

Undernourishment around the world

Counting the hungry: long-term trends in the developing world

Both the World Food Summit in 1996 and the Millennium Summit in 2000 set goals for reducing hunger by half between a baseline period (c. 1990) and the year 2015. The target date is drawing near, but the targets themselves are not.

Although significant progress has been made towards achieving the MDG target of halving the proportion of the population who are undernourished, the pace will need to be accelerated if the goal is to be reached by 2015.

Achieving the WFS goal of reducing the absolute number of hungry people from about 800 million to 400 million will prove more challenging, requiring much more rapid progress (see graphs, below). The world population is expected to grow by approximately two billion between the baseline period (1990–92) and 2015. So, even if the proportion of that larger population who are undernourished

is reduced by half, nearly 600 million people in the developing world will still suffer from chronic hunger. To reach the WFS target of 400 million, the proportion of the population who are undernourished would need to be reduced not by half, but by two-thirds.

Regional-level progress uneven

Among developing regions, only Latin America and the Caribbean has been reducing the prevalence of hunger quickly enough since 1990 to reach the MDG target by maintaining its current pace. The Asia–Pacific region also stands a good chance of reaching the MDG target if it can accelerate progress slightly over the next few years.

In the Near East and North Africa, on the other hand, the prevalence of hunger is low, but it is increasing, rather than decreasing. To reach the target, the region needs to reverse

the rising trend experienced in the past decade.

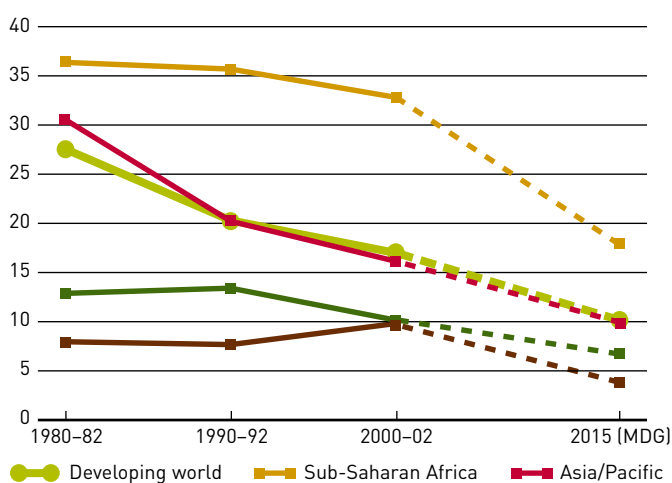
In sub-Saharan Africa, the prevalence of undernourishment has been decreasing very slowly, although the speed of progress improved in the 1990s. The region will need to step up the pace dramatically to reach the MDG target.

Progress towards the WFS goal has been even slower and more uneven. Global gains in the 1980s were owed entirely to progress in Asia. In all other developing regions, the number of hungry people actually increased.

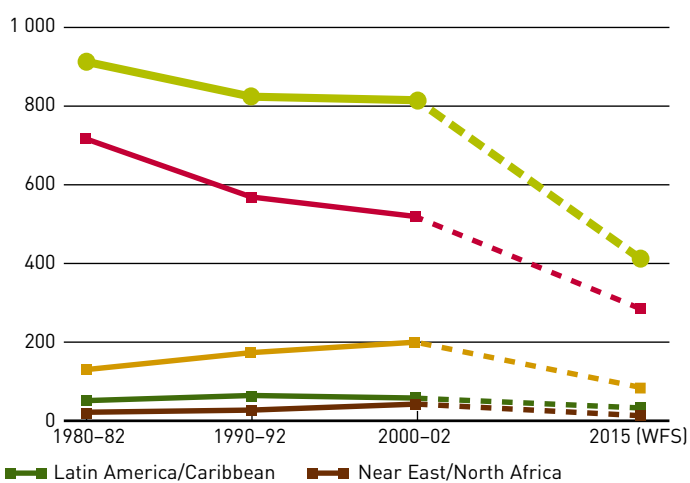
Since the WFS baseline period, progress has slowed significantly in Asia and stalled completely worldwide. Only Latin America and the Caribbean reversed the negative trend of the 1980s to register progress in the 1990s, although sub-Saharan Africa did succeed significantly in slowing the rise in the number of undernourished people.

Long-term trends in the proportion and number of undernourished by region, 1980–82 to 2000–02

Proportion undernourished (%)



Number of undernourished (millions)



Source: FAO

Country progress towards the MDG target

To gauge progress towards achieving the MDG target at the national level, it is useful to look at the ratio of the prevalence of hunger in 2000–02 to the prevalence in the baseline period, 1990–92.

Hunger is not a problem in six developing countries where fewer than 2.5 percent of the population are undernourished. Another seven countries have already effectively reached the MDG target by reducing the proportion of hungry people in their population by at least half.

More than 40 other countries are making progress towards achieving the target, although many will need to

step up the pace to reach it by 2015. 23 countries have seen little change, and in 14 countries the prevalence of hunger has been increasing.

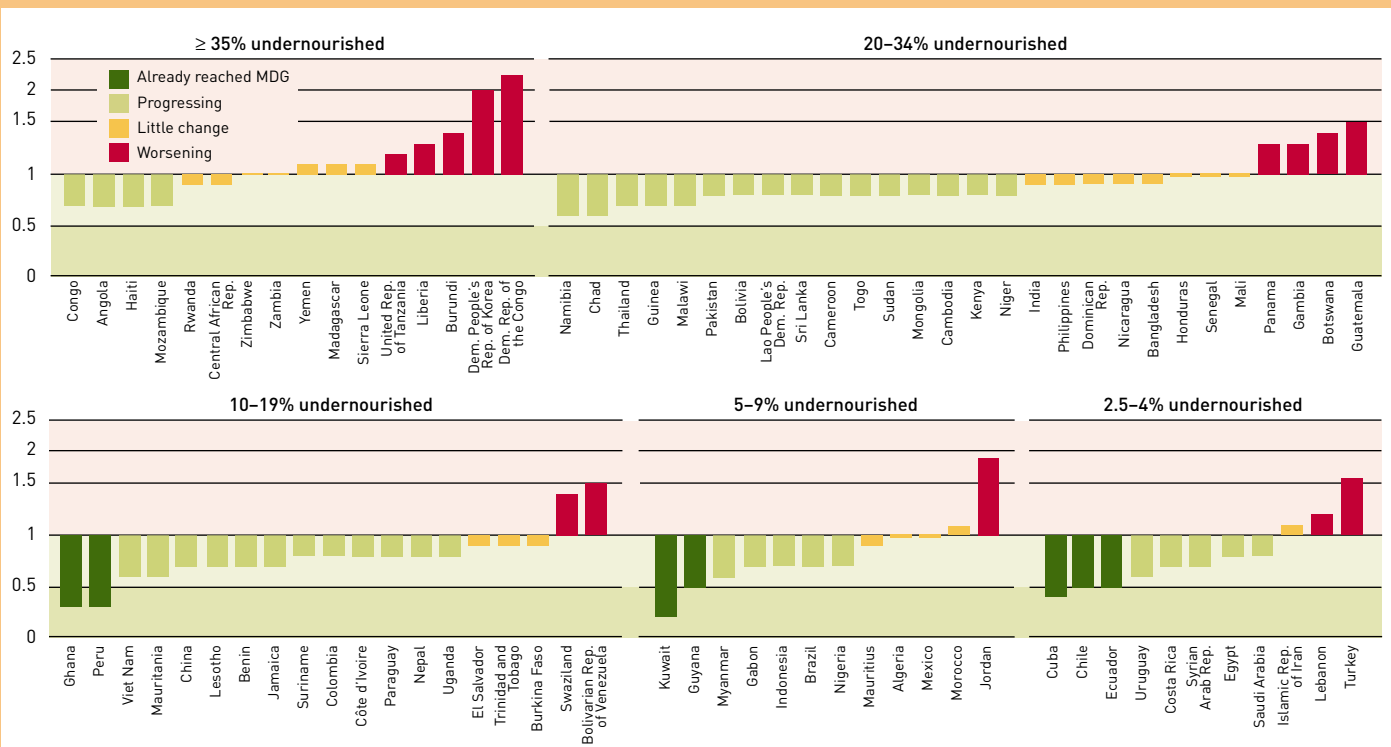
To put these numbers in perspective, it is important to take account of levels of hunger in these countries. If countries are divided into groups based on the current prevalence of undernourishment, it becomes apparent that progress has been most difficult where hunger is most widespread.

Only 4 of the 16 countries where more than 35 percent of the population are undernourished are making progress towards achieving the MDG target. None has yet reached it. The prevalence of undernourishment is either

increasing or effectively unchanged in the other 12 countries in this group, where hunger will remain a major problem even if the goal is reached.

Most of the countries in all other groups have succeeded in reducing hunger, including two-thirds of countries in the group where between 20 and 34 percent of the population are undernourished. None of the countries in this group has yet reached the target, however. At the other end of the spectrum, 15 of the 23 countries where fewer than 10 percent of the population are undernourished are making progress in reducing hunger, including five countries that have already reached the MDG target.

Progress and setbacks: ratio of prevalence of undernourishment in 2000–02 to prevalence in 1990–92
Countries grouped by prevalence of undernourishment in 2000–02 (MDG target = 0.5)



The graph does not include countries where the prevalence of undernourishment is less than 2.5 percent and those for which there are insufficient data, including Afghanistan, Iraq, Papua New Guinea and Somalia. Ethiopia and Eritrea are not included because they were not separate entities in 1990–92.

Source: FAO

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Economic growth and hunger reduction

Logic suggests, and ample evidence confirms, that sustained economic growth leading to increased productivity and prosperity at the national level will result in reduced hunger (see graph, below). That being the case, it is tempting to conclude that countries need only speed up economic growth to reach the hunger reduction targets of the MDGs and the WFS.

Cross-country analyses conducted across the developing world suggest, however, that economic growth alone, in the absence of specific measures to combat hunger, may leave large numbers of hungry people behind for a long time, particularly in rural areas. These analyses have also shown that economic growth has a far greater impact on hunger when it occurs in rural areas and in countries that have already created fertile conditions through rural and human resource development.

If rates of economic growth are compared for countries grouped

according to progress in reducing hunger, no clear pattern emerges (see graph). As might be expected, the group of countries where hunger increased during the 1990s also registered the worst economic performance. Far from growing, their per capita gross domestic product (GDP) shrank at an average rate of 1.4 percent per year. Every other group recorded gains.

Among these other groups, there is no evident correlation between the pace of economic growth and the rate of progress in reducing hunger. Paradoxically, the group that made the most rapid progress in reducing hunger registered relatively slow economic growth.

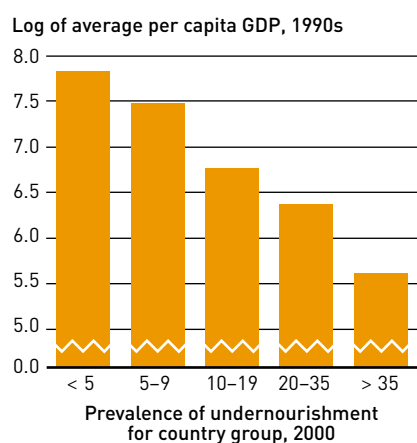
Similarly, if changes in GDP for individual countries during the 1990s are plotted against progress towards the MDG target of reducing the proportion of people who suffer from hunger by half, the trendline is almost flat (see graph). Examining changes over a longer period, however, reveals evidence that

economic growth and hunger reduction are indeed related. If progress towards the MDG target is plotted for countries that registered positive economic growth during both the 1980s and 1990s, the trendline is clearly steeper, indicating a stronger correlation between the pace of economic growth maintained over a longer period and the rate of progress in reducing hunger.

This trend suggests that sustained growth may have a cumulative and stronger impact on hunger reduction. It could also be interpreted as evidence that the impact of economic growth on hunger only becomes evident over time. An FAO study found that it takes longer for economic growth to have an impact on hunger reduction than for improved nutrition to stimulate economic growth.

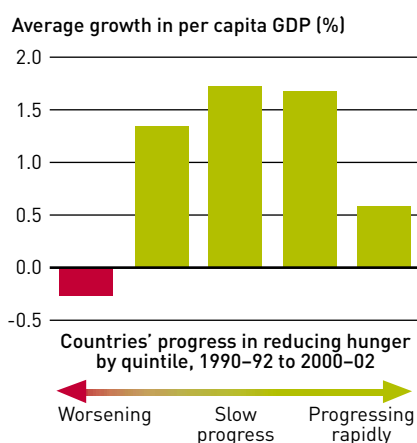
Certainly the relationship between economic growth and hunger reduction flows in both directions. An examination of the costs of hunger in *The State of Food Insecurity in the*

GDP in the 1990s and prevalence of undernourishment in 2000



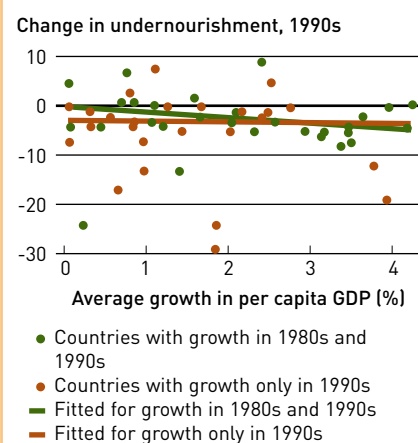
Source: FAO; World Bank

GDP growth in the 1990s and hunger reduction by quintile



Source: FAO; World Bank

Economic growth and hunger reduction



Source: FAO; World Bank

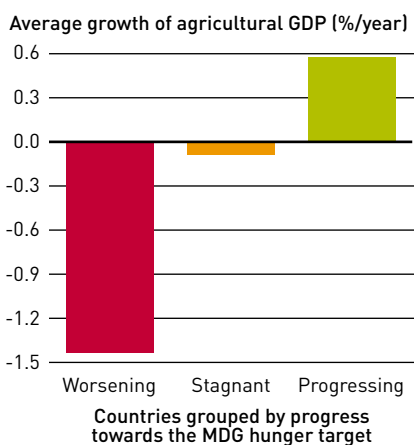


World 2004 concluded that the present discounted value of the loss of productivity over the lifetimes of people whose physical and cognitive capacities are impaired by low birth weight, protein-energy malnutrition and shortages of essential vitamins and minerals adds up to 5 to 10 percent of GDP in the developing world. Another FAO study analysed the relationship between nutrition intake and economic growth in Sri Lanka. It found that GDP growth responds quickly to improvements in nutrition, with a 1 percent increase in protein intake yielding a 0.49 percent increase in GDP in the long run.

The key role of agricultural growth

Numerous studies have provided evidence that the impact of economic growth on reducing hunger and poverty depends as much on the nature of the growth as on its scale and speed. A World Bank analysis of data from India, for example, found that growth in rural

Agricultural GDP growth in the 1990s and progress towards the MDG target



Source: FAO; World Bank

Economic growth and the reduction of hunger in Botswana and Peru, 1990–2000

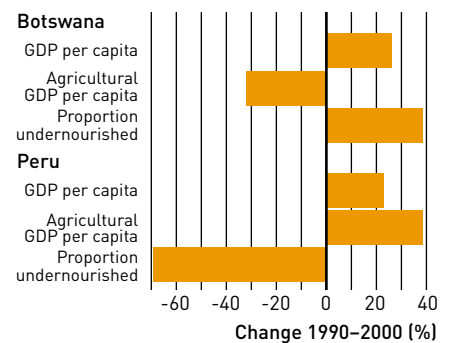
Both Botswana and Peru registered strong economic growth during the 1990s. But in terms of reducing the prevalence of hunger, the two countries parted ways. Peru reduced the prevalence of hunger by almost 70 percent to reach the MDG target 15 years ahead of schedule. In Botswana, on the other hand, the prevalence of hunger increased even as the national economy surged ahead.

Tellingly, the agricultural GDP in Peru grew even faster than the rest of the economy, fueled in part by diversification into value-added, non-traditional exports that boosted farm incomes and created processing jobs. The agricultural GDP in Botswana fell by almost 40 percent.

Many other factors contributed to the disparity between Botswana and Peru. Botswana has been hit extremely hard by

the HIV/AIDS pandemic, for example, with more than 35 percent of the adult population infected. In Peru, the infection rate is less than 1 percent.

Economic growth and hunger reduction in Botswana and Peru in the 1990s



Source: FAO; World Bank

areas and in the agriculture sector had a much greater impact on reducing poverty than did urban and industrial growth.

Analysis of the relationship between growth and reductions in hunger reveals a similar pattern. If countries are grouped based on their success in reducing hunger during the 1990s, the group that made progress towards the MDG hunger reduction target was the only one where the agriculture sector grew (see graph).

Comparisons within and between countries yield further evidence that the composition of growth matters. In India, for example, the prevalence of hunger decreased sharply during the 1980s, while the agriculture sector thrived and the national economy stagnated. But progress in reducing hunger stalled during the second half of the 1990s, precisely

when the national GDP took off and agricultural growth stumbled. A similar link between agriculture sector growth and hunger reduction can be seen when comparing Botswana and Peru – countries that both boasted rapid growth in GDP in the 1990s, but with different impacts on hunger (see box).

These and other examples tend to support the conclusions that economic growth alone is important, but not sufficient to reduce hunger, and that growth in the agriculture sector of developing countries has a much greater impact in reducing hunger than do urban and industrial growth. Furthermore, progress also hinges on many other factors, including rates of HIV infection, trade openness and political stability, control of corruption and other features often grouped under the rubric of “governance” (see pages 10–11).

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The role of governance in hunger reduction

Analysis of the impact of economic growth on hunger and poverty suggests that initial conditions make a big difference (see pages 8–9). Poverty falls significantly faster and farther when growth occurs in places where the political situation is stable, corruption is rare and farm productivity and literacy rates are high. Many of these favourable initial conditions can be regarded as indicators of what is often called “good governance”.

Definitions and measures of governance vary considerably. The World Bank defines it as “the set of traditions and institutions by which authority in a country is exercised” and gathers more than 350 variables to compile six aggregate indicators.

Other development agencies, such as the International Food Policy Research Institute (IFPRI), have argued that good governance extends to providing essential “public goods”, ranging from peace and security to roads and electricity in rural areas. Advocates of a “rights-based” approach to development maintain that good governance must also include support for essential human rights, including the right to food.

All three of these dimensions of governance are important to reducing hunger and achieving food security.

World Bank indicators

Economic analysis confirms that the World Bank’s governance indicators can be used to differentiate, with considerable accuracy, between those developing countries that have achieved relatively low levels of hunger and those that have not. Using just four of the indicators – political stability, government

effectiveness, rule of law and control of corruption – it is possible to differentiate accurately for two-thirds of the countries, without referring to any other factors that are known to be important for hunger reduction, such as economic and agricultural growth (see pages 8–9), education levels and the degree of inequality in access to food.

These governance indicators are far less successful, however, in differentiating between countries that made progress in reducing hunger during the 1990s and those where the prevalence of undernourishment has remained unchanged or has increased (see graph).

As might be expected, countries where food security deteriorated were also the least stable politically, had the weakest rule of law and had the most rampant corruption. Many were countries where conflict had shredded the political and legal fabric of governance. But these same governance indicators were also slightly negative for the group of countries that succeeded in

decreasing undernourishment. As a group, only the countries where hunger remained unchanged scored positive marks on the World Bank governance indicators.

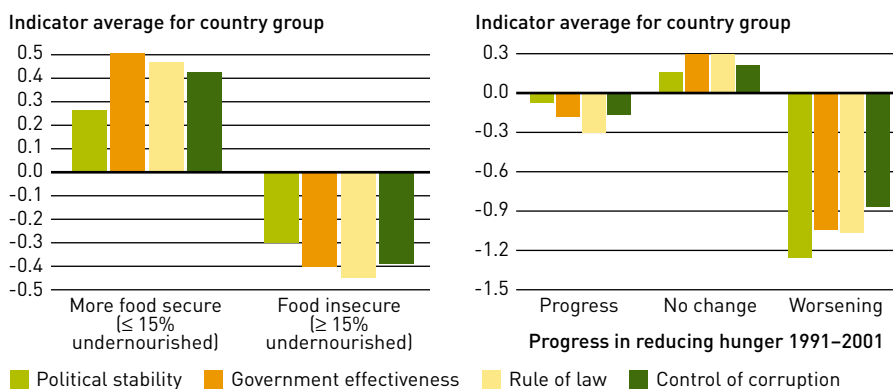
This analysis suggests that the absence of these aspects of good governance can be a major obstacle to hunger reduction but that achieving progress depends on many other factors.

Delivering essential public goods

Many of these other factors are included among the “public goods” cited by IFPRI as responsibilities and indicators of good governance. Internal peace, rule of law, rural infrastructure and agricultural research, for example, are all essential for increasing agricultural production and reducing hunger and poverty in the rural areas that are home to three-quarters of the world’s hungry people.

When governments cannot preserve internal peace, violent conflict disrupts agricultural production and access to food. In Africa, per capita food production

Governance indicators, food security and hunger reduction in the 1990s



Source: World Bank; FAO



has dropped by an average of 12.4 percent during times of conflict.

Weak rule of law also erodes agricultural productivity and food security by making land tenure and contracts precarious and investment unattractive. Failure to develop roads, electricity and communication links in rural areas makes it difficult and expensive for farmers to get their produce to market and to obtain fertilizer and other agricultural inputs.

Studies in China and India have identified building roads as “the single most effective public goods investment in terms of poverty reduction” (see graph). Evidence suggests that it has a similar impact on reducing hunger. When China introduced secure household land contracts and started investing heavily in rural infrastructure and agricultural research in the late 1970s, agricultural production soared and hunger fell rapidly. Over the next two decades, total grain output increased by 65 percent and the prevalence of hunger was reduced by almost two-thirds.

Tellingly, rural infrastructure tends to be least developed in countries and regions with the highest levels of hunger. Road density in Africa in the early 1990s, for example, was less than one-sixth the density in India around the time of independence, in 1950 (see graph).

Another way of gauging governance is to consider how well government investment in agriculture and agricultural research corresponds with the sector’s importance to the national economy and well-being. In the countries with the highest levels of hunger, where an average of about 70 percent of the population depend on agriculture, the share of public

budget expenditures invested in agriculture in proportion to the importance of agriculture to the national economy falls far below the scale of investment in countries where the incidence of hunger is lower (see graph).

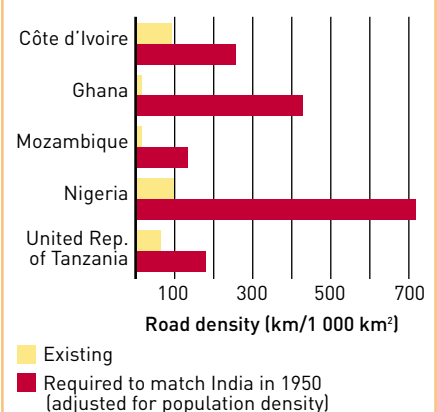
Governance and the right to food

The affirmation at the World Food Summit of the “fundamental right of everyone to be free from hunger” highlighted another dimension of good governance – the obligation of states to respect human rights and fundamental freedoms. And the adoption in 2004 of “Voluntary guidelines to support the progressive realization of the right to adequate food in the context of national food security” by the FAO Council provided a practical tool to assist national efforts to fulfil that obligation.

The impact on governance and food security can be seen in several countries that have already recognized a “justiciable” right to food. In India, for example, the Supreme Court mandated cooked

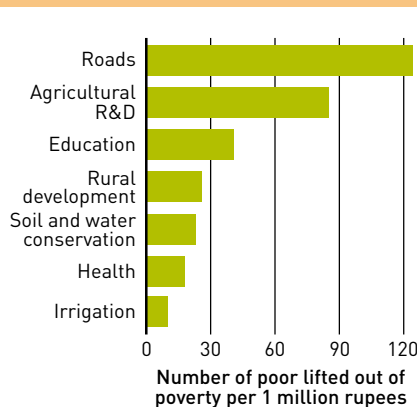
lunches in all of the country’s schools. Both nutrition and school attendance have improved dramatically where the programme has been implemented, particularly among girls. Given the critical role of maternal nutrition and education in breaking the cycle of hunger and poverty, the benefits will be felt for generations to come (see pages 16 and 20).

Rural road density in selected African countries, early 1990s



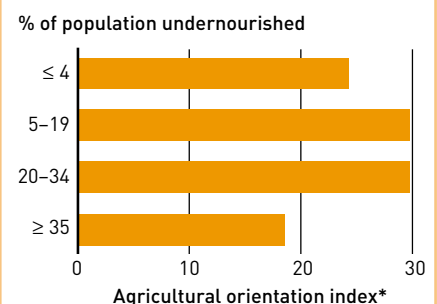
Source: Spencer

Rural public investment and poverty reduction in India



Source: Fan et al.

Commitment to agriculture for countries grouped by prevalence of undernourishment



* The share of agriculture in public-sector expenditure divided by the share of agriculture in GDP.

Source: FAO

Undernourishment around the world

Hunger hot spots: the complex impact of natural disasters

The reasons are complex, but the trend is clear – natural disasters have become more frequent, more deadly and more costly. One simple measure proves the point: the average annual loss from hurricanes, droughts, earthquakes and other natural disasters during the 1990s was nine times higher than it had been three decades earlier (see graph).

The impact of natural disasters is much greater on poorer countries than on wealthier countries, in both absolute and relative terms. Their populations often cannot afford to relocate from disaster-prone areas or to make their homes and farms less vulnerable. Their economies and infrastructure tend to be less diverse and more fragile, so a natural disaster can set back the entire development process.

Natural disasters can also affect food security in uneven or complex ways. Their impact on different communities and groups varies according to people's locations, occupations and social status, as well as being divided along

economic, political and cultural lines. Evidence of this can be seen in the effects of two recent disasters – the drought and desert locust infestation that scoured North and West Africa in 2003–04, and the Indian Ocean earthquake and tsunami in 2004, especially as it struck the Indonesian province of Aceh.

Drought and locusts in Africa

In late 2003, favourable weather conditions led to a sharp increase in desert locust populations in the Maghreb and part of the Sahel. FAO issued warnings of a locust infestation. By early 2004, swarms of locusts were spreading across North and West Africa and beyond, ranging as far as Cyprus, Egypt, Guinea and Yemen. Most of the swarms stayed in northwestern Africa and the Sahel, however, feeding on crops and natural vegetation.

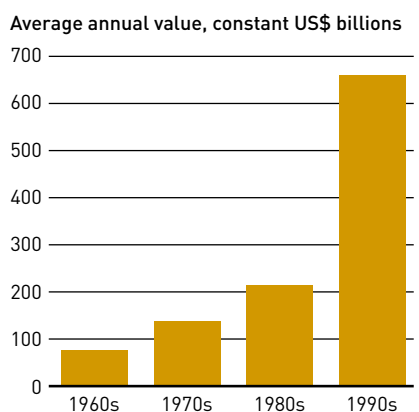
Rainfall in the Sahel follows a gradient, becoming scarcer the further north one goes until it gives out almost entirely in the Sahara. The southern part of a country such

as Mali, for instance, receives about twice the annual rainfall of the northernmost inhabited areas. The pattern of agricultural activity mirrors the rains, with intensive farming concentrated along the southern fringe, subsistence agriculture and livestock-raising in the middle, and nomadic goat- and camel-herding in the extreme north.

In 2004, differences in rainfall were more pronounced than usual. Drier areas of the north suffered a severe drought, while rainfall increased in the wetter areas of the south (see map). Desert locusts, which are extremely sensitive to environmental conditions, tended to prefer the dry weather and scant vegetation of the north. They completely devastated northern pastures and crops that are marginal in the best of years and largely spared the lush areas of the south.

Since the southern areas produce the greater share of the food, most countries in the region were spared a major disaster. Regionwide, agricultural production in 2004 was

Economic losses from natural disasters



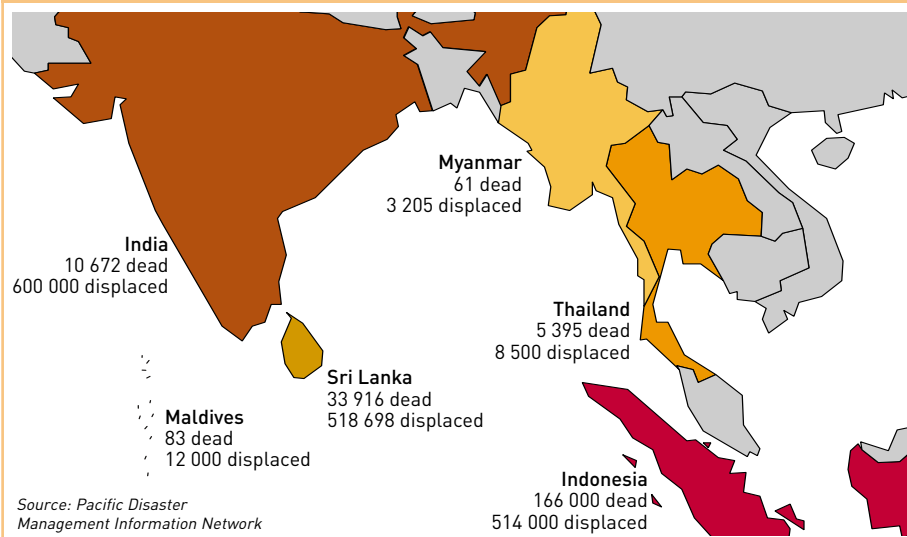
Source: UNDP

Locusts and changes in rainfall and vegetation in the Sahel, 2003–04



Source: FAO

Impact of the tsunami on Indian Ocean countries



close to the five-year average. But the locust swarms had a catastrophic impact on Mauritania, where they stayed the longest, and on the northern areas of other countries. Many northern herders moved south with their livestock, sparking conflicts over land and water resources. Others were forced to sell their animals at a loss or to abandon their farms. For many of the most impoverished areas and population groups of the Sahel, the situation would remain desperate until the October 2005 harvest, prompting several countries to launch an emergency appeal in May.

The Indian Ocean tsunami

The earthquake that struck off the coast of Sumatra, Indonesia, on 26 December 2004 was the strongest in 40 years. It triggered a tsunami that caused an estimated 240 000 deaths and displaced more than 1.6 million people from their homes. Fisheries and coastal

agriculture were destroyed in many areas, depriving communities of their main sources of food and income. The impact on national economies varied greatly. In a large country like Indonesia, economic damage was severe locally but relatively insignificant nationwide, amounting to an estimated 2.2 percent of GDP. In the Maldives and several other small countries, on the other hand, the tsunami swept away as much as 60 percent of annual GDP.

The impact on food security was also very uneven. The limited agriculture sectors of small island states like the Maldives and Seychelles were ravaged. Rice production in Indonesia, Sri Lanka and Thailand was not severely affected at the national level.

Many coastal provinces suffered severe damage, however, often in the very communities plagued by high levels of poverty and hunger before the disaster. Nearly 30 percent of the population in the

Indonesian province of Aceh, for example, lived below the poverty line before the tsunami, almost twice the national average. More than 35 percent of children below the age of five were already underweight. With fishing boats, nets and other equipment destroyed and many fishing families uprooted, the output from both marine and coastal fisheries in Aceh was expected to fall by half in 2005. Although the province was still expected to produce a rice surplus of 200 000 tonnes, many coastal farmers lost two consecutive paddy seasons.

In Aceh, as in Sri Lanka, food security problems were exacerbated by long-standing conflict between the government and a separatist movement. After the tsunami, persistent insecurity complicated emergency relief and rehabilitation activities.

Natural disasters and development

As these two different emergencies illustrate, even when natural disasters do not reduce aggregate food supplies substantially, they can have a catastrophic impact on certain population groups. Often the poorest and most vulnerable are hardest hit, worsening poverty and malnutrition. Disasters also affect fragile livelihoods to such an extent that populations are displaced and long-term rehabilitation is required. Finally, they tend to affect countries that are both poor and unprepared, setting them back on the path to development.

This devastation is why the World Conference on Disaster Reduction that was held in Kobe, Japan, in January 2005 strongly emphasized the need to build disaster prevention and mitigation explicitly into national development strategies.