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INTERNATIONAL FOOD  
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**FOOD POLICY**  
**REPORT**

HALVING HUNGER: MEETING THE FIRST  
MILLENNIUM DEVELOPMENT GOAL

THROUGH

**BUSINESS AS**

**UNUSUAL**

BY  
SHENGEN FAN



# **Halving Hunger:**

Meeting the First Millennium Development Goal  
through “Business as Unusual”

Shenggen Fan

International Food Policy Research Institute  
Washington, D.C.

June 2010

## **ABOUT IFPRI**

The International Food Policy Research Institute (IFPRI) was established in 1975. IFPRI is one of 15 agricultural research centers that receives its principal funding from governments, private foundations, and international and regional organizations, most of which are members of the Consultative Group on International Agricultural Research.

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# Executive Summary

In 2000, the world's leaders set a target of halving the percentage of hungry people between 1990 and 2015. This rather modest target constitutes part of the first Millennium Development Goal, which also calls for halving the proportion of people living in poverty and achieving full employment. However, the effort to meet the hunger target has swerved off track, and the world is getting farther and farther away from realizing this objective. The goal of halving hunger by 2015 can still be achieved, but business as usual will not be enough. What is needed is “business as unusual”—a smarter, more innovative, better focused, and cost-effective approach to reducing hunger. The five elements of this new approach are as follows:

## ***Invest in Two Core Pillars: Agriculture and Social Protection***

The first step in reducing poverty and hunger in developing countries is to invest in agriculture and rural development. Most of the world's poor and hungry people live in rural areas in Africa and Asia and depend on agriculture for their livelihoods, but many developing countries continue to underinvest in agriculture. Research in Africa and Asia has shown that investments in agricultural research and extension have large impacts on agricultural productivity and poverty, and investments in rural infrastructure can bring even greater benefits.

Scaled-up investments in social protection that focus on nutrition and health are also crucial for improving the lives of the poorest of the poor. Although policymakers increasingly see the importance of social

protection spending, there are still few productive safety net programs that are well targeted to the poorest and hungry households and increase production capacity.

## ***Bring in New Players***

New actors in global development—the private sector, philanthropic organizations, and emerging economy donors—have important roles to play in reducing hunger in developing countries. But the opportunities presented by these development partners have not been fully harnessed. Given the right incentives, the private sector, for example, can provide effective and sustainable investment and innovation to help in the fight against hunger. In many countries, however, private companies face a lack of incentives and a poor business operating environment, including poor property rights. Emerging economy donors are now playing an increasing role in providing development assistance, but have not yet been fully integrated into the global food security agenda.

## ***Adopt a Country-Led, Bottom-Up Approach***

Effective, efficient, and sustainable policies that are well adapted to the local context can help countries maximize the local impact of the global agenda and tap external development assistance, which increasingly requires approaches that are country led. Successful reforms will be not only country driven, but also local in nature, with poor people acting as a driving force in the development process.

At the same time, some issues—like climate change, trade, and control of disease—must be addressed at

the global level. The task for individual countries is then to digest and integrate these global issues in developing their own strategies at the country level.

### ***Design Policies Using Evidence and Experiments***

Pilot projects and policy experiments have the potential to improve policymaking by giving decisionmakers information about what works before policies are implemented across the board. Experimentation can improve the success rate of reforms as successful pilot projects are scaled up and unsuccessful policy options are eliminated. To succeed with this approach, policymakers need to allow impartial monitoring of experiments and rapidly transform the lessons learned into large-scale reforms. These changes can create an environment in which policies are continually tried, tested, adjusted, and tried again before being scaled up.

### ***Walk the Walk***

Decisionmakers at the global, regional, and national levels have made commitments to policies and investments for enhancing food security, but they have often failed to meet those commitments. For example, in 2003, African heads of state pledged that their governments would allocate 10 percent of national public budgets to the agricultural sector by 2008, but data for 2007 show that only a handful of countries had met the 10 percent target. These financial commitments

must be supported with strong institutions and governance at the global, regional, and national levels and monitored in a timely and transparent fashion.

### ***Scaling Up “Business as Unusual”***

Some aspects of this “business as unusual” approach have already been successful in a few countries, but they need to be scaled up and extended to new countries to have a real impact on the reduction of global hunger.

On a larger scale, the global food governance system itself needs to be reformed to work better. Reforms should include (1) improving existing institutions and creating an umbrella structure for food and agriculture; (2) forming government-to-government systems for decisionmaking on agriculture, food, and nutrition; and (3) explicitly engaging the new players in the global food system—the private sector and civil society—together with national governments in new or reorganized international organizations and agreements. A combination of all three options, with a leading role for emerging economies, is required.

Finally, though global and national actors have distinct roles to play, it is important that they work together, combining their efforts to fight poverty and hunger. A stronger system of mutual accountability between the two groups would help keep progress on track.

# Moving in the Wrong Direction

**I**n 2000, when the world's leaders gathered to set goals for improving the lives of the poorest people, they set a target of halving the percentage of hungry people between 1990 and 2015—this rather modest target constitutes part of the first Millennium Development Goal, which also calls for halving the proportion of people living in poverty and achieving full employment. However, the effort to meet the hunger target has swerved off track, and the world is getting farther and farther away from realizing this objective. The goal of halving hunger by 2015 can still be achieved, but business as usual will not be enough.

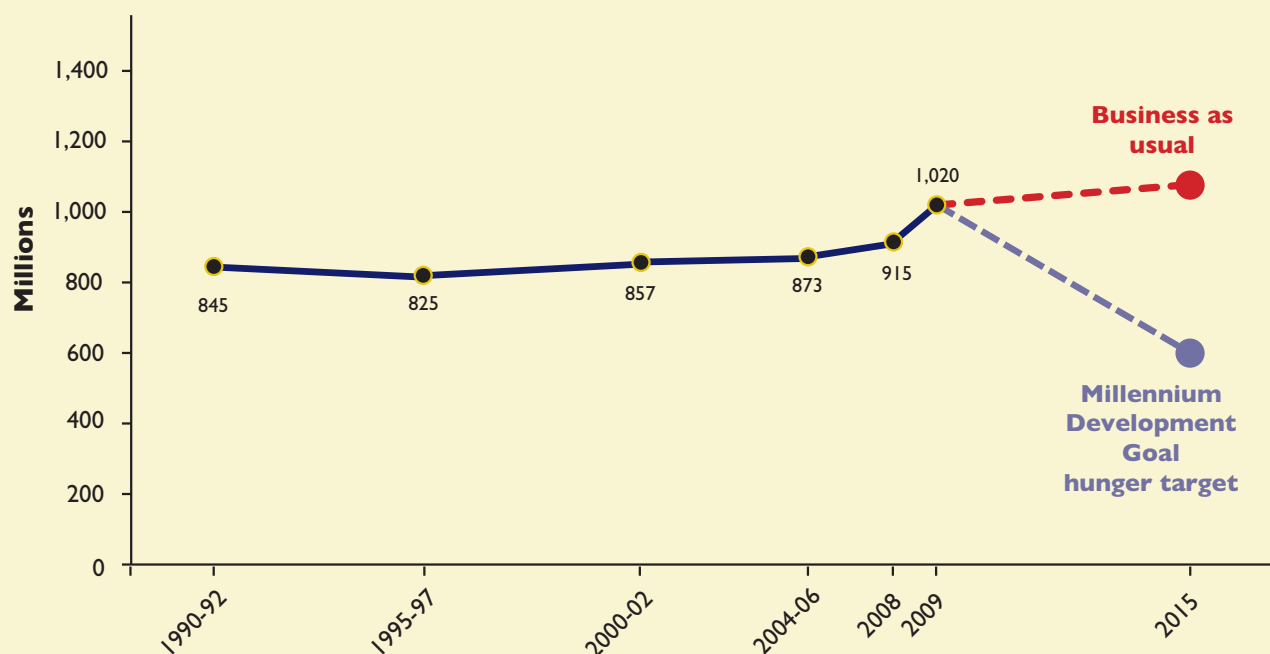
Progress in cutting hunger in the past several decades has been disappointing. Although the share of hungry people worldwide has slowly declined, the number of hungry people has been on the rise, climbing to more than 1 billion in 2009, with most hungry people living in South Asia and Sub-Saharan Africa. Hunger has been much more pervasive than poverty—income increases have often failed to translate into better nutrition for all household members. If past trends continue, global food security will deteriorate even further, and progress toward reaching the hunger Millennium Development Goal will be off track by a wide margin (see Figure 1 on next page).

If there is to be any hope of meeting the hunger Millennium Development Goal, progress in the coming years must be drastically accelerated. On a global scale, the number of undernourished people needs to drop by 436 million from 2009 to 2015—or 73 million

a year—to reach the goal (see Box 1). But the hunger Millennium Development Goal is also designed to be met in each country. Rapid progress will thus have to occur in some of the countries where the largest absolute numbers of hungry people are located—Bangladesh, the Democratic Republic of the Congo, India, Indonesia, and Pakistan.

Furthermore, even if the hunger Millennium Development Goal is achieved by 2015, almost 600 million people will still go hungry in the developing world. And global figures can obscure enormous country differences. For example, because of its sheer size, China's remarkable achievements have been responsible for a large share of global progress in reducing hunger so far. But many countries in Africa and South Asia continue to suffer from high levels of hunger. The ultimate goal must be to eliminate hunger altogether—this is humanity's moral obligation.

Figure 1—The number of hungry people, 1990–2015



Source: FAO 2009 and author's calculations.

Note: The red dashed line is a linear extrapolation of the trend in the number of hungry people between 1990 and 2009. The purple dashed line shows the trend in the number of hungry that would be required to reach the Millennium Development Goal of halving the proportion of hungry people.

### Box 1—The hunger Millennium Development Goal: Doing the math

The first Millennium Development Goal includes a target of halving the proportion of people that are undernourished from 1990 to 2015. In 1990, 16 percent of the world's population was undernourished. Consequently, meeting the hunger Millennium Development Goal entails reducing that proportion to 8 percent by 2015. Of course, the world's population has been growing since 1990. According to the United Nations World Population Prospects, the world's population will reach 7.3 billion by 2015. Eight percent of the population in 2015 will therefore be 584 million people. The Food and Agriculture Organization of the United Nations (FAO) estimates that the number of undernourished people as of 2009 was 1,020 million, so the number of undernourished needs to fall by 436 million in the six years from 2009 to 2015, or by 73 million a year.

Researchers need a better method for estimating the number of undernourished people so that they can provide policymakers with accurate and up-to-date figures. Current estimates are based on national food balance-sheet data and consequently reflect food availability at the national level rather than access to food at the household level. A shift to household expenditure surveys could help solve this problem (Smith 1998). Even if the methodology is improved, however, it will still hold true that the hunger Millennium Development Goal is not on track and the number of undernourished people is worryingly large.

# An Increasingly Complicated Task

**R**educing hunger is going to become harder, not easier. Food security increasingly depends on non-agricultural factors like energy, trade, and finance. The forces that caused food prices to spike in 2007–08 (high oil prices, increased biofuel production, and export restrictions to protect domestic food supplies) will remain for a long time. The new links, trade-offs, and competition between the agricultural and energy sectors persist. Oil prices reached a 19-month high in the first quarter of 2010, and they remain both high and volatile. Biofuel production is still rising, though at a slower pace. Some newly imposed export restrictions, which shrank global cereal trade, have been extended. As a result of the decrease in food demand and the boosting of production in countries such as China, India, and the United States, global prices have now decreased from their peaks, but they remain high. In some countries in Sub-Saharan Africa—such as Burundi, the Democratic Republic of the Congo, and Rwanda—prices increased by double digits in 2009 (World Bank 2010).

Because of the financial crisis, trade finance and farm credit availability have not yet been restored to their pre-crisis levels, putting severe stress on agriculture, and especially on smallholder farmers. The food security of vulnerable groups and the productivity of smallholder farmers may be further threatened as the sense of crisis diminishes and the food assistance, social safety nets, and stimulus packages wind down.

Looking forward, the world's farmers will need to feed more people with a wider range of foods. By 2050, the world population is projected to reach 9 billion, with growth coming predominantly from urban areas and developing countries (FAO 2009). The urban population is expected to grow even faster than the overall population and will nearly double from 2007 to 2050 (UN 2007). Rural–urban migration and higher incomes are not only increasing food demand, but are also changing the quality, diversity, and composition of the food demanded. In urban areas, the consumption basket is shifting from staple foods to high-value foods such as meat, dairy, fruits, and vegetables (Gulati et al. 2007; Pingali 2007). Consumers also demand more processed and ready-to-eat foods and are increasingly concerned about food quality and safety (Swinnen 2007).

Population growth will also increase pressure on land and water. For example, world water availability per capita is projected to shrink by one-third from 2000 to 2050, because of population growth alone (Rosegrant et al. 2009). Climate change will put additional pressure on natural resources and food security through higher and more volatile temperatures, changes in precipitation patterns, and increased occurrences of extreme events such as droughts and floods. Most worryingly, without serious mitigation and adaptation efforts, 25 million more children will be undernourished in 2050 as a result of climate change (Nelson et al. 2009).

These new pressures will place an additional burden on the food security of the most vulnerable groups—the poorest and hungry people, who typically belong to socially excluded groups, have few assets, and live in remote rural areas with little access to roads, markets, education, and health services (von Braun, Hill, and Pandya-Lorch 2009). To improve the livelihoods of the world's most vulnerable groups, new and different action is urgently needed.

# A New Approach to Fighting Hunger: “Business as Unusual”

**M**any policies have been carried out and many agreements have been signed in the effort to slash poverty and hunger. To be sure, some progress has been made, but the rising number of hungry people clearly shows that current approaches are not adequate for the task ahead. Business as usual will not be enough to achieve the hunger Millennium Development Goal. What is needed is “business as unusual”—a smarter, more innovative, better focused, and cost-effective approach to reducing hunger. The elements of this new approach are summarized in Table I and are addressed in more detail in the following sections. Some aspects of this approach have already been successful in a few countries, but they need to be scaled up and extended to new countries to have a real impact on the reduction of global hunger.

**Table I—Business as usual versus “business as unusual”**

BUSINESS AS USUAL	BUSINESS AS UNUSUAL
Underinvest in agriculture with little attention to complementary investments.	<p><b>Invest in two core pillars: Agriculture and social protection</b></p> <p>Invest more in agriculture, but also invest in social protection with a focus on nutrition and health and increased agricultural productivity.</p>
Marginalize the effective involvement of the private sector, philanthropic organizations, and emerging-economy donors in enhancing food security.	<p><b>Bring in new players</b></p> <p>Clear the way for the private sector, philanthropic organizations, and emerging-economy donors to assume growing roles in enhancing food security.</p>
Follow a donor-driven and top-down approach to development.	<p><b>Adopt a country-led and bottom-up approach</b></p>
Implement untested policies and programs on a large scale and fail to monitor and evaluate progress in a timely fashion.	<p><b>Design policies using evidence and experiments</b></p> <p>Use evidence and innovative experiments on a small scale to design policies and programs, monitor and evaluate progress, and then quickly scale up successful interventions.</p>
Let commitments lapse and implement solutions slowly, without clear responsibilities, accountability, or authority.	<p><b>“Walk the walk”</b></p> <p>Keep commitments and implement timely policies. Hold people and institutions accountable for successes and failures achieved under their authority.</p>
Source: Devised by author.	

## Invest in Two Core Pillars: Agriculture and Social Protection

Study after study points to the importance of the first step in reducing poverty and hunger in developing countries—investing in agriculture and rural development (Diao et al. 2007; World Bank 2007). Most of the world’s poor and hungry people live in rural areas in Africa and Asia and depend on agriculture for their livelihoods. Millions of these poor farmers are struggling to raise output on tiny plots of degraded land, far from the nearest market. The little they grow cannot provide them and their families with a healthy diet. Sustained investment in agriculture can make an enormous difference for poor farmers by providing them with access to inputs such as high-quality seeds, affordable fertilizer, and irrigation, as well as building the infrastructure that can connect them to markets. But many developing countries continue to underinvest in agriculture. In South Asia and Sub-Saharan Africa—the regions with the largest number of undernourished people—government spending on agriculture lags behind East Asia (see Figure 2).

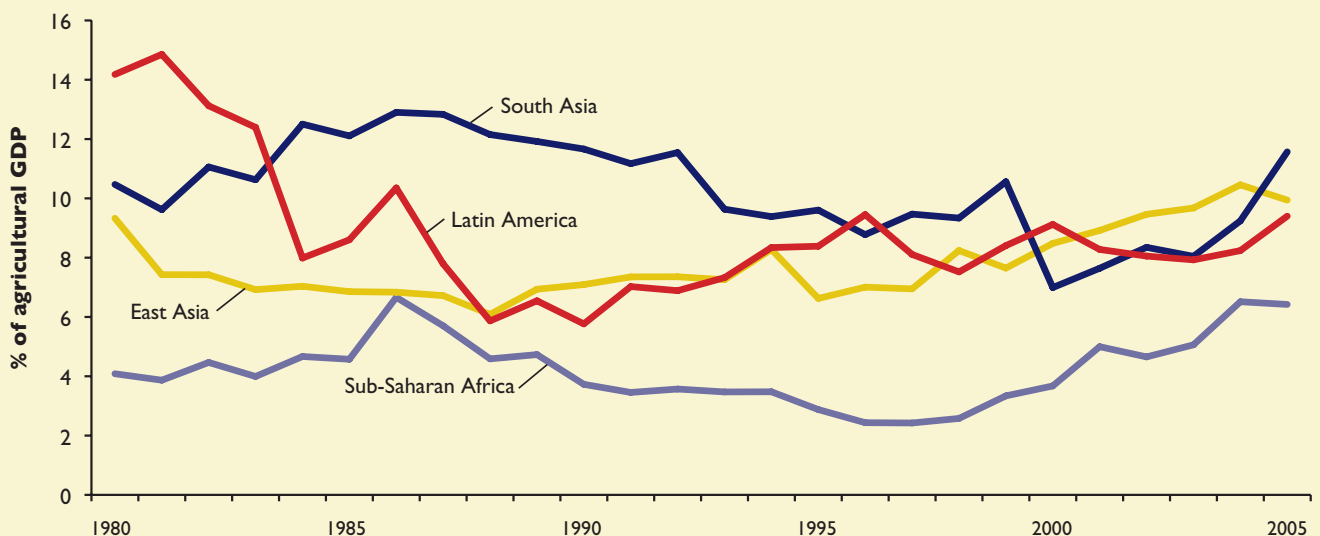
Research in Africa and Asia has shown that investments in agricultural research and extension have large impacts on agricultural productivity and poverty. In China, for every additional 10,000 yuan (about US\$1,200) spent on agricultural research in 2000, 11 people in rural areas were lifted out of poverty (Fan,

Zhang, and Zhang 2004). In Uganda, for every additional million shillings (about US\$920) invested in agricultural research in 1999, 58 people were lifted out of poverty (Fan and Chan-Kang 2005). In Ethiopia, one agricultural extension visit reduced poverty by 9.8 percentage points and increased consumption growth by more than 7 percentage points (Dercon et al. 2009).

Investments in rural infrastructure can bring even greater benefits. India, for example, achieved substantial and steady declines in poverty from the 1960s to the 1990s through massive public investments in rural infrastructure. Evidence shows that for every additional million rupees (about US\$23,200) India invested in rural roads in the 1990s, 881 people were brought out of poverty; for every additional million rupees invested in agricultural research, 436 people in rural areas were drawn out of poverty (Fan, Gulati, and Thorat 2008).

In addition to investments in agriculture, scaled-up investments in social protection that focus on nutrition and health are also crucial for improving the lives of the poorest of the poor. Although policymakers increasingly see the importance of social protection spending, there are few productive safety net programs that are well targeted to the poorest and hungry households (Coady and Fan 2008). There is evidence that social programs also suffer from high administrative costs, corruption, and an excessive number of uncoordinated and duplicated program elements—in other words,

**Figure 2—Agricultural spending as a share of agricultural GDP, 1980–2005**



Source: Calculated using data from the International Monetary Fund’s (IMF) *Government Financial Statistics Yearbook* (various issues).



governments are spending money but are not achieving desirable results (Coady and Fan 2008).

Yet there have been successes. Targeted large-scale safety nets such as Mexico's PROGRESA (now Oportunidades) conditional cash transfer program have done a great deal to boost health, nutrition, and children's education, in addition to being a powerful poverty-reduction tool. PROGRESA aimed to develop the human capital of poor households by combining education, health, and nutrition interventions into one integrated package. Cash transfers were conditional on regular school attendance and visits to health care centers. Impact assessments show that PROGRESA has effectively reduced the severity of poverty among beneficiaries by 45 percent (Skoufias 2005), raised median caloric acquisition by 7 percent, and reduced the probability of child stunting. In Nicaragua, the Red

de Protección Social conditional cash transfer program resulted in a decline of 5.5 percentage points in the number of stunted children (Maluccio and Flores 2005).

More importantly, there are programs that operate across sectors to address the vicious circle of poverty, food insecurity, malnutrition, and ill health. Agriculture has significant ramifications for nutrition and health, and in turn, nutrition and health are important for agricultural productivity and growth. Yet practitioners in each sector continue to work in isolation from each other, leaving potential synergies untapped. One recent successful example of a cross-sector effort is Ethiopia's Productive Safety Net Program, which was implemented as part of a broader food security program and was supported with other complementary interventions (see Box 2). In Brazil, economic growth and equity-oriented public policies, such as policies for universal

### Box 2—Ethiopia's Productive Safety Net Programme

Ethiopia's Productive Safety Net Programme, which reaches more than 7 million rural people, is the largest social protection program in Sub-Saharan Africa outside of South Africa. As part of Ethiopia's Food Security Programme, the Productive Safety Net Programme targets transfers to poor households in two ways: (1) through payments for public works, and (2) through direct support or transfers to labor-scarce households, including those with elderly and disabled members. In the public works component of the program, healthy selected beneficiaries are paid about 6 Ethiopian birr—about US\$0.75—a day to contribute labor to build community assets. About 34,000 public works projects focusing on soil and water conservation, social infrastructure, and roads are initiated yearly and take place during the months when rural families are not engaged in farming activities. Beneficiaries receive either cash or an equivalent payment in food. They are expected to remain in the program for three years.

The Productive Safety Net Programme is not a stand-alone initiative, but is part of an array of complementary programs. It often goes hand in hand with Ethiopia's Other Food Security Programme, which is designed to help households increase their agricultural incomes and build up their assets. It provides transfers or services to improve agricultural productivity, such as credit, agricultural extension services, technology, and irrigation. For example, the Household Asset Building Programme, a component of the Other Food Security Programme, gives households a one-time subsidized credit to rebuild their asset base or to purchase household extension packages—combinations of agricultural inputs put together based on a business plan developed with support from the extension service.

The results have been positive and significant. Households receiving transfers consumed more calories—19 percent—and achieved higher growth in livestock holdings than nonbeneficiaries. When families had access to both the Productive Safety Net Programme and the Other Food Security Programme, they built up more assets, improved their food security more, and attained higher maize and wheat yields than did families that participated in just one component. Combined interventions, it seems, can lead to greater impacts and provide pathways out of poverty and food insecurity.

Source: Based on Gilligan, Hoddinott, and Taffesse (2008) and World Bank (2009).

access to health care, education, water supply, and sanitation, had an impressive impact on child undernutrition. From 1974 to 2007, the prevalence of child stunting in Brazil declined from 37 to 7 percent (Monteiro et al. 2010).

## Bring in New Players

New actors in global development—the private sector, philanthropic organizations, and emerging economy donors—have important roles to play in reducing hunger in developing countries. But the opportunities presented by these development partners have not been fully harnessed. Given the right incentives, for example, the private sector can provide effective and sustainable investment and innovation to help in the fight against hunger. In many countries, however, private companies face a lack of incentives and a poor business operating environment, including poor property rights. Moreover, many companies continue to engage in short-term philanthropy to fulfill corporate social-responsibility requirements. The impetus to go beyond philanthropy and develop inclusive business initiatives that integrate the developing world into the global value chain is only slowly picking up.

Some promising models of private-sector participation are, however, emerging. New business models are starting to better integrate smallholders into high-value markets. Agrodealers in Ghana, Kenya, Malawi, Mali, Nigeria, Tanzania, and Zambia facilitate smallholders' access to inputs such as new high-yielding seed and fertilizer, as well as technologies (AGRA 2009). India's Rural Business Hubs, initiated by the Ministry of Panchayati Raj and the Confederation of Indian Industry as a public–private–panchayat (village council) partnership, offer a wide range of interventions: they provide technology, better agricultural inputs, training, and market linkages, and they help rural entrepreneurs diversify their products, standardize quality, and use innovative packaging (Confederation of Indian Industry 2010). In Africa a new public–private partnership—the Business Alliance against Chronic Hunger—specifically pursues market-based solutions to reduce hunger by strengthening food value chains and empowering the poor. In Kenya, where the Business Alliance against Chronic Hunger launched its first pilot program, more than 30

private companies have become members and have committed to action (BAACH 2010). Another public–private partnership is the West Africa Seed Alliance, which aims to establish a sustainable commercial seed industry to ensure that smallholder farmers have affordable, timely, and reliable access to high-quality seeds (CNFA 2010). Although empirical evidence of their impact remains scarce, these initiatives provide an important first step toward better engaging the private sector in development.

Philanthropic organizations are increasingly important in promoting the food security agenda, because they are willing to take risks to reach the poor and support social entrepreneurship. The Bill and Melinda Gates Foundation, for example, funds initiatives that help smallholders escape from the cycle of hunger and poverty, with a focus on women farmers. International nongovernmental organizations (NGOs) based in developed countries emphasize partnership, innovation, risk taking, and results in their work in developing countries. In partnership with local NGOs and governments, Hellen Keller International has already done much to improve nutrition at a large scale (see Box 3 on next page). Among the Southern NGOs, the M. S. Swaminathan Research Foundation in India, for example, contributes to reducing hunger by applying modern science and technology, together with a grass-roots approach, to the complexities of poverty reduction, gender equity, and environmental sustainability (Lele and Gandhi 2009). The largest Southern NGO, the Bangladesh Rural Advancement Committee (BRAC), has developed a unique and holistic approach to poverty alleviation that emphasizes empowerment of the poor, including rural women, using a model centered on village organizations, which provide social support and microfinance services. BRAC's community health volunteers and agricultural extension workers work with the village organizations to increase program outreach and impact (BRAC 2010).

Emerging-economy donors are now playing an increasing role in providing development assistance. Ten countries that are not members of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee—Brazil, China, India, Kuwait, Saudi Arabia, South Africa, Republic of Korea, Turkey, United Arab

### Box 3—Combating malnutrition and blindness with homestead food production in Bangladesh

For millions of mothers and children in Bangladesh, deficiencies of vitamin A and other essential nutrients have severe consequences, including poor health, blindness, malnutrition, and mortality. More diverse diets, especially including fruits, vegetables, and animal-source foods, can help prevent micronutrient deficiencies. Building on a successful gardening and nutrition-education pilot project for combating child malnutrition and blindness in Bangladesh, Helen Keller International and local NGOs developed the homestead food production model in the early 1990s. The program combines home gardening, small animal husbandry, nutrition education, and other community-development and women-empowering activities. Dozens of local NGOs and the Government of Bangladesh actively participated in designing and implementing the program. The costs of homestead food production are shared among households and partner NGOs.

In its first 20 years, the program improved the food security of almost 5 million people. The adoption of improved homestead food production systems, the production of a greater quantity and variety of foods, and the year-round availability and accessibility of higher-quality foods has led to an increase in vitamin A intake among both mothers and children.

Source: Iannotti, Cunningham, and Ruel (2009).

Emirates, and Venezuela—each provide more than US\$100 million of development aid a year (ECOSOC 2008). The total volume of South–South aid amounted to 7.8–9.8 percent of total aid flows in 2006 (the most recent data available) (ECOSOC 2008), and there are indicators that this share has since increased. Overall aid from China to Africa was estimated to have almost quadrupled from US\$684 million in 2001 to US\$2.5 billion in 2009 (see Figure 3 on next page). Most of the development assistance goes beyond traditional aid and is better described as part of a mutually beneficial economic and political partnership. This assistance is closely linked with trade promotion, investment, and the provision of technical assistance. Chinese aid to African agriculture, for example, has experimented with new methods of combining aid with economic cooperation, including joint ventures, cooperation contracts, and public–private partnerships (Brautigam and Tang 2009).

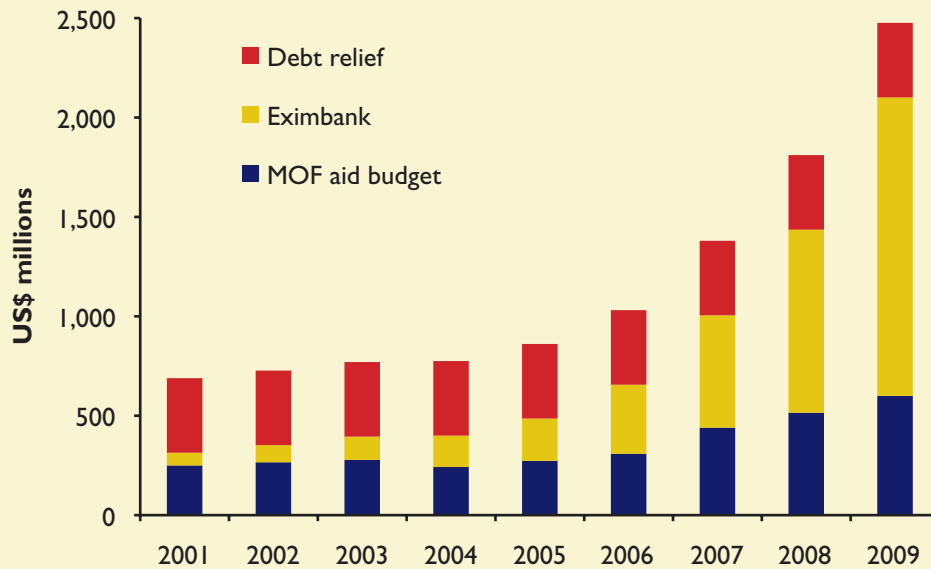
### Adopt a Country-Led, Bottom-Up Approach

By setting conditions and imposing structural-adjustment reforms, international donors have long been influential in formulating development

strategies in low- and middle-income countries. These reforms—emphasizing stabilization, liberalization, and privatization—were adopted to varying degrees around the world in the 1980s and 1990s (Rodrik 2004), but did not often deliver the expected results because they were not successfully translated into concrete policies fitting local circumstances (Delgado 1997). In Africa, looking beyond the region for policy solutions has limited both the range of reform possibilities and national policy innovation (Ochieng 2007), as many externally driven reforms have been met with resistance from national governments and have been incompletely adopted.

In addition, reforms in many countries have been driven by a top-down approach, with national governments playing a dominant role. Government actions sometimes lead to political outcomes that benefit only the elites and hinder broad-based development. Even in democratic societies, local governments play little role in formulating policies and thus sometimes fail to embrace central government programs (Iyoha 2008). And in countries that have succeeded in gaining broad participation in the formulation of agricultural and rural development strategies, it can be difficult to turn the results of this participation into feasible national policies (Resnick and Birner 2008).

Figure 3—China's aid to Africa, 2001-2009



Source: Brautigam 2009.

Note: MOF refers to China's Ministry of Finance.

The greatest successes in enhancing food security have been primarily country driven or catalyzed by country-led strategies, such as the Green Revolution in Asian countries from the mid-1960s to the mid-1980s, land reform in China from the late 1970s to the mid-1980s, and the exit from collective agriculture in Vietnam from the late 1980s to the mid-1990s.

The Green Revolution in India, for example, was led by a comprehensive government strategy for augmenting grain production. The strategy combined the distribution of subsidized inputs (such as internationally available high-yielding seeds and fertilizer), with infrastructure investment (roads and irrigation), land reform, investment in research and development, agricultural extension, and marketing policy interventions. The availability of semi-dwarf wheat varieties developed by international agricultural research centers was key to the success of the Green Revolution, but it was India that adapted the varieties to the local environment and invested in the irrigation and fertilizers that were critical for these varieties to perform. Throughout the reform, the Indian government played an active role in coordinating the interventions of donors and investment partners. As a result of the Green Revolution in Asia, the number of undernourished people declined by one-third from

1975 to 1995 while the population grew by 60 percent in the same period (Hazell 2009).

Starting in the late 1980s, the Vietnamese government dismantled collective agriculture, assigned land-use rights to farmers, and liberalized agricultural markets, in addition to making broader economic reforms (Kirk and Nguyen 2009). By increasing the incentives to invest in agriculture, the reforms boosted agricultural growth to an average of 5 percent a year from 1991 to 2000. The effects on poverty and malnutrition were staggering. The proportion of stunted children fell sharply from 53 to 33 percent between 1993 and 1998, and the incidence of poverty fell from 58 to 29 percent from 1993 to 2002.

The success of the reforms can be attributed largely to unorthodox policies, such as partial liberalization, which donors and outsiders would not have prescribed (Rodrik 2004). Even where policies were heavily influenced by externally proposed reforms, “positive deviance” has been essential in generating successful policy solutions (Ochieng 2007). Effective, efficient, and sustainable policies that are well adapted to the local context can help countries maximize the local impact of the global agenda and tap external development assistance, which increasingly requires country-led plans. Governments in Africa have recently

adopted promising Africa-owned and Africa-led development initiatives through the Comprehensive Africa Agriculture Development Programme (CAADP). Eighteen countries have already signed their CAADP compacts, which align national agricultural sector policies, strategies, and investment programs with CAADP principles, pillars, and targets.

A country-led approach goes beyond government-led action. Successful reforms have been not only country driven, but also local in nature, with poor people acting as a successful driving force in the development process. Community involvement

has been at the root of reforms enhancing agricultural production and food security, such as the intensification of dryland cultivation in the Sahel. Led by farmer innovations in traditional agroforestry practices and soil and water management, this initiative improved the food security of more than 3 million people (Reij, Tappan, and Smale 2009). Practices such as planting pits and stone bunds increased cereal yields from 40 to more than 100 percent.

At the same time, some issues—like climate change, trade, and control of disease—must be addressed at the global level. The task for individual countries is then

### Box 4—China’s policy experiments

In China, agricultural reforms began after two decades of disappointing experience with collective farming. In 1978, a few production brigades in the poor Anhui Province experimented with a return to household farming. With improved incentives for production, farmers quickly achieved impressive productivity increases. Local officials embraced the experiment, and after two years, so did the national government. The new system of contracting land to households spread rapidly and became known as the Household Responsibility System. It is estimated to have contributed to 60 percent of China’s rapid growth in the early 1980s (Lin 1992). The Household Responsibility System was followed by other reforms, such as the liberalization of markets for quota and nonquota crops; the introduction of public, market-driven township and village enterprises that led to rural industrialization; and the partial implementation of trade liberalization. In learning from such experiments, the Chinese political leadership was supported by strong, state-sponsored, but relatively autonomous research institutions such as the China Development Research Group, the Chinese Academy of Social Sciences, and the Development Research Center of the State Council. As a result of the reforms, rural incomes doubled from 1978 to 1984 and rural poverty plummeted (see figure below). The reforms also substantially raised agricultural production and increased access to food for both rural and urban households.

#### Per capita income and incidence of poverty in rural China, 1978–97

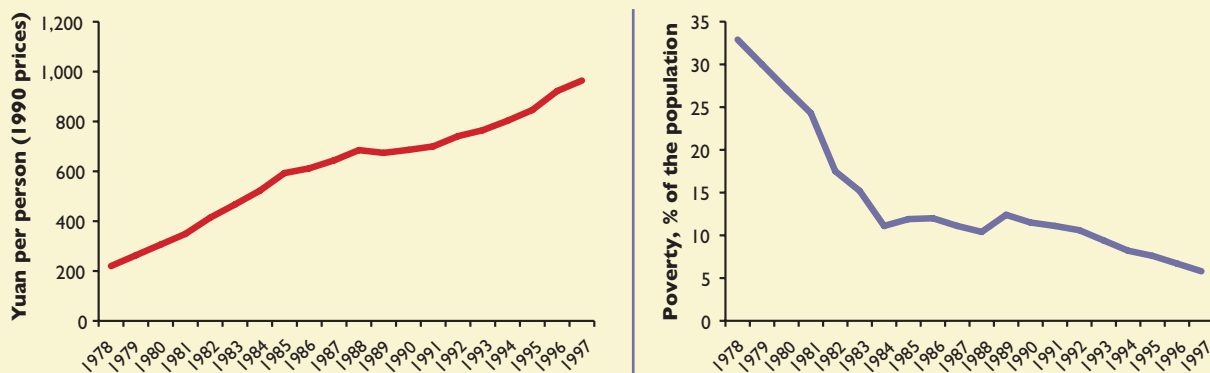


Figure source: Fan, Zhang, and Zhang (2002).

Source: This box draws partially on Bruce and Li (2009).



to digest and integrate these global issues in developing their own strategies at the country level.

## Design Policies Using Evidence and Experiments

Countries often implement policies economywide, based on the “expert judgment” of key decisionmakers instead of on careful experimentation. Many reforms, such as the transition experiences of most post-communist countries, have taken a “big-bang” approach of rapid, massive policy change, with mixed results. In contrast, testing and experimentation—in the form of pilot projects and policy experiments, for example—have the potential to improve policymaking by giving decisionmakers information about what works before policies are implemented across the board. Experimentation can improve the success rate of reforms as successful pilot projects are scaled up and unsuccessful policy options are eliminated. But these kinds of evidence-based approaches have been largely confined to technical and scientific innovations. Indeed, even when pilot projects do take place in developing countries, they are often poorly monitored or, if successful, are not scaled up enough to achieve national impact (Simmons, Fajans, and Ghiron 2007).

Experiments can be designed to provide evidence on how to design, sequence, and implement reforms in areas like agricultural, rural infrastructure, social protection, insurance, labor, and tax policies. To succeed with this approach, policymakers need to design an appropriate framework for evaluating experiments, move quickly to create the political and legal space for local experimentation, and foster a culture that values adaptation and change. They also need to allow impartial monitoring of experiments and rapidly transform the lessons learned into large-scale reforms. These changes can create an environment in which policies are continually tried, tested, adjusted, and tried again. The reform process in countries such as China highlights the benefits of careful experimentation, speedily translated to large-scale reforms (see Box 4).

In areas such as agriculture, health, and education, it can be difficult to assess the causal link between an intervention and its impact. Researchers have started to conduct randomized controlled trials in policy experiments, without compromising real-world complexity, to accumulate credible knowledge on

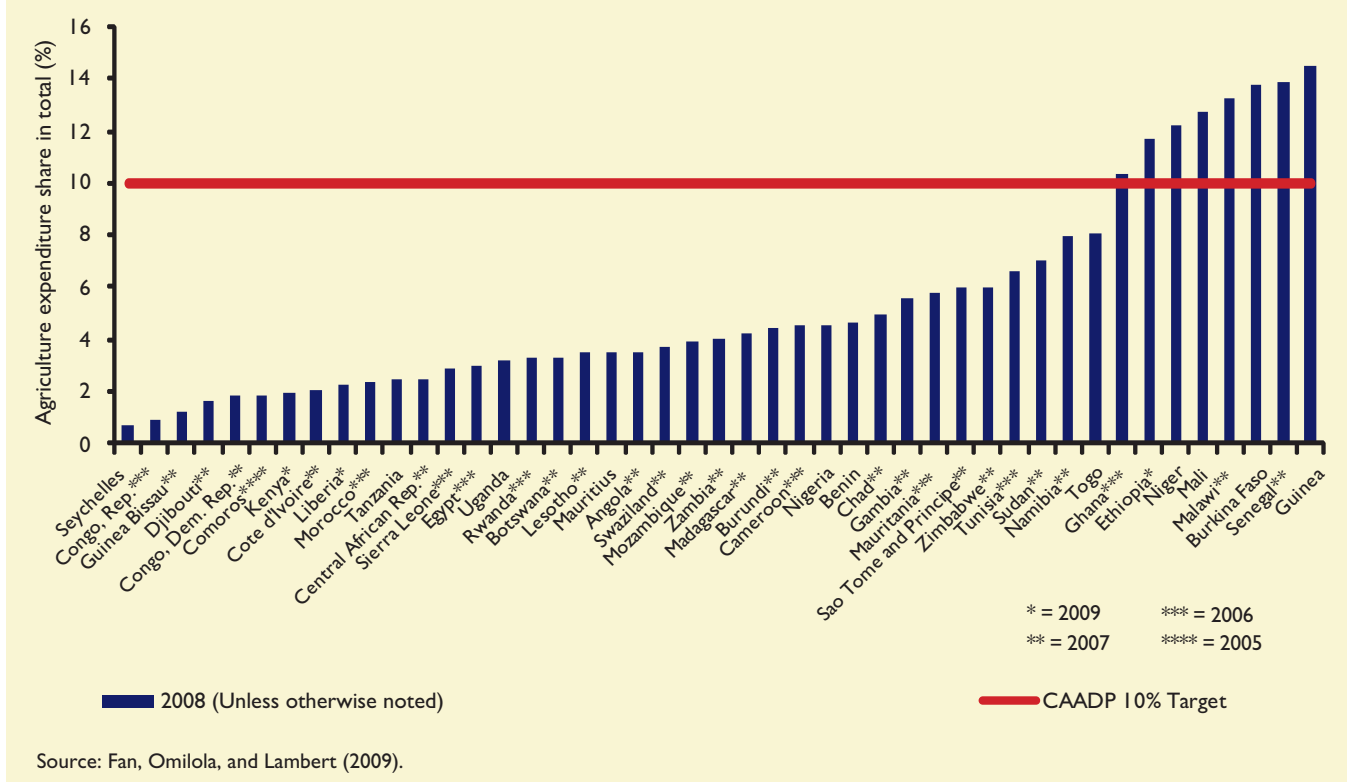
what works, what does not, and why. Randomized controlled trials have recently been carried out in the field of agriculture—focusing, for example, on how to encourage farmers to use fertilizer (Duflo, Kremer, and Robinson 2008a, b). Laboratory experiments have also been used to understand why contract farming arrangements sometimes fail, and to identify ways to help open markets to small farmers (Wu and Roe 2007). More broadly, experimental evidence can provide valuable insights into people’s preferences, which can help improve policy design. For example, experiments on how individuals in developing countries make choices in situations of uncertainty can help lead to more effective interventions, such as insurance for poor farmers. Because results depend heavily on the theoretical and statistical assumptions of the experiments, close collaboration between researchers and policymakers in developing countries is essential to translate the results of experiments to policy (Harrison, Humphrey, and Verschoor 2009).

## Walk the Walk

Decisionmakers at the global, regional, and national levels have made commitments to policies and investments for enhancing food security, but they have often failed to meet those commitments. In 2003, African heads of state pledged that their governments would allocate 10 percent of national public budgets to the agricultural sector by 2008, but data for 2007 show that only a handful of countries had met the 10 percent target (see Figure 4 on next page). Many countries have also failed to summon the political will or the resources needed to make timely investments in tackling the food and financial crises. From the time a problem is recognized, it can take years for decisionmakers to decide how to handle it and to carry out an intervention.

In 2005, global donors made commitments to substantially increase development aid at the Gleneagles Group of Eight and the Millennium+5 summits. However, the latest projections show a shortfall of US\$18 billion in 2010, which will mainly affect Africa (OECD 2010). In 2008 and 2009, global leaders made ambitious new pledges to tackle food insecurity. As a follow-up to these pledges, a new multidonor trust fund—the Global Agriculture and Food Security Program—was launched in April 2010 with the aim

**Figure 4—Agricultural expenditures as a share of total spending**



of making commitments operational as quickly as possible. As in the past, however, there are no global mechanisms to effectively ensure accountability and measure progress.

The commitment of resources and timely implementation can, however, lead to effective policies. In response to the global food crisis, some countries quickly adopted and implemented comprehensive policies and investments. For example, from 2007 to 2009, India increased its investment in agriculture and social protection by 37 percent, and China increased its investment by 67 percent (India Ministry of Finance 2009; The Chinese Central Government's Official Web Portal 2009). In addition, the Indian government established a National Food Security Mission in 2007 to enhance food security by boosting agricultural productivity and production. India also expanded its safety nets, such as the National Rural Employment Guarantee Scheme.

At the global, regional, and national levels, financial commitments need to be supported with strong insti-

tutions and governance. Timely and transparent monitoring of implementation adds accountability to the moral obligation of governments and donors to follow up on promises made. The recently developed Regional Strategic Analysis and Knowledge Support Systems (ReSAKSS), a collaboration between the Consultative Group on International Agricultural Research and leading regional economic communities in Africa, is performing this accountability function for the CAADP targets. Country by country, ReSAKSS tracks progress in CAADP implementation, focusing on public spending, the quality of policies being pursued, and the inclusiveness of policy dialogues. At the global level, the United Nations secretary-general established the High-Level Task Force on the Global Food Security Crisis in April 2008 to help international organizations support national governments in combating food insecurity. So far, the task force has coordinated donor efforts in more than 60 countries, with intensified coordination in 33 (United Nations 2009).

## Scaling Up “Business as Unusual”

**T**he number of people going hungry is now rising instead of falling. The world is at risk of utterly failing to meet the hunger Millennium Development Goal. A billion people remain hungry, and current actions at the global and national levels show no sign of reducing the number of hungry to the target of 584 million by 2015—much less of eradicating hunger altogether.

To reduce poverty and hunger, global, national, and local actors need to pursue “business as unusual” along the lines described: greater investment in agriculture and social protection; vigorous involvement of new players to attack the problem on several fronts; country-led and bottom-up development that accounts for local conditions and context; an evidence-based approach to policy; and strong commitment and follow-through. A number of countries have already achieved success in reducing poverty and hunger using these approaches, and their experiences point the way for others.

Many issues cut across country borders and must also be addressed globally; these include climate change, agricultural research, disease control, and trade, among others. International and regional efforts to reduce hunger need to be continued, and the global food governance system itself needs to be reformed to work better. Options for reforming the global food governance system include (1) improving existing institutions and creating an umbrella structure for food and agriculture; (2) forming an innovative government network that strengthens government-to-government systems for decisionmaking with regard to agriculture, food, and nutrition; and (3) expanding the current system to explicitly engage the new players in the global food system—the private sector and civil society, including large private foundations—together with national governments in new or significantly

reorganized international organizations and agreements (von Braun and Islam 2008). A combination of all three options, with a leading role for emerging economies such as Brazil, China, and India, is required to address the existing and emerging challenges to global food security.

Though global and national actors have distinct roles to play, it is important that they work together, combining their efforts to fight poverty and hunger. For example, they should seek to bring the actions of donors and national governments in line with one another, to complement rather than compete with each other.

A stronger system of mutual accountability between the two groups would help keep progress on track. Maintaining a focus on the effort to achieve the hunger Millennium Development Goal by 2015—much less on the effort to eradicate hunger altogether—is difficult. Food crises push hunger onto the global agenda, but the end of a crisis often spells the end of attention to the plight of undernourished people. National and global actors can keep each other accountable by drawing attention to promises kept and promises broken and to progress as it advances and stalls. Working together, with a “business as unusual” approach, actors at the national and global level need to successfully reduce hunger and poverty on a large scale as soon as possible, because once hunger is reduced by half, the job is only half done.



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