THE WORLD FOOD SITUATION
AN OVERVIEW

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CURRENT FOOD AND NUTRITION SITUATION

While 2004 and 2005 were promising in terms of renewed attention to reducing hunger, the world still faces the large and familiar problems of widespread hunger and malnutrition. In addition, it is becoming clearer that hidden hunger due to micronutrient deficiencies is widespread. At the same time, over-consumption and the chronic disease problems that accompany it are creeping into poor families (Figure 1).

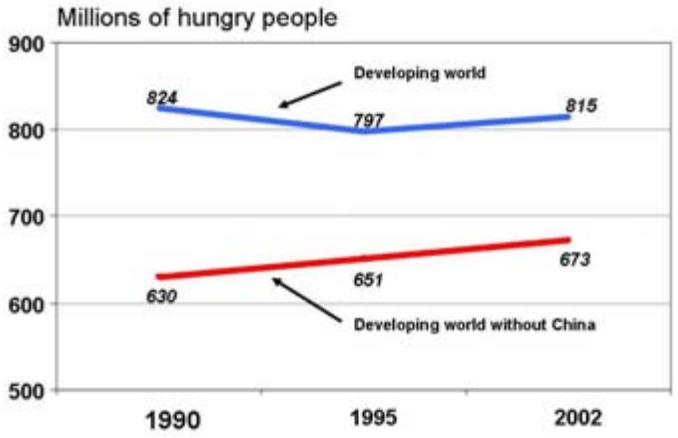
Figure 1—Old and new global food and nutrition problems

Type	Causes	People affected
Hunger	Deficiency of calories and protein	0.9 billion
Underweight children	Inadequate intake of food and frequent disease	126 million
Micronutrient deficiency	Deficiency of vitamins and minerals	More than 2 billion
Overweight to chronic disease	Unhealthy diets; lifestyle	Increasing also among the poor

Source: Based on data from FAO 2005a, UN/SCN 2004, Micronutrient Initiative and UNICEF 2005

Progress toward reducing hunger has been slow in the past decade (Figure 2). During the 1990s, developing countries reduced the number of undernourished people by only 9 million (FAO 2005a), representing a mere 1 percent of the total of undernourished people. The progress in reducing hunger has been uneven across regions and countries. While China has been able to cut the number of undernourished since 1990, the rest of the developing world shows increased hunger. The situation in Sub-Saharan Africa is particularly dire with the number of hungry people increasing by 20 percent since 1990.

Figure 2—Hunger in the developing world



Source: FAO 2005a

Similarly the number of underweight children is estimated to have increased in most parts of Africa between 2000 and 2005, while there were noted decreases in all other developing-country regions (UN/SCN 2004) (Figure 3).

Micronutrient deficiencies (a key issue being addressed from a crop technology innovation and delivery angle by the CGIAR's HarvestPlus Challenge Program), pose a vast global health problem. Vitamin A deficiency, iron deficiency anemia, and zinc deficiency increase the probability of early death for children and women, impair IQ development in children, and lead to a large loss in quality of life, productivity, and economic growth in developing countries. Iron

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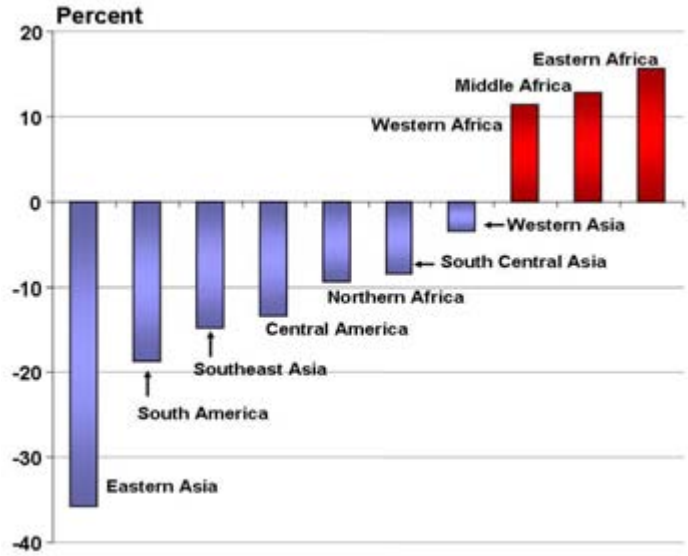
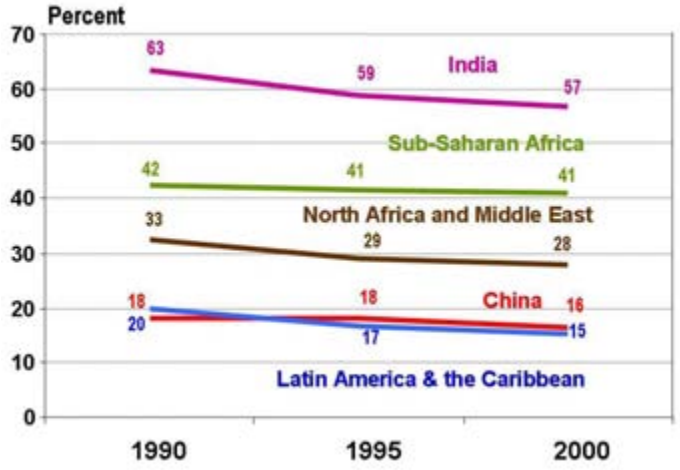
deficiency anemia affects 70 percent of non-pregnant women in India and almost 50 percent in Sub-Saharan Africa. Vitamin A deficiency affects the immune system of approximately 40 percent of children under five years of age living in developing countries and leads to approximately 1 million child deaths every year. In some countries the impact is more severe; in India almost 60 percent of preschool children suffer from vitamin A deficiency (Micronutrient Deficiency and UNICEF 2005) (Figure 4).

Figure 3—Percent change in number of under-nourished children, 2000-2005



Source: UN/SCN 2004

Figure 4—Vitamin A deficiency in preschool children

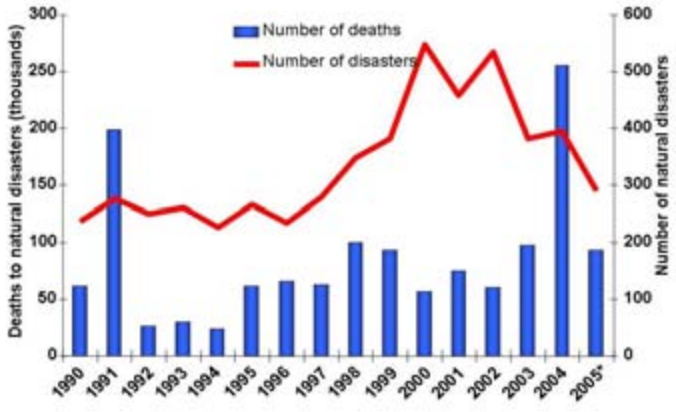


Source: Micronutrient Initiative and UNICEF 2005

Food Crises and Disasters: In December 2004, countries bordering the Indian Ocean were swept by a tsunami that claimed the lives of more than 280,000 people and displaced 1.5 million people from their homes. Fisheries and coastal agriculture were severely damaged. In Sri Lanka, for example, 75 percent of the fishery sector was affected, with many small fishers losing their lives and most losing their equipment and gear. In India, 300,000 fishers were made jobless. Furthermore, productive lands have been lost due to massive erosion and salinity infusion.

The Indian Ocean tsunami is one in a series of recent powerful natural disasters affecting developed and developing countries—from unexpected occurrences like earthquakes, floods, and cyclones to less immediate and evolving hazards like droughts and environmental degradation. The October 2005 South Asia Earthquake affecting Pakistan and India has resulted thus far in about 75,000 human casualties, and about $330 million loss in livestock, crops, and agricultural equipment (ADB/World Bank 2005). The trend in the past two decades shows an increase in both the number of natural disasters and the number of people killed by them (Figure 5). In the past two years the number of deaths from natural disasters has been far above the past decade's average (EM-DAT 2005).

Figure 5—Lives lost to and number of natural disasters, 1990–2005



Source: EM-DAT 2005, and author's estimate for 2005

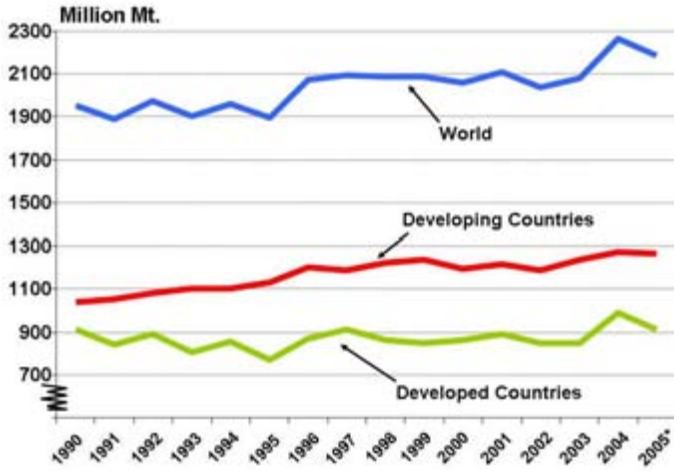
Other disasters that lead to food crises are manmade. Large numbers of people throughout the developing world are still affected by armed conflicts and wars. Fortunately, data show that since the early 1990s, the number of armed conflicts has fallen by more than 40 percent and the number of wars has fallen by 80 percent (Human Security Center 2005). Nevertheless, there are continuing conflicts—such as in Darfur

and Iraq—that remain a source of poverty and hunger for hundreds of thousands of people.

The 2004–05 food crisis in the Sahel—especially in Niger—demonstrates the limitations of the current global humanitarian response system. In fall 2004, following inadequate rains and a serious locust invasion, Niger experienced 75–80 percent increases in grain prices and severe food shortages in some areas (FAO/WFP 2004). NGOs working in Niger reported child malnutrition rates of two to six times normal levels (in a country with the world's second highest under-five mortality rate even in normal years). Yet early warnings and aid appeals from the government and the United Nations in 2004 and early 2005 went largely unheeded for far too long. A robust response to the first of these repeated calls for help would have meant the difference between a humanitarian catastrophe and a serious food problem.

World Food Production: World cereal production in 2004 exceeded 2 billion tons—a record level and an increase of approximately 9 percent over the previous year (Figure 6). Most of the increase occurred in developed countries, in particular the United States and the European Union. Developing countries experienced a rise in cereal production of 3 percent. The large increase in cereal production led to a build-up of world cereal stocks, the first increase of stocks in five years (FAO 2005b). But cereal production is expected to decline in 2005, indicating continued need for attention to the impacts of variability.

Figure 6—World Cereal Production, 1990–2005



Source: FAOSTAT 2005
* Estimated.

Behind the global stability suggested by Figure 6 are large changes by regions, by crops, and by the technologies used for production. Especially noteworthy from a global perspective is the expansion of agriculture output in Brazil in the past five years.

The global area planted with biotech (GMO) crops has steadily increased during the past nine years. By 2004, about 8.3 million farmers in 17 countries were growing such crops. Developing countries participated in this growth representing now more than 30 percent of all area planted with biotech crops. Furthermore, the growth of acreage under biotech crops in developing countries exceeded that of developed countries for the first time during the past nine years (James 2004). Biotech products developed by public-sector agricultural research systems of developing countries are increasingly appearing in developing countries (Cohen 2005). The work of the CGIAR centers on biosafety and biodiversity remains critical for sustained long-term agricultural growth.

Simply noting the old and new developments of the world food situation gives only limited guidance for responding to opportunities and threats. We therefore have to look into the changing forces that drive the world food situation.

Drivers Affecting the World Food Situation

Today, the world food situation is subject to a number of new developments, such as new global and national policy initiatives, changes in the global agri food business, and rising energy prices.

Aid and Global Policy: Since the adoption of the Millennium Development Goals (MDGs) in September 2000, poverty has climbed to the top of the global development agenda, leading to a paradigm shift in development thinking and economic policies across the globe. The year 2005 saw a remarkable array of high-level initiatives for addressing poverty and hunger and a new focus on agriculture and rural areas, where most hunger persists (For an assessment of these see the draft report prepared by the Expert Group on Poverty and Hunger for the Global Governance Initiative 2005).

The United Nations and its Millennium Project issued several new reports and guidelines related to the MDGs in 2005. Among them was a report by the Task Force on Hunger, *Halving Hunger: It Can Be Done* (UN Millennium Project 2005), which presented an agenda of the highest priorities for

action to be considered for cutting hunger in half. These priorities consisted of policy reforms; the creation of an enabling environment; and measures to increase the agricultural productivity of food-insecure farmers, improve nutrition for the chronically hungry and vulnerable, reduce the vulnerability of the acutely hungry through productive safety nets, and increase incomes and make markets work for the poor.

In March 2005, the Commission for Africa, chaired by Prime Minister Blair, released its report *Our Common Interest*. The Commission made strong recommendations in a number of areas, notably governance and capacity building as well as peace and security. It called for doubling aid to Sub-Saharan Africa—that is, increasing aid by an additional US$25 billion per year by 2010. The Commission also recommended a review of progress in 2010, with a possible second stage involving a further US$25 billion a year to be issued by 2015. For poor countries in Sub-Saharan Africa, it called for 100 percent debt cancellation (Commission for Africa 2005).

Africa also featured prominently at the G8 Summit, held in July 2005 in Gleneagles, Scotland. Along the lines of the Commission for Africa recommendations, the G8 leaders agreed to

- double aid for Africa by US$25 billion a year by 2010; and
- cancel 100 percent of the multilateral debts of the highly indebted poor countries (HIPC) and adopt a special package of debt cancellation for Nigeria worth around US$17 billion (G8 2005).

If actually implemented, these decisions on aid for Africa constitute a major accomplishment. There are concerns, however, about whether all these commitments and pledges will translate into actual new disbursements rather than money shuffled from other aid uses. Changing an unfortunate trend of past years, the World Bank's investment for agriculture and rural development increased in 2004/05.

Global Trade Policy: Aid alone will not facilitate the achieving of the MDGs. Creating improved trade opportunities for the developing countries are a key element of the agenda. The Doha Development Round of the WTO is yet to show results for farmers in developing countries by reducing domestic support in OECD countries and increasing market access. But the negotiators thus far have missed every deadline to reach agreement on reducing agricultural subsidies and other protectionist measures that hurt small-scale farmers in developing countries. It is crucial to strengthen a rules-based system of fair trade through a three-pronged approach:

1. Industrialized countries should improve access to their markets;
2. Developing countries should do their part, as well, to reduce trade restrictions; and
3. Wealthy countries should provide more assistance to connect poor farmers to markets.

Food safety concerns are and will be even more important for livestock product trade which offers so much opportunity for small farmers. But today large parts of international trade are restricted because of animal diseases and the threat of avian flu looms large. The CGIAR's work on animal diseases has an even more important role to play in addressing these concerns.

National and regional policy initiatives: International initiatives can only set the context for appropriate action at the country level, where policies are formulated, budgets are set, and programs are established. In 2005, some of the world's largest developing countries made significant policy improvements, driven largely by domestic political pressure. China is increasingly paying attention to issues of equity, not just growth. In September 2005 the Politburo, China's top policymaking body, pledged to spread the benefits of economic growth more fairly among all levels of Chinese society, and in particular to close the gap between cities and the countryside. India's 2005–06 budget has allocated substantially more resources for agriculture and rural development, including water resource management and programs for education, health, and employment for poverty reduction. Brazil has substantially increased resources to its Fome Zero (Zero Hunger) program from R$5.7 billion in 2003 to R$12.2 billion for 2005 (www.fomezero.gov.br). Because of the time requirements of the budgetary process, it is only now in 2005, two years after the initiative was announced, that large-scale effects can be expected.

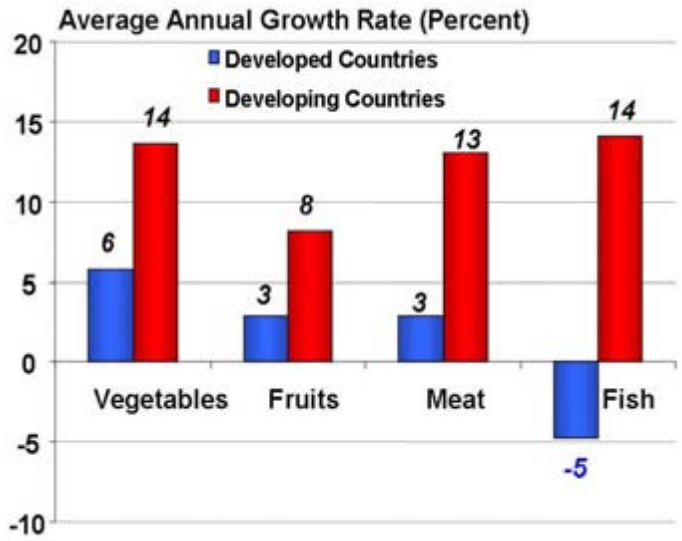
African governments are beginning to effectively work together through a revitalized African Union and its flagship program, the New Partnership for Africa's Development (NEPAD). However, while the stated goal ("Maputo Declaration") of increasing the budget allocation to agriculture is often referred to, it is not clear how progress will be monitored or how donors can ensure that increased aid to Africa is used for the

intended MDG-related purposes. The established peer review mechanism under NEPAD may help with that.

A Changing Corporate Food System: Not only the public sector, but also the private sector is now an important player in the changing world food situation, and the related innovation and research system. The corporate food system is increasing its market share in developing countries, where urbanization is creating new retail food consumers. Indeed, the fastest-growing element in the food chain in developing countries is the supermarket sector with growth rates in sales exceeding 20 percent per annum in some countries. In addition, food manufacturing and processing are on the rise, as urban consumers demand more processed foods. Industry is increasingly looking at the millions of small farmers and poor consumers as customers. In some regions, such as East Asia, small farmers are getting a foothold in this changing food chain, but the smaller they are, the higher their unit transaction costs to participate in the food chain. Companies along the food chain are becoming locally increasingly concentrated (horizontally integrated), highly coordinated along the food chain (vertically coordinated), and more global in their operations. Figure 7 gives a corporate picture of the world food system: the world's farmers, of which 85 percent have less than 2 hectares, must link in new and efficient ways to input, processing, and retail industries to capture a fair share in the value chain. The concentration rate is a matter of concern to many. However, at a global scale, even the allegedly highly concentrated retail sector's top five companies (CR5) do not yet capture more than 14 percent of the market. We shall continue to monitor these developments for their opportunities and risks.

At the same time, rising consumer incomes and changing lifestyles are creating bigger markets for high-value agricultural products like fruits, vegetables, fish, and meat. The growing markets for these products present an opportunity for developing-country farmers to diversify their production out of staple grains and raise their incomes. Annual growth rates on the order of 8 to 10 percent in high-value agricultural products are a promising development (Figure 8), as the production, processing, and marketing of these products create a lot of needed employment in rural areas.

Figure 8—Annual growth rate of high-value agriculture production, 2000-2004



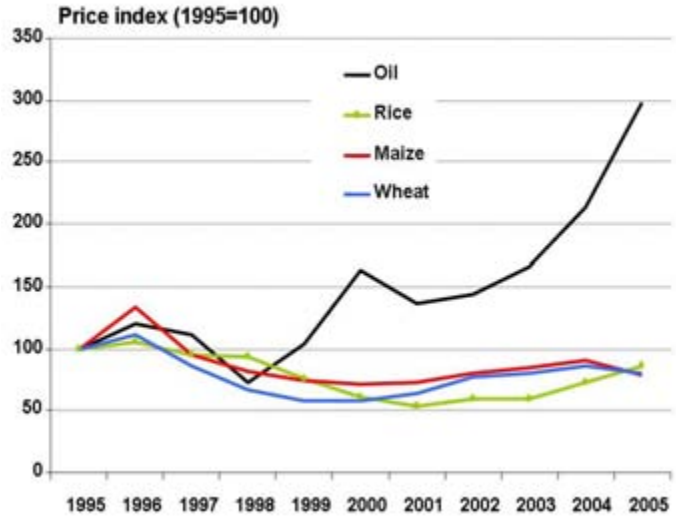
Source: FAOSTAT 2005
Note: Annual growth rate for fish corresponds to 1997 to 2001.

Figure 7—A "corporate view" of the global agri food business chain

Source: Based on stock market data, http://www.wsj.com and WDI 2005
Note: CR5 represents the market share of the top five companies listed in the global retail industry.

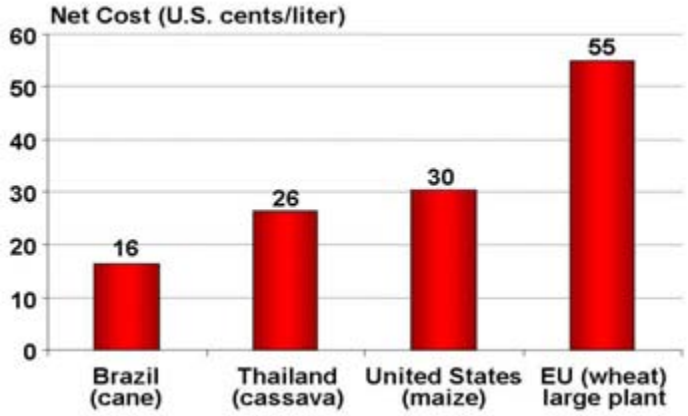
Food Prices and Energy: We have become used to a secular long-term decline in world staple food prices over past decades. However, this trend, which has been fostered by technological progress, especially in plant breeding, is not visible in the past decade. Long-term outlooks by IFPRI's IMPACT model have been suggesting such leveling off of the secular trend in coming years. A major new factor with short- and long-term implications for agriculture and thus poverty and hunger is the price of energy. As energy prices rise, the costs of farmers' inputs, processing, and transportation go up. This could result in an increase in food price, with varying effects for different people. So far we do not see such effects, as food prices do not yet correlate significantly with energy prices (Figure 9). However, the situation may become fundamentally different because it is becoming increasingly efficient to produce energy from agricultural products. At current oil prices it is cost-effective to produce bio-fuel. Competition for land and other resources will rise between production for food versus for fuel (Henniges 2005) (Figure 10). Many developing countries are currently looking at that option and considering or already implementing expanded bio-fuel production and processing capacities. New challenges for accelerated innovation in agriculture and in the energy sector (including for saving energy) arise from that.

Figure 9—Food and energy prices, 1995–2005



Source: FAO 2005c and OPEC 2004

Figure 10—Net cost of bioethanol production



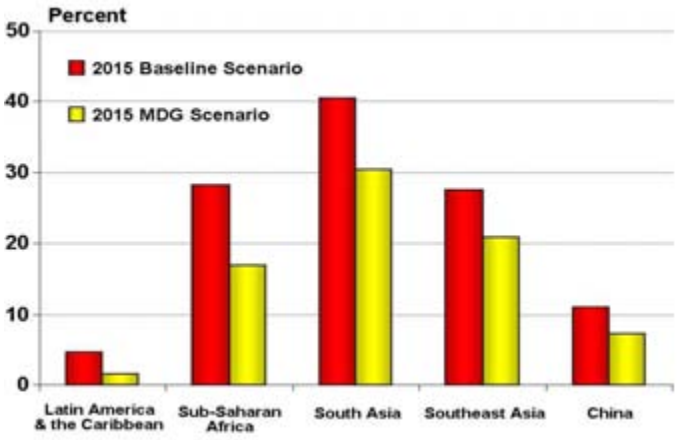
Source: Henniges 2005 and European Commission 2005
Note: The average 2005 petroleum price before taxes is US cents 59 per liter in Europe.

A Scenario for Achieving the MDGs

The coming years must see strong initiatives to actually implement the actions for reaching the MDGs. IFPRI has developed a scenario to explore the agricultural development and investment needs required for developing countries to halve the proportion of childhood malnutrition (Rosegrant et al. 2005). This MDG-compatible scenario is based on its International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT). It envisions reducing the proportion of child malnutrition by half for nearly all of the developing countries through investments in five key drivers of food and nutrition security: rural road construction, education, clean water provision, agricultural research, and irrigation.

IFPRI-IMPACT projects that with business as usual (2015 baseline scenario) the proportion of children who are malnourished would drop to 24 percent in 2015, whereas under the MDG scenario it would drop to 17 percent. Sub-Saharan Africa, South Asia, and parts of Southeast Asia are expected to struggle to halve the proportion of child malnutrition whereas China and Latin America are well on their way toward significant continued reduction in child malnutrition (Figure 11).

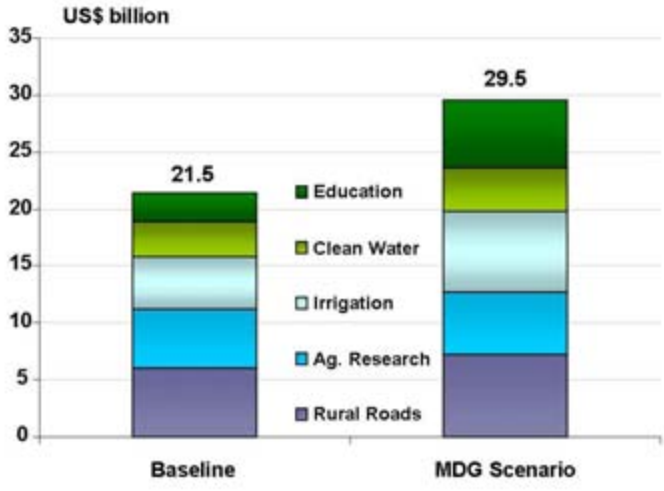
Figure 11—Projection of proportion of under-nourished children in 2015



Source: Rosegrant et al. 2005

What will it cost to halve the proportion of child malnutrition in developing countries? IFPRI-IMPACT projects that the business as usual scenario will cost US$21.5 billion per annum during 1995-2015 for all developing countries. The MDG scenario projects US$29.6 billion per annum over the same period. The investments are needed in the five key drivers—rural road construction, education, clean water provision, agricultural research, and irrigation. Essentially, $8 billion more per annum could bring us close to halving the proportion of child malnutrition by 2015 (Figure 12).

Figure 12—Annual investments needed to reach the MDG scenario



Source: Rosegrant et al. 2005

CONCLUDING REMARKS

In the two years since IFPRI's last update on the world food situation, three fundamental factors have not changed. First, the world's population continues to rise and will most likely reach 9 billion in the next generation. Second, small farmers dominate agriculture in the developing world and are likely to continue to do so. Third, poverty remains the root cause of hunger and malnutrition. Although urbanization is increasing, the poor still live predominantly in rural areas. And although extreme poverty (that is, the number of people living on less than $1 a day) has declined in recent years, the number of people living between $1 and $2 a day is increasing, and inequality between the haves and have-nots is rising.

Achieving the MDG agenda for reducing hunger and malnutrition will require

- strengthening governance of the food and agriculture system at the global, country and local levels to translate the new initiatives of 2005 into action on the ground,
- scaling up public investment for agricultural and rural growth,
- taking targeted steps to improve nutrition and health, and
- creating an effective global system for preventing and mitigating disasters.

Thus far, the greatest progress in reducing the proportion of hunger, malnutrition, and poverty has taken place in the large developing countries of Asia and Latin America. Now it is time to direct efforts towards Africa and towards smaller and poorer countries that have few resources and little capacity to plan and implement effective policy action.

And it is time to think beyond 2015. Different sets of policies will be needed to end hunger rather than to cut it in half. Global and national actors will need to target the poorest countries and people, particularly the rural poor, to reach those who will have been left behind by the MDG process. We will need new insights into the complex interactions between agriculture, health, and lifestyles, and to adopt a stronger focus on gender issues. We will need to invest in appropriate insurance systems and social security policies. Bio- and info- technological innovations based on science for the poorest and marginalized will be critical. And natural resource constraints will need to be addressed to safeguard against new food security threats. We must push ourselves even further to develop and implement solutions and policies to achieve food and nutrition security for the poorest of the poor and those most afflicted by hunger—for the other half of the MDGs.

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