

# **Food Prices, Nutrition, and the Millennium Development Goals**

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# Overview

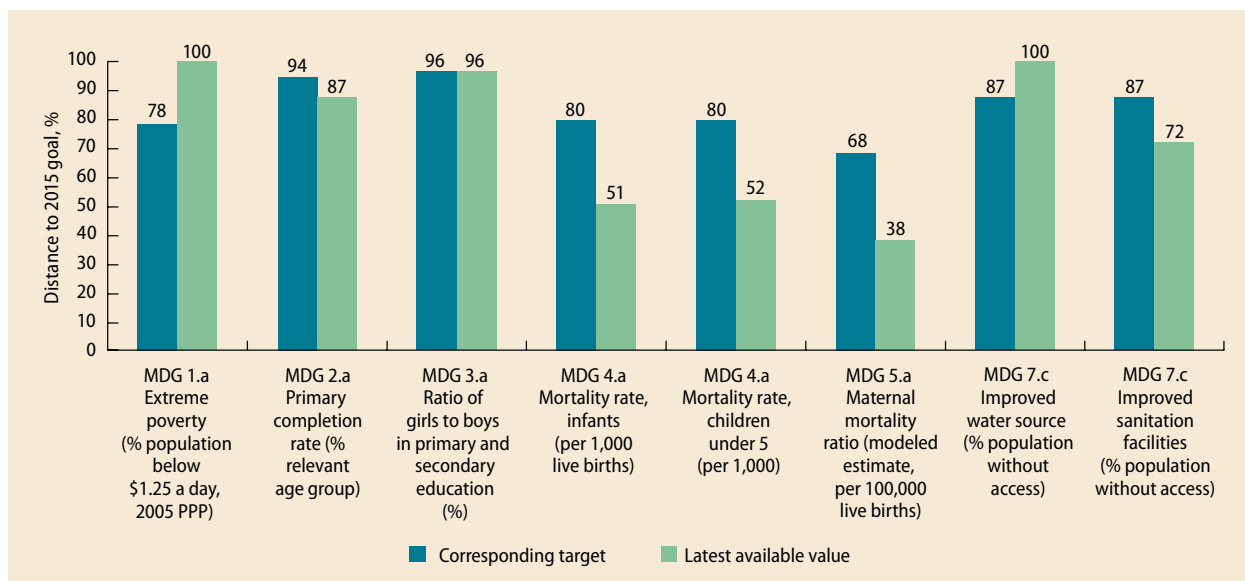
What has been the impact of yet another food price spike on the ability of developing countries to make progress toward the Millennium Development Goals (MDGs)? How many poor people were prevented from lifting themselves out of poverty? How many people, and how many children, saw their personal growth and development permanently harmed because their families could not afford to buy food? How did countries react to the last two food price spikes of 2007–08 and 2010–11, and how did their reaction affect their progress toward the MDGs? And what can countries do to respond to higher and more volatile food prices? The 2012 *Global Monitoring Report* (GMR) addresses these basic questions. It summarizes effects of food prices on several MDGs. It reviews policy responses—including domestic social safety nets, nutritional programs, agricultural policies, regional trade policies, and support by the international community. And it outlines future prospects.

The world has met two MDGs, while global progress varies across the other MDGs (figure 1). Preliminary survey-based estimates for MDG 1.a in 2010—based on a smaller sample than the global update in box 1—indicate that the \$1.25 a day poverty rate (2005 purchasing power parity, or PPP)

had fallen below half its 1990 value in 2010. Also in 2010, the world met MDG 7.c—to halve the proportion of people with no safe drinking water—well ahead of the 2015 deadline. And global progress on various MDGs is on track or within 10 percent of the on-track trajectory. MDG 3.a (gender parity in school enrollment) is on track, and MDG 2.a (primary school completion) is close to being on track. But the MDGs closely linked to food and nutrition are lagging, particularly child mortality (MDG 4) and maternal mortality (MDG 5). The same is true for country progress: 105 countries of the 144 monitored are not expected to reach MDG 4, and 94 are off track on MDG 5.

## Food prices spike once again

In 2011 international food prices spiked for the second time in three years, igniting concerns about a repeat of the 2008 food price crisis and its consequences for the poor. The World Bank Food Price Index rose 184 percent from January 2000 to June 2008 (figure 2). In February 2011 it again reached the 2008 peak, after a sharp decline in 2009, and stayed close to that peak through September. The international food price spike in 2007–08 is estimated to have kept or pushed 105

**FIGURE 1 Global progress toward the MDGs varies***Developing countries, weighted by population*

Source: World Bank staff calculations based on data from the World Development Indicators database.

Note: A value of 100 percent means that the respective MDG has been reached. "Corresponding target" indicates progress currently needed to reach the goal by 2015. "Latest available value" denotes current progress as illustrated by the most recent available data: extreme poverty, 2010; primary completion rate, total, 2009; ratio of girls to boys in primary and secondary education, 2009; mortality rate, infants, 2010; mortality rate, children under 5, 2010; maternal mortality ratio, 2008; improved water source, 2010; improved sanitation facilities, 2008. PPP stands for purchasing power parity.

### BOX 1 The MDG target of halving extreme poverty—reached in 2010!

The World Bank has been regularly monitoring the progress of developing countries in reducing extreme poverty. Drawing on data and expertise from all regions, the Bank has updated the global and regional poverty numbers for 1981–2008 and prepared preliminary estimates (for a smaller sample) for 2010. The latest estimates draw on more than 850 household surveys for almost 130 developing countries, with 90 percent of the developing world population. Mostly produced by national statistical offices, the results for 2005 and 2008 are based on interviews with 1.23 million randomly sampled households.

An estimated 1.29 billion people in 2008 lived on less than \$1.25 a day, equivalent to 22.4 percent of the developing world population (see the box table on the next page). Contrast that with 1.9 billion people in 1990, or 43.1 percent.

Preliminary survey-based estimates for 2010—based on a smaller sample than the global update—indicate that the \$1.25 a day poverty rate had fallen

to less than half of its 1990 value by 2010. So the first MDG target of halving extreme poverty has been achieved well before the 2015 deadline. East Asia and Pacific, Middle East and North Africa, and Europe and Central Asia have attained MDG 1.a, while poverty in South Asia and Sub-Saharan Africa remains in double digits. Current estimates for 2015 show that poverty will further decline to 16.3 percent for the world as a whole.

Looking back to 1990, **East Asia and Pacific** was the region with the highest number of poor people in the world, with 926 million living below \$1.25 a day. By 2008 that level had fallen to 284.4 million. In China alone, 510 million fewer people were living in poverty by the \$1.25 standard. In 2008, 13 percent (173 million people) of China's population still lived below \$1.25 a day. In **South Asia**, the \$1.25 a day poverty rate fell from 54 percent to 36 percent between 1990 and 2008. The proportion of poor is lower now in South Asia than at any time since 1981.

**BOX 1 The MDG target of halving extreme poverty—reached in 2010!** (continued)

The number of poor had been generally rising in **Latin America and the Caribbean** until 2002. But the poverty count (and the percentage of poor) has fallen sharply since then. The rising incidence and number of poor in **Europe and Central Asia** has also been reversed since 2000. The **Middle East and North Africa** had 8.6 million people—or 2.7 percent of the population—living on less than \$1.25 a day in 2008, down from 10.5 million in 2005 and 13 million in 1990. Less than half the population of **Sub-Saharan**

**Africa** was living below \$1.25 a day in 2008. Forty-seven and a half percent lived below this poverty line in 2008, as compared with 56.5 percent in 1990, a 9 percentage point drop.

Good news, but a great many people remain poor and vulnerable in all regions. At the current rate of progress, around 1 billion people will still be living below \$1.25 a day in 2015. Most of the 619 million poor lifted above the \$1.25 a day standard during 1990–2008 are still poor by middle-income standards.

**Estimates of poverty on a poverty line of \$1.25, by region**

Region	1990	2005	2008	2015
<b>Share of population living on less than \$1.25 a day (2005 PPP)</b>				
East Asia and Pacific	56.2	16.8	14.3	7.7
of which, China	60.2	16.3	13.1	—
Europe and Central Asia	1.9	1.3	0.5	0.3
Latin America and the Caribbean	12.2	8.7	6.5	5.5
Middle East and North Africa	5.8	3.5	2.7	2.7
South Asia	53.8	39.4	36.0	23.9
Sub-Saharan Africa	56.5	52.3	47.5	41.2
<b>Total</b>	<b>43.1</b>	<b>25.0</b>	<b>22.4</b>	<b>16.3</b>
Total, excluding China	37.2	27.7	25.2	—
<b>Millions of people below \$1.25 a day (2005 PPP)</b>				
East Asia and Pacific	926.4	332.1	284.4	159.3
of which, China	683.2	211.9	173.0	—
Europe and Central Asia	8.9	6.3	2.2	1.4
Latin America and the Caribbean	53.4	47.6	36.8	33.6
Middle East and North Africa	13.0	10.5	8.6	9.7
South Asia	617.3	598.3	570.9	418.7
Sub-Saharan Africa	289.7	394.9	386.0	397.2
<b>Total</b>	<b>1,908.6</b>	<b>1,389.6</b>	<b>1,289.0</b>	<b>1,019.9</b>
Total, excluding China	1,226.8	1,177.7	1,116.0	—

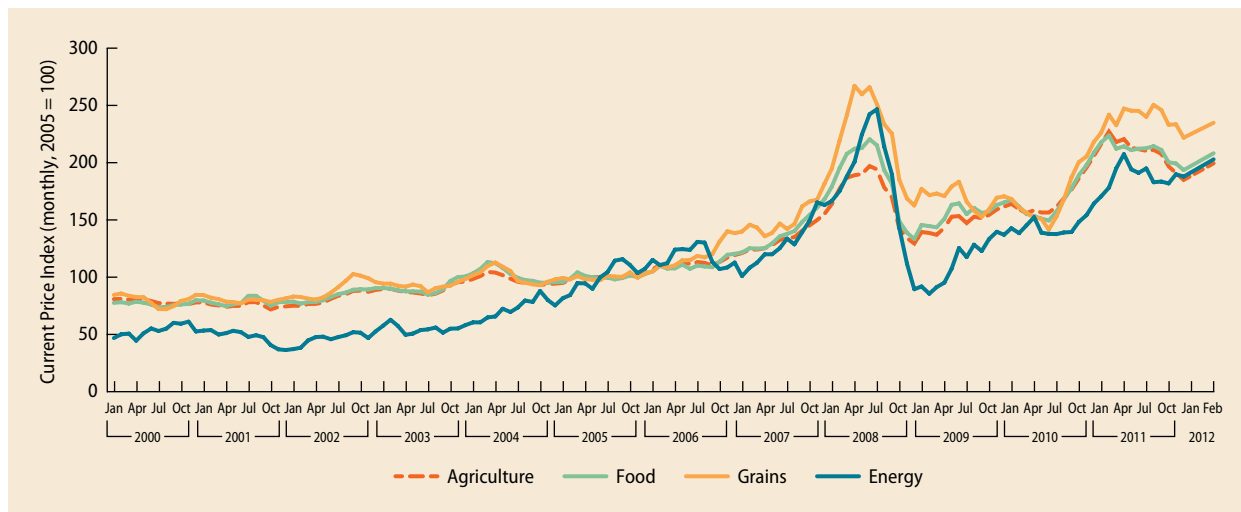
Source: World Bank staff calculations from PovcalNet database. For additional information and data, see <http://iresearch.worldbank.org/PovcalNet/index.htm>.

— = not available.

million people below the poverty line, and in the spike of 2010–11, 48.6 million people. Poverty typically rises initially with higher food prices, because the supply response to higher prices takes time to materialize and many poor (farm) households are net food buyers, so higher food prices lowers their real incomes.

The regional and national implications of high and volatile food prices vary widely. How vulnerable a country is to food price

spikes depends on whether it is a net exporter or net importer. Large net importers of food, such as those in the Middle East and North Africa and in West Africa, face higher import bills, reduced fiscal space, and greater transmission of world prices to local prices for imported rice and wheat. Higher prices hurt consumers with high shares of household spending on food, as in much of Africa and Asia. Larger net-exporter countries, as in Latin America and in Eastern Europe

**FIGURE 2** Food prices spiked again for the second time in three years

Source: World Bank.

Note: The World Bank Food Price Index includes wheat, maize, rice, barley, sugar, coconut oil, soybean oil, groundnut oil, palm oil, copra, soybeans, soybean meal, orange, banana, beef, and chicken. Unlike the well-known Food and Agriculture Organization food price index, it does not include other meat and dairy.

and Central Asia, stand to benefit. But they may also face internal pressure to mitigate the adverse effects if households spend large shares of their budgets on food.

A multisectoral approach is needed, tailored to each country's conditions, taking into account the social and political environment. This *Global Monitoring Report* advocates agricultural policy mainly to orchestrate a supply response, social safety nets to improve resilience, nutritional policy to manage the implications of early childhood development, and trade policy to improve access to food markets, reduce volatility, and induce productivity gains. But one size does not fit all. The priority and sequence of various policy initiatives depends on a country's or a region's initial conditions.

Combinations of policies in the four areas can provide positive synergies and spur improvements on the MDGs. Targeting the expansion and productivity of crops that add nutritional value is one example. At the same time, improvements in the value chain of food products through, say, investing in infrastructure and streamlining regulation related to trade can lead to faster pass-throughs of

international prices—and thus require an effort to improve resilience using social safety nets. Both require time to implement, so the sequencing of actions needs to avoid hardship for the poor and vulnerable.

### How the poor cope

High and volatile food prices hurt food security. Large, sudden, and particularly unexpected food price increases make it difficult for households to adjust—eroding consumer purchasing power, reducing calorie intake and nutrition, and pushing more people into poverty and hunger. The poor bear a disproportionate burden in adjusting to high food prices. This is especially true for poor households in urban settings and those headed by women, who typically spend more than half their incomes on food and are more likely to curtail consumption in the face of higher prices.

The higher prices also have indirect effects. Poor people have experienced global shocks in recent years, from the spikes in fuel and food prices to the economic contraction starting in 2008 and the consequent reductions in

remittances. And droughts have made things even worse in many countries and locales. Qualitative survey-based research shows that the responses of poor people to past global shocks produced severe indirect impacts.<sup>1</sup> Less nutritious diets caused malnourishment and made people more susceptible to failing health. The sudden influx of workers into the informal economy lowered earnings. The hardships even led to criminal activities, eroding trust and cohesion in communities.

Reducing the quality of food and the number of meals was one of the most common responses, often the first, in study sites in countries surveyed. In addition, reducing non-food consumption, working more hours, and diversifying income sources (say, by entering a new informal occupation) were common nearly everywhere. Migration, sometimes reverse migration to the home area, was also fairly common in response to the food price spikes. Asset sales were common, and loans from family, friends, and moneylenders were also important. An inability to service micro-finance and moneylender debts was a major source of distress in some East and South Asian countries, where many people had to borrow at high interest rates to service these debts or live in fear of creditors taking possession of their property. Collecting food and fuel from common property was important only in some low-income countries.

Sales of productive assets and forgone education and health care will have long-lasting consequences and impede people's ability to recover. And coping with economic crises has eroded the savings and asset base of many households, leaving them with few resources to manage future shocks. Continuing high and volatile global food prices are thus a major concern.

Many parents sought to protect children's food consumption and schooling, with adult household members preserving the quantity and quality of food to ensure that children had proper diets. Yes, there were many instances of erratic attendance and school withdrawals because of the need for children to contribute to household income or because education costs had become prohibitive. But,

on the whole, the impacts on schooling were more muted than expected. The cost of education, the distance to school, and the availability of school feeding influenced whether children stayed in school.

### What higher prices mean for poverty

The food price spikes in 2008 and 2011 have prevented millions of people from escaping poverty because the poor spend large shares of their incomes on food—and because many poor farmers are net buyers of food. The price spikes hit urban poor and female-headed households hardest. While food prices dropped sharply in 2009 with the financial crisis, they quickly rebounded and by early 2011 prices were almost back at 2008 levels. But high food prices may be less harmful for the poor in the longer run because farmers can increase their output and poor households may benefit from higher farm wages.

The impact of world price spikes also depends on how prices are transmitted locally. In Ethiopia, for example, about 75 percent of food consumption is locally produced staples (such as sorghum and teff), dampening the impact of rising prices of imported cereals. By contrast, people in Bangladesh, Cambodia, and Kenya—where rice, wheat, maize, and beans account for 40–64 percent of food expenditures—are more exposed to higher import prices. Changes in international prices have been trickling down to national prices to varying degrees, but the higher national prices have greatly influenced national policies.

In the longer run, farmers can be expected to respond to rising food prices in two ways: by raising their overall output and by switching to producing commodities whose prices have risen relative to others. For short-run price volatility, where producer outputs are likely fixed, the change in farmers' revenue from production is determined only by the change in output prices. But over time outputs can be expanded by using more labor and inputs, even if no additional land is available. Where the relative prices of different

commodities change, switching between outputs is another way for farmers to increase returns. In general, it is easier for farmers to switch production to a more profitable crop than to increase aggregate agricultural output.

Policies that promote higher yields can limit the average rise in food prices over the long term as well as dampen food price volatility. Such policies include supporting research, extension, and water management; improving the efficiency of land markets and strengthening property rights; increasing farmers' access to efficient tools to manage risk; and increasing market integration, globally as well as regionally, through investments in infrastructure and facilitating the operations of supply chains. Policies to limit food price volatility include developing weather-tolerant varieties, improving the management of stocks, opening markets to trade, improving market transparency, and using market-based price-hedging mechanisms. And policies to reduce the impact of high and volatile food prices on the poor include strengthening a country's social safety nets to protect the poor and supporting smallholders in strengthening the supply response to higher food prices.

Balancing the rise in domestic prices (to benefit producers) with consumer protection is a major challenge. Because of fiscal constraints, many countries use trade measures to limit the transmission of higher world market prices to domestic markets. Scaling up safety nets to support vulnerable consumers without also insulating markets has been rare, hurting long-term food security. The most sustainable policies focus on encouraging climate-resilient production, strengthening domestic and regional markets, maintaining open trade, and boosting resources to social protection.

### Higher undernourishment

Higher prices of food staples increase undernourishment, as poor consumers find themselves unable to purchase the minimum amount of calories, nutrients, and proteins

needed for their daily activities. Higher food prices have two main effects on net buyers of food: an income effect through reductions in the purchasing power of poor households, and a substitution effect through shifts to less nutritious food. The poor often have no choice but to reduce their overall food consumption in response to higher prices, even from levels already too low. For households close to subsistence and already consuming the cheapest sources of calories (less nutritious food), the substitution possibilities are more limited, with the poorest suffering most. And intrahousehold discrimination against women and children disproportionately reduces their access to food.

Even temporarily high food prices can affect children's long-term development. Early life conditions (from conception to two years of age) provide the foundations for adult human capital. Vicious circles of malnutrition, poor health, and impaired cognitive development set children on lower, often irreversible, development paths. Child malnutrition accounts for more than a third of the under-five mortality—and malnutrition during pregnancy, for more than a fifth of maternal mortality. Other hard-to-reverse impacts include faltering growth (stunting, low height-for-age), and low school attainment. A malnourished child has on average a seven-month delay in starting school, a 0.7 grade loss in schooling, and potentially a 10–17 percent reduction in lifetime earnings—damaging future human capital and causing national GDP losses estimated at 2–3 percent. So, malnutrition is not just a result of poverty—it is also a cause. Malnourished young children are also more at risk for chronic disease such as diabetes, obesity, hypertension, and cardiovascular disease in adulthood.

To build household and individual resilience and mitigate long-term effects, interventions can work through multiple pathways, beyond trying to keep prices low. In the short run, the focus should be on maintaining household purchasing power through cash transfers, food and nutrient transfers, school feeding, and workfare-with-nutrition. In the

longer term, the focus should broaden to strengthening the link between smallholder agriculture and nutrition, addressing seasonal deprivation, and promoting girls' education and women's income. Some specific interventions to target vulnerable children include hygiene, micronutrients, deworming, breastfeeding, feeding during illness, and preventive and therapeutic feeding.

### **Weaker global growth and high food prices may impede progress toward the MDGs**

The global recovery shows signs of stalling amid deteriorating financial conditions. Global growth slowed to 3.9 percent in 2011 and is projected to decline further to 3.5 percent in 2012. The strongest slowdown is being felt in advanced economies, but the worsening external environment and some weakening in internal demand is expected to lead to lower growth in emerging and developing countries as well. This outlook is subject to downside risks, such as a much larger and more protracted bank deleveraging in the Euro Area or a hard landing by key emerging economies.

Strengthening the recovery will require sustained policy adjustment at a measured pace that depends heavily on a country's circumstances. There are risks in some places of inadequate medium-term fiscal adjustment, and in some of overly aggressive short-term fiscal adjustment. In the advanced economies, while fiscal policy consolidation proceeds, monetary policy should continue to support growth as long as unemployment remains high and inflation expectations are anchored. This policy stance should be accompanied by steady progress toward repairing and reforming financial systems and by steps to avoid excessively rapid bank deleveraging.

As food and fuel prices rose in 2010 and the first half of 2011, consumer prices rose in tandem in many countries. In emerging and developing countries the median inflation rate rose from 4 percent in 2009 to 6 percent in 2011, but experiences were mixed. In about a third of countries inflation abated

over this period, but in many countries it rose sharply. In Burundi inflation more than tripled from 4½ percent in 2009 to 15 percent in 2011 as the monetary authorities sought to contain the second-round effects of imported inflation. And in Bangladesh inflation doubled from 5½ percent to 11 percent.

A weaker-than-expected global economic environment would challenge emerging and developing countries as they progress toward the MDGs. Should downside risks such as a sharp global slowdown or another surge in food prices materialize, many low-income countries would have to confront the situation with weaker buffers than in 2009. In the event of another sharp downturn, the scope for fiscal stimulus would therefore be more limited, but those with sufficient fiscal room should aim to protect spending to soften the economic and social impact of a global downturn. A new global food price spike would present low-income countries with difficult trade-offs among price stability, external, and social objectives. A pragmatic response should include measures to protect the poor and vulnerable while largely accommodating the first-round impact on inflation. The fiscal policy response should be well targeted, ensure fiscal affordability, and avoid economic distortions. The appropriate monetary policy response would depend on the inflation outlook, the pass-through from food prices to other prices, and the availability of external buffers, such as reserves. Fragile states would require special attention including from the international community.

### **Using trade policy to overcome food insecurity**

International cereal price spikes increased the food import bills of some low-income food-deficit countries, putting pressure on their balance of payments. The cereal import bill of low-income food-deficit countries was \$31.8 billion in 2010–11 (29 percent more than in 2009–10), despite higher production in 2010 and the lower volume of cereal imports required. North Africa and the Pacific Islands suffered the largest negative impact, paying



higher prices and importing more cereals to meet domestic demand. Although the estimated cereal import bill of the food-deficit countries is still below the record set during the 2008 food crisis, the increase in cereal costs, combined with price increases for other food and fertilizer imported by these countries, is cause for concern.

Higher food prices can upset the balance between needed spending to mitigate the immediate impact of the crisis and long-term development. Recurrent food crises may require additional social spending; to be cost-effective, such spending should emphasize targeted social safety nets rather than universal producer and consumer subsidies. Most developing countries preserved their core spending on health, education, and infrastructure during 2008–09, increasing their resilience to food and financial crises. In the period since, however, many countries have not adequately rebuilt their fiscal policy buffers and thus may find it more difficult to preserve core spending in the face of another major shock. To maintain this resilience in the composition of expenditures, much will depend on the cost and availability of resources going forward.

Trade is an excellent buffer for domestic fluctuations in food supply. There is no global food shortage: the problem is regional or local, one of moving food, often across borders, from surplus to deficit areas, coupled with affordability. The world output of a given food commodity is far less variable than the output in individual countries. So greater trade integration holds considerable potential for stabilizing food prices, boosting returns to farmers, and reducing the prices facing consumers.

Trade liberalization protects national food markets against domestic shocks by allowing more food to be imported in times of shortage and exported in times of plenty. But historically—and despite a host of regional trade agreements—most countries have taken the opposite approach. They restrict food imports and discourage exports in often-failed attempts to keep domestic markets

isolated from international shocks by ensuring self-sufficiency in food production.

Self-sufficiency should be weighed against the benefits of cheaper imports. A country that is a natural exporter should not encumber its comparative advantage with export bans. A country that tends to import food should allow its domestic market to remain linked to the world market. Encouraging more trade—not less—can thus promote food security, which requires a more open, rules-based multilateral trade regime best achieved by concluding the Doha Round of negotiations at the World Trade Organization.

Efforts to extend trade integration to developing countries should also focus on promoting more effective regional integration, including that for food products. Facilitating food trade is also important through increased Aid for Trade to promote frictionless borders and facilitate a supply response to rising prices, particularly in Sub-Saharan Africa.

### **Aid flows, composition, and effectiveness**

Official development assistance (ODA) has increased significantly over the past decade, nearly doubling as a share of donor gross nation income. But it has fallen short of a number of internationally agreed targets. Programmed aid for 2011–13 indicates that the growth of ODA disbursements is on track to slow in real terms and indeed shrink on a per capita basis for recipient countries.

Surprisingly, the aid directed toward agriculture, food, and nutrition—10 percent of total commitments in 2010—has not increased in response to the recent food price spikes or since the MDGs were agreed in 2000. And assistance for nutrition represents a mere fraction of these commitments (about 3 percent of total aid flows to agriculture, food, and nutrition), despite widespread evidence that improving nutrition and making gains in early childhood development are keys to meeting several MDGs and to making long-term progress in development.

Looking ahead, aid flows appear set to slow, likely reflecting the need for sharp fiscal consolidation for many large donors. Based on reported donor plans during 2011–13, disbursements for country programmable aid (accounting for roughly 60 percent of total ODA) will actually fall slightly by a real 0.2 percent a year on average.

Meeting the MDGs requires that aid flows are used as effectively as possible. In the Paris Declaration on Aid Effectiveness (2005) and the Accra Agenda for Action (2008), agreements reached at the Third and Fourth High Level Forums, the international community set out several principles and committed to specific actions under each principle, with the goal of increasing the effectiveness of the aid delivered—as well as the level of disbursements. Some progress toward greater aid effectiveness has been made. But only 1 of the Paris Declaration's 13 targets for 2010 has been met, with progress limited for the other 12. Even so, the goals and associated policy adjustments made at the forums seem to have contributed to the significant rise in aid flows.

Efforts to improve aid effectiveness are being pursued against the backdrop of fundamental changes in aid architecture. The aid agenda is shifting, with calls for stronger leadership and ownership by recipients, more harmonization and coordination among donors, and greater transparency. The donor community has dramatically expanded and become much more diverse. Many new private and public donors are coming onto the stage, among them nongovernmental organizations (including philanthropists and corporations) and a growing number of middle-income countries. The sharp rise in stakeholders highlights the way development demands an extensive set of tools and partnerships.

ODA is increasingly viewed as only one of many international activities (such as trade and investment) that support long-term sustainable development and poverty alleviation. But it remains a major instrument for development cooperation. The international aid community needs to continue to improve information-sharing and to facilitate the

participation of the expanding ODA agents in setting the global development agenda—to better address the needs of the poor, including such critical issues as food and nutrition.

## Issues for discussion

How do the ministers assess the implications of higher and more volatile food prices for the ability of countries to make progress toward the MDGs?

What do ministers see as priorities

- for developing countries to protect the poor and vulnerable against the implications of food price spikes;
- for the international development community to help developing countries attain the remaining MDGs, particularly the MDGs adversely impacted by higher and more volatile food prices; and
- for the international financial institutions, especially the World Bank and the International Monetary Fund, in supporting developing countries in their effort to respond to the food price spikes?

In what ways do the ministers see the World Bank and the IMF maximizing their catalyst roles to mobilize support for agriculture, nutrition, and (food) trade?

## Note

1. Focus groups and interviews were carried out in 17 countries with respondents representing groups exposed to economic shocks, such as workers in export-oriented sectors, informal sector workers, and farmers. The research explored the extent to which people were able to remain resilient against the recent economic shocks and the means they used to do so. Data came from up to four rounds of qualitative research at sites in Bangladesh, Cambodia, Central African Republic, Ghana, Indonesia, Jamaica, Kazakhstan, Kenya, Mongolia, Philippines, Senegal, Serbia, Thailand, Ukraine, Vietnam, the Republic of Yemen, and Zambia (see chapter 1).