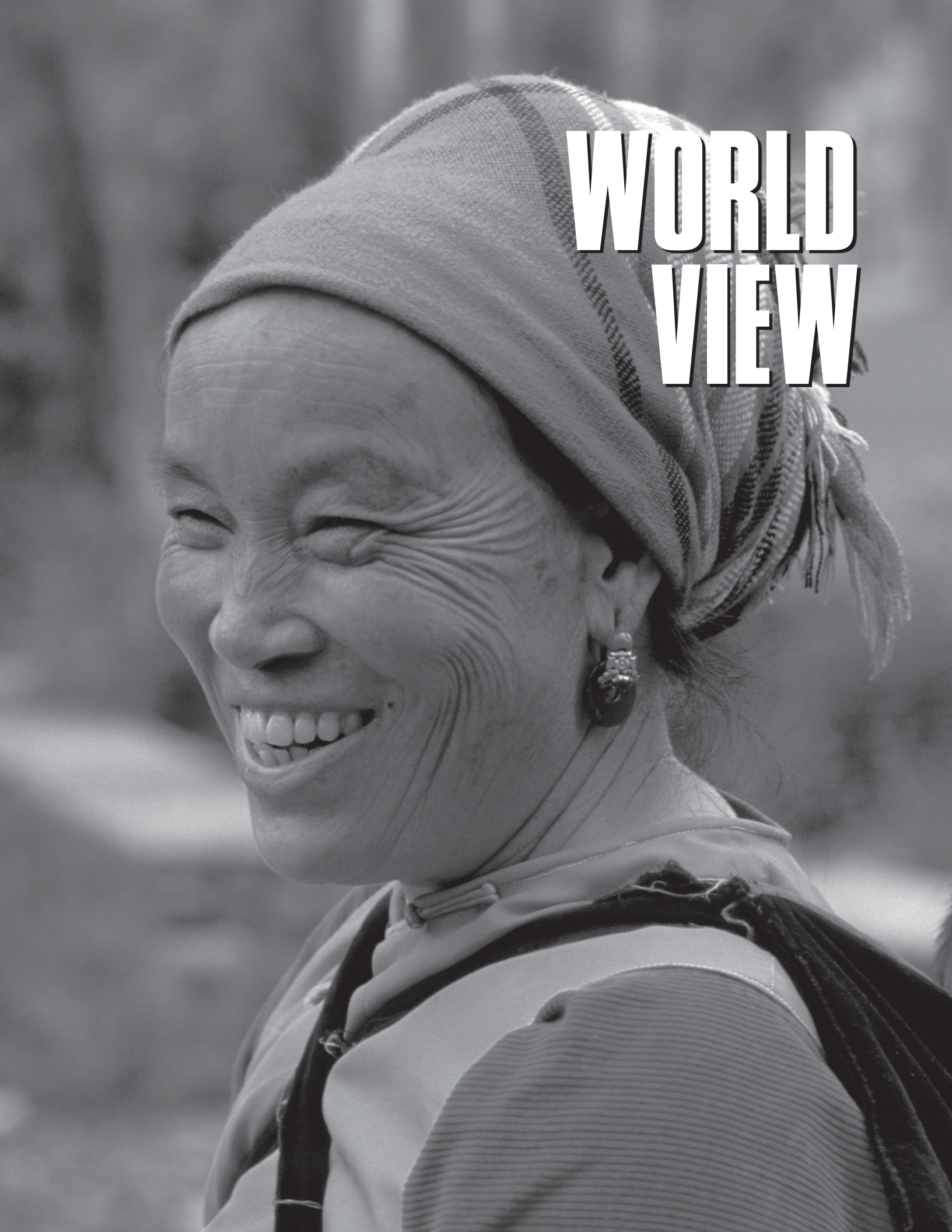


WORLD VIEW



“Our aim is for open data, open knowledge, and open solutions.”

—Robert Zoellick, Georgetown University, September 2010

World Development Indicators provides a comprehensive selection of national and international data that focus attention on critical development issues, facilitate research, encourage debate and analysis of policy options, and monitor progress toward development goals. Organized around six themes—world view, people, environment, economy, states and markets, and global links—the book contains more than 800 indicators for 155 economies with a population of 1 million people or more, together with relevant aggregates. The online database includes more than 1,100 indicators for 213 economies, with many time series extending back to 1960.

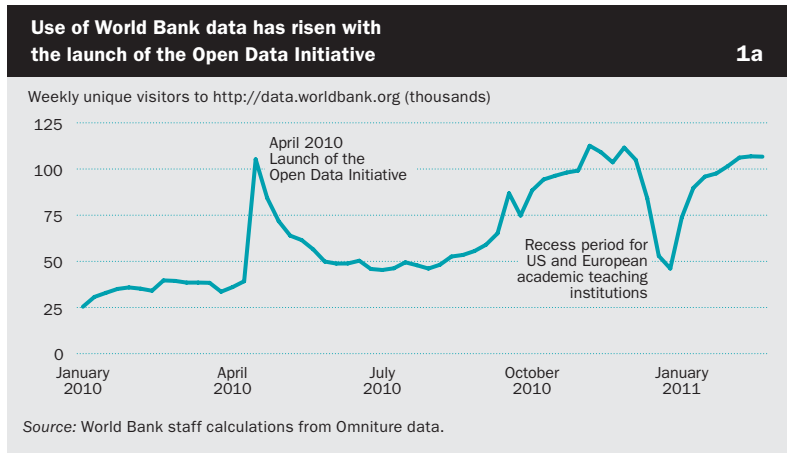
In 2010, to improve the impact of the indicators and to provide a platform for others to use the data to solve pressing development challenges, the World Development Indicators database and many other public databases maintained by the World Bank were made available as open data: free of charge, in accessible nonproprietary formats on the World Wide Web. This year, the first part of the introduction to the *World View* section provides an overview of the initiative, the impact of moving to an open data platform, a brief survey of the global open data movement, and an examination of its relevance to development. The second part reviews progress toward the Millennium Development Goals—whose target date of 2015 is now just four years away.

The World Bank Open Data Initiative

The Open Data Initiative is a new strategy for reaching data users and a major change in the Bank’s business model for data, which had previously been a subscription-based model for licensing data access and use, using a network of university libraries, development agencies, and private firms, and free access provided through the World Bank’s Public Information Centers and depository libraries. At the time of the open data announcement there were around 140,000 regular users of the subscription database annually—a substantial number for a highly specialized data product. But providing free and easier access to the databases has had an immediate and lasting impact on data use. Since April 2010 the new data website—<http://data.worldbank.org>—

has recorded well over 20 million page views. And at the time of printing this edition of *World Development Indicators*, it provides data to more than 100,000 unique visitors each week, three times as many as before (figure 1a).

Making the World Development Indicators and other databases free was only the first step in creating an open data environment. Open data should mean that users can access and search public datasets at no cost, combine data from different sources, add data and select data records to include or exclude in derived works, change the format or structure of the data, and give away or sell any products they create. For the World Bank, this required designing new user interfaces and developing new search tools to more easily find and report the data. It also required a new license defining the terms of





Terms of use for World Bank data

1b

Why do open data need to be licensed? Because a license conveys certain rights to the licensee—in this case, the data user—while protecting the interests of the licensor. If there is no explicit license attached to a dataset, users may be uncertain of their rights. Can they republish these data? Can they include them in a new dataset along with data from other sources? Can they give them away or resell them?

Intellectual property laws differ by country. In an international environment where data are published on the World Wide Web, it may not be clear what law applies. Lacking a license, a cautious data user would assume that he or she should seek permission of the dataset owner or publisher, creating a real or imagined impediment to using the data. A license can help encourage data use by making clear exactly what is permitted, true even for free data.

Use of data in the World Bank's Data Catalog is governed by the Terms of Use of Datasets posted at <http://data.worldbank.org>. The terms follow the general model of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>) and the Open Data Commons Attribution License (www.opendatacommons.org/licenses/by/1.0). These licenses require users to acknowledge the original source when they publish or reuse the data, particularly important for World Development Indicators, where many datasets are obtained from sources such as specialized UN and international agencies. The terms of use impose some further limitations, still within the spirit of an open data license: users may not claim endorsement by the World Bank or use its name or logos without permission.

Acknowledging data sources is good practice, regardless of the terms of a license. Identifying sources makes it possible for others to locate the same or similar data. And credit to data producers or publisher recognizes their effort and encourages them to continue.

The World Bank's Terms of Use for Datasets provide a suggested form of attribution: The World Bank: Dataset name: Data source.

The information for completing this form of attribution is available in the metadata supplied with data downloaded from <http://data.worldbank.org>.

use for data (box 1b). And it required new thinking to promote the use and reuse of data. To reach out to new audiences and communities of data users, the World Bank organized a global "Apps for Development" competition—one of the first of its kind—inviting developers to create new applications for desktop computers or mobile devices using World Bank datasets, including *World Development Indicators* data.

Open data and open government

Advocates of greater transparency in public agencies—the open government movement—have been among the most vocal proponents of open data. Likewise, those seeking databases to build new applications have supported freedom of information laws and unrestricted access to data created by public agencies. Opening public databases empowers people because data are essential for monitoring the performance of governments and the impact of public policies on citizens.

For advocates of open data, governments are vast repositories of statistical and nonstatistical information with unrealized potential for creative applications. The political, philosophical, and economic impulses for open data and open government are often linked. One advocate of open data writes, "The term 'Open Data' refers to the philosophical and methodological approach to the democratization of data

enabling citizens to access and create value through the reuse of public sector information" (Rahemtulla 2011).

The Sunlight Foundation, a U.S.-based civil society organization, describes its goals as "improving access to government information by making it available online, indeed redefining 'public' information as meaning 'online,' and . . . creating new tools and websites to enable individuals and communities to better access that information and put it to use. . . . We want to catalyze greater government transparency by engaging individual citizens and communities—technologists, policy wonks, open government advocates, and ordinary citizens—demanding policies that will enable all of us to hold government accountable" (<http://sunlightfoundation.com/about/>).

Digital information and communication technologies permitting dissemination of large amounts of data at little or no cost have strengthened the argument for providing free access to public sector information. Pollock (2010) estimates the direct benefit to the U.K. public of providing free access to public sector information that was previously sold to be £1.6–£6 billion, 4–15 times the forgone sales revenues of £400 million. Additional indirect benefits come from new products and services using open datasets or complementary products and services and from reducing the transaction costs to data users and reusers.

Open data and open government initiatives have progressed farther in rich countries than in developing ones. This may reflect a lack of political will or popular demand, but it often reflects a lack of technical capacity and resources to make data available in accessible formats. A study commissioned by the Transparency and Accountability Initiative (Hogge 2010) identified three drivers behind the success of the U.K. and U.S. data.gov initiatives:

- Civil society, particularly a small and motivated group of "civic hackers" responsible for developing grassroots political engagement websites.
- An engaged and well resourced "middle layer" of skilled government bureaucrats.
- A top-level mandate, motivated by an outside force (in the United Kingdom) or a refreshed political administration hungry for change (in the United States).

Statistical offices exemplify the "middle layer" of a government bureaucracy, uniquely

skilled in collecting and organizing large datasets. But even they may lack the motivation or resources to make their products freely available to the public unless they enjoy full support from the top.

In developing countries aid donors can act as fourth driver by providing technical assistance and funding for open data projects and by modeling transparency in their own practices. The International Aid Transparency Initiative—the World Bank is a founding member—aims to create a global repository of information on aid flows, starting from the commitment of funding from donors and continuing through its disbursement to recipient countries, the allocation of aid money in national budgets, the procurement of goods and services, and the measurement of results.

To fulfill the initiative's goal of providing a complete accounting of aid to the citizens of donor and developing countries will require cooperation among donors and recipients. Terminology and coding systems must be standardized and agreements reached on everything from the timing of reports to the mechanisms for posting and accessing the datasets. In many cases donor governments and international agencies will have to change their rules on access to information to provide full transparency to their aid programs (box 1c). For more information on the initiative, see www.aidtransparency.net.

Mapping for results—making data not just accessible but useful

The new Access to Information Policy and the Open Data Initiative provide much greater access to the World Bank Group's knowledge resources than before. But accessible information is not the same as usable information. Project documents contain a wealth of data about planned activities—for instance, on their location. But it may be difficult for many interested parties, such as project beneficiaries, citizen groups, and civil society organizations, to extract and visualize relevant data from long texts or tables.

To help solve this problem, the World Bank, on a pilot basis, has started to provide geo-location codes along with data and information about the projects that it supports. The objective is to improve aid effectiveness through enhanced transparency and accountability of project activities. Location information makes

Access to information at the World Bank

1c

Opening the World Bank's databases is part of a broader effort to introduce greater transparency in the World Bank's operations, and a new policy on information disclosure went into effect on July 1, 2010. Besides formalizing the Open Data Initiative, the Access to Information Policy (www.worldbank.org/wbaccess) establishes the principle that the World Bank will disclose any information in its possession that is not on a specific list of exceptions. In the past, only documents selected for disclosure were available to the public. The new policy reverses the process and presumes that most information is disclosable. Exceptions include personal information and staff records, internal deliberations and administrative matters, and information received in confidence from clients and third parties. Some documents with restricted access are subject to a declassification schedule, ensuring that they will become available to the public in due course. A process for requesting documents has also been established that allows users to search for documents by country and topic in seven languages.

the data become "local" and much more accessible and relevant to project stakeholders. The data are open and available directly to software developers through an application programming interface and through an interactive web-based application called Mapping for Results (<http://maps.worldbank.org>).

In keeping with the philosophy of the Open Data Initiative, the Mapping for Results application uses the dataset of geo-located project activities and combines the data with sub-national human and social development indicators, such as child mortality rates, poverty incidence, malnutrition, and population measures. But even more value may lie in what other researchers and software developers might do with the data, combining them with their own data or with data from other sources, performing their own analysis, or providing applications that help citizens and beneficiaries connect directly with the project during implementation, through feedback or other mechanisms.

Countdown to the Millennium Development Goals in 2015

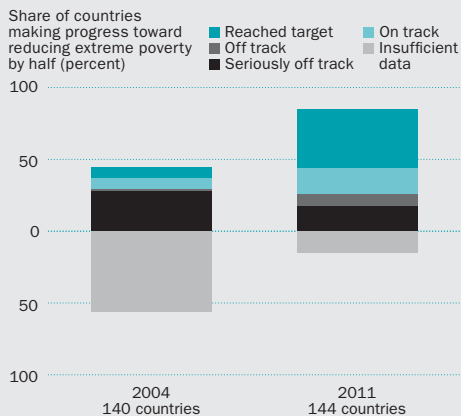
There are four years to the target date for the Millennium Development Goals (MDGs). The MDGs have focused the world's attention on the living conditions of billions of people who live in poor and developing countries and on the need to improve the quality, frequency, and timeliness of the statistics used to track their progress. Progress toward the MDGs has been marked by slow changes in outcome indicators and by improvements in data availability.

World Development Indicators has monitored global and regional trends in poverty reduction, education, health, and the environment since 1997. After the UN Millennium Summit in 2000, *World Development Indicators* began closely tracking the progress of countries



Progress toward eradicating poverty

1d



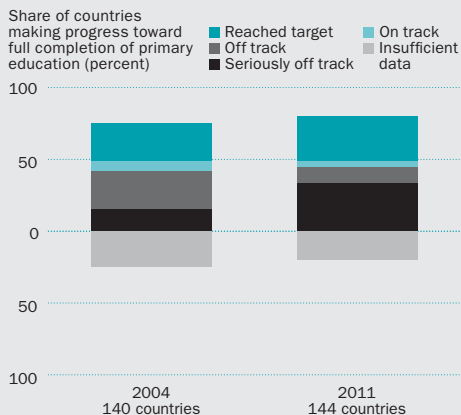
Source: World Bank staff estimates.

against the targets selected for the MDGs. The MDGs highlight important outcomes, but the focus on this limited set of indicators should not obscure the fact that development is a complex process whose course is determined in part by geographic location, historical circumstances, institutional capacity, and uncontrollable events such as weather and natural disasters. Success or failure, while not arbitrary or entirely accidental, still has a large component of chance.

This review employs the same assessment method that *World Development Indicators* has used since 2004 to track progress of countries toward the time-bound and quantified targets of the MDGs. Countries are “on track” if their past progress equals or exceeds the rate of change necessary to reach an MDG target. A few countries have already reached their targets. They are counted as having achieved the goal, although some may slip back. Countries making less than necessary progress are “off track,” or “seriously off track” if their past rate progress would not allow them to reach the target even in another 25 years. The remaining countries do not have sufficient data to evaluate their progress—in some cases because there are no data for the benchmark period of 1990–99 and in others because more recent data are missing. But the situation is improving: starting from the earliest *World Development Indicators* progress assessments in 2004 (based on data for 1990–2002), the number of countries with insufficient data has fallen, enhancing our picture of progress toward the MDGs.

Progress toward universal primary education completion

1e

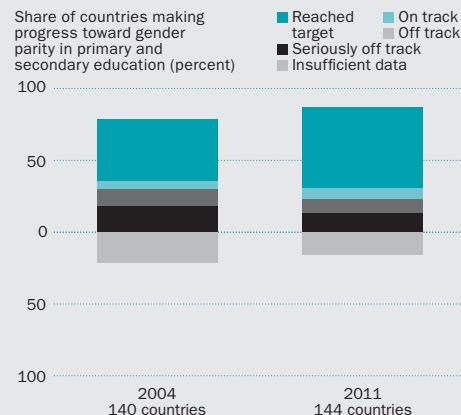


Source: World Bank staff estimates.

For more information on the work of the World Bank and its partners to achieve the MDGs, see www.worldbank.org/mdgs, which includes a link to the World Bank’s MDG eAtlas.

Progress toward gender parity

1f



Source: World Bank staff estimates.

Goal 1. Eradicate extreme poverty and hunger

The number of people living on less than \$1.25 a day fell from 1.8 billion in 1990 to 1.4 billion in 2005. New global and regional estimates, to become available later in 2011, are likely to show a continuation of past trends, although the financial crisis of 2008 and the recent surge in food prices will have slowed progress in some countries. Because household income and expenditure surveys are expensive and time consuming, they are not conducted frequently and there are often difficulties in making reliable comparisons over time or across countries.

For 140 developing countries, figure 1d compares the progress assessments in 2005 and in 2011, based on available data. Forty-three countries are on track or have reached the target of cutting the extreme poverty rate in half, twice as many as in 2005. They include China, Brazil, and the Russian Federation. India, with more than 400 million people living in poverty lags behind, but with faster economic growth may well reach the 2015 target.

Goal 2. Achieve universal primary education

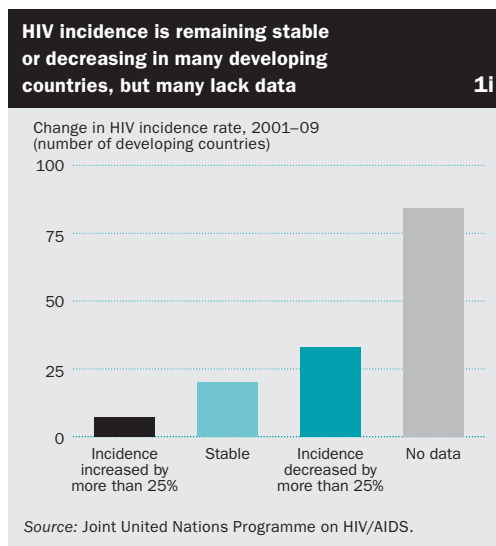
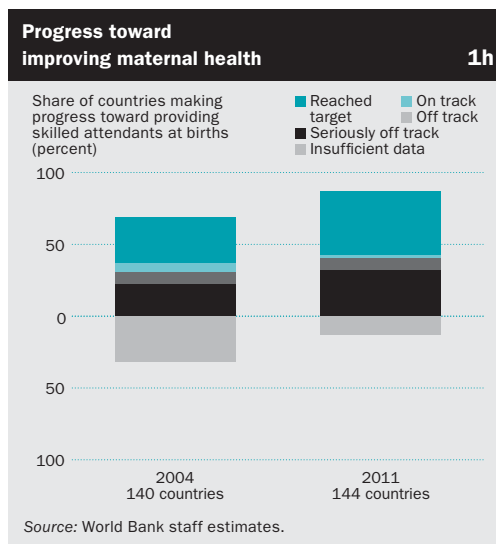
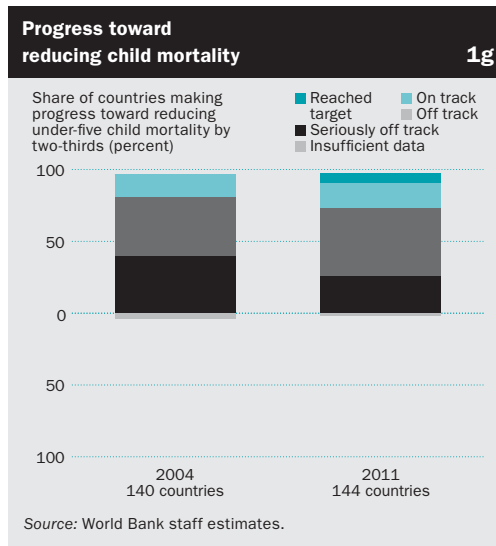
The goal of providing universal primary education has proved surprisingly hard to achieve. Completion rates measure the proportion of children enrolled in the final year of primary education after adjusting for repetition. In 2011, 49 countries had achieved or were on track to achieve 100 percent primary completion rates, only three more than in 2004, and the number of countries seriously off track has increased, especially in Sub-Saharan Africa (figure 1e). There are more and better data, but the goal remains elusive.

Goal 3. Promote gender equality

Gender equality and empowering women foster progress toward all the Millennium Development Goals. Equality of educational opportunities, measured by the ratio of girls' to boys' enrollments in primary and secondary education, is a starting point. Since the 2004 assessment, the number of countries on track to reach the target has increased steadily, driven by rising enrollments of girls, and the number of countries without sufficient data to measure progress has dropped (figure 1f).

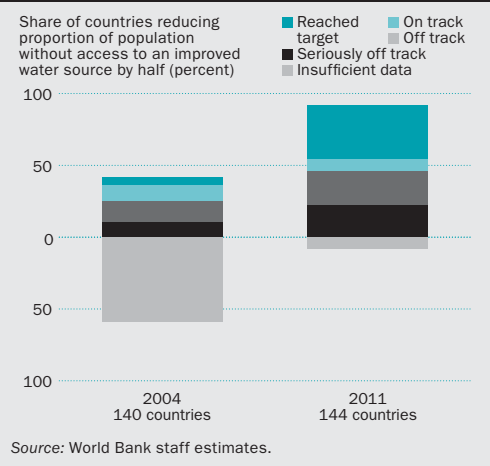
Goal 4. Reduce child mortality

Of 144 countries with data in February 2011, 11 had achieved a two-thirds reduction in their under-five child mortality rate, and another 25 were on track to do so (figure 1g). This is remarkable progress since 2004, but more than 100 countries remain off track, and only a few of them are likely to reach the MDG target by 2015. Measuring child mortality is the product of a successful collaboration of international statisticians. By bringing together the most reliable data from multiple sources and applying appropriate estimation methods, consistent time series comparable across countries are available for monitoring this important indicator. More information about data sources





Progress on access to an improved water source 1j



Indicators. While the number of countries seriously off track has increased, the number without adequate data has decreased, and the number providing skilled attendants at birth has risen 35 percent.

Progress on access to improved sanitation 1k



Goal 6. Combat HIV/AIDS, malaria, and other diseases

When the MDGs were formulated, the HIV/AIDS epidemic was spreading rapidly, engulfing many poor countries in Southern Africa. Data on the extent of the epidemic were derived from sentinel sites and limited reporting through health systems. The goal refers to halting and reversing the spread of HIV/AIDS. Under the circumstances it was impossible to set time-bound quantified targets. Now the statistical record is beginning to improve. UNAIDS, in its 2010 *Report on the Global AIDS Epidemic*, estimates that the annual number of new HIV infections has fallen 21 percent since its peak in 1997 (figure 1i). But reliable estimates of incidence are available for only 60 developing countries and do not include Brazil, China, and the Russian Federation.

Goal 7. Ensure environmental sustainability

Reversing environmental losses and ensuring a sustainable flow of services from the Earth's resources have many dimensions: preserving forests, protecting plant and animal species, reducing carbon emissions, and limiting and adapting to the effects of climate change. Improving the built environment is also important. The MDGs set targets for reducing the proportion of people without access to safe water and sanitation by half. The ability to measure progress toward both targets has improved significantly since 2004, and almost half the developing countries with sufficient data are on track to meet the water target (figure 1j). Progress in providing access to sanitation has been slower: almost half the countries are seriously off track (figure 1k).

and estimation methods is available at www.childmortality.org.

Goal 5. Improve maternal health

Reliable measurements of maternal mortality are difficult to obtain. Many national estimates are not comparable over time or across countries because of differences in methods and estimation techniques. Consistently modeled estimates that became available only recently show that 30 countries are on track to achieve a three-quarter reduction in their maternal mortality ratio and that 94 are off track or seriously off track. Figure 1h compares the availability of skilled birth attendants, a critical factor for reducing maternal and infant deaths, using data from the 2004 and 2011 *World Development*

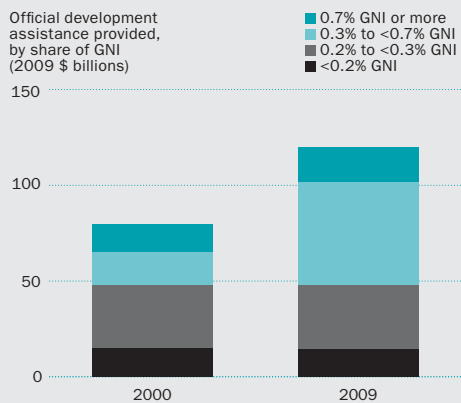
Goal 8. Develop a global partnership for development

Partnership between high-income and developing economies, fundamental to achieving the MDGs, rests on four pillars: reducing external debt of developing countries, increasing their access to markets in OECD countries, realizing the benefits of new technologies and essential drugs, and providing financing for development programs in the poorest countries. Following

the adoption of the MDGs, the International Conference on Financing for Development in 2002 urged developed countries “to make concrete efforts toward the target of 0.7 percent of gross national income [GNI] as official development assistance to developing countries.”

Since then many countries have increased their official development assistance, but few have reached the target of 0.7 percent (figure 1). In 2009, five countries provided more than 0.7 percent of their GNI as aid, but their share of total aid was only 15 percent. The largest share of total aid was provided by 10 donors that gave 0.3–0.7 percent of their GNI. The largest single donor, the United States, provided 0.21 percent of its GNI as official development assistance.

Official development assistance provided by Development Assistance Committee members 11



Source: World Bank staff estimates.

Millennium Development Goals

Goals and targets from the Millennium Declaration

Indicators for monitoring progress

Goal 1	Eradicate extreme poverty and hunger		
Target 1.A	Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day	1.1	Proportion of population below \$1 purchasing power parity (PPP) a day ¹
		1.2	Poverty gap ratio [incidence × depth of poverty]
		1.3	Share of poorest quintile in national consumption
Target 1.B	Achieve full and productive employment and decent work for all, including women and young people	1.4	Growth rate of GDP per person employed
		1.5	Employment to population ratio
		1.6	Proportion of employed people living below \$1 (PPP) a day
		1.7	Proportion of own-account and contributing family workers in total employment
Target 1.C	Halve, between 1990 and 2015, the proportion of people who suffer from hunger	1.8	Prevalence of underweight children under five years of age
		1.9	Proportion of population below minimum level of dietary energy consumption
Goal 2	Achieve universal primary education		
Target 2.A	Ensure that by 2015 children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	2.1	Net enrollment ratio in primary education
		2.2	Proportion of pupils starting grade 1 who reach last grade of primary education
		2.3	Literacy rate of 15- to 24-year-olds, women and men
Goal 3	Promote gender equality and empower women		
Target 3.A	Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	3.1	Ratios of girls to boys in primary, secondary, and tertiary education
		3.2	Share of women in wage employment in the nonagricultural sector
		3.3	Proportion of seats held by women in national parliament
Goal 4	Reduce child mortality		
Target 4.A	Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	4.1	Under-five mortality rate
		4.2	Infant mortality rate
		4.3	Proportion of one-year-old children immunized against measles
Goal 5	Improve maternal health		
Target 5.A	Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	5.1	Maternal mortality ratio
		5.2	Proportion of births attended by skilled health personnel
Target 5.B	Achieve by 2015 universal access to reproductive health	5.3	Contraceptive prevalence rate
		5.4	Adolescent birth rate
		5.5	Antenatal care coverage (at least one visit and at least four visits)
		5.6	Unmet need for family planning
Goal 6	Combat HIV/AIDS, malaria, and other diseases		
Target 6.A	Have halted by 2015 and begun to reverse the spread of HIV/AIDS	6.1	HIV prevalence among population ages 15–24 years
		6.2	Condom use at last high-risk sex
		6.3	Proportion of population ages 15–24 years with comprehensive, correct knowledge of HIV/AIDS
		6.4	Ratio of school attendance of orphans to school attendance of nonorphans ages 10–14 years
Target 6.B	Achieve by 2010 universal access to treatment for HIV/AIDS for all those who need it	6.5	Proportion of population with advanced HIV infection with access to antiretroviral drugs
Target 6.C	Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	6.6	Incidence and death rates associated with malaria
		6.7	Proportion of children under age five sleeping under insecticide-treated bednets
		6.8	Proportion of children under age five with fever who are treated with appropriate antimalarial drugs
		6.9	Incidence, prevalence, and death rates associated with tuberculosis
		6.10	Proportion of tuberculosis cases detected and cured under directly observed treatment short course

The Millennium Development Goals and targets come from the Millennium Declaration, signed by 189 countries, including 147 heads of state and government, in September 2000 (www.un.org/millennium/declaration/ares552e.htm) as updated by the 60th UN General Assembly in September 2005. The revised Millennium Development Goal (MDG) monitoring framework shown here, including new targets and indicators, was presented to the 62nd General Assembly, with new numbering as recommended by the Inter-agency and Expert Group on MDG Indicators at its 12th meeting on 14 November 2007. The goals and targets are interrelated and should be seen as a whole. They represent a partnership between the developed countries and the developing countries "to create an environment—at the national and global levels alike—which is conducive to development and the elimination of poverty." All indicators should be disaggregated by sex and urban-rural location as far as possible.

Goals and targets from the Millennium Declaration	Indicators for monitoring progress
Goal 7 Ensure environmental sustainability	
Target 7.A Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources	7.1 Proportion of land area covered by forest 7.2 Carbon dioxide emissions, total, per capita and per \$1 GDP (PPP)
Target 7.B Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss	7.3 Consumption of ozone-depleting substances 7.4 Proportion of fish stocks within safe biological limits 7.5 Proportion of total water resources used 7.6 Proportion of terrestrial and marine areas protected 7.7 Proportion of species threatened with extinction
Target 7.C Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation	7.8 Proportion of population using an improved drinking water source 7.9 Proportion of population using an improved sanitation facility
Target 7.D Achieve by 2020 a significant improvement in the lives of at least 100 million slum dwellers	7.10 Proportion of urban population living in slums ²
Goal 8 Develop a global partnership for development	
Target 8.A Develop further an open, rule-based, predictable, nondiscriminatory trading and financial system (Includes a commitment to good governance, development, and poverty reduction—both nationally and internationally.)	Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries, and small island developing states. Official development assistance (ODA) 8.1 Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income 8.2 Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water, and sanitation) 8.3 Proportion of bilateral official development assistance of OECD/DAC donors that is untied 8.4 ODA received in landlocked developing countries as a proportion of their gross national incomes 8.5 ODA received in small island developing states as a proportion of their gross national incomes
Target 8.B Address the special needs of the least developed countries (Includes tariff and quota-free access for the least developed countries' exports; enhanced program of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction.)	
Target 8.C Address the special needs of landlocked developing countries and small island developing states (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the 22nd special session of the General Assembly)	Market access 8.6 Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty 8.7 Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries 8.8 Agricultural support estimate for OECD countries as a percentage of their GDP 8.9 Proportion of ODA provided to help build trade capacity
Target 8.D Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term	Debt sustainability 8.10 Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative) 8.11 Debt relief committed under HIPC Initiative and Multilateral Debt Relief Initiative (MDRI) 8.12 Debt service as a percentage of exports of goods and services
Target 8.E In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	8.13 Proportion of population with access to affordable essential drugs on a sustainable basis
Target 8.F In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	8.14 Telephone lines per 100 population 8.15 Cellular subscribers per 100 population 8.16 Internet users per 100 population

1. Where available, indicators based on national poverty lines should be used for monitoring country poverty trends.

2. The proportion of people living in slums is measured by a proxy, represented by the urban population living in households with at least one of these characteristics: lack of access to improved water supply, lack of access to improved sanitation, overcrowding (3 or more persons per room), and dwellings made of nondurable material.