# GLOBAL POPULATION GROWTH

*The absolute size of the population of the globe and the pace at which it grows can be difficult to grasp. Similarly, the mechanisms that drive change in population size are often not fully appreciated.*

*This section on* ***Global Population Growth*** *provides a series of essays that shed some light on these topics. First, two pieces put into context the current size and rate of growth of the globe's population. We then discuss the mechanics that drive change in the size of populations and summarize the current trends around the globe in fertility, mortality, and migration. Finally, we examine our projections about the future of population growth around the globe.*

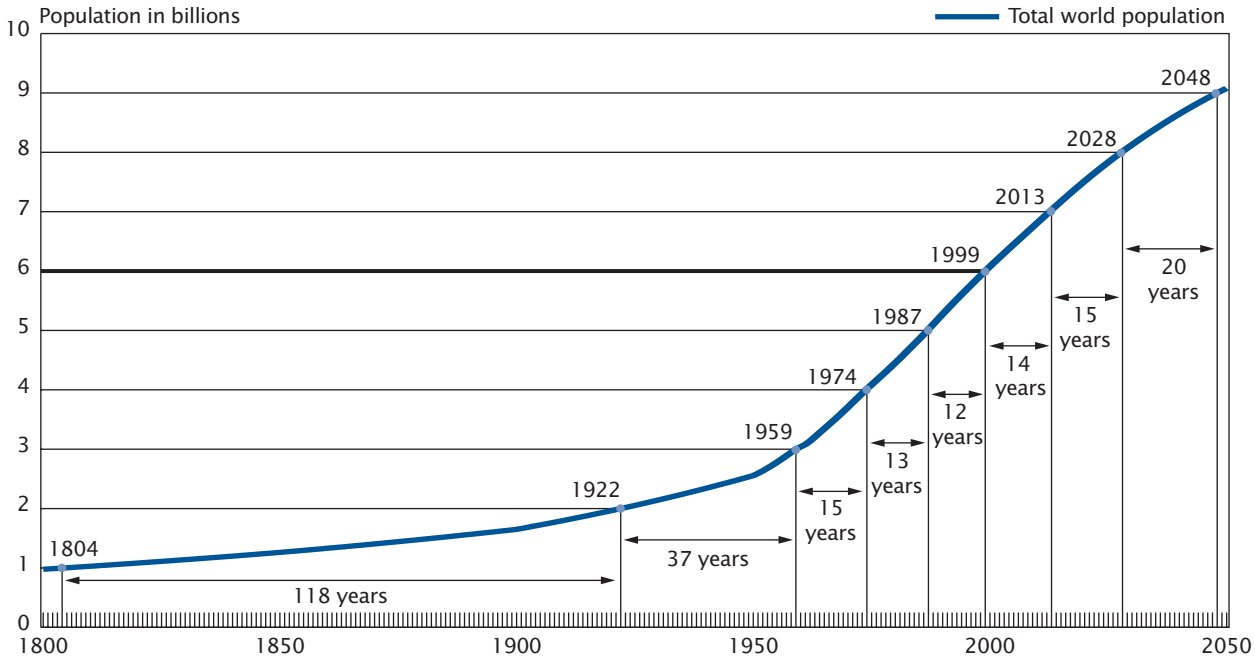
### In 2002, 5 Billion More People Inhabited the Globe Than in 1800

According to the U.S. Census Bureau, world population hit the 6-billion mark in June of 1999. This figure is over 3.5 times the size of the earth's population at the beginning of the 20th century and roughly double its size in 1960. Never before has the earth sustained such a large human population.

The time required for global population to grow from 5 to 6 billion was shorter than the interval between any of the previous billions. As depicted in Figure 1, it took just 12 years for this to occur, just slightly less time than the 13 years between the fourth and fifth billion, but considerably less time than the 118 years between the first and second billion.

Current Census Bureau projections indicate that it will take increasingly longer periods of time to reach the seventh, eighth, and ninth billion markers of world population. Those engaged in long-term projections suggest that the current run up of world population may peak before it reaches 10 billion (United Nations, 1999b; NRC, 2000).

Figure 1.
**Time to Successive Billions in World Population: 1800-2050**
**The sixth billion accrues to world population in record time!**




Source: United Nations (1995b); U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

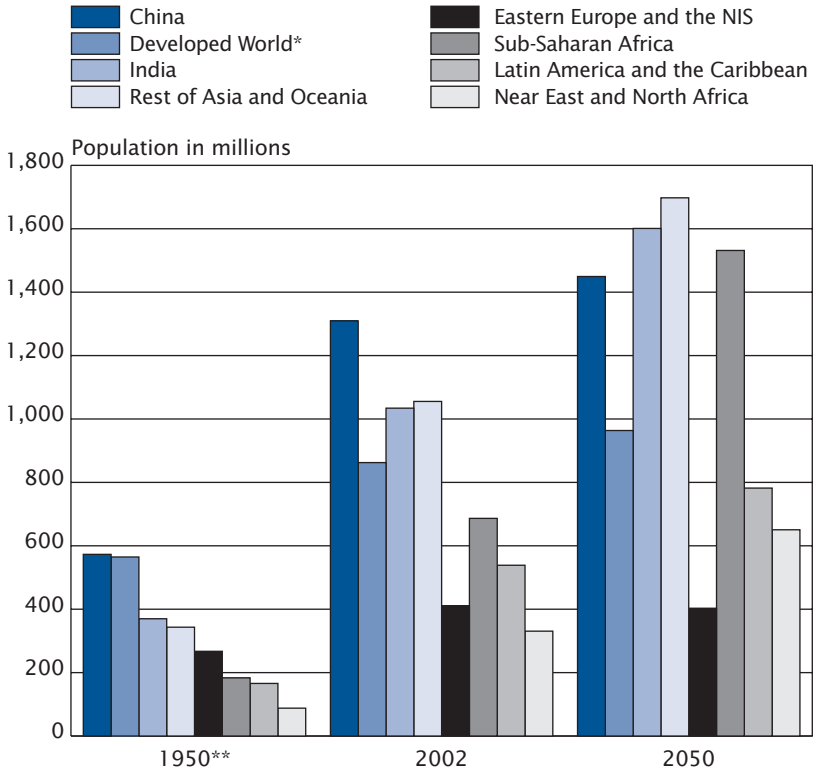
## Asia-Oceania Has Held Over Half of the World's Population Since Before 1950 and Is Expected to Continue to Do So Through 2050

In 2002, China was not only the most populous country in the world, it was also more populous than most of the world's regions (Table 1). This situation has existed at least since 1950 (Figure 2).

India, the second most populous country in the world, has been gaining rapidly on China in both absolute and relative terms (Figure 2). According to Census Bureau projections, India will eclipse China in total population in 2037.

The less developed countries in Asia and Oceania excluding India and China are expected to be more populous than any other region by 2050 (Figure 2). This is due, in part, to growth in top-ten countries such as Indonesia, Pakistan, and Bangladesh (Table 1).

Figure 2.
**Regional Distribution of Global Population: 1950, 2002, and 2050**
**Population rankings of major world regions continue to shift in favor of developing regions.**




* "Developed World" refers to North America (excluding Latin America and the Caribbean), Western Europe, Japan, Australia, and New Zealand. Rest of Asia and Oceania refers to Asia excluding Japan, China, and India plus Oceania excluding Australia and New Zealand. NIS indicates the New Independent States of the former Soviet Union.
** Current boundaries.
Source: U.S. Census Bureau, International Programs Center, International Data Base.

### Projected Growth in Sub-Saharan Africa Differs Markedly From That for the Developed World and Eastern Europe

The largest percentage increase in population size over the next five decades (from 2002 to 2050) is projected to occur in Sub-Saharan Africa. Over 800 million people are expected to be added to this region, with Congo (Kinshasa) joining Nigeria on the list of the ten most populous countries (Table 1). Sub-Saharan Africa, which was one-third the size of China in 1950 and one-half its size in 2002, is likely to surpass it in size by 2050 (Figure 2).

At the opposite end of the spectrum, more than half of the world's more developed countries (MDCs), including those in Eastern Europe and the former Soviet Union, are expected to experience population declines over the next 50 years. The United States is the only MDC expected to be among the ten most populous countries in 2050.

Table 1.
**The Top Ten Most Populous Countries: 1950, 2002, and 2050***
**Less developed countries dominate the list of the world's ten most populous countries**

| | 1950** | | 2002 | | 2050 |
|---|---|---|---|---|---|
| 1. | China | 1. | China | 1. | India |
| 2. | India | 2. | India | 2. | China |
| 3. | United States | 3. | United States | 3. | United States |
| 4. | Russia | 4. | Indonesia | 4. | Indonesia |
| 5. | Japan | 5. | Brazil | 5. | Nigeria |
| 6. | Indonesia | 6. | Pakistan | 6. | Bangladesh |
| 7. | Germany | 7. | Russia | 7. | Pakistan |
| 8. | Brazil | 8. | Bangladesh | 8. | Brazil |
| 9. | United Kingdom | 9. | Nigeria | 9. | Congo (Kinshasa) |
| 10. | Italy | 10. | Japan | 10. | Mexico |
| | **Rankings of future or past top-ten countries** | | | | |
| 11. | Bangladesh | 11. | Mexico | 14. | Russia |
| 13. | Pakistan | 13. | Germany | 16. | Japan |
| 15. | Nigeria | 21. | United Kingdom | 24. | Germany |
| 16. | Mexico | 22. | Italy | 29. | United Kingdom |
| 32. | Congo (Kinshasa) | 23. | Congo (Kinshasa) | 35. | Italy |

*More developed countries/less developed countries.
**Current boundaries.
Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

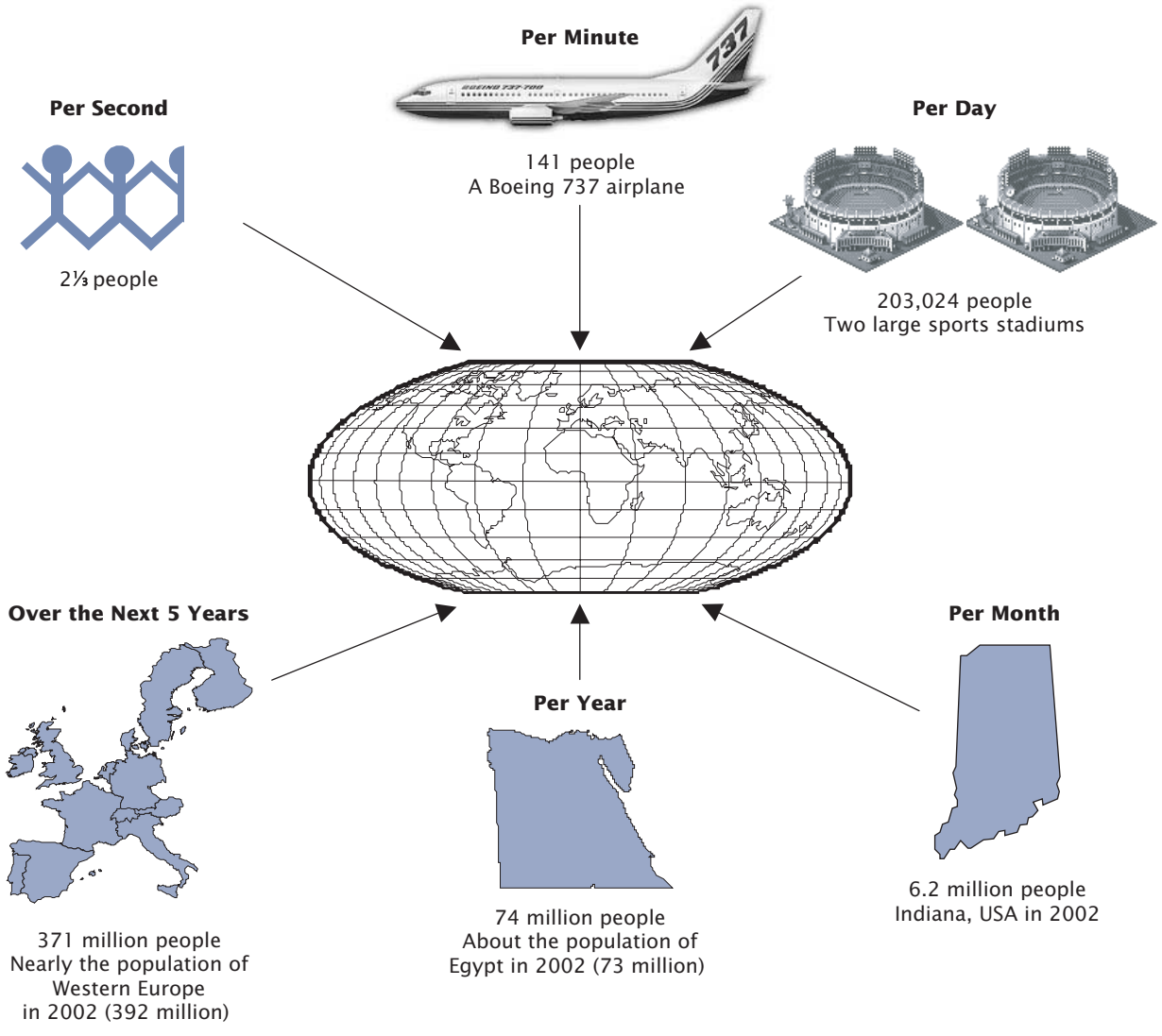
### World Population Increase in 2002 Was More Than the Population of All but the 14 Largest Nations

In 2002, the world's population increased by 74 million people. If all of these people formed a new country, it would be the fifteenth largest country in the world, just larger than Egypt and just smaller than Vietnam. As shown in Figure 3, adding people at this rate is equivalent to:

- 2 $^{1}/_{3}$ people per second,
- 141 people per minute,
- 200,000+ people per day,
- 6.2 million per month.

At this rate of growth, the world would add nearly the equivalent of the population of Western Europe (392 million persons in 2002) in 5 years.

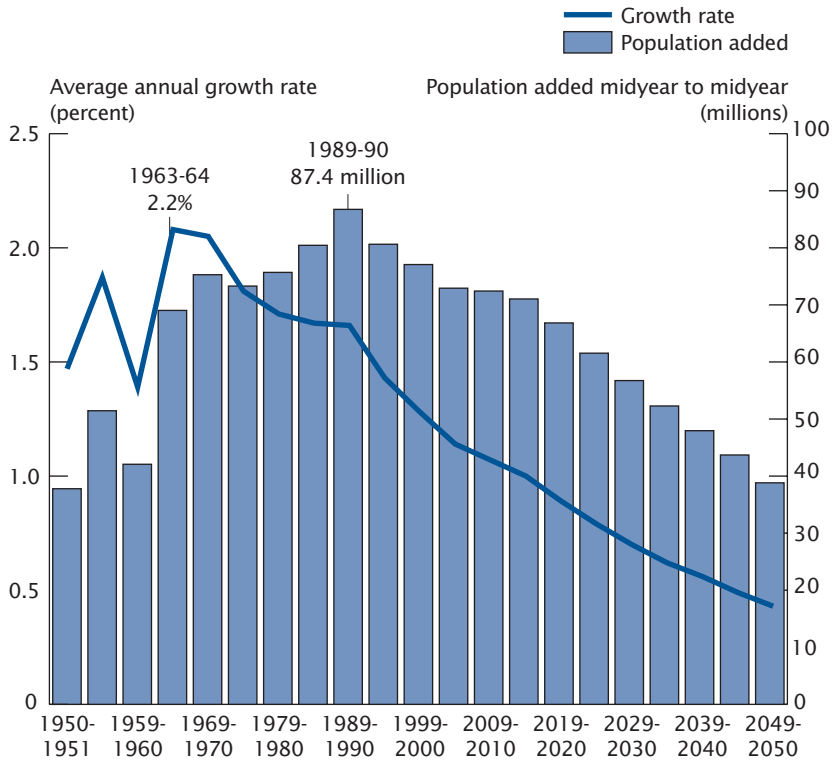
Figure 3.
**Net Additions to the World: 2002**
**In 2002, the world gained 2⅓ people per second.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

Figure 4.
**Annual Additions and the Annual Growth Rate of Global Population: 1950-2050**

**By 2002, the pace of global population growth was on the decline.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

## The Single Largest Annual Increase in World Population Is Estimated to Have Occurred in 1989-90

As Figure 4 shows, however, the average annual rate of growth for the globe's population peaked in 1963-64.[1] Then, in 1989-90, the absolute annual increase to global population reached its apex and began to decline. According to Census Bureau projections, the pace of global population growth will continue to decline into the foreseeable future.

[1] In Figure 4, the dip in population growth during 1959-60 was due to a severe famine in China.

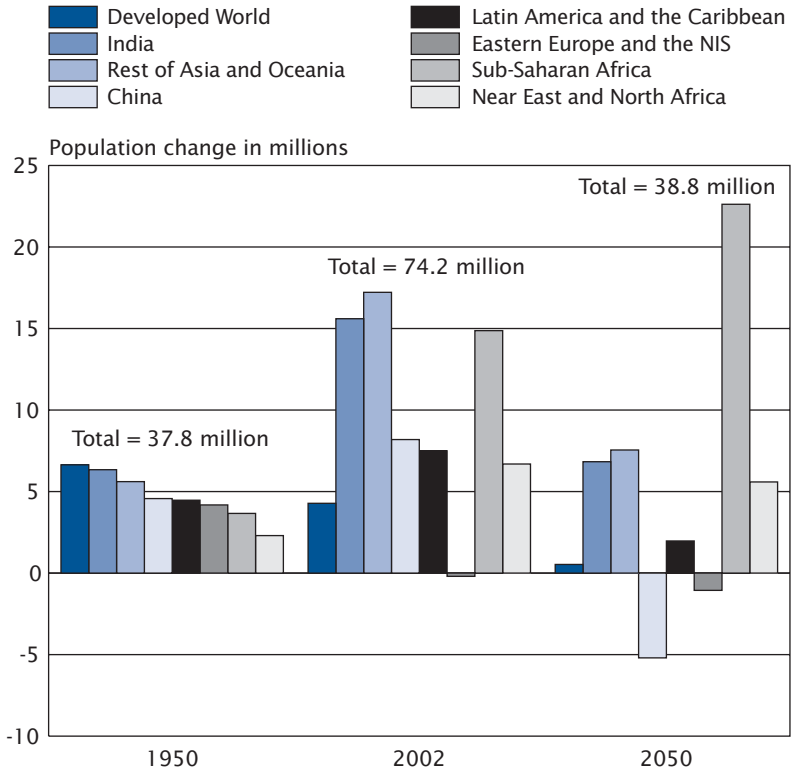
## Asia and Sub-Saharan Africa Are Responsible for Most Current and Future World Population Increase

Since 1950, India has contributed more people to the world than any other country (Table 2). It also rivaled regional contributions to population increase during this time period (Figure 5). The rest of less developed Asia and Oceania was also a key contributor to annual population growth in the last half century (Figure 5).

Over the next 50 years, Sub-Saharan Africa is expected to become the primary source of global population increase (Figure 5). Countries such as Nigeria, Congo (Kinshasa), Madagascar, and Uganda are likely to rise quickly in the rankings of the largest contributors to population growth (Table 2). China, conversely, is expected to begin to lose population in larger numbers than any other country or region of the globe by 2050 (Figure 5, Table 2).

Figure 5.
**Regional Contributions to Net World Population Change: 1950, 2002, and 2050**

**Sub-Saharan Africa is projected to become the primary contributor to world population increase by 2050.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

### China and the More Developed Regions of the Globe Are Projected to Experience Consistent Population Declines by 2050

In 1950, more developed countries were major contributors to annual global population increase (Figure 5). By 2002, however, their contribution was dwarfed by that of less developed countries. Only the United States retained a position in the list of the top ten largest contributors (Table 2).

During the next 50 years, more developed countries are expected to contribute fewer and fewer people to world population increase. Again, only the United States is projected to retain a position in the list of the top ten largest contributors to global population growth in 2050 (Table 2).

Table 2.
**Country Rank by Size of Annual Population Change: 1950, 2002, and 2050***
**Major changes occur between 1950 and 2050 in the ranking of the largest contributors to annual population change.**

| | 1950** | | 2002 | | 2050 |
|---|---|---|---|---|---|
| 1. | India | 1. | India | 1. | India |
| 2. | China | 2. | China | 2. | Nigeria |
| 3. | United States | 3. | Indonesia | 3. | Ethiopia |
| 4. | Russia | 4. | Nigeria | 4. | Congo (Kinshasa) |
| 5. | Brazil | 5. | Pakistan | 5. | United States |
| 6. | Japan | 6. | United States | 6. | Saudi Arabia |
| 7. | Indonesia | 7. | Bangladesh | 7. | Pakistan |
| 8. | Pakistan | 8. | Ethiopia | 8. | Madagascar |
| 9. | Mexico | 9. | Philippines | 9. | Uganda |
| 10. | Ukraine | 10. | Congo (Kinshasa) | 10. | Yemen |
| | **Rankings of future or past top-ten countries** | | | | |
| 11. | Nigeria | 11. | Brazil | 12. | Philippines |
| 12. | Philippines | 12. | Mexico | 16. | Bangladesh |
| 16. | Bangladesh | 19. | Saudi Arabia | 20. | Indonesia |
| 23. | Ethiopia | 20. | Uganda | 26. | Mexico |
| 31. | Congo (Kinshasa) | 23. | Yemen | 215. | Brazil (negative) |
| 48. | Uganda | 29. | Madagascar | 221. | Ukraine (negative) |
| 62. | Yemen | 55. | Japan | 225. | Japan (negative) |
| 69. | Saudi Arabia | 226. | Ukraine (negative) | 226. | Russia (negative) |
| 70. | Madagascar | 227. | Russia (negative) | 227. | China (negative) |

*More developed countries/less developed countries.
**Current boundaries.
Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

### The Size of a Population Will Stay Constant When Mortality Is Constant, Fertility Is Constant at Replacement Level, and There Is No Migration or Momentum

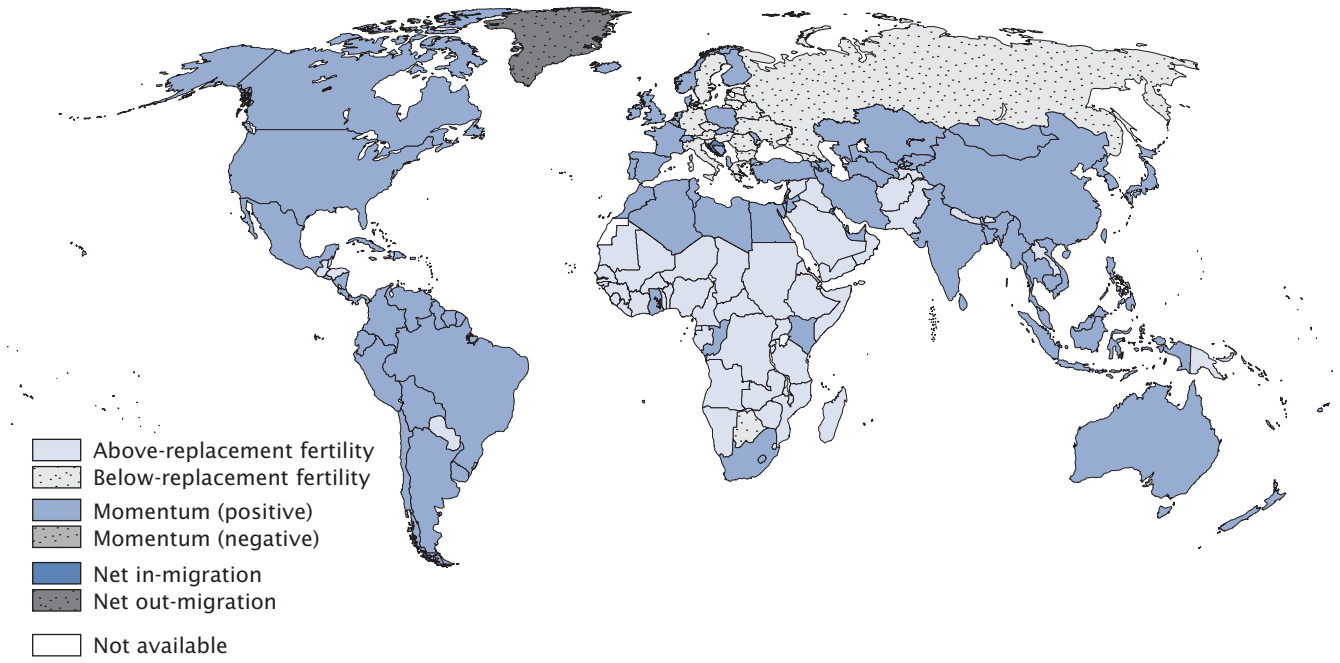
The most basic description of population change identifies three fundamental building blocks: births, deaths, and migrants. Put simply, when the balance of these components deviates from zero, the size of the population will change.

The usefulness of this description is limited, however, because raw numbers are not good indicators of the magnitude of these events. Understanding magnitude is helpful because it can provide information about likely future trends in each component and, consequently, about population growth itself.

To produce such a description, the raw numbers of births, deaths, and migrants can be expressed as rates — i.e., in terms of the size of the population that contributes to each event type. Hence, we use women of childbearing age (typically between ages 15 and 49) to express births, and the entire population to express deaths and migrants.

Next, the level at which each component will not affect the size of a population is identified. For fertility, this is the *replacement level*, or the level of fertility at which each successive generation of women produces just enough offspring so that it is matched in number by daughters surviving to reproductive age. Similarly, a constant level of mortality and number of deaths will contribute to the stability in the size of a population. For migration, constant size will be encouraged when immigration equals emigration (i.e., net migration is zero). In the end, change in population size can then be described in terms of deviations from these levels.

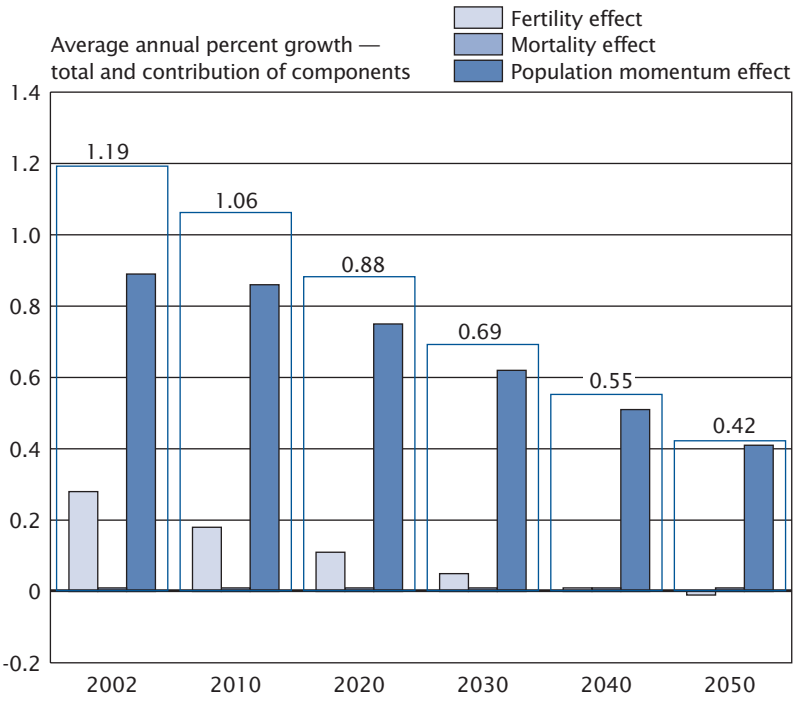
Figure 6.
**The Major Component of Population Change by Country: 2002**
**Fertility and population momentum were the principal drivers of population growth in 2002.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

One outcome of this modification to the original description is that a change in the size of a population (either growth or decline) may now occur even if fertility is at replacement, mortality is constant, and the population itself is closed to migration. The cause of this is an abundance (or dearth) of women in their childbearing years relative to the rest of the population.

Figure 7.
**The Components of Yearly Global Population Growth: 2002-2050**
**Fertility's overall contribution to global population growth is projected to cease by 2050.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

In practice, this abundance (or dearth) is commonly caused by past deviations of fertility from the replacement level. Hence, this phenomenon has been labeled *population momentum*. Over time, sustained replacement-level fertility and constant mortality in a population closed to migration will cause these cohorts to come into balance with the rest of the population and the expected zero population growth will result.

## Population Momentum Is Expected to Gradually Become the Sole Driver of Global Population Growth

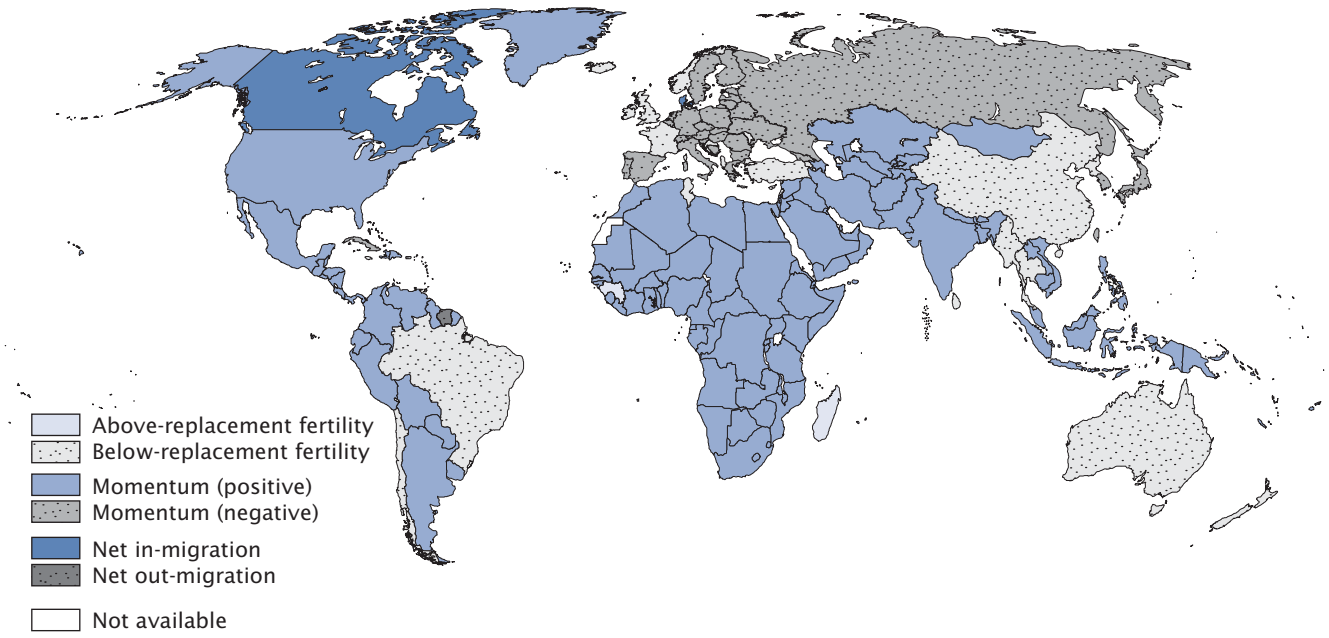
In 2002, population momentum (i.e., the relatively large numbers of childbearing women) was the principal driver of world population growth. Above-replacement fertility played a lesser role and mortality decline played almost no

role at all (Figure 7). At the country level, population momentum was dominant in most of Asia and the Americas, whereas above-replacement fertility was the principal driver in Sub-Saharan Africa. Below-replacement fertility was the primary cause of change in Europe (Figure 6).[2]

Over the next 50 years, the role of population momentum is likely to become increasingly dominant (Figure 7). By 2050, it is expected to become the principal driver of growth in Asia, Africa, and the Americas, and of *decline* in Europe due to the relatively few women of childbearing age compared to the large numbers of elderly people (Figure 8).

[2]This disaggregation of the components of growth builds on previous work by Christenson and Johnson (2002) and Knodel (1999).

Figure 8.
**The Major Component of Population Change by Country: 2050**
**In 2050, population momentum will encourage increases in population size for much of the world but decreases in population size for many European countries.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

### In 2002, the Women of the Globe Needed to Have an Average of 2.3 Children in Their Lifetime to Assure the Replacement of the Globe's Population

Childbirth contributes positively to global population growth. Put simply, if the number of births is greater than the number of deaths, the size of the globe's population will grow.

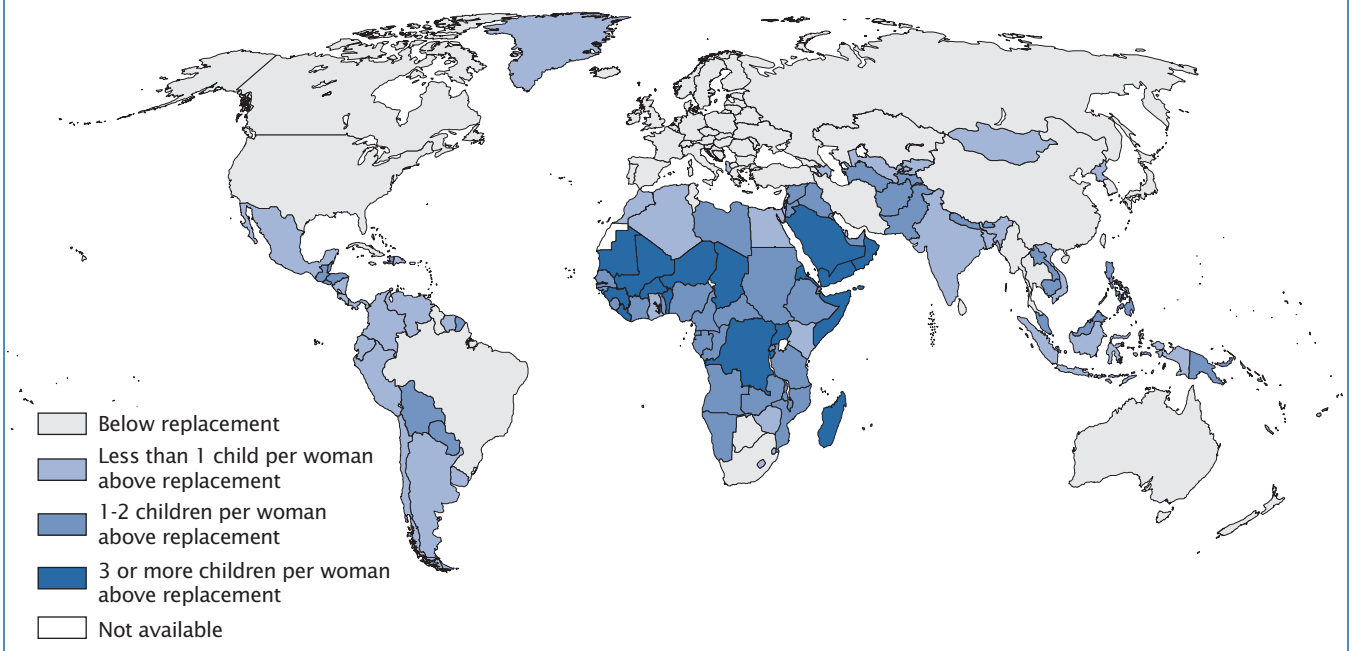
A useful way to express the rate at which women have children is the Total Fertility Rate (TFR). The TFR is the average number of children that would be born per woman if all women lived to the end of their childbearing years and bore children according to a given set of age-specific fertility rates. Thus, a TFR of 3 means that we would expect the average woman in a population to have three births in her lifetime.

In the context of population growth, another useful concept is the *replacement level of fertility:* the level of fertility at which each successive generation of women produces exactly enough offspring so that the same number of women survive to have children themselves. In general, therefore, the higher the level of mortality in a population, the higher the replacement level of fertility will be.

It is often said that fertility is at replacement when the TFR is 2.1 births per woman. In fact, this is the replacement level of a relatively developed country. In 2002, the actual replacement level of fertility for the globe as a whole was 2.3 children per woman. For the nations of the globe, the replacement level ranged from a low of just over 2 children per woman in several more developed countries to a high of 3.4 children per woman in Mozambique (U.S. Census Bureau, International Programs Center, unpublished tables).

Over the next five decades, Census Bureau projections indicate that the replacement level of fertility for the globe will decline gradually to reach 2.1 children per woman by 2050.

Figure 9.
**Total Fertility Rate Relative to the Replacement Level for Each Country Across the Globe: 2002**
**In 2002, fertility levels were highest in the countries of Sub-Saharan Africa and the Near East, and lowest in the more developed countries.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

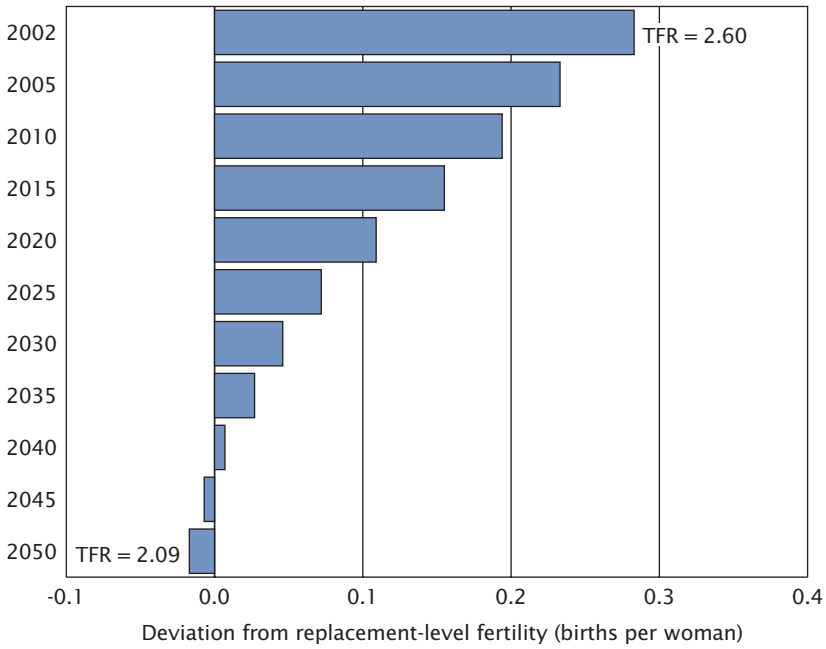
For the nations of the globe, many more are expected to approach the low of just over 2 children per woman, while the maximum national average is projected to decline to approximately 2.5 children per woman (U.S. Census Bureau, International Programs Center, unpublished tables).

## The Globe Is Currently in the Midst of a Remarkable Decline in Fertility

In 2002, the globe's TFR was 2.6 births per woman, about three-tenths of a child per woman above the replacement level (Figure 10). If current trends persist, the gap between the actual level of fertility and the replacement level will decrease gradually, with the actual level dipping below replacement in 2043.

Figure 10.
**Global Fertility Levels Relative to Replacement Level: 2002-2050**

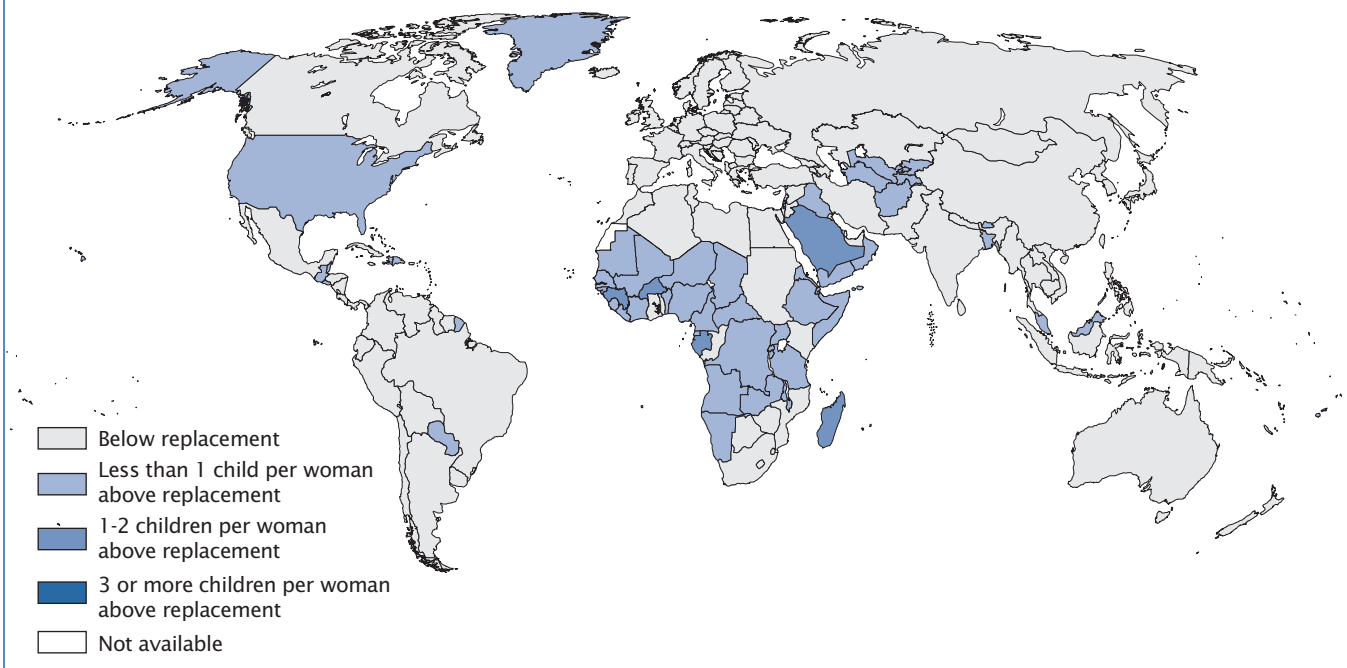
**The level of global fertility is projected to drop below replacement by mid-century.**




Note: Global total fertility rates underlying figure 10 were derived by calculating weighted age-specific fertility rates from country-and-age-specific births and numbers of women.
Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

At the country level, fertility was below replacement in almost all of the more developed world and in some countries in the less developed world in 2002. Still, the majority of less developed countries had fertility rates above replacement (Figure 9). If current trends continue, the number of countries with above-replacement fertility is expected to decline gradually over the coming five decades. In addition, in countries where fertility continues above replacement, the gap between the actual and replacement levels is expected to shrink (Figure 11).

Figure 11.
**Total Fertility Rate Relative to the Replacement Level for Each Country Across the Globe: 2050**
**In the next 50 years, country-to-country differences in fertility are expected to persist despite a general trend toward convergence.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

### Mortality Contributes to Population Change by Affecting the Number of People Who "Exit" a Population and by Determining the Replacement Level of Fertility

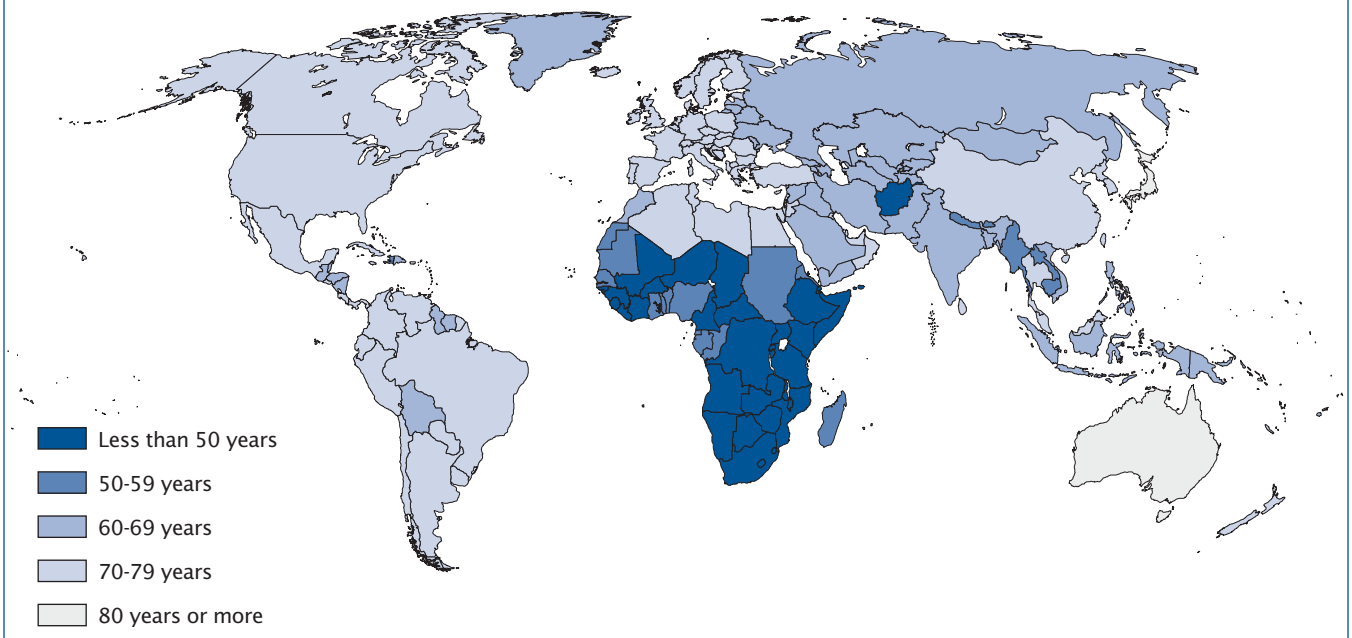
Whereas childbirth is the natural input mechanism behind global population change, death is the natural output mechanism. Put simply, if the number of deaths is greater than the number of births, the size of the globe's population will decrease.

A useful way to express the level of mortality of a population is *life expectancy at birth*. Life expectancy at birth is the average number of years a group of people born in the same year can be expected to live if mortality at each age remains constant in the future.

In the context of population growth, the level of mortality has two effects on our understanding of how the size of a population changes. First, a change in the level of mortality will encourage a change in the size of the population — i.e., a declining rate will indicate fewer deaths than in the previous year, whereas an increasing rate will indicate more deaths. Second, as mentioned in the previous section, a higher level of mortality will create a higher replacement level of fertility — i.e., a higher level of fertility that will allow each successive generation of women to produce exactly enough offspring so that the same number of women survive to have children themselves.

Declining mortality most strongly influenced population growth at the end of the 19th century and the beginning of the 20th century (Bongaarts and Bulatao, 1999). Currently, the great majority of countries are experiencing only gradual declines in mortality.

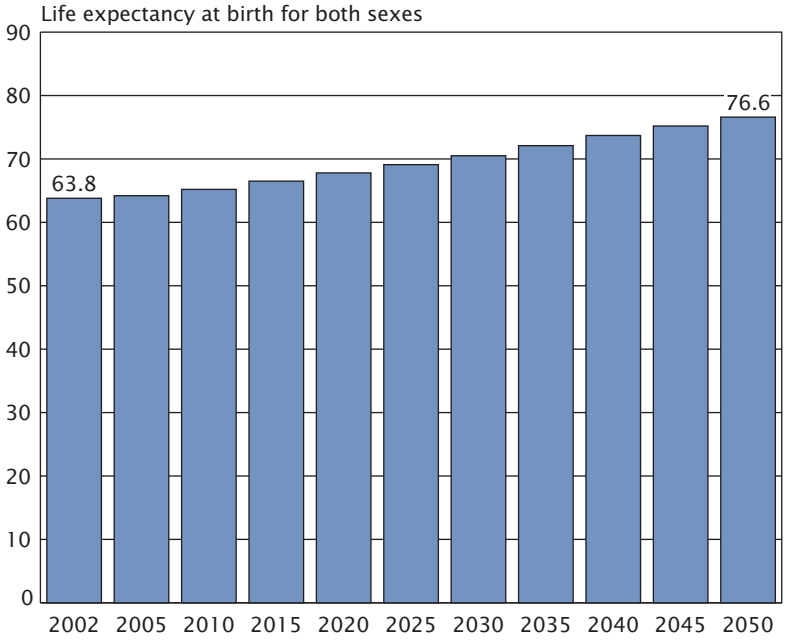
Figure 12.
**Life Expectancy at Birth Across the Globe: 2002**
**Sub-Saharan African countries had by far the lowest life expectancy at birth of any region on the globe in 2002.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

Figure 13.
**World Life Expectancy at Birth: 2002-2050**

**Global life expectancy at birth is projected to increase gradually through 2050.**




Source: U.S. Census Bureau, International Programs Center, International Data Base.

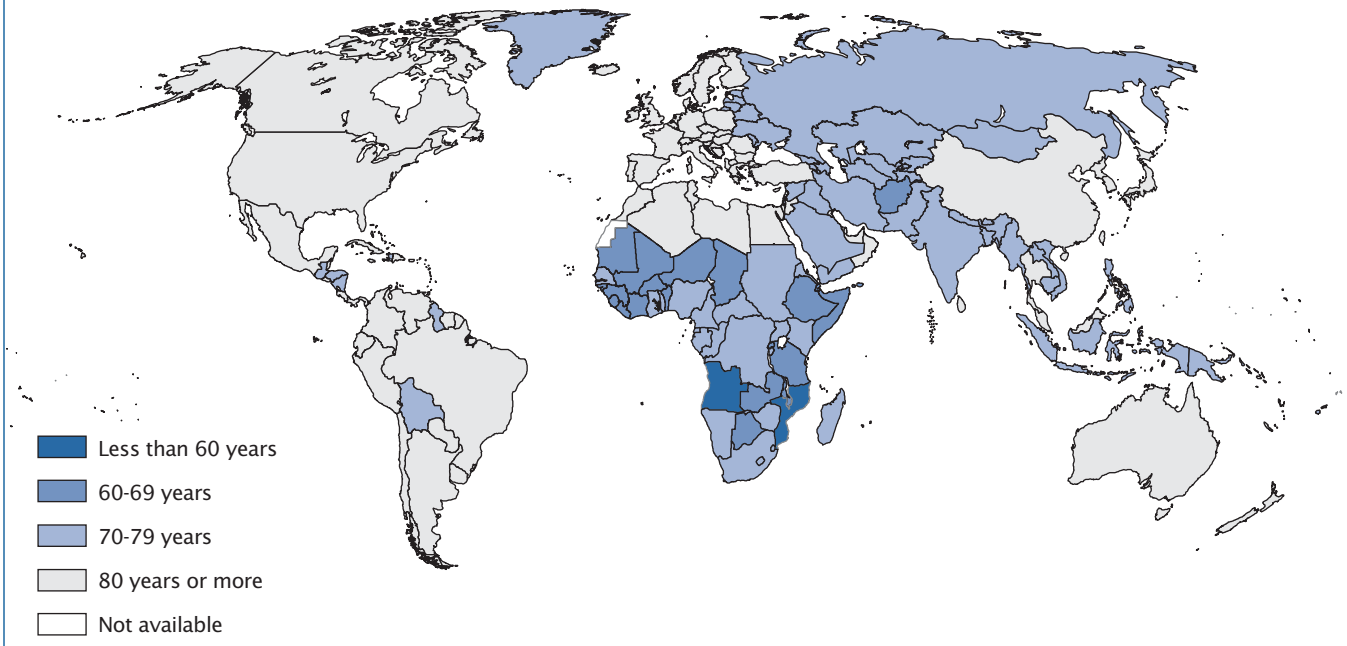
However, there are several countries where the AIDS pandemic is causing mortality to rise quickly (see the fourth section of this report). As a result, the fertility level needed to maintain the balance between births and deaths is also changing quickly.

## Life Expectancy at Birth Is Generally in a Gradual Upward Trend

In 2002, the overall life expectancy at birth in the world was 63.8 years. Countries with the highest levels of life expectancy at birth in 2002 were predominantly those of Europe and North America (Figure 12). Most of the countries with the lowest levels, in contrast, were in Sub-Saharan Africa. This latter fact is in part due to the effects of the HIV/AIDS pandemic.

U.S. Census Bureau projections indicate that the global level of life expectancy at birth will increase slowly but steadily to 76.6 years in 2050 (Figure 13). The levels for most countries are expected to mirror this gradual upward trend, with countries with lower life expectancies enjoying substantially faster improvements on average than countries with higher life expectancies in 2002 (Figure 14).

Figure 14.
**Life Expectancy at Birth Across the Globe: 2050**
**In the next 50 years, current disparities between countries in levels of life expectancy at birth are expected to decrease.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

### The Relationship Between Migration and Population Change Is Different From the Relationship Between Fertility or Mortality and Population Change

The relationship between migration and change in the size of a population is different from the effects of fertility and mortality in two respects. First, by definition, migration will not affect global population change. Every person who leaves one country must necessarily enter another, so net world migration will always equal zero.

Second, migration is a far less predictable phenomenon than fertility or mortality. Whereas fertility and mortality can be considered basic human experiences, migration is more a social phenomenon. As a result, the number of births and deaths, as well as the ages at which women give birth and at which individuals die, tend to vary less than the numbers and ages of people who migrate. For this reason, the data that are available to estimate the effect of migration on change in the size of a population are likely to be much less dependable, and projections of migration are especially problematic.

Despite these differences, migration is an important component of population change for many countries. If net migration, the difference between the numbers of people entering and leaving an area, is positive, the size of the population will grow, all else constant.

Table 3.
**The Top Net Senders and Receivers of Migration: 2002**
**In 2002, net migration to the United States was three times higher than the next highest receiving country.**

| Top ten net senders | | | Top ten net receivers | | |
|---|---|---|---|---|---|
| **Rank** | **Country** | **Net migration** | **Rank** | **Country** | **Net migration** |
| 1 | Mexico | -280,000 | 1 | United States | 1,040,000 |
| 2 | China | -230,000 | 2 | Afghanistan | 300,000 |
| 3 | Tanzania | -180,000 | 3 | Canada | 190,000 |
| 4 | Congo (Kinshasa) | -150,000 | 4 | Germany | 180,000 |
| 5 | Philippines | -130,000 | 5 | Russia | 140,000 |
| 6 | Pakistan | -120,000 | 6 | United Kingdom | 130,000 |
| 7 | Kazakhstan | -100,000 | 7 | Italy | 120,000 |
| 8 | Bangladesh | -100,000 | 8 | Singapore | 120,000 |
| 9 | India | -80,000 | 9 | Australia | 80,000 |
| 10 | Burma | -80,000 | 10 | East Timor | 50,000 |

Source: U.S. Census Bureau, International Programs Center, International Data Base.

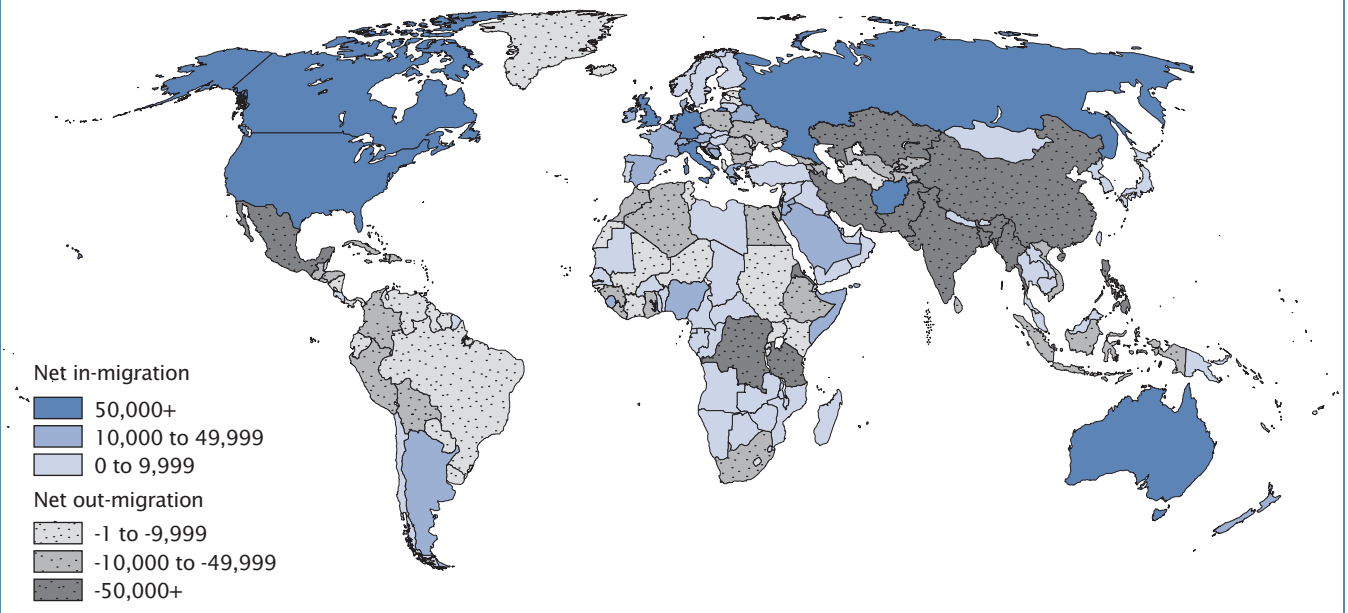
### While the Flow of Migrants in 2002 Was an Interesting Phenomenon, the Typical Effect of Net Migration on Population Change Was Small to Moderate

In 2002, there was a shift across national boundaries of approximately 3 million people. Mexico was the largest sender of people, having a net outflow of 280,000 people into other countries, including the United States (Table 3). China was the next largest sender, transferring approximately 230,000 people to other countries. As Figure 15 shows, almost every net sender of migrants was a less developed country.

On the other side of the equation, the United States absorbed about one-third of the total net in-migration (total net migration for receiving countries) in 2002. Six of the remaining nine top ten net receivers (Table 3) were also more developed countries, the exceptions being Afghanistan, Singapore, and East Timor. Afghanistan and East Timor made the list in 2002 due to the return of refugees, and Singapore because of its proximity to China, the largest net-sending country.

In relative terms, the countries where net migration had the most impact on population size in 2000 (whether positive or negative) were either island nations or nations with recent experience of military conflict (Table 4). For the majority of larger countries, however, the relative effect of net migration was small to moderate (Figure 16).

Figure 15.
**Net Migration Around the Globe: 2002**
**There are both sending countries and receiving countries in each region of the globe.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

Table 4.

**The Top Relative Gainers and Losers of Population Due to Net Migration: 2002**

**Migration tends to have the most impact on small countries and countries in crisis.**

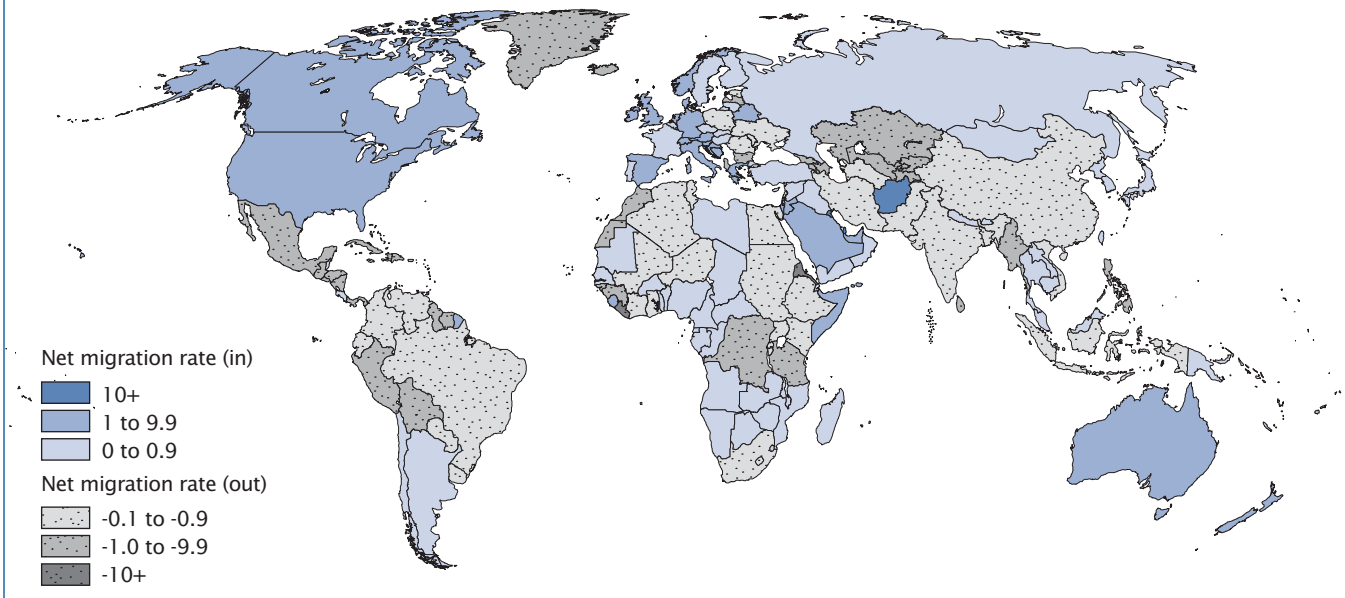
| Top ten gainers | | | Top ten losers | | |
|---|---|---|---|---|---|
| **Rank** | **Country** | **Net migration** | **Rank** | **Country** | **Net migration** |
| 1 | Montserrat | 74.2 | 1 | Dominica | -18.3 |
| 2 | East Timor | 51.1 | 2 | Grenada | -15.2 |
| 3 | Singapore | 26.1 | 3 | Eritrea | -13.6 |
| 4 | Cayman Islands | 19.8 | 4 | Cape Verde | -12.3 |
| 5 | Qatar | 18.8 | 5 | Samoa | -11.6 |
| 6 | Northern Mariana Islands | 17.0 | 6 | Liberia | -10.9 |
| 7 | Anguilla | 15.0 | 7 | Trinidad and Tobago | -10.8 |
| 8 | Kuwait | 13.9 | 8 | Saint Kitts and Nevis | -9.5 |
| 9 | Turks and Caicos Islands | 13.0 | 9 | Suriname | -8.9 |
| 10 | San Marino | 11.3 | 10 | Greenland | -8.4 |

*The net migration rate is the net number of migrants entering (or leaving) a country per 1,000 residents.
Source: U.S. Census Bureau, International Programs Center, International Data Base.

Figure 16.

**Net Migration Rates Around the Globe: 2002**

**The effect of net migration on population size in 2002 was small to moderate for most countries.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.

### The Globe's Population Is Expected to Grow to Approximately 9.1 Billion in 2050

The task of producing long-term population projections is fraught with difficulties. It requires that very broad assumptions be made regarding future trends in the underlying components of population change: fertility, mortality, and migration. (See Appendix B for details about the actual assumptions used in producing the projections in this volume.) In addition, the effects of these assumptions cumulate over time so that seemingly small adjustments can have substantial impacts on the resulting projections. For this reason, long-term population projections should be used with caution.

Nevertheless, the exercise of producing long-term projections can provide valuable insight into the likely development of phenomena that have important policy implications. Furthermore, population projections provide a concrete measure that can be used in subsequent analyses to evaluate the methods used to produce the projections and the assumptions that lie behind them.

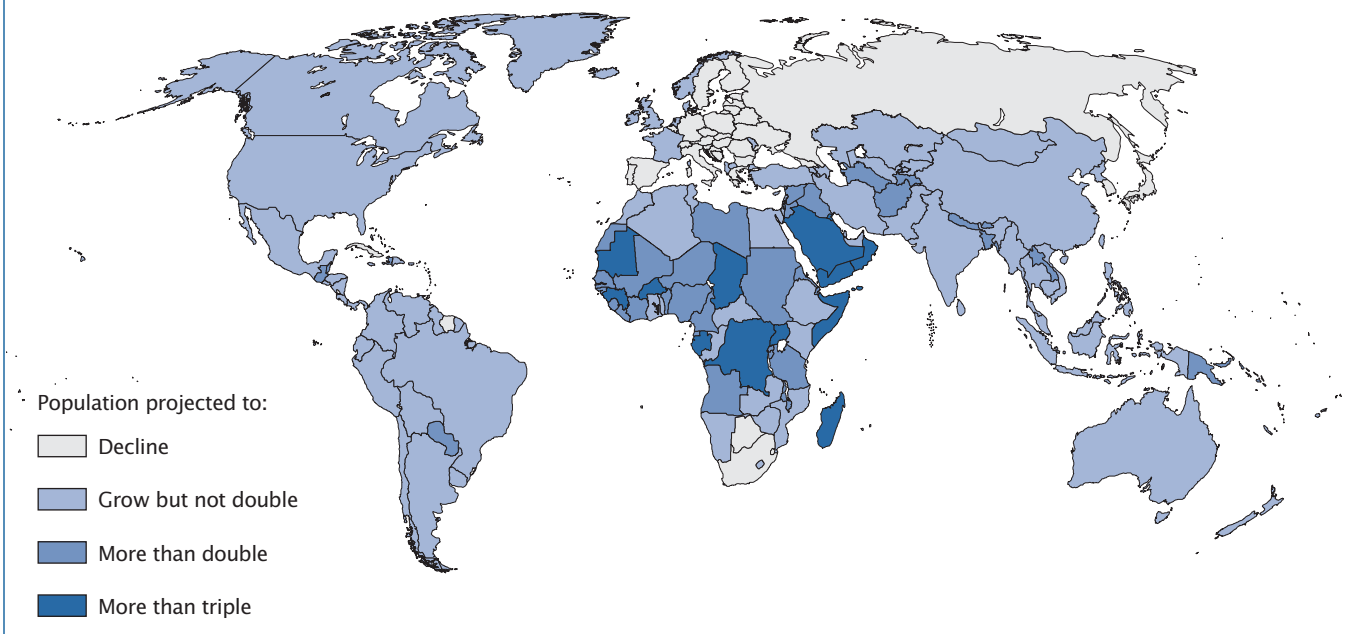
The U.S. Census Bureau's long-term projections indicate that the globe's population will grow to approximately 9.1 billion in 2050, an increase of over 45 percent compared to its size in 2002.

The largest gains in population between 2002 and 2050 are projected to be in Sub-Saharan Africa and the Near East (Figure 17). In these regions, many countries are expected to more than double in size by 2050, with some more than tripling.

More moderate gains are expected in that time period for North Africa, the Americas, Asia, and the Pacific. Although some countries in these regions are expected to more than double in size, the typical country is likely to experience a smaller increase.

On the opposite end of the spectrum, a majority of the countries in Europe and the New Independent States of the former Soviet Union are expected to experience a decline in population between 2002 and 2050.

Figure 17.
**Population Change Around the Globe: 2002-2050**
**The loss of population in Europe and the NIS over the next five decades is expected to be more than offset by population gains in the rest of the world.**




Source: U.S. Census Bureau, International Programs Center, International Data Base and unpublished tables.