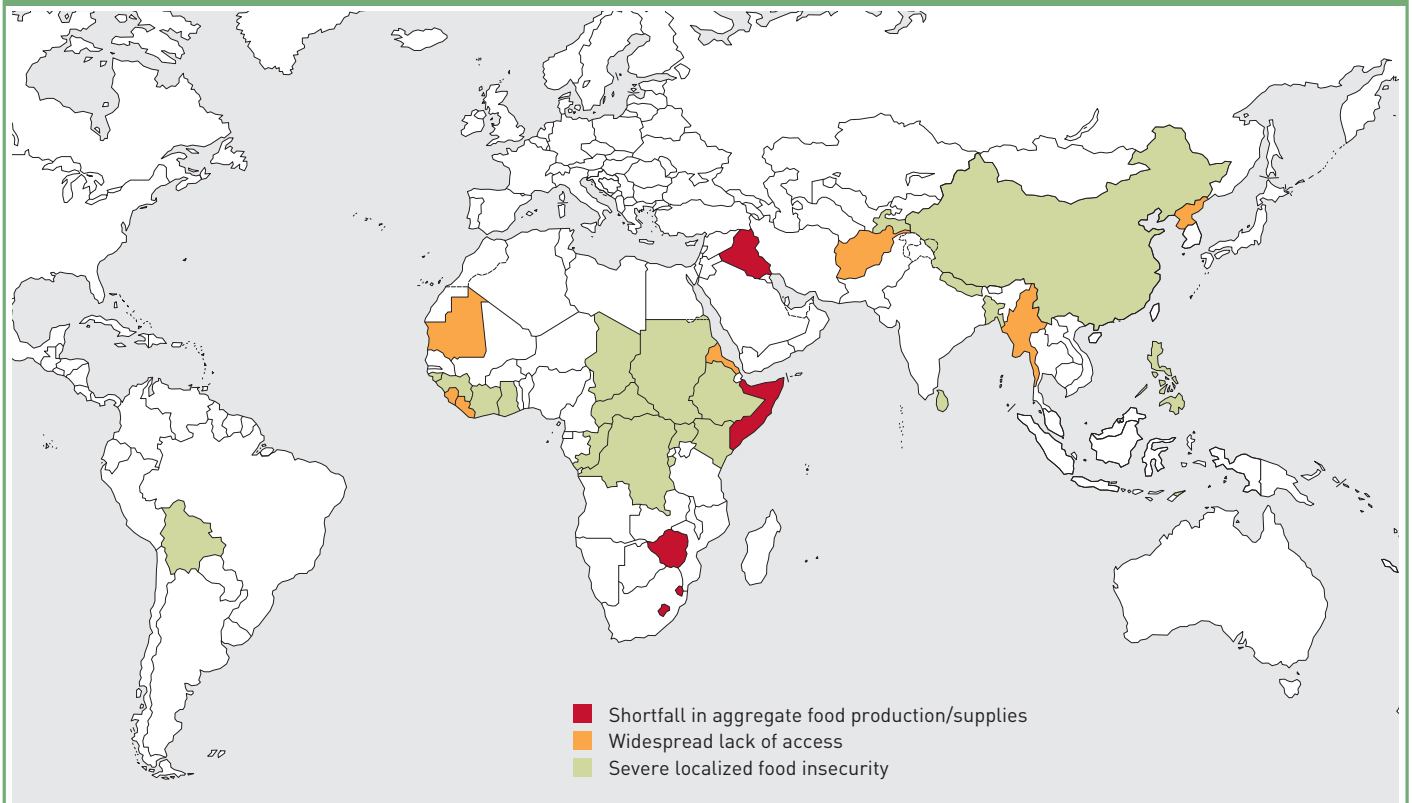
Countries facing food crises



Note: As of August 2008.

Source: FAO.

Trends in crises

In 2007, a record number of countries (47) faced food crises requiring emergency assistance, with 27 of these countries in Africa, 10 in Asia and the remaining 10 in other parts of the world. In the period 1993–2000, an average of 15 African countries faced food crises annually; that number has climbed to about 25 countries since 2001. Having faced severe food insecurity in one season, many countries remain on the list for several years owing to the lingering effects of drought and/or conflict and low resilience. Others appear on the list more sporadically and need careful monitoring.

As the number of countries facing food crises has risen in the past two decades, the underlying causes have become more complex. In many cases, human-induced disasters have compounded natural ones, ushering in complex and long-lasting crises. In other instances, human-induced crises have been aggravated by a natural disaster. Natural disasters were the primary cause of food insecurity until the early 1990s, with human-induced crises becoming more prominent in the past decade.

Natural disasters. Natural disasters can be classified as either "slow onset" (e.g. drought or prolonged dry spells) or "sudden onset" (e.g. floods, cyclones, hurricanes, earthquakes and volcanic eruptions). While the proportion of natural disasters has generally decreased over time, FAO/GIEWS data indicate that sudden-onset disasters – especially floods – have increased from 14 percent of all natural disasters in the 1980s to 20 percent in the 1990s and 27 percent since 2000. Worldwide, flood occurrence has risen from about 50 floods per year in the mid-1980s to more than 200 today.[5] Conversely, there has been a decrease in food emergencies caused by slow-onset natural disasters. As sudden-onset emergencies leave much less time for planning and response than slow-onset ones, these trends have important implications for mitigation measures and the mobilization of resources needed to prepare for, and respond to, emergencies in order to save lives and protect livelihood systems.

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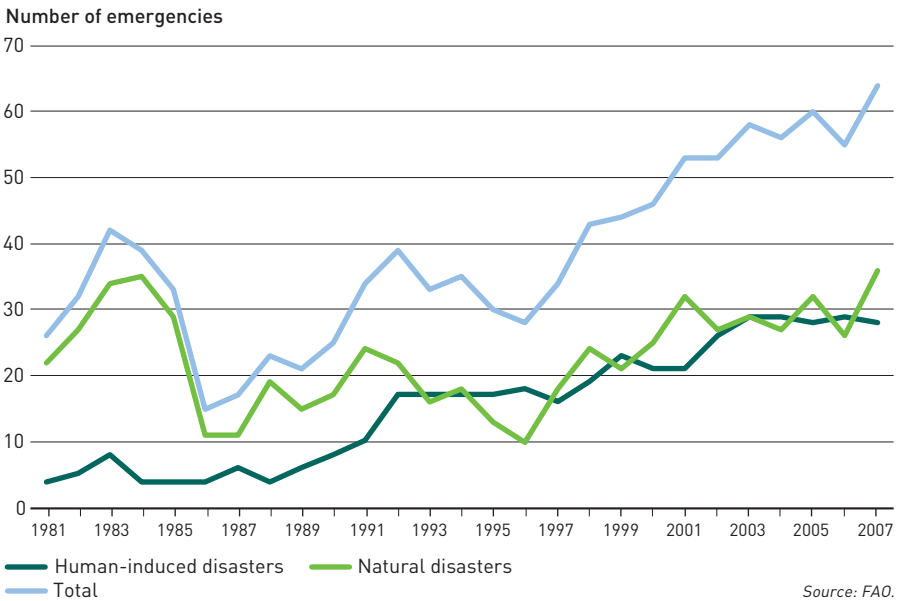
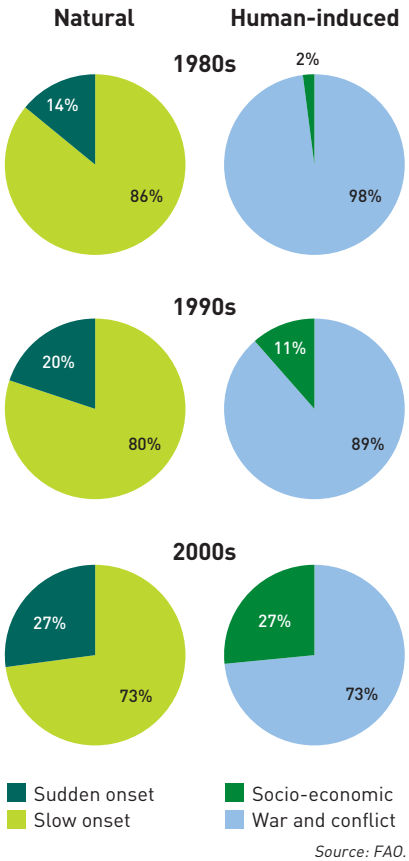
Causes of food emergencies, 1981–2007



Source: FAO.

19

Changing nature of natural and human-induced disasters



Source: FAO.

Undernourishment around the world

Socio-economic factors. Human-induced crises can be divided into war or conflict-related ones and disasters induced mostly by socio-economic shocks. The latter can in turn stem from internal factors (such as poor economic or social policies, conflicts over landownership or a deteriorating public health situation) or from external factors. External factors may include a collapse in a country's export commodity prices resulting in a loss of export earnings or a sharp increase in the price of imported food commodities (as in the last two years). The relative share of food crises caused by socio-economic factors has risen in the past three decades from about 2 percent in the 1980s to 11 percent in the 1990s and 27 percent since 2000. Although the relative share of countries with food crises caused by war and conflicts has declined, the absolute number of such crises has risen in the same period, with huge loss of life, destruction of assets and displacement of populations.

New dimensions of vulnerability

High food prices have affected countries in various ways, but their impact has been felt more severely in countries with a structural deficit in food production, where incomes are low, and where most households spend a high proportion of their limited budgets on food. Many of these countries already have high rates of undernourishment. Most actually fall within a typology developed by FAO in the 1970s (following a previous global food crisis) known as low-income food-deficit countries, or LIFDCs.[6] In 2008, a total of 82 LIFDCs are expected to spend nearly US$169 billion on food imports compared with US$121 billion in 2007, a 40-percent increase. The percentage rise for the basic grains component of their food imports is even greater – 50 percent. By the end of 2008, the food import bills of LIFDCs could cost four times as much as in 2000, representing a tremendous burden on these countries.

While LIFDCs as a group are spending considerably more for basic imported foods, there are large differences among countries and population groups. These differences depend on many factors, including: the degree of dependency on imports; food consumption patterns; the degree of urbanization; the extent to which international prices have influenced domestic consumer and producer prices for basic commodities (degree of price transmission); real exchange-rate movements; and the effectiveness of policy measures taken by governments to deal with the crisis.

For example, if one considers the nations that import most of their petroleum products and foodgrain requirements and also have high rates of undernourishment, these would include Eritrea, Haiti, Liberia, the Niger, Sierra Leone and Tajikistan.[7] Most are in sub-Saharan Africa and many are already on the GIEWS list of countries in crisis.

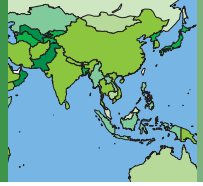
Investment implications

Donor countries and development agencies are particularly concerned with the need to prioritize emergency assistance and investment decisions in the context of the current global food crisis, and they are calling for lists of countries that are at risk.

FAO has recently completed an analysis of key factors determining the degree to which countries are vulnerable to high food prices, taking into account the extent to which they are net importers of energy products

Informal cross-border flows

Pakistan provides an illustration of the complexity of commodity price dynamics at the national and regional levels. The country is a relatively large regional producer and consumer of wheat, usually in a surplus situation. Wheat production in 2008 is down just over 6 percent from last year's record level, but wheat imports are expected to be between 2.5 and 3 million tonnes. Despite the government's strong intervention in the domestic wheat sector, prices have increased sharply since mid-2007. Indeed, by June 2008, they had nearly doubled their levels of a year earlier in deficit provinces. In this case, a major factor is that wheat prices in Pakistan are still much lower than in neighbouring countries, particularly Afghanistan (which has been struggling with a combination of unfavourable weather and insecurity). The large price differentials between the two countries have resulted in substantial informal cross-border flows and in Pakistan importing wheat from international markets. At the same time, a reduced capacity to subsidize fertilizer has resulted in a 60-percent increase in di-ammonium phosphate (DAP) fertilizer prices at the producer level, which has led to a sharp drop in its use and affected yields adversely.



Countries most at risk of deteriorating food security due to high food prices

In food crisis	At high risk
Central African Republic	Cameroon
Democratic Republic of the Congo	Comoros
Côte d'Ivoire	Djibouti
Eritrea	Gambia
Ethiopia	Madagascar
Guinea	Mongolia
Guinea-Bissau	Mozambique
Haiti	Nicaragua
Kenya	Niger
Lesotho	Occupied Palestinian Territory
Liberia	Rwanda
Sierra Leone	Senegal
Somalia	Solomon Islands
Swaziland	Togo
Tajikistan	United Republic of Tanzania
Timor-Leste	Yemen
Zimbabwe	Zambia

Source: FAO.

and of cereals (weighted by the proportion of cereals in dietary energy intake), relative levels of poverty and the prevalence of undernourishment. Results indicate that, in addition to countries already in crisis and requiring external assistance (some of which are listed on the left in the table), many others have been severely affected by high commodity prices, in particular of basic energy and food products. These include countries listed on the right in the table.[8]

Importantly, some countries not featuring on a list today may still fall into a food security crisis tomorrow, possibly owing to a sudden natural disaster, an outbreak of civil unrest, a financial crisis or a combination of factors. Bangladesh is one such example; the country still features in the GIEWS list of countries experiencing "severe localized food insecurity" following past flooding and the impact of cyclone Sydr in late 2007, but with a clear indication that the food security situation is improving. Bangladesh also features on the list of countries severely affected by high food prices, which calls for continued close monitoring of the situation. In other instances, food price increases in a given country are strongly influenced by the situation across its borders, as is the case of wheat prices in Pakistan.

Implications for early warning

Given such a highly dynamic global food situation, the GIEWS concept of "countries in crisis requiring external assistance" has had to be revisited. In addition to crises induced by natural events and occasional economic shocks, strong and sustained impacts of high food prices will put some countries already in crisis in a more precarious position or worsen the situation in other countries to the extent that they become countries in crisis.

GIEWS monitors food production, maintains supply and demand balances at the national level and produces global aggregates. In addition, it regularly monitors, analyses and reports on the world commodity markets and trade situation (including food prices) and provides prospects for the overall food situation. In order to strengthen these functions, while also providing policy advice and technical assistance to countries in a context of high food prices, GIEWS has been reinforcing its data collection and analysis capacity in three main areas:

- monitoring international and domestic commodity/food prices, including at the subnational level;
- monitoring policy measures taken by countries in response to high food prices;
- analysing the impact of high food prices on urban and rural households, taking into account the variables mentioned above.

In keeping its finger on the pulse of a continuously changing global food situation and in monitoring the many risk factors that make countries vulnerable to a possible sudden deterioration in their food security situation, GIEWS helps keep the world abreast of the latest developments.