World population reached 7.2 billion in mid-2013, according to United Nations demographers, with present and projected future growth propelled in part by unexpectedly high fertility in a number of developing countries. Based on current trends in global birth, death, and migration rates, the United Nations projects a variety of future population scenarios, with the three principal ones suggesting that world population will be somewhere between 6.8 billion and 16.6 billion at the end of this century. (See Figure 1.) Using a number based literally on a projection of trends through 2010, the U.N. demographers determined that 82.1 million people were added to the world’s population in 2012—the highest annual increment since 1994. (See Figure 2.)
Based in large part on the 2010 round of annual censuses in countries around the world, the new U.N. Population Division report, *World Population Prospects: The 2012 Revision*, dispels a widespread view that experts expect population growth to end “on its own” sometime in the second half of the twenty-first century. Rather, the new medium-fertility or best-guess scenario suggests the most likely outcome is that world population will continue to grow throughout this century and into the next. In this scenario, the world still gains more than 10 million people in the year 2100 and closes the century at 10.9 billion.

By 2050, the year when many in the environmental and food security fields had been assuming the world will be home to around 9 billion human beings, the new projections suggest instead a global population of 9.6 billion. That is about 700 million people more than the 8.9 billion the U.N. Population Division had projected for 2050 just 10 years ago.

The report, part of a series updated every two years, details the U.N. Population Division’s estimates of population size, growth, fertility, age structure, and related dynamics from 1950 to 2010 in all countries and regions. Separately, the report details projections from 2010 through 2100. Unlike estimates, projections are conditional forecasts based on current data and assumptions about how the key demographic forces of birth, death, and migration might evolve.

While the biggest surprise in the report came from the projections of faster future population growth than had been expected, these numbers actually have their roots in a surprise about the present: Women in many developing countries are having more children today than U.N. demographers previously thought. Indeed, the authors reported that they had raised by a full 5 percent their estimates of current fertility in 15 sub-Saharan African countries—including Nigeria, Niger, Ethiopia, and the Congo—where family size is already among the highest in the world.

In its 2010 series of population estimates and projections, for example, the Population Division projected Burundi’s fertility rate to be 4.1 children per woman in the five years from 2010 to 2015; the Division now projects that number to be 6.1 children. (Even the newer series considers data for this period to be projections, since the latest actual data come from 2010, with limited or no data in most countries from 2011 through 2013.) For Ethiopia, the fertility projection for this period rose from 3.9 to 4.6 children per woman, while for Mali it rose from 6.1 to 6.9. Population Division director John Wilmoth said that some of these higher estimates resulted from recent increases in fertility that had not been detected until now, while others were based purely on reassessments of past and existing data.

While the reasons behind the higher-than-expected fertility in many countries are not fully understood, they correlate well with recent government reluctance to give priority to and fund family planning services in some of the world’s poorest countries. Spending on family planning services in developing countries both by those countries’ governments and by wealthier donor governments and intergovernmental agencies has stagnated in recent years at around $4 billion annually. More than twice that is needed to reach the estimated 222 million women who are sexually active and do not want to become pregnant but are not using contraception. Research suggests that stagnant spending on family planning may be contributing to higher levels of unintended pregnancy. About two
out of five pregnancies worldwide are unintended—in industrial countries as well as developing ones—and more than one in five births worldwide results from such pregnancies.\textsuperscript{19}

The new report estimates that the world’s population is growing at about 1.15 percent annually, and—despite the higher-than-anticipated fertility in many countries—that the growth rate is continuing to slow.\textsuperscript{20} Most human beings—an even 60 percent—live in Asia, with Africa the second most populous region, followed by Europe, Latin America and the Caribbean, North America, and Oceania.\textsuperscript{21} (See Figure 3.)

Population growth, however, is changing this distribution: Approximately 96 percent of the growth is occurring in developing countries, with Asia accounting for 54 percent of that growth.\textsuperscript{22} (See Figure 4.) Africa, growing more rapidly than Asia but from a smaller base of population, accounts for almost a third of current growth.\textsuperscript{23} Europe, many of whose countries are experiencing shrinking populations, accounts for less than 1 percent of all population growth.\textsuperscript{24} Latin America and the Caribbean record a bit more than 8 percent of all growth, while North America (mostly the United States, but with some in Canada) accounts for under 4 percent.\textsuperscript{25} Less than 1 percent of the world’s growth in human numbers occurs in Australia, New Zealand, and the rest of Oceania.\textsuperscript{26}

While it grows, the world’s population also continues to age—meaning that our collective average age is rising.\textsuperscript{27} (See Figure 5.) This is an inevitable result of the combination of increasing life expectancy and decreasing birth rates.\textsuperscript{28} But population aging raises concerns among policymakers about

Figure 2. Annual Growth in World Population: 1950-2100 (Medium Projection)

The world’s population is growing about 1.15% annually.
future levels of economic growth and the fiscal soundness of programs that support the income and health care of older citizens.29

In 1970, the world’s median age—the precise age at which half of all people are younger and half are older—was 21.5 years.30 Overall “youthening” was the consistent trend from 1950, when the median age was 23.5 years, until 1970—a time when global fertility was high and trending higher, without compensatory increases in life expectancy.31 Since 1970, however, with fertility falling, the median age of the world’s population has risen by a bit more than two months every year.32 By 2010 (the last year estimated), it was 28.5 years.33 The U.N. Population Division projects the trend to begin slowing slightly later in this century, as populous generations that resulted from past rapid population growth die and are replaced by those from less populous generations born when global fertility was lower.34

The overall growth and aging of human population mask an unprecedented range of demographic diversity.35 Many industrial countries are now experiencing either relatively slow population growth or absolute decline.36 Japan, Germany, Russia, Cuba, and 17 other countries—mostly in Eastern Europe but scattered as well across Polynesia—now have fewer inhabitants with each passing year.37 In contrast, many developing countries continue to grow rapidly and have still-large proportions of young people.38 Median ages are nonetheless rising slowly (albeit from low bases) in many of these countries for the same reasons they did in industrial nations: increasing life expectancy and declining fertility.39 Some developing countries already have relatively low fertility accompanied by fairly rapid aging, with China being the most often discussed example.40

Regionally, most of the countries growing faster than 2 percent a year are in sub-Saharan Africa (average growth rate, in a slight increase from previous U.N. estimates, of 2.5 percent), although a few are in Asia.41 The latter continent is especially demographically diverse. Its growth rates range from a high of 7.9 percent in Oman (with large numbers of immigrants) to a negative one tenth of 1 percent in

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Figure 3. World Population Distribution by Region, 2013

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>60.0%</td>
</tr>
<tr>
<td>Africa</td>
<td>10.4%</td>
</tr>
<tr>
<td>Latin America</td>
<td>8.6%</td>
</tr>
<tr>
<td>North America</td>
<td>5.0%</td>
</tr>
<tr>
<td>Oceania</td>
<td>15.5%</td>
</tr>
<tr>
<td>Europe</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Data from United Nations Population
Latin America and the Caribbean is the world’s most demographically homogeneous major region, with a 1.1 percent growth rate, almost exactly the global average, and with few populous countries straying far from that figure. Haiti is growing at 1.4 percent annually, while Guatemala grows at 2.5 percent. Uruguay has population dynamics similar to the industrial world, with a 0.3 percent growth rate. Relatively wealthy Chile is among the developing countries with a fertility rate below replacement, at 1.8 children per woman. Mexico, once among the world’s more rapidly growing countries, now expands at 1.2 percent. This is somewhat above the population growth rate of the United States, to which many Mexicans historically have migrated.

The industrial world also varies in its demographic dynamics, but within a narrow band of lower fertility and hence slower growth. Contrary to some common perceptions, population growth continues among these wealthier countries as a whole, at almost exactly 0.3 percent a year, adding some 3.6 million people to the world annually. The English-speaking countries have higher growth rates, with Australia’s population expanding at 1.3 percent annually while that of the United Kingdom grows at 0.6 percent. These numbers include net immigration, which in Australia and the United Kingdom, as in the United States, is a significant component of population growth.

Overall, the growth rate in Asia is just over 1 percent, a bit less than that of the world as a whole.

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Latin America and the Caribbean is the world’s most demographically homogeneous region, with a 1.1 percent growth rate.
Population is declining in Germany (–0.1 percent), as it is in Eastern Europe (–0.3 percent). Russia’s population is declining by 0.2 percent annually.

One reason for Russia’s loss of population until recently was a phenomenon that once was frequent among large groups of people but is now much less familiar: declining life expectancy. Whether related to increasing alcoholism or social or economic stress, life expectancy at birth fell from a peak above 69 years in the late 1960s to less than 65 in the early 2000s. Until life expectancy began rising in the past two or three years, Russia was among nine countries worldwide with falling life expectancies over most of the past two decades. Similar causes may also characterize reduced life expectancy in Belarus and Ukraine. In six countries in Africa—the Democratic Republic of the Congo, Lesotho, South Africa, Swaziland, Zambia, and Zimbabwe—civil conflict and the high prevalence of HIV/AIDS shortened lives in the past decade.

On perhaps the most positive note in the new projections, U.N. Population Division demographers believe that every country in the world is currently experiencing a longer life expectancy in the 2010-to-2015 period than between 2000 and 2010. They project continued improvement in life expectancy throughout the century, when all the new projection scenarios agree that life expectancy for the world will average 82 years, up from 70 years today.

This rosy assessment of global longevity nine decades from now is perhaps the best illustration of a disconnect between demographers and the scientists who assess changing environmental conditions worldwide. The U.N. demographers, like others who produce major population projections, decline to factor in the possibility that mortality trends will vary from recent history, making no mention of possible downward shifts in life expectancy due to climate change or any other environmental impacts of human activities.

Figure 5. Median Age of the World’s Population, 1950-2100 (Medium Projection)

[Graph showing the median age of the world’s population from 1950 to 2100, with labels for past and present and future projection.]
Indeed, the new U.N. “most likely” population projection foresees not just a long-lived human population of 10.9 billion in 2100 but one of 4.2 billion in Africa with a life expectancy of 77 years compared with 58 today. Climate scientists and hydrologists, who have warned of significant decreases in food production capacity in Africa due to increases in global temperatures and growing water scarcity, might be more hesitant to say that such an outcome is “most likely” or “expected.”

Until scientists who study global environmental change and those who assess human population dynamics find a way to reconcile their conflicting projections of the future, however, the U.N. Population Division’s projections remain—for good or for ill—the crystal ball most often referred to by those wondering what humanity will look like in 2100.

Robert Engelman is president of the Worldwatch Institute. Janice Pratt provided research and data assistance on this article.
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19 Singh et al., op. cit. note 18.
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22 Ibid.
23 Ibid.
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25 Ibid.
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31 Ibid.
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33 Ibid.
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55 Ibid.
56 Haupt, Kane, and Haub, op. cit note 28.
57 Data from U.N. Population Division, op. cit. note 1.
58 Ibid.
59 Ibid.
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64 U.N. Population Division, op. cit. note 1.
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66 Parry et al., op. cit. note 63; Gleick et al., op. cit. note 63.