



Meeting the Millennium Development Goals

Chapter Summary

The Millennium Development Goals (MDGs) to end hunger and poverty are within reach. Achieving the goals mostly depends on the commitment of political leaders to scale up proven approaches and target the most difficult to reach groups. Leaders will have to address the structural inequalities that deny certain groups of people access to social and economic opportunities. These are predominantly racial, ethnic and religious minority groups. Women and girls face additional barriers—including in majority groups. Accelerating progress against hunger and poverty requires a more deliberate focus on women and girls. Effective policy responses depend on reliable information about how various groups are faring. Countries where hunger and poverty are stubbornly persistent have a limited capacity to collect and analyze data. Strengthening data systems needs to be a priority of leaders in countries affected by hunger and their development partners.

MAIN RECOMMENDATIONS IN THIS CHAPTER

The international community should make a concerted push to achieve the MDG targets before their agreed deadline of December 2015.

Focused efforts in these areas would accelerate progress on the MDGs:

- Lifting up the importance of maternal and child nutrition.
- Strengthening social protection programs to reach the most marginalized people in society.
- Removing barriers faced by rural women and girls.
- Improving the capacity of developing countries to monitor and evaluate their progress on the MDGs.

2012 brought good reason to feel optimistic about ending global poverty. We learned that in 2010 the percentage of the world's population living on less than \$1.25 a day (the global measure for extreme poverty) had been cut in half since 1990—meeting the Millennium Development Goal (MDG) target five years ahead of the 2015 deadline.¹ In addition, more than 2 billion people had gained access to safe drinking water by 2010, reaching another MDG target five years ahead of schedule.²

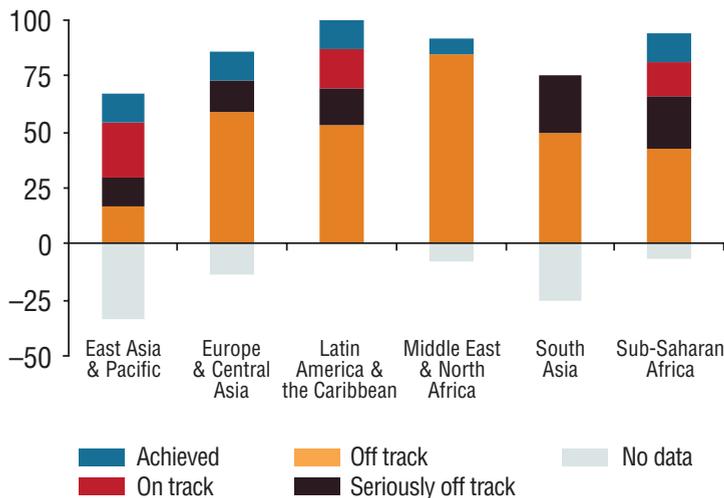
Does the credit for this belong to China's progress? Yes and no. The poverty rate in China fell from 65 percent in 1981 to 4 percent by 2007.³ With 1.3 billion people, China is the most populous country on earth, so national progress has outsize ramifications on international outcomes. But setting aside China—and India, the other rapidly growing population giant—what is left also leaves plenty of reason for optimism.

Between 2005 and 2008, poverty rates fell in every region of the world—the first three-year period this has occurred since the World Bank started tracking poverty data. This shows that progress is widespread. In addition, developing countries were able to bounce back from the global financial crisis in 2008 and earlier shocks caused by volatile energy and food prices.

In 2012, one piece of sobering news is the report from the respected British medical journal *The Lancet* that the MDG target on reducing child hunger—as measured by undernourishment—is unlikely to be met by 2015.⁴ According to the research, there is less than a 5 percent chance that developing countries, considered as a group, will meet the target. It is troubling not to see progress on hunger that corresponds to the progress on poverty. Both are part of MDG 1, reflecting the thinking that they are indivisible. But human development is an equation with many factors. Progress in one area doesn't guarantee progress in others. A dollar a day

Figure 1.1 **Progress Toward Reducing Hunger***

Share of countries in region making progress (%)



Source: World Bank staff estimates, 2012

*The World Bank refers to hunger as undernourishment, measured by the availability of food to meet people's basic energy needs.



Between 1990 and 2010, over **2 billion** people gained access to improved drinking water sources.¹

A food price spike in 2010/11 prevented **48.6 million** people from escaping poverty in the short-run.²

might be enough to keep a person from going hungry in one country but not enough in another.

The cost of staple grains—the bulk of what poor people eat around the world—has skyrocketed since the MDGs were launched. This is perhaps the biggest reason that progress against hunger is not occurring at the same rate as progress against poverty. Families may have higher incomes but they also have to spend more on food. Minimizing the effects of higher food prices has become a major focus of governments and international development agencies, an issue we discuss in more detail in Chapter 2. Another reason progress against hunger and poverty may have become disconnected could be inaccuracies in the way hunger data are reported. We cover this subject later in the chapter and the attempt to solve the problem.

Every country is more complex than shown by data alone; each has a narrative to illuminate what is happening. Between 2002 and 2010, for example, India's gross domestic product (GDP) grew by an average of 8 percent annually. Over the same period, Brazil's GDP grew by 4 percent annually. But Brazil was able to reduce poverty by 4.2 percent per year, compared to 1.4 percent per year in India.⁵ There is more to this story than growth in GDP. We will say more about Brazil and the extraordinary progress it has made against hunger and what other countries can learn from Brazil's experience later in this chapter.

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Do We Dare to Be Optimistic?

“The success of development has been to reduce the cost and to spread the reach of the good life,” says Charles Kenny, an economist with the Center for Global Development in Washington, DC. By the good life, Kenny mostly means health and education. “A national income of perhaps \$2,000 per capita today, if well spent, is enough to provide many elements of the good life,” he says. “Take Vietnam, for example, a country firmly in the low-income



Laura Elizabeth Pohl

At the end of 2010, 6.5 million people were receiving antiretroviral therapy for HIV or AIDS in developing regions.

Enrollment rates of children of primary school age in sub-Saharan Africa increased to **76 percent** in 2010 from **58 percent** in 1999.³



Close to **one-third** of children in Southern Asia were underweight in 2010.⁴

category and the bottom quarter of global country incomes. Life expectancy is nearly 70 and the country has a literacy rate of above 90 percent and close to universal primary-school completion.”⁶

Vietnam spends about 0.4 percent of what the United States does on health for 91 percent of the life expectancy;⁷ infant mortality is about 2 percent, compared to 0.7 percent in the United States.⁸

Effective health-sector interventions do not always require hospitals or doctors. Through efforts to scale up malaria control, mostly by distributing bed nets to people in affected areas, nine African countries have reduced child malaria deaths by 50 percent or more since 2000.⁹ Bed nets cost around \$5. Treatment for diarrhea with oral rehydration salts (ORS) plus zinc is one of the best ways to reduce child mortality, because diarrhea is the second biggest killer of children worldwide.¹⁰ ORS is a simple solution of salt and sugar added to clean water. ORS plus zinc is



Todd Post

In January 2012, Bread for the World Institute visited U.S. food assistance programs operating in Guatemala. Here children are being monitored for malnutrition.

estimated to cost less than \$0.50 for a full course of treatment. This seems incredibly cost-effective, yet less than 1 percent of children with diarrhea in high-burden countries receive ORS plus zinc.¹¹

Research suggests that actions taken by parents to help sick children are the most significant factors determining child survival.¹² In India, child mortality rates differ widely across areas of the country. In West Bengal, more than 50 percent of parents believe the correct treatment for children with diarrhea is to reduce fluid intake, exactly the wrong thing to do; while in a different state, Kerala, fewer than 5 percent of parents think this is the correct treatment.¹³ It's not a coincidence that child mortality is three times higher in West Bengal than in Kerala.¹⁴ Poor understanding about the importance of proper feeding practices, combined with inadequate sanitation, is one of the main contributors to child mortality. Exclusive breastfeeding until the age of six months is a key factor in child survival. Breastfeeding takes time but otherwise is free.¹⁵ For a variety of socio-economic reasons, little more than a third of the babies in developing countries are exclusively breastfed for this long.¹⁶

The health of children and mothers depends not only on the quality of health care but also on nutrition, as U.N. Secretary General Ban Ki-moon noted in his 2011 report *Accelerating Progress Towards the Millennium Development Goals*¹⁷: “Insufficient nutritional achievement by age two condemns a child to being shorter, enrolling later in school, being less academically capable, receiving lower incomes as an adult, and, in the case of girls, being at greater risk of difficult childbirth and maternal mortality.”¹⁸

Chronic malnutrition poses one of the gravest threats to human development, including to progress on all of the MDGs.¹⁹ The MDGs measure progress in reducing hunger by calorie intake and children's weight, but they include no indicator for height. Stunting means that a child is too short for her age; it also carries consequences that can't be seen, including damage to brain development²⁰ and overall health. A child who is stunted has suffered chronic malnutrition. One in four of the world's children are stunted.²¹ Without a target for reducing stunting, MDG 1 on hunger is severely limited.

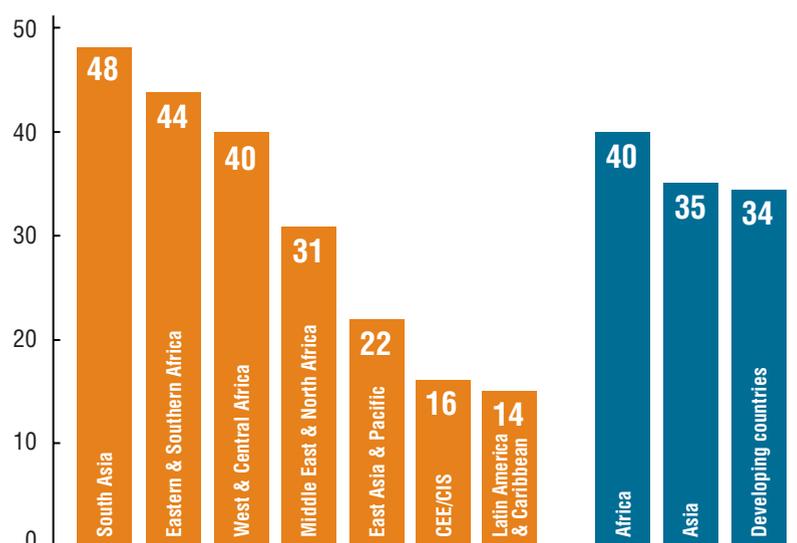
“The health of children and mothers depends not only on the quality of health care but also on nutrition.”

National leaders are not expected to be experts on human development. They generally rely on the consensus of the international development community as to what the medical and scientific evidence means. A principal way to communicate this consensus is through the targets included in the MDGs. Thus, when a new set of global development goals is negotiated, stunting should be a target so that national leaders grasp its importance. In 2012, the World Health Organization (a UN body representing all nations) agreed on a target to reduce the number of stunted children by 40 percent by 2025.²² This is recognition that stunting is a vital indicator to development.

Research leaves no room for doubt that the 1,000-days between pregnancy and age 2 are the center of the bull's-eye when taking aim against hunger. In 2008, *The Lancet* identified 13 interventions proven to have an impact on the nutrition and health of children and mothers. The World Bank estimated the cost of delivering these interventions in the 36 countries with 90 percent of the world's malnourished children at between \$10.3 and \$11.8 billion annually.²³ This cost, shared among developing countries and donors, should be affordable. In 2010, donors provided \$400 million in aid towards basic nutrition, representing less than 0.5 percent of total ODA that year.²⁴

“The reason these proven interventions have not been scaled up is due to public policy decisions and chronic under-investment in the health services needed to deliver them,” says Save the Children. It is not just money that is needed. Many developing countries don't have the institutional capacity to plan and deliver nutrition interventions at scale.²⁵ Yet, overall, the

Figure 1.2 **Percentage of Children Under Five Years Old Suffering from Stunting (moderate and severe), 2003-2009**



Source: UNICEF global databases, from Multiple Indicator Cluster Surveys (MICS), Demographic and Health Surveys (DHS) and other national surveys, 2003-2009.

Table 1.1 **Benefit-Cost Ratios for Specific Nutrition Programs**

<i>Intervention programs (in populations where deficiencies are prevalent)</i>	<i>Benefit-Cost ratio</i>
Breastfeeding promotion in hospitals	5-7 to 1
Integrated child care programs	9-16 to 1
Iodine supplementation (per woman of child bearing age)	15-520 to 1
Vitamin A supplementation (children <6)	4-43 to 1
Iron fortification (per capita)	176-200 to 1
Iron supplementation (per pregnant woman)	6-14 to 1

Source: Behrman, Alderman, and Hoddinot, in *Global Crises, Global Solutions*, ed. Bjorn Lomborg, Cambridge, UK, 2004

returns on investment in maternal/child nutrition are eye-popping. See Table 1.

In 2012, the Millennium Challenge Corporation (MCC) signed a compact with Indonesia that includes a \$131 million project to reduce and prevent low birth weight and stunting in 7,000 villages.²⁶ The MCC is an independent U.S. foreign aid agency established in 2004 to promote economic growth by partnering with low- and middle-income countries based on the partner country's own priorities. The MCC compact

with Indonesia was the first to make nutrition an explicit focus.

Indonesia proposed this part of the compact as a strategy to promote economic development. At first MCC balked at the idea. "MCC does not make investments designed to promote social development," says Patrick Fine, vice president for compact operations. "MCC's focus is on economic development in partner countries." But when Fine and colleagues at MCC analyzed the Indonesian government's proposal, they agreed that reducing stunting is an economic issue as much as it is an investment in social development. Malnutrition is estimated to reduce economic growth in developing countries by 2-3 percent per year.²⁷ Evidence shows that adults who were malnourished as children earn on average at least 20 percent less than those who weren't.²⁸ One third of Indonesian children under the age of 5 are stunted.²⁹ This is why Indonesia's nutrition program promotes economic development.

Putting Progress in Perspective

The MDGs are sometimes called a failure because quite a number of developing countries are projected to fall short of reaching them. This is a misunderstanding about what the MDG agreement of 2000 says. The MDGs were originally global targets, and that is what the nations of the world agreed on. Since then, they have been applied to individual countries. If all countries individually had to make a 50 percent reduction in income poverty by 2015, the actual outcome would be a reduction considerably higher than a cumulative 50 percent.³⁰ That's because some countries would end up meeting the target by 50 percent, but others would get to 54 percent, others to 60 percent, and so forth.

More important than the arithmetic is the fact that shifting the way success is measured from global to national outcomes cast countries that fall short of the targets as failures. But have they failed? Let's consider the MDG target to reduce child mortality by two-thirds. Say that country A, beginning with a child mortality rate of 250 per 1,000, reduces this rate to 200 per 1,000. Meanwhile, country B, beginning with a child mortality rate of 20 per 1,000, reduces the rate to 5 per 1,000. What this means is that for every 15 children's lives saved in country B, 50 lives are saved in country A—yet country A is called a failure for not

WOMEN OF FAITH ADVOCATE FOR MATERNAL AND CHILD NUTRITION

Nancy Neal

What do you get when you put women of faith in front of a movement? Answer: A movement with impact.

U.S. women of faith are part of what's called “the 1,000 Days movement.” By engaging in “1,000 Conversations” with faith communities, organizations, and government leaders, these women are spreading the word about the importance of proper nutrition for mothers and young children during the 1,000 days between pregnancy and a child's second birthday.

“The call of the gospel is the call to be present with the disenfranchised,” says Inez Torres Davis, of the Evangelical Lutheran Church in America. “I can't think of a more disenfranchised or disempowered person than the infant born to a malnourished woman.”

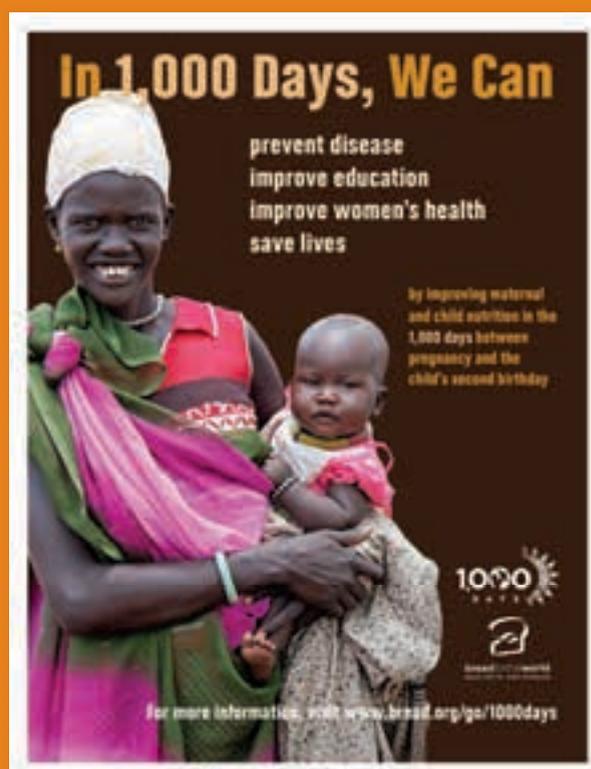
The Women of Faith for the 1,000 Days Movement was born out of a meeting in Washington, DC, in June 2011, when representatives from denominational women's organizations joined Bread for the World activists and civil society representatives from around the world for a day of learning about nutrition. Since then, these women's organizations have partnered with Bread for the World to get the message out to the public about the 1,000 days.

Research shows that malnutrition during these 1,000-days can cause irreversible damage in the form of reduced intellectual development and immune function, shorter height, and impaired vision. By preventing hunger and malnutrition during the 1,000-day window, children's earning potential increases, they become healthier, and they improve their capacity to lift themselves out of poverty.

Simple, low-cost programs that encourage breast-feeding, therapeutic feeding products, and vitamin supplements can save millions of lives—and even increase a country's GDP by up to 3 percent.

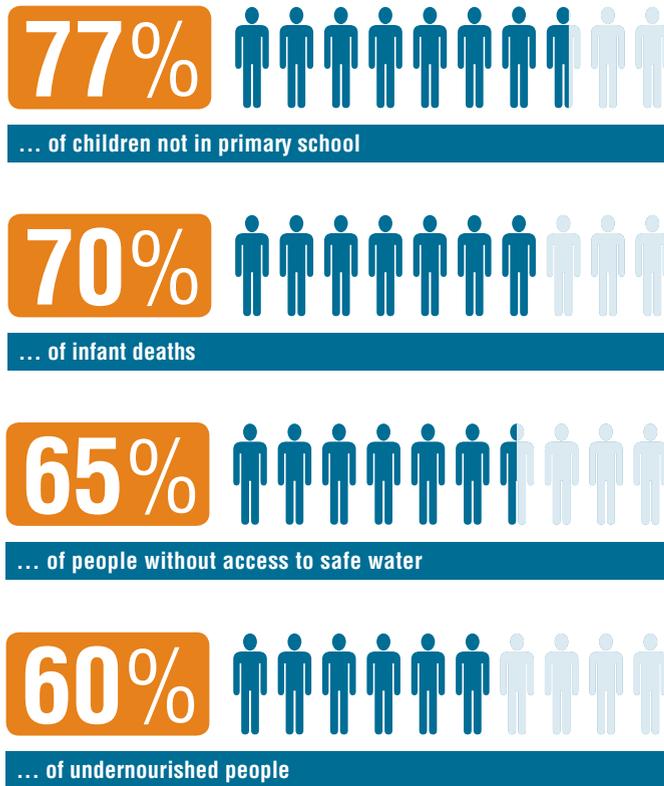
The U.S. government is considering difficult budget cuts, but reducing funding for programs that help poor women and children is not an effective means to reduce the federal deficit.

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cutting child mortality by two-thirds, while country B is considered a success because of its 75 percent reduction. If the target is evaluated globally, however, it's clear that country A made an important contribution to reducing the total number of deaths by two-thirds.

Figure 1.3 **Most of the MDG Deficit is Found in Fragile States**



Source: Organization for Economic Coordination and Development (OECD), 2011

It's essential to consider a key reason there was such a gap between the two rates of child mortality to begin with: the health system in country A was much weaker than in country B. Context is critical to understanding rates of progress. Development, which is about building systems that can sustain progress, will simply take more time in country A.

Sub-Saharan African countries are frequently cited as examples of the problems with how the MDGs are set up.³¹ In fact, the region has made encouraging progress since the MDGs were launched. From 2000 to 2008, real GDP rose by 4.9 percent a year, more than twice the rate of the 1980s and 1990s.³²

Former World Bank economist William Easterly has written that the MDGs are especially "unfair" when applied to Africa.³³ To meet the MDGs at a national level, many countries in the region would need to progress faster than any historical trajectory ever recorded. For example, it took the United States from 1800 to 1905 to move from 40 percent primary school

enrollment to universal primary education.³⁴ Expecting countries starting at 40–50 percent enrollment to reach 100 percent completion rates in just 15 years is unrealistic.

Institutional structures lay the groundwork for broadly shared growth that is sustainable over time. Many African governments have reformed their institutions, for example, by holding free and fair elections, privatizing state-owned enterprises, removing trade barriers, strengthening regulatory and legal systems, and providing critical physical and social infrastructure.³⁵ If these actions haven't translated into instantaneous and unprecedented gains in human development, it seems reasonable to show a little more patience.

Africa is still the region with the most fragile or conflict-affected states.³⁶ Africa is far from being the only region affected, since 1.5 billion out of the world's 7 billion people live in fragile or conflict-affected states.³⁷ Conflict and fragility also afflict countries with more developed economies—Syria, for example. The low-income countries that are plagued

by chronic violence and tyranny are a special problem. Continued progress against global poverty will require increased attention to fragile states. (See Figure 1.3.) Compared to conditions elsewhere in the developing world, malnutrition is 54 percent higher and child mortality 20 percent higher in fragile or conflict-affected states.³⁸ A

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quarter of the people living in fragile or conflict-affected states are among the poorest people on earth. They are likely to be the last to escape poverty as well, because their governments lack the capacity to solve their problems.

Countries such as Mozambique and Liberia are going to miss almost all of the MDGs by a wide margin, but that should not minimize the work they’ve done or the progress they’ve been making. Liberia’s two civil wars, from 1989-1997 and 1999-2003, decimated the country’s institutions. For the past 10 years, Liberia has struggled to rebuild. Gyude Moore, former Bread for the World board member, was born in Liberia and escaped the country with his family during the first civil war. His young sister died while they were fleeing, a death brought on by malnutrition. Moore’s family fled to Côte d’Ivoire. He eventually came to the United States, where he enrolled in college. In 2009, he completed his master’s degree in Foreign Service from Georgetown University. The same year, he returned to Liberia to serve as a special aide to President Ellen Johnson Sirleaf.

It’s apparent that countries like Liberia have a long way to go. Even Moore, with a government position, goes through periods without electricity in the capital city of Monrovia. In the countryside, conditions are far worse. But things are improving, as a Liberian aid worker explains: “I could tell things were getting better by the number of livestock I began to see in the villages. During the war, the animals were gone.”³⁹ Rebel fighters or the military had killed them to eat or to punish villagers for lack of allegiance. The fact that animals were reappearing is not the kind of “development indicator” likely to appear in any monitoring report, but for people familiar with the country such as the aid worker, it was as useful a barometer of progress as any other information available.

Meet the New Bottom Billion

Occasionally, books by academic authors find a wider audience than just their academic peers. In 2007, Oxford professor and development economist Paul

A peaceful day at the market in Saclepea, Liberia. During the country’s civil war, Saclepea was known as a recruiting ground for child soldiers.



Richard Lord

Collier found himself on bestseller lists with his book *The Bottom Billion*, which refers to the approximate number of people living in extreme poverty.

The Bottom Billion has helped educate readers about the difficulties in meeting the MDGs. Collier frames the challenges clearly and succinctly. They include conflict, within and between nations; geography (for example, landlocked nations face many more barriers to trade, especially when they are in a conflict-prone neighborhood); environmental damage, natural and manmade; and corrupt officials diverting development resources away from productive uses to line their own pockets.

But *The Bottom Billion* inadvertently gives an outdated understanding of global poverty. Collier described the bottom billion as people living in low-income countries and fragile states. In 1990, the baseline of the MDGs, 93 percent of the world's poor people did in fact live in

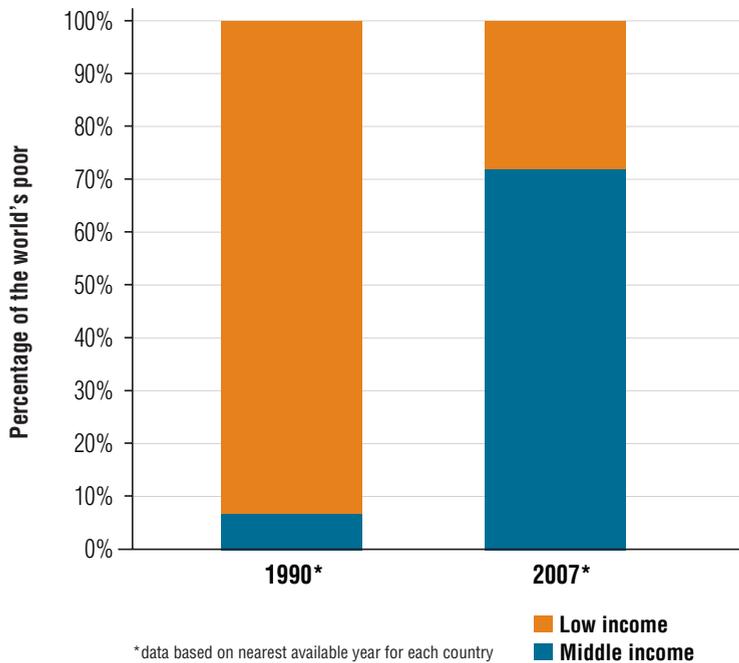
low-income countries and conflict-affected or fragile states. In 2010, Andrew Sumner of the Institute for Development Studies used more recent data (from 2007-2008) to show that most people living in poverty now reside in middle-income countries.⁴⁰ The latest estimate is that 72 percent of the world's poor people live in middle-income countries.⁴¹ See Figure 1.4. In effect, the book describes a world that does not really exist anymore, partly because of the progress that has been made in low-income countries and partly because many countries that were low income in 1990 are now middle-income countries.

Collier counts the entire population of low-income countries as part of the bottom billion. This assumes that growth within countries will be broadly shared and bring much of the population out of poverty, but the experience of the past 30 years

shows that this is definitely not the case. All too often, national progress masks inequalities. In Peru, for example, a child from the poorest fifth of the population is nine times more likely to be stunted than a child from the richest fifth.⁴² Although Peru has made more progress against malnutrition than most countries, the problem is that it has not reached the poorest people.

In many countries, human development outcomes among the poorest 20 percent of the population are generally lower than progress for the population as a whole.⁴³ (See Figure 1.5.) Niger, one of the poorest countries on earth, succeeded in improving child survival rates faster in the poorest quintile of the population than in the richest. Ghana, Mozambique,

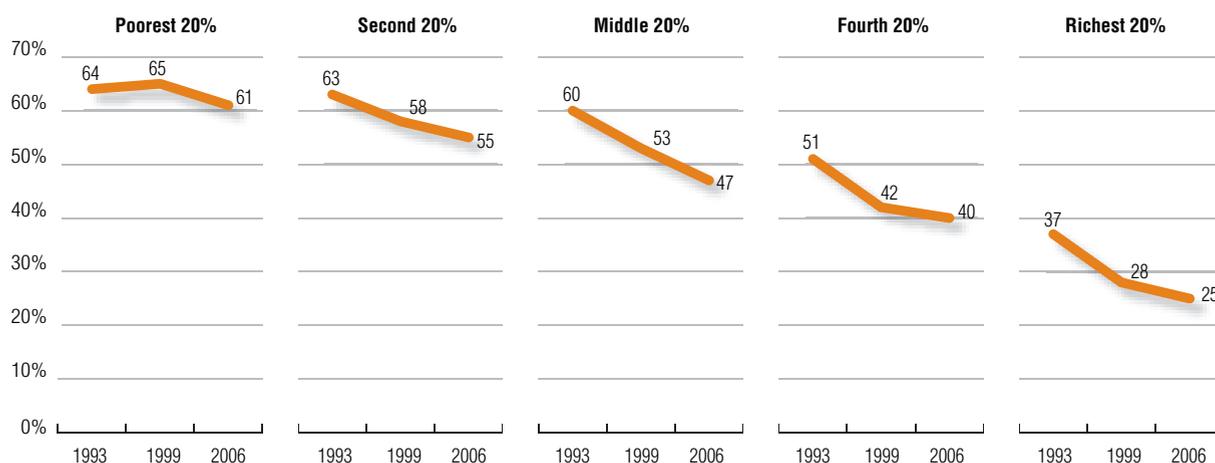
Figure 1.4 **The World's Poor Have "Moved" from Low-income Countries to Middle-income Countries**



Source: Center for Global Development, 2011

Figure 1.5 **In India, a Greater Reduction in Underweight Prevalence Occurred in the Richest 20% of Households than in the Poorest 20%**

Trend in the percentage of children 0-59 months old who are underweight in India, by household wealth quintile



Source: UNICEF, *Progress for Children: Achieving the MDGs with Equity*, 2010

Zambia, and Bolivia have also accomplished this. The credit for this progress goes to these countries' respective national governments, which were committed to reaching those at the very bottom.⁴⁴

Policymakers may not necessarily take much notice, but even among the global poor—people struggling to get by on \$1.25 or less a day—there are significant inequalities. The poorest and most disadvantaged of the world's poor people have found it increasingly difficult to share in national progress. *The Lancet* argues that in their current form, the MDGs make it too easy to target interventions at the people who are better-off among all those living in poverty. This can worsen inequality and prolong injustice: “If action is directed only at those near the threshold, the effect might be to increase inequality, pulling those accessible populations above the poverty line, thereby widening the gap between them and those still below the threshold.”⁴⁵

To reach the poorest members of society, countries must put resources into strengthening social protection programs. “Social protection” is a term often used interchangeably with safety nets, but safety nets are actually a subset of the broader concept of social protection. Social protection is intended to mitigate risks that are out of an individual's control. For instance, civil rights laws and child labor laws function as a form of social protection. Social protection proved to be a vital cushion against shocks during the global food-price crisis of 2007-2008 and will continue to be important since food prices are expected to remain volatile for some time. This report argues that social protection makes sense at all times—because being poor is fundamentally about unrelenting exposure to risk.

“In many countries, human development outcomes among the poorest 20 percent of the population are generally lower than progress for the population as a whole.”

Some of the best examples of social protection programs are in middle-income countries that have used them to great effect to reduce inequalities. Two of the most celebrated programs, Mexico's Oportunidades and Brazil's Bolsa Familia, have targeted the hardest-to-reach families. Bolsa Familia was launched in 2003 and Oportunidades (under its original name, Progresa) in 1997. Both programs rely mainly on conditional cash transfers. Beneficiaries



receive a cash payment if they agree to meet certain requirements. For example, pregnant women must get regular health checkups, parents must make sure children attend school and receive immunizations, and so on. It's not that parents are opposed to these things in the absence of cash payments, but especially for poor people, every decision carries opportunity costs and consequences. A child could be earning badly-needed income washing clothes rather than going to school. The cash payment lowers the risk of forgoing this income to send her to school.

Brazil's and Mexico's cash transfer programs are similar, but Bolsa Familia covers 50 million

The share of urban residents living in slums declined from 39 percent in 2000 to 33 percent in 2012.

Brazilians compared to Oportunidades' 5 million Mexicans. Between 2004 and 2009, extreme poverty in Brazil dropped from 10 percent to 2 percent of the population.⁴⁶ Brazil still has one of the highest levels of income inequality in the world, so when the economy is doing well, it is mostly rich Brazilians reaping the benefits. In 2009, however, income inequality in Brazil fell to a 50-year low. Bolsa Familia contributed to this progress by boosting the income of poor families, which grew seven times as much as the income of the wealthiest since 2004.⁴⁷ In addition to Bolsa Familia, the Brazilian government launched a national school feeding program, which serves nutritious meals to more than 36 million children and sources its food from 80,000 small family farmers. The program has boosted farmer incomes and reduced rural poverty rates while improving child nutrition and school attendance.⁴⁸

Bolsa Familia and the school feeding program are just two components of a larger effort known as Fome Zero (Zero Hunger). In 2003, Brazil's newly elected president, Luis Lula da Silva, stated that a goal of his administration was to make it possible for every Brazilian to afford three meals a day. Zero Hunger was the instrument through which he planned to achieve this goal. Since the establishment of Zero Hunger, Brazil has met the MDG 1 targets of cutting poverty and hunger in half, and in 2011, President Lula was awarded the World Food Prize for his commitment to ending hunger.

José Graziano da Silva, Lula's Minister of Food Security and the architect of Zero Hunger, now heads the United Nations Food and Agriculture Organization (FAO). José Graziano da

Silva's article, "The Greener Revolution," appears on page 41. Few people would seem to be more qualified and in a better position to guide countries on how to reduce hunger, yet Graziano doesn't believe he or anyone else can do that. "There is no general formula," he says. "The starting point is to recognize that one size does not fit all. It's very important for each country to find the way out of poverty based on their own experience."⁴⁹

With most of the world's poor people now living in stable middle-income countries, writes Andrew Sumner, "poverty is increasingly turning from an international to a national distribution problem... governance and domestic taxation and redistribution policies become of more importance than ODA (Official Development Assistance)."⁵⁰

Middle-income countries such as Brazil and India are able to finance ambitious large-scale social protection programs. The U.S. role in helping to reduce poverty in Brazil or India is not about providing funding for assistance programs. Rather, the United States can provide leadership to encourage all countries to make efforts to overcome poverty and to learn from each other's experience. The United States itself can learn from successful approaches in countries such as Brazil. In low-income countries, on the other hand, social protection programs may exist but reach only a small share of the population in need of assistance. Scaling up is impossible without external assistance. Thus, donor nations such as the United States have a role to play in helping low-income countries expand their social protection programs.



Todd Post

A Guatemalan woman feeds her child a packet of micronutrient-enriched food aid provided by USAID.

Bottoming Out in the Bottom Billion

With the recognition that most poor people live in middle-income countries comes the question of why so many people are apparently not benefiting from national progress. It's true that progress against poverty seldom happens without economic growth, but economic growth alone does not ensure that the benefits of growth will be broadly shared. The inevitable conclusion would appear to be that reducing inequality is a necessity.

Disadvantaged groups are the farthest behind in meeting the MDGs.⁵¹ In most countries, these are racial, ethnic, or religious minorities. Sometimes inequalities stem from centuries of discrimination. In Brazil, for example, 74 percent of the households in the bottom 10 percent in income are of African descent.⁵² In Nepal, 23 percent of children surveyed from the majority Chinese-origin community were underweight, compared to 34 percent of those in ethnic minorities in the northern mountains and 45 percent of children in the central

highlands and coastal areas.⁵³ In Kenya, 21 percent of women in the Mijikenda ethnic group give birth with a skilled attendant present, compared to 73 percent of Kikuyu women.⁵⁴

In any group, including minorities, women and girls experience more discrimination than their male counterparts. The MDGs were designed in part to address the gendered nature of poverty. Women make up 45 percent of the world's workforce, yet they are also 70 percent of the world's poor.⁵⁵ According to the United Nations Development Program,

75 percent of the world's women cannot get bank loans and are not allowed to own property.⁵⁶ Women often have limited access to education, health services, and employment, and limited control over their assets. In the state of Gujarat in India, 50 percent of women reported needing the permission of their husband or an in-law to take a sick child to a doctor.⁵⁷

It is hard to be poor anywhere, whether it's in the shantytowns of a sprawling metropolis or in a remote village hundreds of miles from the closest urban center. But despite a steady increase in people moving from rural to urban areas, poverty is still concentrated and harsher in rural areas. Rural girls are more likely to be out of school than rural boys, and they are twice as likely to be out of school as urban girls.⁵⁸ In Ethiopia, 95 percent of

Figure 1.6 **Among the World's Population Who Lack Access to Improved Drinking Water Sources, 83 Percent Live in Rural Areas**



Source: WHO/UNICEF, 2012

urban households have access to safe drinking water, while in rural areas just 42 percent do. Urban children in Ethiopia are twice as likely as rural children to receive an ORS packet for treatment of diarrhea.⁵⁹

In South Asia, 70 percent of employed women work in agriculture, while in sub-Saharan Africa, it is 60 percent—yet women receive only 5 percent of agricultural extension services.⁶⁰ If women had the same access to productive resources as men, according to the FAO, they could increase yields on their farms by 20 to 30 percent, raising total agricultural output in developing countries by 2.5 to 4 percent and in turn reducing the number of hungry people in the world by 12 to 17 percent.⁶¹

The fate of children is directly tied to the status of their mothers. Programs that help female farmers increase their incomes benefit both the women themselves and their children. When women increase their access to household resources, they spend more of it on the

well-being of their children. Raising women's income has been shown to improve children's nutrition, health, and education.⁶² A woman's level of education is a key factor in determining whether her children will even survive to the age of 5.⁶³ According to one study of data in 25 developing countries, one to three years of maternal schooling would reduce child

“It's very important for each country to find the way out of poverty based on their own experience.”

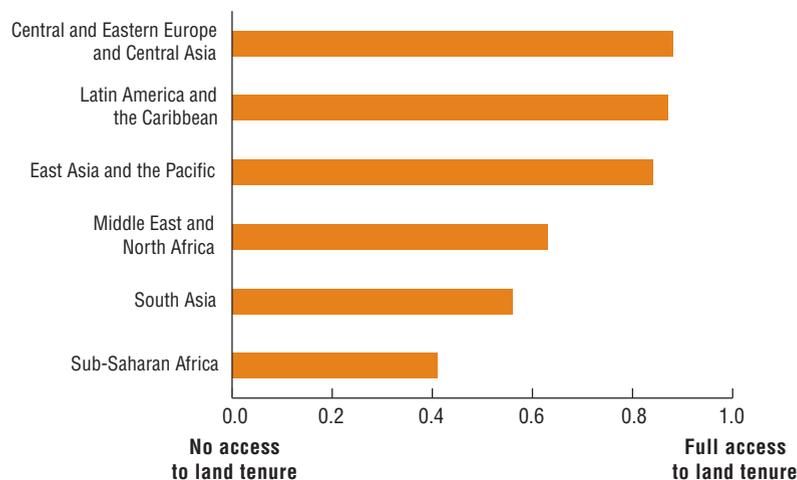
— José Graziano da Silva,
Director-General, FAO

mortality by about 15 percent.⁶⁴ A separate study of countries in sub-Saharan Africa found that children whose mothers had gone to primary school were 25 percent less likely to die than children of uneducated mothers.⁶⁵ One MDG indicator of progress on gender equity is reducing inequality in primary school enrollment. By that measure, the world looks to be making extraordinary progress, with 96 girls now attending school for every 100 boys.⁶⁶

In a country like Guatemala, where social norms change slowly, gender parity in education can't come soon enough. Guatemala is a middle-income country, but it has the highest rate of malnutrition in the Western Hemisphere and one of the highest in the world.⁶⁷ It also ranks near the top of an index measuring inequality in Latin America.⁶⁸ Gilma, a five-year-old girl, lives in a Guatemalan village precariously on the edge of food insecurity in the best of times. In more challenging times, children like her are at grave risk. In 2011, a severe drought struck her region of the country, leading the U.S. government to send food aid. Without the food aid, many children there might have died from malnutrition, and this is what almost happened to Gilma.

Gilma has four siblings, all of them boys, and that means she and her mother eat last and often there is nothing left for them. Her greatest disadvantage is not that she is a poor child in a region where food is often scarce, but that she is a poor *girl* there. By November 2011, Gilma was suffering from a condition known as severe acute malnutrition (SAM). Her legs were swollen and ulcerated, as happens when children suffer such severe malnutrition. In Guatemala, when a child falls below the SAM threshold, government health officials must be alerted and they will then assume responsibility for care. Gilma was fortunate in that her village was receiving food aid. Save the Children, the nongovernmental organization (NGO) administering the program, contacted health officials when Gilma slipped from moderate to SAM, but the officials didn't

Figure 1.7 **Women Have Less Control of Land in Sub-Saharan Africa than Anywhere Else, 2009**



Source: UN Women, 2011

respond right away. She is alive today because of the persistence of Save the Children staff in getting the officials' attention. Before long, Gilma will be going to school; hopefully, her education will enable her to prevent what happened to her from happening to her daughters.

Measuring for Success

In 2009, FAO reported the number of hungry people may have reached one billion that year. It was an unprecedented jump of close to 100 million from the previous year—the result of dramatic spikes in food and fuel prices. FAO's annual report, *The State of Food Insecurity in the World*, doesn't usually receive widespread media attention. 2009 was different, because it was the first time since FAO began reporting annual hunger data that the number of hungry people could have crossed over a billion.

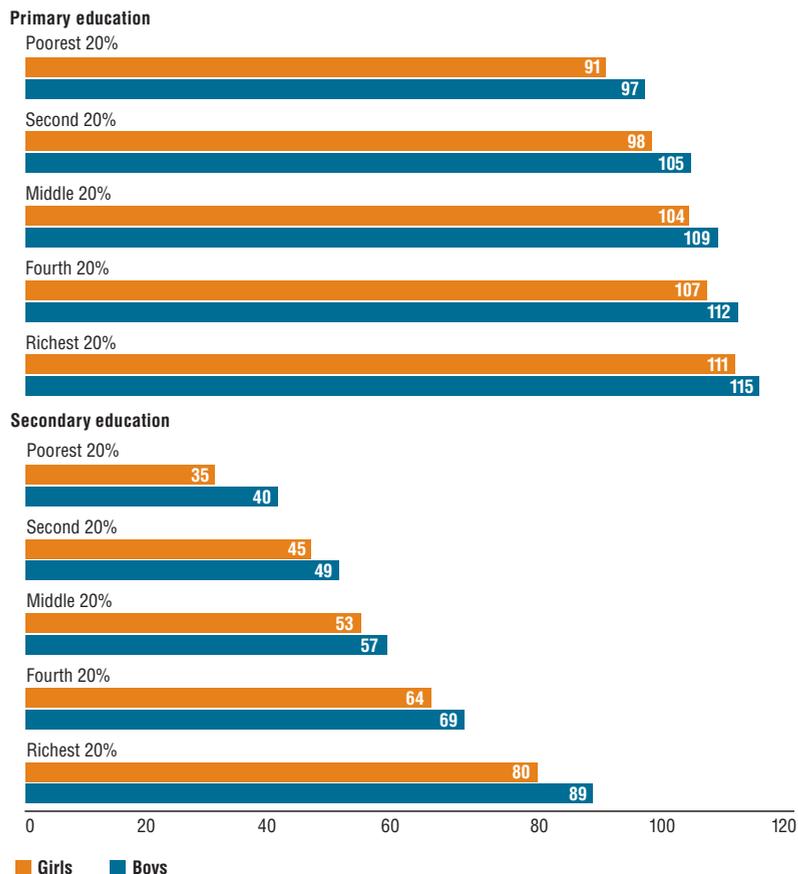
In 2010, the number reported by FAO fell to 925 million, reflecting the return of stability to global food prices. More than a year after crossing the “billion threshold” was reported, many researchers were still disputing its accuracy.⁶⁹ More doubts were raised when FAO shared the methodology used to calculate the number. At the urging of the Committee on World Food Security, a top-level U.N. forum, FAO agreed to overhaul its methodology.

There is no doubt that hunger increased temporarily because of the price spikes for basic grains—corn, wheat, and rice—and the rioting in dozens of countries because people were hungry was all the data many government leaders needed to see. Rich countries experienced higher food prices but were insulated from street protests because grain is a small fraction of the typical grocery bill. Also, poor people in rich countries spend a smaller percentage of their income on food and have access to safety net nutrition programs.

In 2011, FAO did not publish new numbers on hunger because it had decided to undertake a thorough revision of its methodology.

Figure 1.8 Girls from the Poorest Households Face the Highest Barriers to Education

Gross attendance ratio in primary and secondary school, by household wealth quintile, girls and boys, 55 countries, 2005/2010 (Percentage)



Source: UN, 2012

New data using the updated methodology, along with reconsideration of numbers published in previous years, were released in fall 2012. The new data indicate that hunger did not climb as originally reported. Rather than 925 million, as reported, the number of people who were hungry in 2010 was actually 868 million; and according to FAO, “The revised results imply that the Millennium Development Goal (MDG) target of halving the prevalence of undernourishment in the developing world by 2015 is within reach.”⁷⁰ The targeting and impact of programs and the credibility of statements about progress or lack of progress depends on reliable data. The integrity of the MDGs themselves rests on accurate measurability. Measurable outcomes put weight behind the argument we are making for new global development goals beyond 2015.

Where do hunger data come from? Information is collected using household survey. The standard survey models in use today—Household Expenditure and Living Standard Measurement Survey, Demographic and Health Survey (DHS) and the Multiple Indicator Cluster Survey (MICS)—have been in use for

more than 20 years and stand up to scrutiny. But problems can occur in their implementation. “Some developing countries, because of scarce resources, still face some challenges in ensuring that effective data collection programs are conducted regularly,” says Francesca Perucci, head of the U.N.’s statistics planning and development section, speaking after the release of the most recent U.N. report card on the MDGs.⁷¹

When the MDGs were launched, it was clear that the capacity of developing countries to collect and analyze data had to improve.⁷² FAO surveyors can’t go to every country to collect data themselves; they must rely on partners, generally the statistical offices of national government agencies. Overall, the capacity to obtain accurate data has improved since 2000, but in some countries, especially among the least developed, yawning gaps remain.

The MDGs do not include an indicator for improving capacity to monitor and evaluate national data. Where it would appear, if anywhere, is in Goal 8—the global partnership goal (the subject of our next chapter). In the United States, the public perceives corruption by foreign governments as the biggest barrier to progress against poverty in developing countries.⁷³ Hence U.S. aid programs tend to avoid working with government institutions in developing countries. “There is a vicious cycle at work,” reports the U.N. Statistical Commission for Africa, where country after country faces this issue: “Weak and under-funded statistical systems produce poor quality or largely irrelevant statistics, and as a result users do not value the statistical products produced and resource levels and statistical capacity remains low.”⁷⁴



At a market in Addis Abba, Ethiopia, a young woman is surrounded by bags of grain. The production and marketing of staple grains are the largest source of poor people’s income in Ethiopia.

International development agencies are helping to improve data collection systems. The World Bank, for example, has embraced crowdsourcing and has incorporated it into the way it conducts research. Crowdsourcing simply means outsourcing data collection tasks to distributed groups, reducing the time between when things happen on the ground and when they are reported.⁷⁵ This may not address our concern about reliability, but speeding up reporting about hunger would be a good thing. For the vast majority of people interested in hunger data, what matters most is the response to hunger. Recently in the Horn of Africa and the Sahel, for example, response time has meant everything.

Technology has become a driving force in changing the way we monitor development outcomes. People have said this for years, but there is something exciting happening now because of new technology for crowdsourcing data. Crowdsourcing is made possible by the spread of mobile technology. We know that mobile technology has already changed the way poor people participate in commerce; their participation in monitoring and evaluating data is a new frontier. In Malawi, for example, UNICEF used mobile

phones to monitor child nutrition. Health workers at growth monitoring clinics were trained to submit child nutrition data on their phones by SMS (text messaging). The health workers received instant feedback messages—and if their data indicated malnutrition, they were provided with additional instructions on how to respond.⁷⁶

Ushahidi, a nonprofit technology company in Kenya, has developed crowdsourcing technology that allows anyone to contribute data via text message. It was first used to map post-election violence in Kenya in 2008.⁷⁷ Today, the technology has been adopted around the world to get real-time data during humanitarian emergencies. At a high-level meeting on Internet freedom, Secretary of State Hillary Rodham Clinton explained how crowdsourcing technology made it possible for “an American search-and-rescue team in Haiti after the 2010 earthquake to pull a seven-year-old girl and two women from the rubble of a collapsed supermarket after they sent a text message calling for help.”⁷⁸

New crowdsourcing technology doesn’t make traditional reporting obsolete, but it is a faster way to hold policymakers accountable. Ultimately, ending hunger and poverty still depend on getting policymakers to act.



Women wait for food during the 2011 famine in Somalia. Early warning systems pointed to impending famine in Somalia as early as 2010. Nevertheless, the World Food Program had to cut back feeding programs in the country for lack of donor funding to address the crisis.

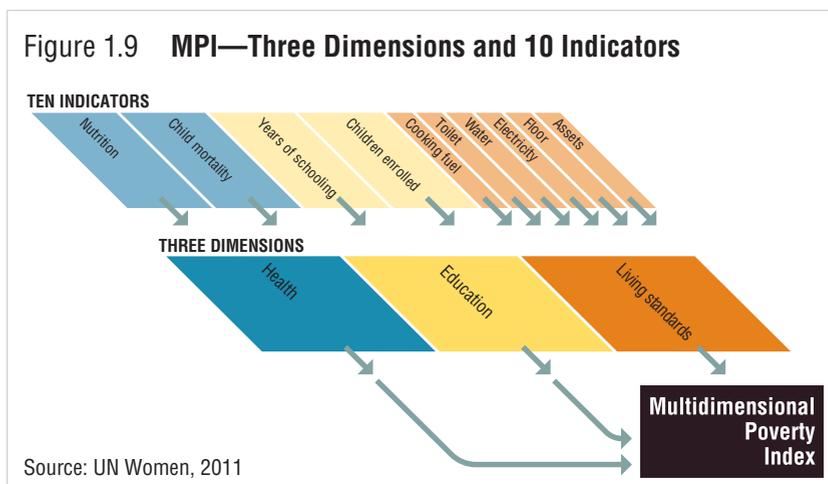
A Multidimensional View of Poverty

Reliable data is the bedrock of effective policy interventions. Without rock-solid data, policymakers can't know for sure whether their interventions actually address the fundamental reasons that people are poor. Conventional data tell us how many people are poor, or how many children die, or how many are in school—but they don't tell us whether the same people suffer multiple deprivations. And that matters, according to James Foster, an economist at George Washington University, “because once you find those people who are multiply deprived, then you can ask what's holding them back. Is it income or health or education?”⁷⁹

To answer those questions, Foster and Sabina Alkire of Oxford University developed a tool known as the Multidimensional Poverty Index (MPI). Rather than just providing a headcount, the MPI is designed to convey the intensity of poverty that people experience. For example, two households in a village are led by single mothers with three children. Each woman earns \$1.00 per day. One of them has no schooling while the other has completed primary school and is literate. The one with no schooling has HIV, while the other does not. Both are poor, but they are not poor in the same way—they have much different capabilities—and their MPI scores would reflect this.

A prototypical MPI uses a three-dimensional measure based on income, education, and health. A score is assigned based on the cumulative levels of hardship measured in each of these dimensions. The prototypical version adheres closely to the Human Development Index (HDI) used by the United Nations to rank the development status of countries; income, health, and education are also the core components of the HDI. The MPI scales down the HDI to the level of individual people. In an era of rising inequalities within countries, the MPI is an especially useful tool to keep the focus on the individuals who are being left behind. By providing a means of quantifying progress, the MPI overlaps with the MDGs.

“The whole point of the MPI is to help coordinate measures to address extreme poverty,” says Foster. Feed the Future, the U.S. government's global hunger and food security initiative, is using the MPI to target beneficiaries of assistance more effectively. Alkire worked with the U.S. Agency for International Development (USAID) to adapt the MPI to measure women's empowerment in agriculture—important because rural women are the main focus of the Feed the Future initiative. The resulting Women's Empowerment in Agriculture (WEIA) measures women's decision-making power, control over the use of household income, leadership in the community, and time use. It measures these dimensions both for women independently and relative to men in the same household. A woman is assigned an empowerment score, and the



man also gets a score. “There really is nothing like this. We’ve developed a tool that can dramatically reshape our policy response,” says Emily Hogue of USAID’s Bureau for Food Security.⁸⁰

WEIA was developed to track changes in women’s empowerment levels as a direct or indirect result of interventions under Feed the Future. Having this information will enable USAID and its partners to tailor strategies to make the most difference in helping women overcome the barriers they face. So far, WEIA has been piloted in Bangladesh, Guatemala, and Uganda. In Guatemala, 85 percent of women who scored “empowered” in agriculture feel they can make decisions related to serious health problems, compared to 74 percent among women who did not score “empowered” in agriculture.⁸¹ One could imagine how

the insights gained from a tool like this could be used to reduce the risk of malnutrition for Gilma, the Guatemalan girl we met earlier in the chapter. Knowing how little say women in the village have over household decisions, USAID and its partners in the field would know to what extent they need to monitor how food rations are shared among family members.

The value of the MPI becomes even clearer once the focus of policy interventions shifts to the ultra-poor. “Here’s the problem with reaching the ultra-poor—it’s really expensive,” says Steve

Radelet, chief economist for USAID.⁸² Members of Congress responsible for appropriations want to be able to see that they’re getting a return on the investments they make in development assistance. One clear sign of success is how many people have been lifted out of poverty. It’s harder for someone living on \$0.25 a day to move out of poverty than for someone closer to the \$1.25 poverty line. If a person moves from \$0.25 to \$1.00 a day, that’s a substantial improvement in her circumstances—quadrupling her income, in fact. But because technically she is still below the poverty line, USAID has a harder time counting her case as a victory.

This is first a problem of messaging. The MPI underscores the need for nuanced approaches to poverty reduction. Secondly, we all realize that development resources are limited. WEIA allows USAID to target its resources more effectively. This innovation, developed with the support of U.S. resources, is available for anyone in the world to use; it is open source in the same way that Ushahidi’s crowdsourcing technology is available for anyone to use. The toolbox can expand so long as the research that produces these innovations is supported.

By 2015, we will meet the MDG target of halving the percentage of people living in extreme poverty. That’s a wonderful achievement, one we celebrate unequivocally. But progress doesn’t stop there. The ultimate goal is to eradicate hunger and extreme poverty, and over the next three years, much progress can be made if donors and national governments alike are focused with precision on the most difficult, hard-to-reach members of society.



Jane Sebbi, the farmer shown here in Kamuli, Uganda, grows corn, bananas, coffee, amaranth, potatoes, soy beans, common beans and sweet potatoes.

by José Graziano da Silva, Director-General, FAO

At the Rio+20 Earth Summit, countries set forth a vision of sustainable development that will only be realized if hunger and malnutrition are eradicated. Not only are these compatible goals, but they need to go hand in hand: we will not have sustainability while people are suffering from hunger; we will not end hunger if we do not shift towards more sustainable patterns of production and consumption.

Agriculture can be a force for environmental, social and economic good. But a global food system that leaves nearly 900 million people hungry, and exacts a heavy toll on natural resources, is by definition morally, economically and environmentally unsustainable.

Fixing the global food system will not be easy, but that does not mean impossible. The question is not *whether* we can feed a growing population expected to reach nine billion in 2050, but *how* we want to do it. Doing it sustainably is the only possible response.

Last century's Green Revolution in agriculture rescued an estimated billion people from starvation, and ushered in an era of cheap food, when it doubled world cereal production between 1960 and 2000 as the world's population surged from three to six billion.

But agriculture's transformation was less fortunate in other ways. Its benefits were unevenly distributed—with the majority of poor farmers missing out throughout the world—and it introduced a farming model which, with its intensive use of chemical inputs, its reliance on heavy machinery and its dependence on a few commercial crop varieties, took its toll on the environment and in the loss of biodiversity.

The creators of the Green Revolution were principally concerned with increasing food production and succeeded in this goal.

But now, we need a greener revolution because our way of farming has led to land degradation, the build-up of pest resistance and the erosion of biodiversity. Agriculture has also damaged the wider environment through deforestation, the emission of greenhouse gases and nitrate pollution of water bodies.

Fortunately, an alternative exists: to produce crops in a way that is more in tune with the ecosystem, which makes the most of ecological processes and minimizes the use of external inputs. At the United Nations Food and Agriculture Organization (FAO), we call these approaches "Save and Grow."¹ Many of these methods have been known for a long time; in some cases, it is a return to traditional practice.

Conservation agriculture, for instance, reduces tillage and uses cover crops to help restore soil quality. Crop-eating insects can be controlled by encouraging their natural enemies rather



Richard Lord

Productivity growth (especially on smallholder farms) generates farm employment, decent wages and other income on and off the farm.

THE GREENER REVOLUTION

than using chemical pesticides. And targeted, judicious use of fertilizer reduces collateral damage to water quality, while micro-irrigation delivers just the right amount of water when required—another way of producing more with less.

Save and Grow farming, with its emphasis on local crop varieties, is always adapted to local conditions. The latest science does not displace but informs traditional knowledge to assist rather than fight natural ecosystem processes.

For such a holistic approach to be adopted, environmental virtue alone is not enough—farmers must see tangible benefits in terms of higher yields and reduced costs. With the right management those benefits can be delivered.

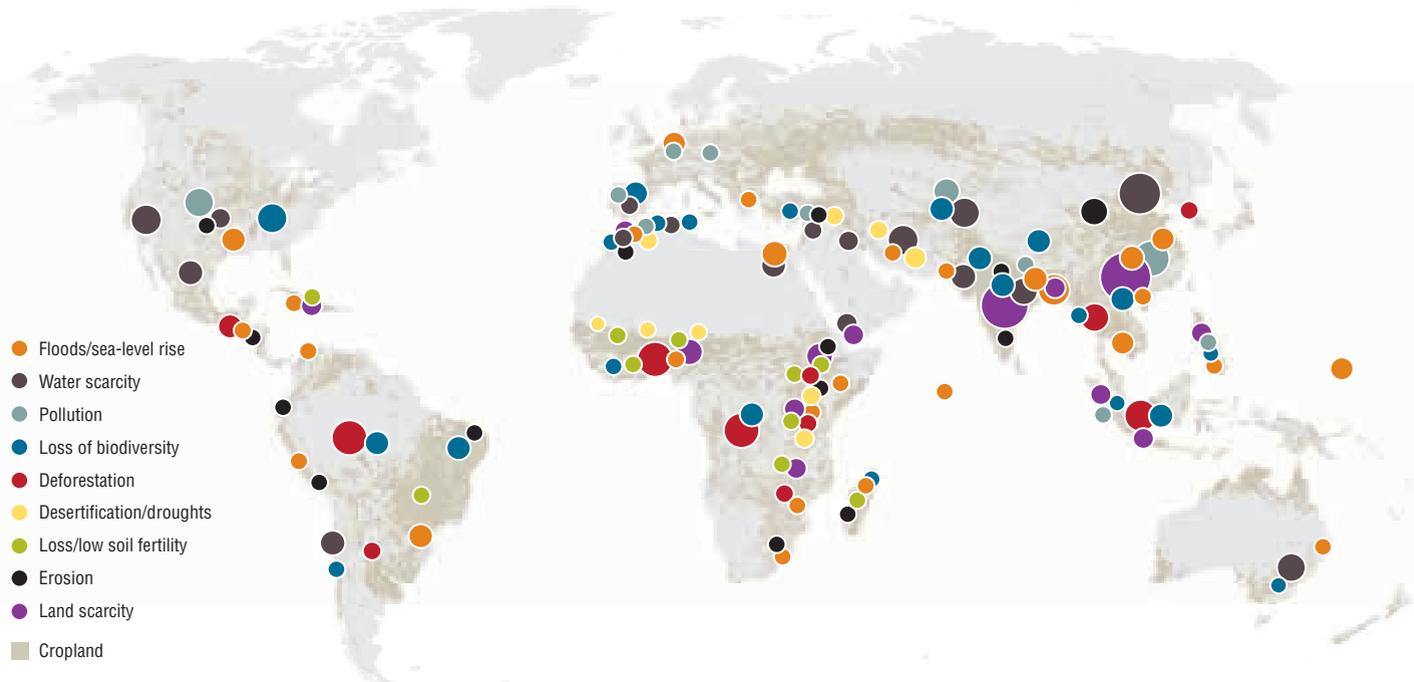
Increasingly, the world's farmers are adopting such farming methods. But for the Greener Revolution to succeed at scale, we also need to encourage intensive, industrial-scale farmers towards greater

environmental awareness. This can be done by providing the right incentives for sustainable practices, and penalties for unsustainable ones.

Producing sustainably is not the only challenge we face. We need to look at the whole complex system that puts food on many of the world's tables, but leaves nearly one plate in seven bare. Many go hungry not because the world is short of food, but because they are too poor to buy or grow enough food for themselves. So we need to improve *access* to food.

This is achieved in many ways, including breathing new life into rural communities—home to over 70 percent of the world's poorest people. We do this through support to small-scale farmers so they can produce more, sustainably, and have better access to markets; rural employment creation; cash-for-work programs; and cash transfers and other targeted safety nets that put money in people's pockets and make sure their kids go to school and are well fed.

Figure 1.10 Schematic Overview of Risks Associated with Main Agricultural Production Systems



Source: FAO, 2012

In a number of countries, the combination of small-scale production and safety nets is being used with positive results. In Somalia, for instance, cash-for-work and food voucher programs are part of FAO, UNICEF and WFP's emergency response and played an important role in overcoming famine in the country.

Through such programs, the rural population helps rehabilitate local infrastructure for agriculture and herding and gives families resources to buy food locally. When consumers can buy food from local producers, this completes a virtuous local food security cycle, boosting local economies and creating necessary conditions for longer-term development.

In this sort of intervention, we are planting the seeds of long-term development as part of the crisis response and building resilience that rural families and communities need to overcome chronic food insecurity.

Another aspect to consider is food *consumption*. Almost one person in two on this planet is either not eating enough, eating badly or eating too much. On top of the nearly 900 million hungry, more than a billion people suffer from micronutrient deficiencies, while another billion are overweight or obese.

Moreover, around 1.3 billion tons of food—roughly one third of the food produced for human consumption every year—is lost or wasted, according to a study released last year by FAO and the Swedish Institute for Food and Biotechnology.²

Food loss has to do with the production, post-harvest and food-processing stages in the food chain. Food waste happens at the end of the chain, in retail and consumption. It has to do with throwing away food that is still perfectly edible.

In developing countries, 40 percent of losses occur during post-harvest, processing, transporting and storage, while in industrialized countries more than 40 percent of losses happen at retail and consumer levels.

We need to look at ways in which we can make better use of the food we produce, reducing loss and waste. We can make significant improvements if we involve the public and private sectors, producers and consumers. In general, if we improve and expand local food production and consumption circuits, we can reduce losses with transportation and storage.

In low-income countries, measures that target the production side should be given most attention: improving harvest techniques and infrastructure such as roads, storage facilities and cooling chains.

In industrialized countries, the focus should be on food and nutrition education to reduce waste. Per capita waste by consumers is between 95 and 115 kilograms a year in Europe and North America, while

consumers in sub-Saharan Africa and South and Southeast Asia each throw away only 6 to 11 kilos a year.

If we could reduce food waste and loss by roughly 50 percent, we would have additional food for about one billion people a year without having to produce more, and with

less impact on the environment.

So, the real issue before us is not how much we produce but how we produce, manage and consume our food.

We cannot separate agriculture from the management and preservation of our natural resources, from food security and from sustainable development itself—a message made clear at Rio+20.

The Greener Revolution has begun. It starts with rediscovery of what our ancestors knew well—that in agriculture, as soon as you pull on something, you find it is connected to everything else.

José Graziano da Silva is Director-General of the Food and Agriculture Organization of the United Nations. He also was Brazil's Minister of Food Security in charge of the implementation of the "Zero Hunger" Program ("Fome Zero").

"We will not end hunger if we do not shift towards more sustainable patterns of production and consumption."