

CHAPTER

10

# ECONOMIC DEVELOPMENT AND CHANGE



*Women learning computer skills in a rural village in India.*

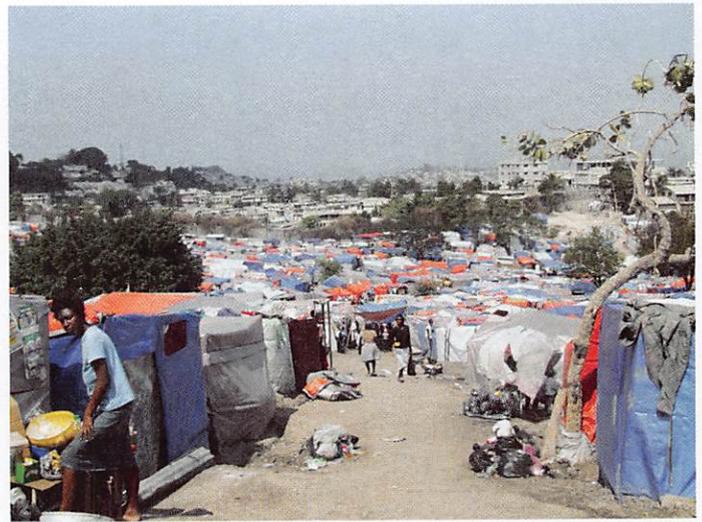
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## AP Learning Objectives

- Explain causes and geographic consequences of recent economic changes, such as the increase in international trade, deindustrialization, and growing interdependence in the world economy.
- Explain the spatial patterns of industrial production and development.
- Describe social and economic measures of development.
- Explain how and to what extent changes in economic development have contributed to gender parity.
- Describe different theories of economic and social development.
- Explain how sustainability principles relate to and impact industrialization and spatial development.

In January 2010, the world's attention turned for a few days to Haiti, where a 7.0-magnitude earthquake struck near the capital city of Port-au-Prince. The powerful quake shook an estimated 3.5 million of Haiti's 9 million people. The devastation was astounding. As bodies were pulled from the rubble, the estimated death toll climbed to more than 220,000, while the true number will probably never be known. After the quake, inadequate food supplies, untreated injuries, and disease outbreaks raised the death toll even higher. With most of the country's infrastructure concentrated in the primate city of Port-au-Prince, the damage to the country's government and systems of transportation and utilities was a major setback. Key structures destroyed or seriously damaged including the presidential palace, national assembly building, national penitentiary, main cathedral, the airport control tower, port docks and cranes, luxury hotels, hospitals, and schools. Approximately 1.5 million Haitians were left homeless as their houses collapsed in the quake.

Six years later, long after the world's media attention moved on, an estimated 60,000 displaced Haitians still lived in overcrowded tent camps in parks, golf courses, and vacant lots, suffering from poor sanitation, crime, and inadequate food and water supplies (Figure 10.1). Hurricane Matthew in 2016 added to the loss of life and housing. With little to show for much of the promised international assistance, Haitians returned to rebuilding their country.



**Figure 10.1** One of many tent camps for displaced persons after the January 2010 earthquake in Haiti. This camp was located in the capital city of Port-au-Prince, on Haiti's only golf course. About 1.5 million of Haiti's 9 million people were made homeless by the earthquake. Two years later, hundreds of thousands were still living in tent camps

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## 10.1 An Uneven World

News reports often refer to catastrophes such as the Haitian earthquake as “natural disasters.” But the staggering death toll in Haiti would suggest that something more was going on. In recent years, earthquakes of similar strength have hit California, New Zealand, Chile, Indonesia, Japan, and Italy, with far less damage and loss of life. The devastating human consequences of the Haitian earthquake were not due to nature alone. Rather, poverty and the lack of private and public resources, public services, institutions, and social safety nets that we associate with “development” made this natural event much more devastating and the recovery much slower. Haiti is the poorest country in the Western Hemisphere, and like other developing countries, it has undergone a massive migration from rural areas to the crowded city of Port-au-Prince. Haiti's government is burdened by large international indebtedness for loans taken out by previous, corrupt governments, but in the years prior to the earthquake, the country had made substantial progress in stabilizing institutions and renegotiating its international debts. Haitians were aware of their country's earthquake dangers. But in a poor, indebted country where most houses are makeshift slum dwellings and day-to-day survival is a challenge for much of the population, updating and enforcing building codes, creating disaster preparation plans, and earthquake-proofing even key public buildings was not a priority. Partly to blame for the many deaths were poor construction materials and techniques that could not withstand the forces

of earthquakes. Limited financial resources meant little or no government inspection, and builders sometimes succumbed to the temptation to skimp on construction quality. Extreme poverty meant that there was no insurance claim or bank account to fall back upon for many Haitians who lost homes, jobs, and family members.

Any view of the contemporary world quickly shows great—almost unbelievable—contrasts from place to place in levels of economic development and people's material well-being. Such differences are evident in the *artifacts*—energy sources and technologies differing societies use—the kinds of economic activities in which they engage, and in their social organizations—*sociofacts*. The ready distinction we make between the “Gold Coast” and the “slum” indicates that different groups have different access to the wealth, tools, resources, and decision-making power of the global and national societies of which they are a part.

At an international scale, we distinguish between “advanced” or “rich” nations, such as Canada or Switzerland, and “less developed” or “poor” countries, like Bangladesh or Burkina Faso, although neither country may be comfortable with those adjectives. Vast economic differences exist within countries, too. The poverty of rural South Africa stands in sharp contrast to the prosperous, industrialized, urbanized modernity of Johannesburg (Figure 10.2). Similarly, in the United States, farmers or coal miners in Appalachia live in a different economic and cultural reality than urban professionals.



(a)



(b)

**Figure 10.2** Economic contrasts can be dramatic within a single country. (a) The economic power and global connectedness displayed in the city center of Johannesburg, South Africa stands apart from (b) the poverty and isolation of much of the rest of the country.

(a) ©Ariadna22822/Shutterstock; (b) ©HenkBadenhorst/Getty Images

## 10.2 Dividing the Continuum: Defining Development

Countries display different levels of development. **Development**, in that comparative sense, simply means the extent to which the human and natural resources of an area or country have been brought into full productive use. In common usage, it also suggests urbanization, modernization, and improvement in levels of material production and consumption. For some, it also suggests changes in traditional social, cultural, and political structures to resemble more nearly those displayed in countries and economies deemed *advanced*. For others, the concepts of *development* and *underdevelopment* were post–World War II inventions of Western culture. Countries were classified by the degree to which they conformed to Western standards of wealth, well-being, and achievement. Once visualized in this manner, the perceived conditions of underdevelopment could be addressed by international institutions such as the World Bank, International Monetary Fund Bank, and Inter-American Development Bank. Although the economic differences among countries are undeniable, some critics challenge development theory, criticizing it as a conscious means of exerting Western influence and control over postcolonial societies.

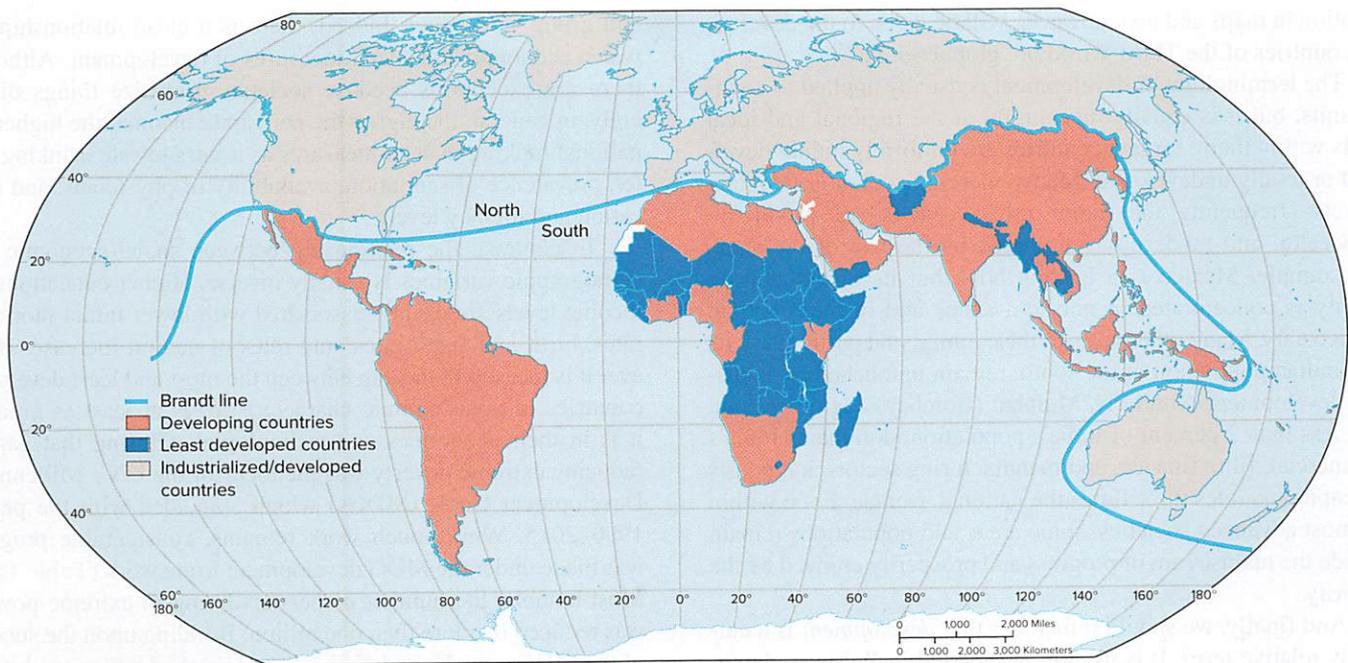
Whatever the philosophical merits of the two viewpoints, many of the attributes of development under its usual economic definition can be quantified by referring to statistics of national production, per capita income, energy consumption, nutritional levels, labor force characteristics, and the like. Taken together, such variables might comprise a scale of achievement against which the level of development of a single country may be compared. Such a scale would reveal that countries lie along a continuum from the least advanced in technology or industrialization to the most developed. Geographers (and others) attempt to classify and group countries along the continuum in ways that are useful and informative.

We must be careful in choosing the terms that we use to describe these differences, for we are speaking of vast inequalities in

economic and political power, access to resources, and chances of survival. In the usage of many governments and nongovernmental organizations, the term *developed* stands in easy contrast to *underdeveloped*, *less developed*, or the *developing* world. The term *developing* itself was introduced by President Harry S. Truman in 1949 as a replacement for *backward*, the unsatisfactory and unflattering reference then in use. **Underdevelopment**, from a strictly economic point of view, suggests the possibility or desirability of applying additional capital, labor, or technology to the resource base of an area to permit the present population to improve its material well-being.

The catch-all category of *underdeveloped*, however, does not tell us where countries are on the continuum. With time, therefore, more refined subdivisions of development have been introduced, including such relative terms as *moderately*, *less*, or *least developed* countries.<sup>1</sup> Because development is commonly understood to imply industrialization and to be reflected in improvements in national and personal income, the additional terms *newly industrializing countries (NICs)* (which was explored in Chapter 9) and *middle-income countries* have been employed. More recently, *emerging economy* has become a common designation, providing a more positive image than “underdeveloped.” The United Nations groups the formerly communist Russia, former USSR republics, and southeast European countries into a category termed *transition economies*. In a corruption of its original meaning, the term **Third World** is still occasionally applied to developing countries as a group, though when first used, that designation was a purely

<sup>1</sup>In 1971, the General Assembly of the United Nations listed 24 “least developed” countries identified by per capita gross domestic product (GDP), share of manufacturing in GDP, and adult literacy. In later years, the criteria were changed to reflect low national income (per capita GNI under \$1,025); weak human assets (a composite index based on health and educational measures); and high economic vulnerability (based on vulnerability to natural disasters, agricultural instability, and inadequate diversification of a small economy). In addition, population of a “least developed country” had to be below 75 million. The list of those countries—also recognized as “poorest” countries—has grown over the years. There were 47 countries on the list in 2018: 32 in Africa, 9 in Asia, 5 small island states in Oceania, and Haiti in the Caribbean. Only five countries, Botswana, Cabo Verde, Equatorial Guinea, Maldives, and Samoa have “graduated” from the list. See Figure 10.3.



**Figure 10.3** The “North-South” line of the 1980 *Brandt Report* suggested a simplified world contrast of development and underdevelopment based largely on degree of industrialization and per capita wealth. Following the dissolution of the USSR in 1991, the former Central Asian and trans-Caucasian Soviet republics were added to the “South.” Based on measures of income, health, education, and economic vulnerability, 47 countries are classified by the United Nations as the “least developed countries.” The broad category of “developing countries” ignores recent significant economic and social gains in many Asian and Latin American states, raising them now to “industrialized/developed” status. Some “least developed” states are small island countries not shown at this map scale.

Sources: UNCTAD and United Nations Development Programme.

political reference to nations not formally aligned with a *First World* of industrialized free market (capitalist) nations or a *Second World* of centrally controlled (communist-bloc) economies. In addition, the name *Fourth World* has sometimes been attached to indigenous peoples or other marginalized ethnic groups. Further, some development workers have altered the term *Third World* to *Two-Thirds World* or *Majority World* as a reminder that most of the world’s population resides in developing countries.

Because all these terms clearly suggest the possibility of a country progressing from a lower to a higher developmental status, one would expect agreement on which category is applicable to a specific country and when a state has advanced from one category to another. Unfortunately, there is no agreed-upon classification. In common practice, the United Nations considers the United States, Canada, Japan, Australia, New Zealand, and most of Europe to be “developed” and the rest of Asia, the Americas, Caribbean, and Oceania to be “developing.” While most of Europe is classified by the United Nations as “developed,” the exceptions are five formerly communist states in southeastern Europe that are grouped with Russia, Georgia, and the Commonwealth of Independent States as “economies in transition.” Various international agencies reach different conclusions: for the United Nations, Singapore and South Korea are both “developing” and “high-income” economies; for the International Monetary Fund (IMF), they are “advanced economies.” And to equate “advanced” with “industrialized” economies, which is commonly done, neglects the fact that these economies are increasingly postindustrial service economies.

In 1980, the contrasting terms *North* and *South* were introduced (by the Independent Commission on International Development Issues, commonly called the Brandt Report<sup>2</sup>) as a broad generalization emphasizing the distinctions between the rich, advanced, developed countries of the Northern Hemisphere (to which Australia and New Zealand are added)—the *North*—and, roughly, the rest of the world—the *South* (Figure 10.3). This split agreed with the UN classification that placed all of Europe and North America, plus Australia, Japan, New Zealand, and the former USSR in a *more developed country* category, with all other states classed as *less developed countries*.

The variety of terms devised—not all of them accurately descriptive or acceptable to the countries that they designate—represent sincere efforts to categorize countries along a continuum of economic and social characteristics. In the remainder of this chapter, broad developmental contrasts between countries or regions will conform to the “North-South” and the United Nation’s “developed-developing” categorizations. Although not ideal, we use the terms *developed* and *developing* because of their common usage in reports and statistical databases issued by the United Nations and other organizations. Our primary

<sup>2</sup>*North-South: A Programme for Survival*. The commission was established in 1977 at the suggestion of the chairman of the World Bank. Under its charge, “global issues arising from economic and social disparities of the world community” were to be studied and “ways of promoting adequate solutions to the problems involved in development” were to be proposed. The former Soviet Union was included within the North at that time; since the breakup of the Soviet Union in 1991, Georgia, Uzbekistan, and other former Soviet republics in Asia have been classified as “less developed” by the United Nations.

attention in maps and text, however, will be given to the developing countries of the Third World or “global South.”

The terminology of development is usually applied to country units, but it is equally meaningful at the regional and local levels within them, for few countries are uniformly highly developed or totally undeveloped. Many emerging economies contain pockets—frequently the major urban centers—of productivity, wealth, and modernity not shared by the rest of the state. For example, Mexico is a leading NIC, but its manufacturing activity is concentrated in northern states and in metropolitan Mexico City. Many other parts of the country, and particularly its amerindian population in the south, remain untouched by industrial development. Similarly, Mumbai (Bombay) agglomeration, with less than 2 percent of India’s population, dominates India’s commercial, film, finance, and manufacturing sectors and boasts per capita incomes three times the national average. Even within the most advanced societies, some areas and populations remain outside the mainstream of progress and prosperity enjoyed by the majority.

And finally, we should remember that *development* is a culturally relative term. It is usually interpreted in Western, democratic, market economy terms that presumably can be generalized to apply to all societies. Others insist that it must be seen in light of the cultural and economic aspirations of different peoples, many of whom specifically reject Western cultural and economic standards.

### 10.3 Measures of Development

Discussions of development tend to begin with economic measures because income and national wealth strongly affect the degree to which societies can invest in food supplies, education, sanitation, health services, and other components of individual

and group well-being. Indeed, there is a close relationship between economic and social measures of development. Although there are exceptions because societies prioritize things differently, in general, the higher the per capita income, the higher the national ranking in such measures as access to safe drinking water, prevalence of sanitation, availability of physicians, and education and literacy levels.

In contrast, the relationship between social-economic and demographic variables is usually inverse. Higher educational or income levels are usually associated with lower infant mortality rates, birth and death rates, and rates of natural increase. However it is measured, the gap between the most and least developed countries in noneconomic characteristics is at least as great as it is in their economies and technologies. Closing that gap by reducing extreme poverty was the focus of the UN’s Millennium Development Goals (MDGs) which coincided with the period 1990–2015. While much work remains, considerable progress was made under the MDG development framework (Table 10.1). Most notably, the number of persons living in extreme poverty was reduced by more than one billion. Building upon the success of the MDGs, the United Nations has launched a more ambitious development framework for the period 2015–2030 (See the feature “Sustainable Development Goals”).

### Gross National Income (GNI) and Purchasing Power Parity (PPP) per Capita

Two common measures are used to gauge economic activity—gross domestic product (GDP), which was introduced in Chapters 8 and 9, and **gross national income (GNI)**. GDP is the total market value of all final goods and services produced annually within the borders of a country. GNI adds to GDP the

Table 10.1

Achievements of the Millennium Development Goals, 1990 to 2015

|  | Sub-Saharan Africa |      | Southern Asia |      | Southeastern Asia |      | Developing Regions |      |
|--|--------------------|------|---------------|------|-------------------|------|--------------------|------|
|  | 1990               | 2015 | 1990          | 2015 | 1990              | 2015 | 1990               | 2015 |
| People living on less than \$1.25/day, %             | 57                 | 41   | 52            | 17   | 47                | 7    | 47                 | 14   |
| Undernourished people, %                             | 33                 | 23   | 24            | 16   | 31                | 10   | 23                 | 13   |
| Under age 5 mortality rate (per 1,000 live births)   | 179                | 86   | 126           | 50   | 71                | 27   | 100                | 47   |
| Maternal mortality rate (deaths/100,000 live births) | 990                | 510  | 530           | 190  | 320               | 140  | 430                | 230  |
| Child deliveries attended by skilled personnel, %    | 43                 | 52   | 32            | 52   | 49                | 82   | 57                 | 70   |
| Access to an improved drinking water source, %       | 48                 | 68   | 73            | 93   | 72                | 90   | 70                 | 89   |
| Children in primary education, %                     | 52                 | 80   | 75            | 95   | 93                | 94   | 80                 | 91   |

Sources: United Nations, Millennium Development Goals Report, 2015

# Sustainable Development Goals

In September 2015, the member states of the United Nations adopted a new sustainable development framework with specific goals to “end poverty, protect the planet, and ensure prosperity for all.” Compared to the MDGs, this new framework placed greater emphasis on environmental concerns. The 17 interlinked goals that they identified—the Sustainable Development Goals (SDGs)—built upon the successes and shortcomings of the Millennium Development Goals. Convinced that development programs are most successful when targeted to specific, measurable goals, the SDGs create a focus for individual countries, donors, and international agencies.

The SDGs are each accompanied by measurable targets for ending poverty and unsustainable practices; they aim to do the following:

1. End poverty with a focus on those earning less than \$1.90/day
2. End hunger and improve nutrition and food security
3. Ensure healthy lives by reducing maternal and child mortality and eradicating diseases
4. Ensure inclusive and quality education with a focus on increasing high school enrollment for girls
5. Achieve gender equality with a focus on reducing discrimination against women and providing equal access to economic and political life
6. Ensure access to clean water and sanitation for all
7. Ensure access to electricity for all through sustainable sources
8. Provide decent employment for all
9. Build resilient infrastructure such as transportation, communications, energy, and irrigation systems
10. Reduce inequalities within and among countries by focusing on the bottom 40 percent of the population
11. Make cities safe and sustainable by upgrading slums and making housing safe and affordable
12. Ensure sustainable consumption and production patterns through reducing waste and efficiently using natural resources
13. Take urgent action to both combat and adapt to climate change
14. Conserve and sustainably use the oceans and marine resources
15. Sustainably manage forests and combat desertification and biodiversity loss
16. Promote peace, justice, and strong institutions by reducing violence, promoting the rule of law, and reducing government corruption
17. Revitalize partnerships for development by ensuring that developed countries follow through on their commitments of financial resources for development assistance

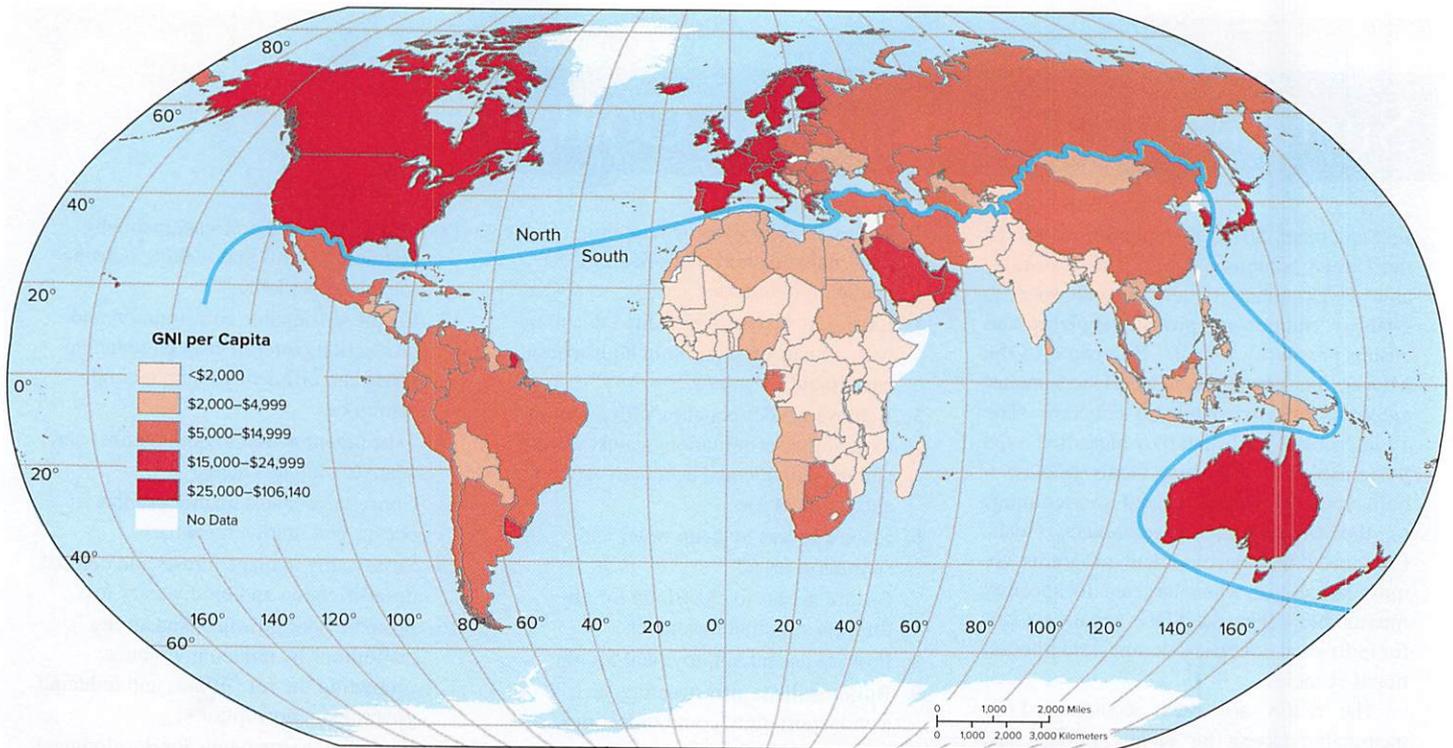
total foreign income earned by its citizens (GNI was formerly known as **gross national product**, or **GNP**). To make values comparable, we make three adjustments to GNI. First, we convert each country’s currency into a single measure, typically U.S. dollars. Second, we divide by the number of people in a country to get GNI per capita. Third, we note that market currency exchange rates fluctuate with business cycles and trading patterns and do not necessarily correspond to prices in a particular country. For example, you may have noticed that prices for most goods are lower in developing countries, and if you have traveled to Scandinavia, you probably noticed that prices are much higher there than in other developed countries. Thus, a **purchasing power parity (PPP)** correction is often applied to GNI to account for price differences. Let’s say that a Big Mac costs \$4 in the United States and 40 pesos in Mexico. Then, the purchasing power of \$1 equals 10 pesos. Of course, the actual PPP calculation uses a bundle of goods rather than just Big Macs.

Even after applying the PPP correction, it still remains difficult to compare personal income figures across national borders. Personal incomes in Sweden are taxed at much higher rates than in the United States. But social welfare programs, higher education, and medicine receive greater central governmental funding in Sweden; the U.S. family must set aside a larger portion of its income for such services. Further, identical incomes will be

spent on different amounts and types of goods and services in different countries. Residents of higher latitudes must buy fuel and heavy clothing not necessary in tropical climates.

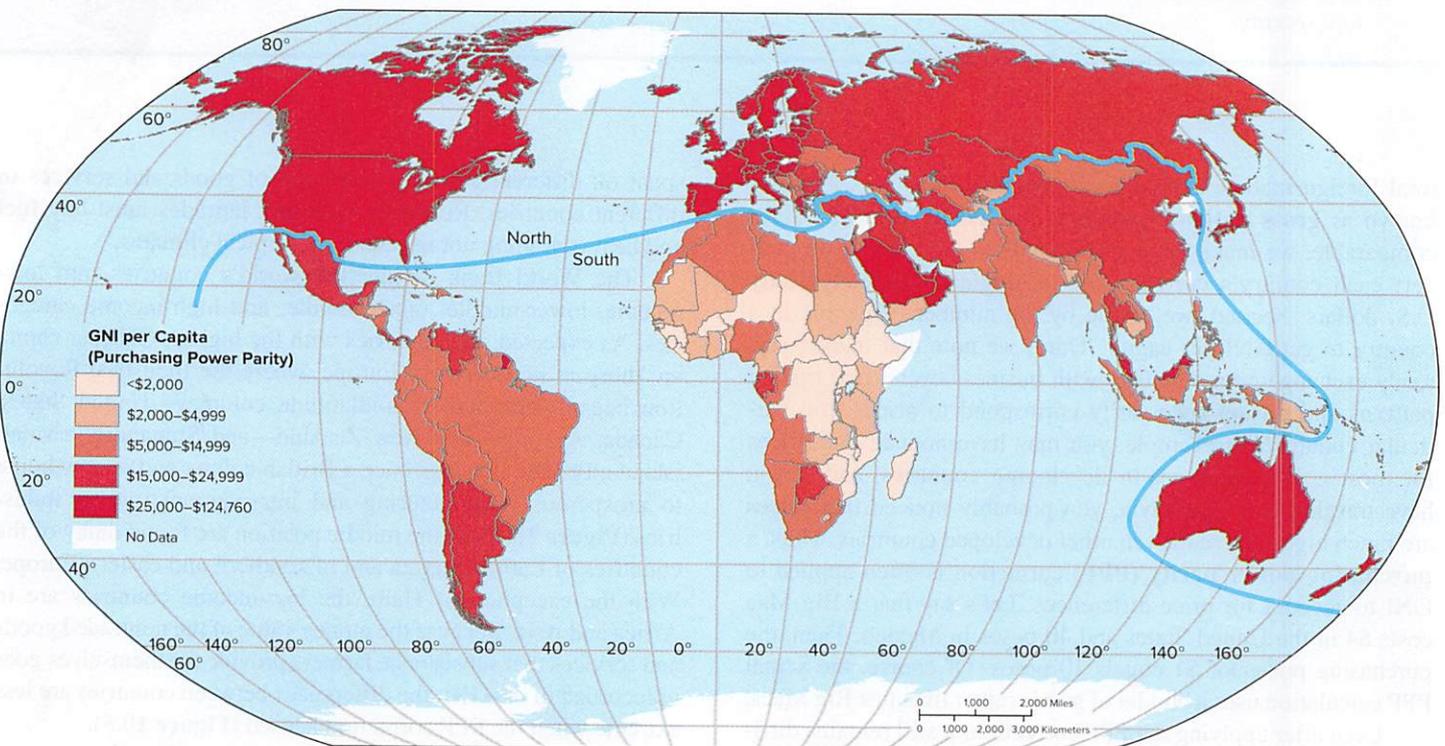
The World Bank divides the world’s countries into low-income, lower-middle, upper-middle, and high-income categories. As expected, the countries with the highest GNI per capita are those in northwestern Europe, where the Industrial Revolution began, their former midlatitude colonies—United States, Canada, Australia, and New Zealand—and Singapore, a small island city-state that was once a British colony and is now home to prosperous manufacturing and international trading industries (**Figure 10.4**). In the middle position are found many of the countries of Latin America and of southern and eastern Europe. With the exception of Haiti, the low-income countries are in Africa and Asia. Because the money value of the nontraded goods and services that subsistence farmers provide for themselves goes unrecorded in the GNI, the differences between countries are less extreme when the PPP correction is used (**Figure 10.5**).

Like any single development statistic, GNI tells only part of a complex story. Although it is still the primary measure used by the World Bank to gauge economic performance, it is under increasing attack as a poor measure of progress and human well-being. GNI simply measures the flow of money through the economy, without regard to purpose, and without



**AP Figure 10.4** GNI per capita, 2016. GNI per capita is a frequently employed measure of economic advancement, although high incomes in sparsely populated, oil-rich countries may not have the same meaning in developmental terms as do comparable per capita values in advanced industrial states.

Sources: Data from World Bank, World Development Indicators, 2018.



**AP Figure 10.5** GNI per capita adjusted for purchasing power parity, 2016. When local currency measures of GNI or GDP are converted into PPPs, the wide gap between the high-income and least developed countries is reduced somewhat. Many low- and middle-income countries have lower costs of living and thus do better in the PPP analysis. Compare this map to Figure 10.4 to see how PPP changes our impressions of some countries' economic status.

Sources: Data from World Bank, World Development Indicators, 2018.

regard for the condition of capital stocks that are necessary for productivity. Natural disasters, accidents, and illnesses trigger additional spending and increase the GNI, without increasing well-being. Similarly, increased spending on security or the military increases GNI, but it is at best a necessary evil and a rather poor indicator of societal health. It is quite possible to increase GNI in the short term while destroying stocks of capital. Like other forms of capital, the condition of the natural environment (natural capital) is not measured in GNI. For example, overfishing the oceans will increase GNI for a few years, but in the long term, it will cause ecological collapse that undermines future productivity in that industry.

Of course, GNI per capita says nothing about the distribution of income within a country; it could be evenly distributed across the population or concentrated in the hands of a few. Nor is per capita GNI an accurate summary of developmental status. It overemphasizes the purely monetary circumstances of countries and misses the activities of the **informal economy** that are especially important in developing countries. The informal economy is composed of activities, whether self-employment, work in a family business, or for an employer, that are unlicensed, lack formal contracts, and generate earnings that go unreported. Informal activities include traditional subsistence strategies such as raising one's own food, bartering, and unpaid household labor. Other informal activities include home sewing businesses, waste picking, domestic work, sex work, shoeshining, and some forms of street vending (Figure 10.6). Illegal activity is one part of the informal economy. Informal economic activities tend to have low entry requirements for capital, education, and technology and are the major job creators in the poorest parts of the world. The informal economy is a growing proportion of the total labor force and is vital to the livelihoods and economies in Africa, Asia, Latin America, and the Caribbean (Table 10.2).



**Figure 10.6** Informal economic activities include this fruit vendor who sells from a bicycle on the streets of Kathmandu, Nepal.

©Erica Simone Leeds

Table 10.2

### Size of the Informal Economy

|   | Non-Agricultural Jobs | Non-Agricultural Value Added |
|---|-----------------------|------------------------------|
| Sub-Saharan Africa                                    | 33–82%                | 36–62%                       |
| Latin America   | 40–74%                | 16–32%                       |
| Middle East and North Africa                          | 31–59%                | 17–34%                       |
| South and East Asia                                   | 33–84%                | 46%                          |
| Eastern Europe and Commonwealth of Independent States | 6–20%                 | 9–28%                        |

Source: *International Labour Organization, Women and Men in the Informal Economy: A Statistical Picture*, 2nd ed., 2013.

## Energy Consumption per Capita

Per capita energy consumption has been used as another common measure of technological advancement because it loosely correlates with per capita income, degree of industrialization, and use of advanced technology. On average, the industrialized countries use about 10 times more energy on a per capita basis than developing economies do. Energy consumption is an imperfect measure, however, because some advanced countries such as Sweden have prioritized environmental sustainability and reduced their energy usage while maintaining a high standard of living. The consumption rather than the production of energy is the concern. Many of the highly developed countries consume large amounts of energy but produce relatively little of it. Japan, for example, must import energy supplies from abroad because its domestic resources are very limited. In contrast, many less-developed countries have very high per capita or total energy production figures, but primarily export the resource (petroleum). Libya, Nigeria, and Brunei are cases in point. Most of the less- and least-developed countries depend on animate energy (human and animal labor) to do work and firewood, crop residues, dung, and peat for cooking fuels (see the feature “The Energy Crisis in Less-Developed Countries”). The SDGs emphasize the importance of bringing basic electricity to all communities. Advances in practical and affordable technologies are improving that picture through the diffusion of high-efficiency stoves, solar stoves, solar lights, waste matter converters, and solar panels (Figure 10.7).

The advanced countries developed their economic strength through the use of cheap, energy-dense fossil fuels and their application to industrial processes. But energy is cheap only if immense capital investment is made to produce it at a low cost per unit. The less-developed nations have been unable to make those necessary investments, or they lack domestic energy resources, widening the gulf between the technological subsystems of the

# The Energy Crisis in Less-Developed Countries

For the world's poor, the pressing energy issues are not rising prices for gasoline or high natural gas or electric bills during extreme weather. The crisis of the less-developed societies involves cooking food and basic lighting.

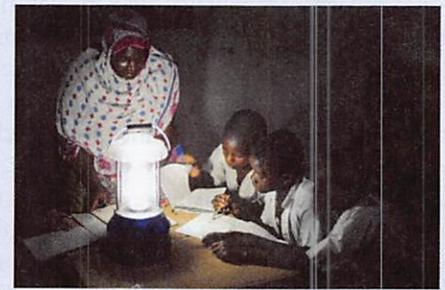
The World Bank reported in 2016 that 950 million people lacked electricity. Thus, many people in developing countries live in nighttime darkness. Globally, 3 billion people rely on wood, coal, charcoal, or animal dung for cooking and heating. The highest usage of fuel wood is in the poorest countries, such as Ethiopia and Nepal.

Traditional cooking fuels are typically used in unvented, inefficient stoves. Pollution from indoor cooking on unvented stoves is a major source of disease and premature death, especially among women, who do most of the cooking. Widespread use of traditional fuels has led to deforestation and fuel shortages in the drier areas of Africa, the mountainous districts of Asia, and in the Andean uplands of Latin America. As a result of shortages and

deforestation in such widely scattered areas as Nepal and Haiti, families have been forced to change their diets to less nutritious foods that need no cooking. Depletion of forests near villages leads to longer wood gathering trips, taking time away from food- or income-producing activities. Growing populations ensure that the problem of fuel shortages will continue to plague developing countries.

Simple high-efficiency stoves, solar reflector ovens, and backyard fermentation tanks to convert human and animal waste into methane cooking gas (biogas) have improved the quality of life for the rural poor. With more efficient stoves, there is less pollution and less need for distant firewood gathering. Increasingly popular in Africa are small rooftop solar panels that can power a cell-phone charger and several indoor lights. In areas far from electrical or telephone lines, such a system allows children to do homework after dark and allows parents to receive telephone money transfers from family members working in distant cities

or countries. In Nepal, miniature hydroelectric systems generate power for basic electric service to remote villages. One challenge of these small-scale innovations is that development agencies are comfortable making large loans for the construction of large power plants or hydroelectric dams costing hundreds of millions of dollars, but they do not have systems in place to make millions of hundred-dollar loans.



**Figure 10A** Solar lighting helps schoolchildren in Africa.

©robertharding/Alamy Stock Photo



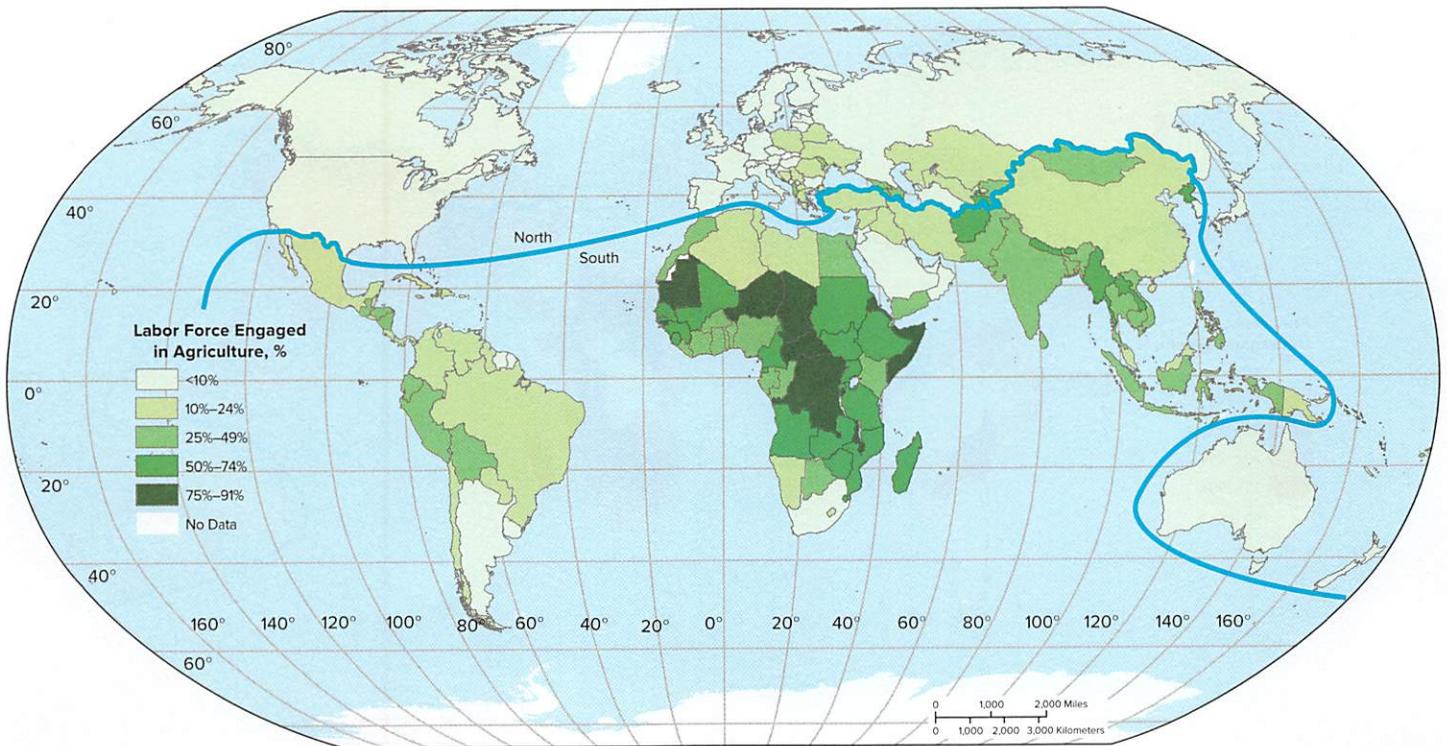
**Figure 10.7** A woman adds waste to a biogas generator in Nepal. Human, animal, and vegetable wastes are significant energy sources in developing economies such as Pakistan, India, Thailand, and China, where such wastes are fermented to produce methane gas (*biogas*) as a fuel for cooking, lighting, and heating. The simple technology involves only a fermentation tank (foreground) fed with wastes—straw and other crop residues, manure, human waste, and kitchen scraps. These are left to decompose and ferment; the emitted methane gas passes into a large collection chamber and later is drawn through a tube into the farm kitchen. The remaining sludge is used for fertilizer in the fields.

©Christian Ender/Getty Images

rich and the poor countries of the world. Regardless, the desirability of imitating the developing countries' exorbitant energy use is increasingly suspect. If the developing countries were to do so, it would lead to intensified competition for limited, non-renewable energy supplies and rising greenhouse gas emissions (see Chapter 13 for more about this topic).

## Percentage of the Workforce Engaged in Agriculture

A high percentage of employment in agriculture (**Figure 10.8**) is almost invariably associated with subsistence agriculture, low per capita gross national income, and low energy consumption—that is, with underdevelopment. Thus, many development programs have focused on commercializing the agriculture sector. The argument is that economic development creates a wider range of occupational choices than those available in a subsistence agricultural society. Mechanization of agriculture increases the productivity of a shrinking farm labor force; surplus rural workers are made available for urban industrial and service employment, and if jobs are found, national and personal prosperity increases. When a labor force is primarily engaged in subsistence agriculture, on the other hand, there is limited



**Figure 10.8** Percentage of labor force engaged in agriculture, 2016. For the world as a whole, agricultural workers make up about one-quarter of the total labor force. Highly developed economies usually have relatively low proportions of their labor force in the agricultural sector and have a highly commercialized and industrialized agricultural sector. Rapid population growth in developing countries has resulted in increased rural landlessness and poverty, causing many to migrate to cities.

Source: World Bank, World Development Indicators, 2018.

capital accumulation or national economic growth. On the other hand, defenders of traditional subsistence agriculture point out that it is often less damaging to the environment, preserves traditional ways of life, and meets the vital food needs of vulnerable poor households.

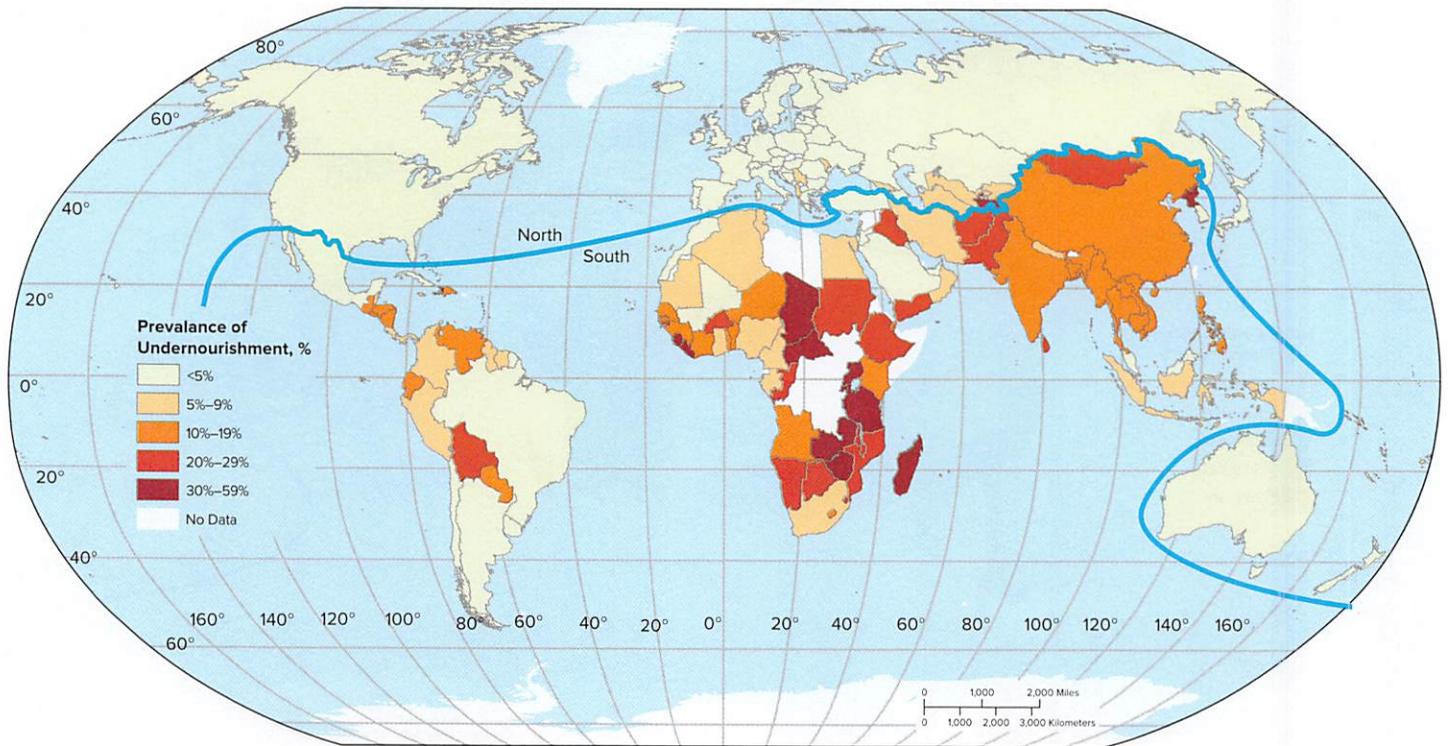
## Food Security and Nutrition

Although tragic famines, such as those suffered by Nigeria, South Sudan, and Yemen in 2017, generate headlines, long-term chronic undernourishment is a frequent outcome of poverty. Undernourishment has a crippling effect on individual well-being and also creates a major obstacle to community development. Hunger kills more people each year than AIDS, malaria, and tuberculosis combined. Availability of urban employment or access to arable land is far more important in determining national levels of undernourishment than a country's total per capita food production. During the Bangladesh famine of 1974, for example, total food availability per capita was at a long-term peak; starvation, according to World Bank reports, was the result of declines in real wages and employment in the rural sector and short-term speculative increases in the price of rice. In India in 2002, huge stockpiles of government-owned wheat rotted in storage while held for sale at prices beyond the

reach of malnourished or starving but impoverished citizens. The 2017 famine in Africa is mostly caused by military conflict and terrorism.

Food, as the essential universal necessity, is the ultimate indicator of economic well-being. Thus, a primary goal of development should be **food security**—the provision of sufficient quantities of safe and nutritious food. Calorie requirements to maintain moderate activity vary according to a person's type of occupation, age, sex, and size, as well as to climate conditions. The Food and Agriculture Organization (FAO) of the United Nations specifies 2,350 calories as the minimum necessary daily consumption level, but that figure has doubtful universal applicability. By way of a benchmark, per capita daily calorie availability in the United States is nearly 3,700. Despite the limitations of the FAO standards, **Figure 10.9** uses them to assess the degree of undernourishment of countries' populations.

Like other national indicators, caloric intake figures must be viewed with suspicion; the dietary levels reported by some states may reflect self-serving estimates or fervent hopes rather than actual food availability. National averages may seriously obscure the food deprivation of large segments of a population. But the data in **Figure 10.9** support FAO's 2017 estimate that 815 million people (or roughly one in nine worldwide) were undernourished. The general trend since 2000 has been a significant decline in the



**Figure 10.9** Prevalence of undernourishment among the population, 2016. Countries in Africa that are missing data have undergone civil strife and therefore have high rates of undernourishment. In 2016, according to the FAO, there were about 815 million undernourished people worldwide facing chronic hunger or starvation, undernutrition, and deficiencies of essential iron, iodine, Vitamin A, and other micronutrients. In contrast, the FAO indicates that all industrialized countries have average daily per capita caloric intake well above physiological requirements and many face an obesity epidemic.

Sources: Data from World Bank, World Development Indicators, 2018.

percentage of the world population suffering undernourishment. The absolute number of undernourished persons, however, has declined more modestly because of population growth. Parts of Western Asia and sub-Saharan Africa, particularly South Sudan, Nigeria, Yemen, and Syria, have seen rising undernourishment due to terrorism, civil war, and climate shocks (Figure 10.10). Despite the sobering world statistics, a number of developing countries have succeeded in reducing hunger levels. Most of the improvements have been in East Asia, Southeast Asia, and Latin America.

Low caloric intake is usually coupled with lack of dietary balance, reflecting an inadequate supply of the carbohydrates, proteins, fats, vitamins, and minerals needed for optimum physical and mental development and maintenance of health. The WHO estimates that more than 2 billion people worldwide suffer from some form of micronutrient malnutrition that leads to high infant and child mortality, impaired physical and mental development, and weakened immune responses. Dietary insufficiencies in the first years of life retard later physical and cognitive development and increase vulnerability to infections, creating a cycle of malnutrition and poverty. In 2016, the United Nations estimated that 155 million children under age 5 suffered stunted growth. The problem is most critical in rapidly growing countries that have large proportions of their populations in the young age groups (see Chapter 4). South Asia, Southeast Asia, and sub-Saharan Africa show the highest incidence of childhood

stunting and wasting as measured by standardized weight-for-age and weight-for-height measures. At the same time, 13 percent of the world's population is considered obese, posing a different set of health concerns. In upper-middle and high-income countries



**Figure 10.10** Malnourished Sudanese children receive assistance at an aid center. The uncertain supplies of food dispensed by foreign aid programs and private charities are not sufficient to assure them of life, health, vigor, or normal development.

©BRENNAN LINSLEY/AP Images

food in security and obesity often co-exist. Poverty and food insecurity are often accompanied by low access to nutritious food and to energy-dense diets that lead to obesity.

## Education

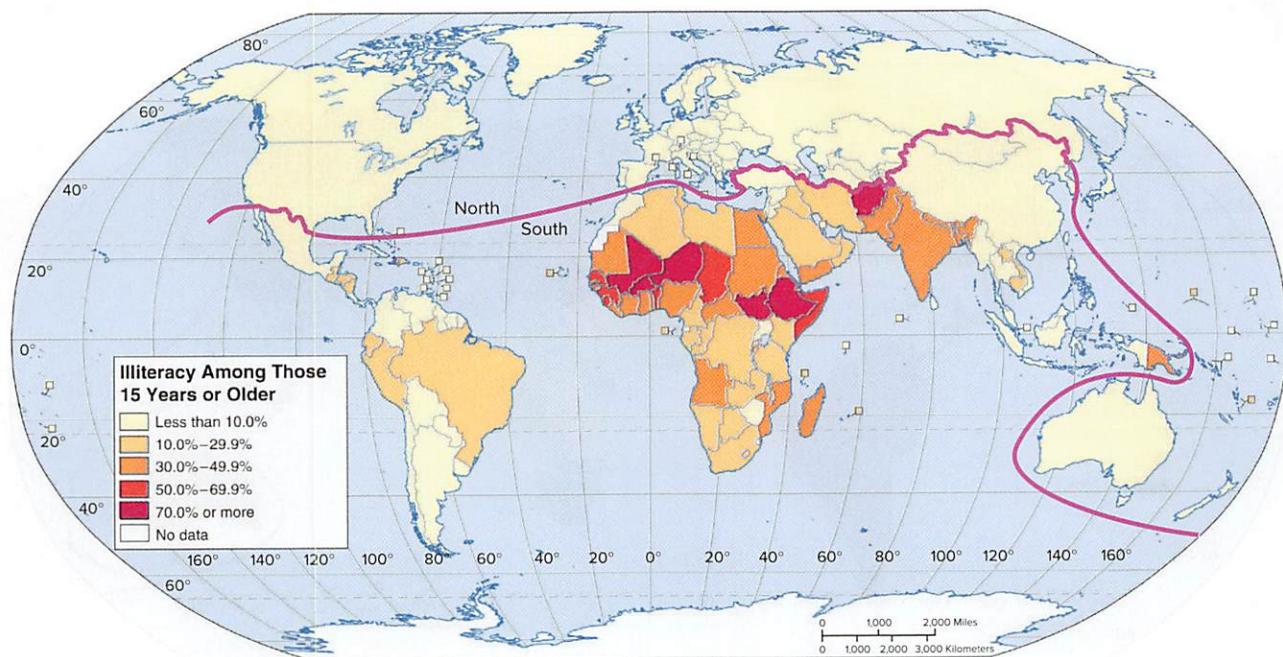
A literate, educated labor force is essential to take advantage of advanced technology and to compete for skilled jobs in the global economy. Yet in the poorest societies, half or more of adults are illiterate; for the richest, the figure is 1 percent or less (Figure 10.11). The problem stems in part from a national poverty that denies funds sufficient for teachers, school buildings, books, and other educational necessities. In part, it reflects the lack of a trained pool of teachers and the inability to expand their number rapidly enough to keep up with the ever-increasing size of school-age populations. In African countries worst hit by the AIDS epidemic, deaths among existing teachers exceeded the supply of new teachers entering the profession in the late 1990s. For the same number of potential pupils, the richest countries may have 10 times as many teachers as do the poorest countries. Poverty and war-stricken countries such as the Central African Republic, Eritrea, and Somalia have the lowest number of teachers per capita.

Family poverty makes tuition fees prohibitive and keeps millions of school-age children in full-time work. When Burundi abolished primary school tuition fees in 1999, enrollment increased threefold. The largest numbers of school-age children not enrolled in school are found in sub-Saharan Africa and southern Asia. However, during the period of the MDGs, the

world's poorest countries made tremendous improvements in education. Despite recording the most rapid population growth, sub-Saharan Africa increased the percentage in school from 52 percent to 80 percent. The number of children not in school was cut in half. The gender gap in education has been closing in recent decades, but it still is apparent in Africa. South Asia has gone from having a female:male ratio in primary schools of 64:100 to 103:100 today. Closing the gender gap has important development consequences, as seen in the correlations between levels of female education and birth rates, family size preferences, family nutrition practices, health maintenance, and life expectancies. The urban-rural education gap persists, however, with higher percentages of children out of school in rural areas compared to urban areas.

## Safe Drinking Water and Sanitation

Development implies more than industrial expansion or agricultural improvement. Safe drinking water and toilets, while taken for granted in the North, make profound contributions to human health and quality of life (see Figure 4.18 in Chapter 4). Safe water supplies and sanitation go together because fecal contamination causes many water-borne diarrheal diseases such as cholera, dysentery, and typhoid fever. The WHO estimates that 525,000 children die each year due to diarrheal diseases, making it the second leading cause of death in children under 5 years old. Diarrheal diseases have a disproportionate effect on the very young and contribute to malnutrition and stunted growth. Lack of a nearby improved water supply often forces people, usually



**Figure 10.11** Adult illiteracy rate, 2012, as a percentage of the adult population (over 15 years of age). Illiteracy is defined as not being able to read and write short, simple statements relating to everyday life. With almost no exceptions, adult literacy is close to 100 percent in countries of the North. With only a few exceptions, literacy rates in all countries of the South improved dramatically during the period of the Millennium Development Goals. For the least developed countries, the improvement was from 45 percent literate in 1990 to 65 percent literate in 2016.

Source: Sutton, Chris. Student Atlas of World Geography, 8th ed., Map 40. Data from World Bank, World Development Indicators, 2012.

women, in developing countries to spend hours every day carrying water for their families.

Worldwide, about 660 million people lacked a dependable sanitary supply of water even though 2.6 billion have gained access to a private or shared piped water supply since 1990. A total of 2.4 billion people lack basic sanitation (Figure 10.12). While nearly a billion people worldwide must rely on open defecation, that is a reduction of almost half compared to 1990. The problems of water and sanitation are most pronounced in urban slums and in rural areas (Figure 10.13). In fact, in all world regions rural areas lag behind urban areas by substantial margins. However, as Table 10.1 notes, disparities in access to safe water are being steadily reduced. Improvements to sanitation lag behind safe water improvements, presumably because donors and aid agencies find water projects more attractive than sewage projects.

## Health

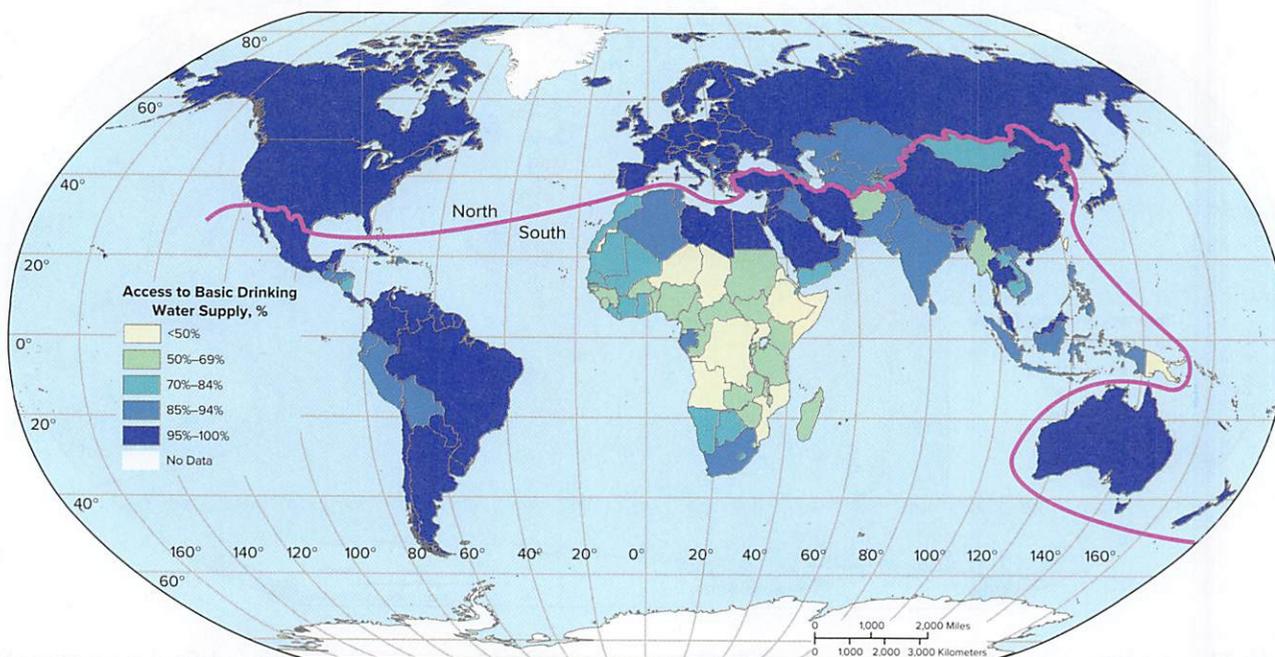
Access to medical facilities and personnel is another spatial variable with profound implications for the health and well-being of populations. Within the less-developed world, vast numbers of people are effectively denied the services of physicians. The number of persons served by each physician varies widely between countries, from a low of 130 people per physician in Cuba to 40,000 per physician in Ethiopia. The shortage of doctors is a crisis in many sub-Saharan African, Central American, and South Asian countries. In the developing world, there are simply too few trained health professionals to serve the needs of expanding populations. Those few who are in practice tend to congregate in urban areas, or they leave for better pay in

developed countries. Rural clinics are few in number and the distance to them so great that many rural populations lack access to even the most rudimentary medical treatment.

The **brain drain** of well-educated medical professionals leaving poor countries to work in developed countries is a major barrier to improving global health. Developed countries such as the United States simply do not produce enough nurses and general-practice physicians for their needs. Instead, the United States imports about a fourth of its practicing physicians from abroad, mostly from developing countries. A recent study showed more Ethiopian doctors practicing in the Chicago metropolitan area than there are doctors in the entire country of Ethiopia, despite its population of more than 100 million people.

Health-related contrasts between advanced and developing countries have become matters of international concern and attention. Indeed, the SDGs contain targets that deal directly with child mortality, maternal mortality, and eradication of disease. We saw the importance in Chapter 4 of the transfer of advanced medical and public health technologies: insecticides, antibiotics, contraception, and immunization, for example. Most recently, childhood diseases and deaths in developing countries have come under coordinated attack by the WHO. Gains have been impressive, yet stark contrasts remain between most developed and least developed societies. The child mortality rate in developing countries dropped by more than half during the period of the MDGs. Still, 9 percent of sub-Saharan African children and 5 percent of south Asian children do not live to their fifth birthday.

Taken at their extremes, advanced and developing countries occupy two distinct worlds of disease and health. One is affluent; its death rates are low, and the chief killers of its mature



**Figure 10.12** Percentage of population with access to a basic drinking water source, 2016. This map shows substantial improvements in the availability of improved drinking water supplies compared to rates in the 1990s. Still, rural areas lag behind urban areas.

Source: World Bank, World Development Indicators, 2018



**Figure 10.13** Because they have no access to safe drinking water or sanitary waste disposal, impoverished populations of a developing country's unserved rural districts and urban slums—like this one in Capetown, South Africa—are subject to water-borne and sanitation-related diseases.

©Louise Gubb/The Image Works

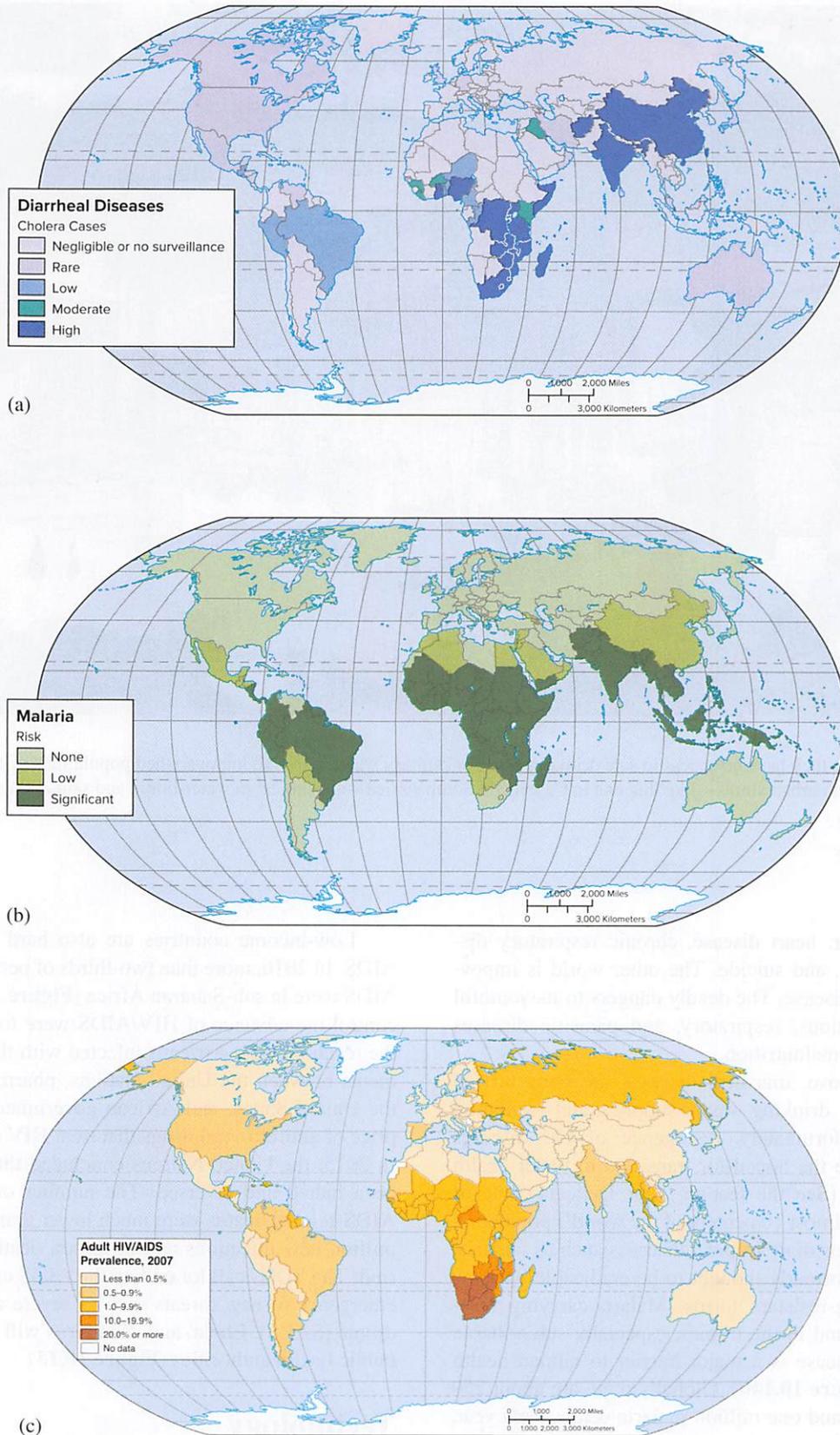
populations are cancer, heart disease, chronic respiratory disease, strokes, diabetes, and suicide. The other world is impoverished and prone to disease. The deadly dangers to its youthful populations are infectious, respiratory, and parasitic diseases made more serious by malnutrition.

As mentioned above, diarrheal diseases are concentrated in areas lacking safe drinking water supplies and sanitation (Figure 10.14a). Unfortunately, resurgence of old diseases may disrupt or reverse the hoped-for transition to better health in many world areas (See the feature “Our Delicate State of Health,” Chapter 4). Almost 10 percent of the world's population now suffers from one or more tropical diseases such as malaria, many of which were formerly thought to be eradicable but now are spreading in drug-resistant forms. Malaria-carrying mosquitoes are mostly found in the tropics, especially sub-Saharan Africa, where that disease is a major barrier to human health and development (Figure 10.14b). Globally there are about 250 million malaria cases and one million malaria deaths each year. According to the WHO, an average African child suffers malarial fever two to five times each year. Solutions combine insecticide-treated mosquito nets, insecticide spraying, and anti-malarial drugs. Another such scourge, tuberculosis, is appearing as a major concern, especially among poorer populations outside tropical regions.

Low-income countries are also hard hit by the spread of AIDS. In 2016, more than two-thirds of persons living with HIV/AIDS were in sub-Saharan Africa (Figure 10.14c). Medicines to control the advance of HIV/AIDS were for a long time beyond the reach of most Africans infected with the disease. But agreements between the United Nations, pharmaceutical companies, the United States, and African governments brought down the price of antiretroviral drugs that treat HIV and reduce its spread. In 2015, the United Nations concluded that spread of HIV had been halted and reversed. The number of HIV infections and AIDS-related deaths were much lower than in 2000, averting 30 million new infections and 8 million deaths over a 15-year period. The SDGs call for ending the AIDS epidemic by 2030. The emergence of new threats such as severe acute respiratory syndrome (SARS), Ebola, and Zika virus will continue to challenge public health authorities (Figure 10.15).

## Technology

**Technology** refers to the totality of tools and methods used by a culture group to produce items for subsistence and comfort. We saw in Chapter 2 how in antiquity, there emerged *culture hearths*—centers of technological innovation, new ideas, and techniques that diffused from the core region. The ancient



**Figure 10.14** (a) Diarrheal diseases such as cholera are spread by bacterial contamination of drinking water supplies. They can be prevented by proper sanitation and improved drinking water systems. (b) Malaria is caused by parasites carried by a type of mosquito that thrives in the warm, moist conditions found in tropical locations. It killed 655,000 people in 2010, mostly African children. Malaria has had a measurable negative effect on the GNI of the most affected African countries. Prevention and control efforts are decreasing rates of infection. (c) In 2010, an estimated 34 million people were living with HIV/AIDS, 23 million in Africa where the disease first emerged.



**Figure 10.15** A Guinean infection control supervisor trains health care workers in proper hand-washing technique during the 2014 Ebola outbreak.

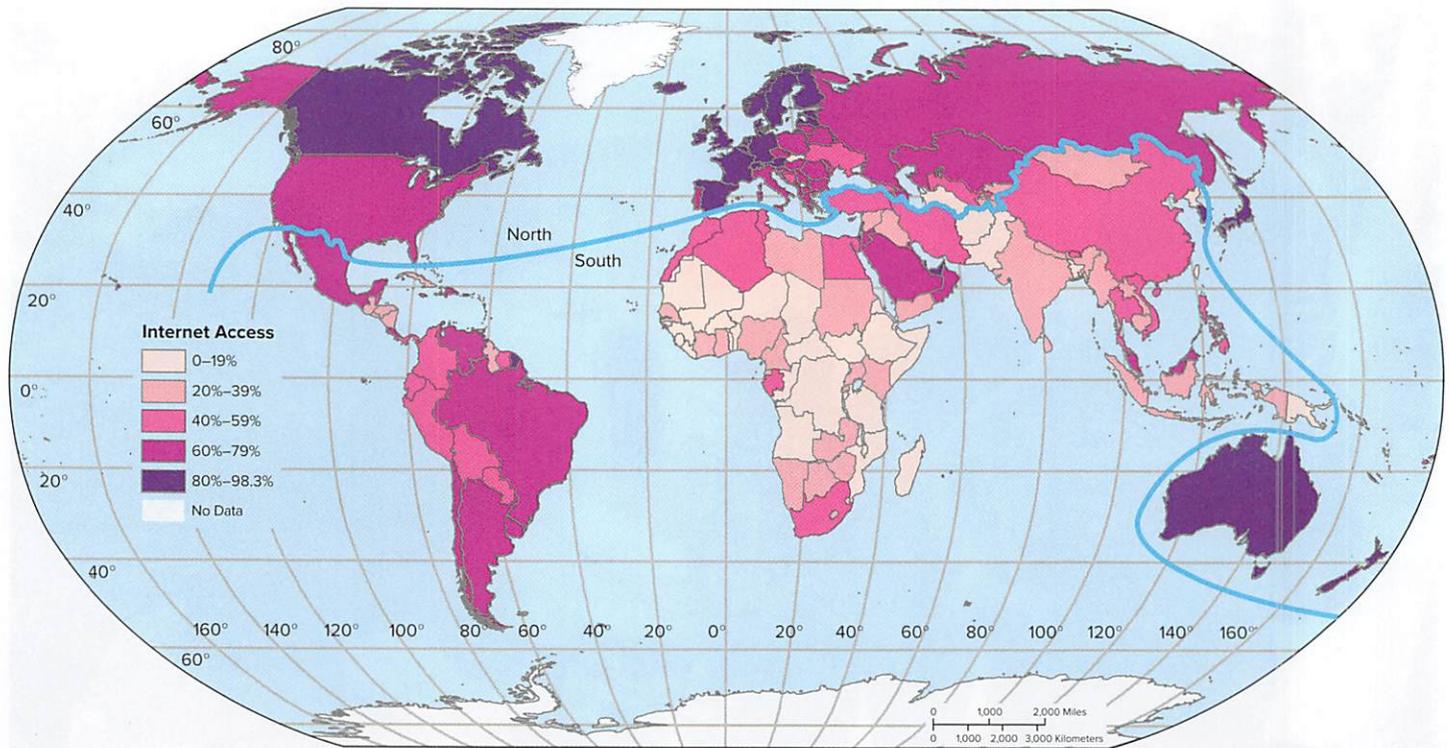
*Source: Centers for Disease Control and Prevention/Conne Ward-Cameron*

hearths (see Figure 2.14) were locales of ongoing invention and innovation. Their modern counterparts are the highly urbanized, industrialized advanced nations whose creativity is recorded by patent registrations and new product and process introductions.

A **technology gap** has always existed between hearths of innovation at the core and the periphery. That gap widened with the Industrial Revolution and has continued to grow with innovations in railroads, steelmaking, electrical engineering, chemistry, automobiles, petrochemicals, computers, and information and communications technologies. In the modern world, as we saw in Chapter 2, there is a widespread sharing of technologies, organizational forms, and cultural traits. But not all countries are equally able to draw on advanced technology.

The technology gap matters. Understandably, all countries aspire to expand their resource base, increase its support levels through application of improved technologies, or enter more fully into income-producing exchange relationships with other

world regions through economic development. One objective of development is **technology transfer**, the deliberate introduction of technologies and processes that mark the more advanced countries. Of course, not all technology is equally transferable. Computers, information management techniques, and cell phones easily make the move between advanced and emerging economies (Figure 10.16). Although Africa lags in landline telephones, it is the world's second-largest market for cell phones. Other technologies, particularly in the life science, materials innovation, and energy sectors, are more specific to the markets, capital resources, and needs of the rich countries and not adapted to those of the less-developed states. Even where transfer is feasible, imported innovations may require domestic markets sufficient to justify their costs, markets that poor countries will not possess at their current national income levels. And the purchase of technology presumes recipient country export earnings sufficient to pay for it, again a condition not always met by the poorest states.



**Figure 10.16** Internet use has diffused to all corners of the Earth, yet there are still countries where less than 10 percent of the population has used the Internet. Even in developed countries, certain low density rural areas do not have access to broadband Internet service.

Source: World Bank, World Development Indicators, 2018.

## 10.4 Explanations of Development and Underdevelopment

It is one thing to map differences in income or health and to assign countries to categories such as “least developed” or “advanced”; it is quite another to explain the underlying causes and spatial pattern. The widespread disparities in the basic demographic and economic characteristics of countries raises fundamental questions such as why one group of countries is “developed” and another group is “less developed.” We observe that the developed countries have high per capita incomes, a small proportion of workers engaged in agriculture, and most of their population living in cities where they enjoy abundant food and high-quality housing, health care, education, and public services. We note that in the least developed countries, incomes are very low, many of their workers are engaged in subsistence agriculture, and the cities are plagued by poor-quality services and slums. We can observe that the developed countries have completed the demographic transition, while the developing countries are in the middle stages of the transition, with higher-than-replacement fertility rates and shorter life expectancies. The statistical differences themselves, however, do not offer a full explanation of development and underdevelopment, nor do they show a clear pathway for countries to follow. Our explanations reflect our theories about how economies and politics work. Explanations are important because they suggest where we should fix blame

and what solutions are most likely to work. Some explanations look to physical geography, others to history, and still others to economic or sociological theories.

### Physical Geography

The Brandt Report hints at one frequent but simplistic geographic explanation: Development is a characteristic of the rich “North”—the midlatitudes; poverty and underdevelopment are tropical conditions. Proponents of the latitudinal explanation support their conviction not only by reference to such thematic maps as Figures 10.4 and 10.9, but by noting that rich countries are mostly in temperate climate zones; the world’s poorest states are mostly located in tropical latitudes.

Supporters of simple geographic explanations for inequality point out, for example, that Brazilians of the southeastern temperate highlands have average incomes several times higher than their compatriots of tropical Amazonia. Annual average incomes of Mexicans of the temperate north far exceed those of the southern Yucatán. Australians of the tropical north are poorer than Australians of the temperate south.

Influential economist Jeffrey Sachs argues for the contributing factors of latitude and climate in global economic inequality. He notes that in 1820, tropical regions had a per capita GNP 70 percent of that of the temperate regions. Economic growth in the temperate regions outpaced the tropics and by 1992, per capita

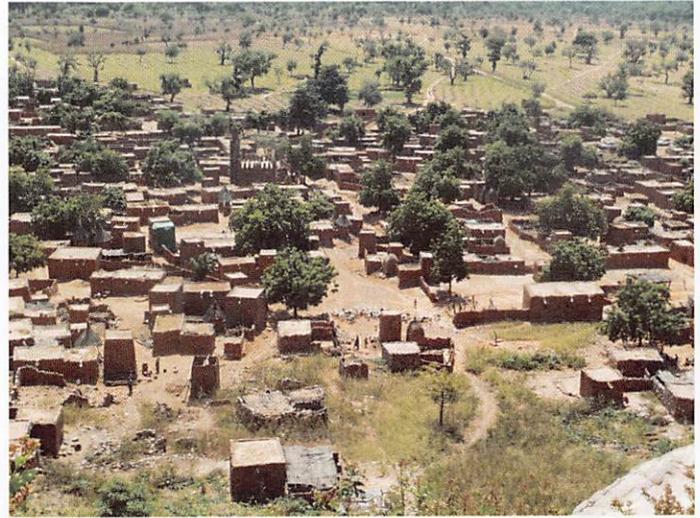
GNP in the tropics was just 25 percent that of the temperate regions. Tropical regions face the major ecological handicaps of low agricultural productivity, challenging soil conditions, and substantially higher incidence of plant, animal, and human disease. Confounding the search for a simple explanation, however, many of the poorer nations of the “South” lie partially or wholly within the midlatitudes or at temperate elevations—Afghanistan, North Korea, and Mongolia are examples—while equatorial Singapore and Malaysia prosper. Physical geography matters, but it is not destiny.

Other simple geographic explanations have some merit, yet are ultimately inconclusive:

1. Resource poverty is cited as a limit to developmental possibilities. Although some developing countries are deficient in raw materials, others are major world suppliers of both industrial minerals and agricultural goods—bauxite, cacao, and coffee, for example. Admittedly, a developing world complaint is that their commodities are underpriced in world markets or are restricted by tariffs and subsidized competitors. Those, however, are matters of marketing, politics, and economics, not of resources. Further, economists have long held that reliance on natural resource wealth and exports by less-developed countries undermines their prospects for growth by interfering with their development of manufacturing industries.
2. Overpopulation and overcrowding are frequently discussed as causes of poverty and underdevelopment, but Singapore prospers, with some 7,900 people per square kilometer (20,500 per square mile), while impoverished Mali is nearly empty, with 15 per square kilometer (39 per square mile) (Figure 10.17).
3. Landlocked countries have reduced access to global markets and greater costs for transport of goods. For theorists who believe that global trade is the key to development, reduced access to foreign markets is seen as a major impediment. Kazakhstan, Afghanistan, Chad, Niger, Zambia, and Zimbabwe are more than 2,000 kilometers (1,200 miles) from the nearest seacoast. Counterexamples such as Switzerland, which is both poor in resources and landlocked, suggest that these challenges can be overcome with investments in transportation infrastructure.

## The Slave Trade and Colonialism

The 500-year history of colonialism played a vital role in shaping the political and economic geography of the contemporary world. Some scholars believe it laid the foundation for the present-day economic differences among countries. It allowed European countries to gain an initial economic advantage by gaining control of territory, natural resources, labor, and markets. Former colonial status is often blamed for underdevelopment because nearly all of the developing countries in the Global South were once colonies. In cases where the colonists largely replaced the original inhabitants—as in Australia, New Zealand, Canada, or the United States—the association of colonial past with present underdevelopment does not hold.



**Figure 10.17** Landlocked and subject to severe droughts, Mali is one of the poorest of the least developed countries. Low densities of population are not necessarily related to prosperity, or high densities to poverty. Mali has only 15 people per square kilometer (39 per square mile). In this parched land, Dogon women often spend hours carrying water to their homes. Even in more humid South Africa, rural women on average spend more than three hours each day fetching water, according to a government survey.

©Lissa Harrison

The accusation is arguably valid for countries where—as in sub-Saharan Africa and southern Asia—colonizers left largely intact the indigenous populations but created political structures and physical infrastructures designed for exploitation for mother country profit rather than for balanced economic, social, and political development for the long-term benefit of the colony itself.

The first phase of colonialism dates from Christopher Columbus’s first voyage to the New World and peaked just before the American Revolution. Spain and Portugal dominated this phase, which was focused on the Americas and Caribbean islands. The British, Dutch, and French followed in developing their own colonies. The African slave trade played a vital role in this phase of colonialism through the “triangular trade,” which sent manufactured goods, liquor, and guns from Europe to Africa, slaves from Africa to the New World, and sugar and tobacco from the New World to Europe. In the early 1800s, the Spanish and Portuguese lost much of their colonial empires to Latin American independence movements. A second phase of colonialism in the late 1800s and early 1900s was dominated by the British and was focused on Africa, Asia, and Oceania. During this period, nearly all the lands in the tropics and subtropics were brought under the control of European powers or the United States (see Figure 12.6). Independence movements in the 20th century, culminating in the independence of Namibia in 1990, brought the colonial era to an end.

One legacy of colonialism is visible in country borders that are often poorly suited to nation-building. African borders were established without regard for the boundaries of ethnic groups.

For example, Gambia straddles the Gambia River and is about 10 kilometers (6 miles) wide on each bank of the river and extends 330 kilometers (205 miles) upstream (Figure 10.18). Typically, colonial infrastructure systems were designed to move resources from the interior to coastal ports without developing interconnections or networks to facilitate trade among colonies or develop the interior. Other negative legacies included dependence on the mother country for manufactured goods and authoritarian political institutions that did not transition well after independence.

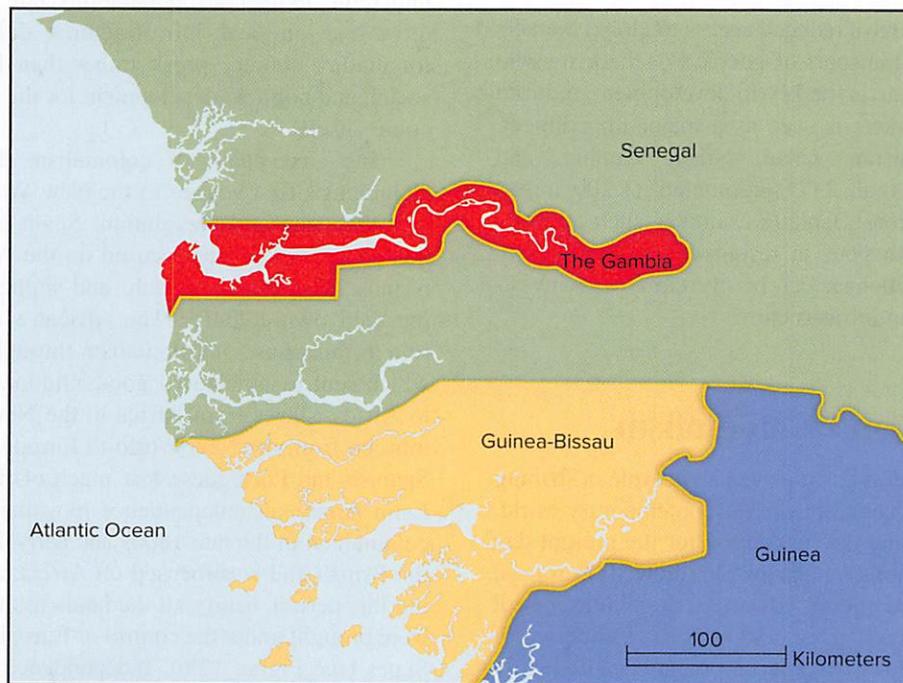
## Modernization Theory

**Modernization theory** is the most widely accepted understanding of the development process. It dates back to the optimism of the post-World War II era, when the United States began working with European countries and Japan to reconstruct both their war-damaged economies and the global economic order. European countries agreed to begin dismantling their colonial empires and cooperate with the United States, the United Nations, and other non-communist countries in bringing the benefits of science, technology, and industrial progress to the less-developed countries of the world. Modernization theory drew upon sociological and economic theories and shaped the original thinking about development in Western countries. Modernization theory begins by arranging all societies on a continuum with *traditional* on one end and *modern* on the other. Development, according to modernization theory, is the logical progression from traditional to modern as societies adopt the characteristics of advanced

societies—advanced technology, urbanization, high per capita incomes, high quality of life, a completed demographic transition, individualism, democracy, and capitalism.

Economic historian Walt Rostow (1916–2003) generalized on the “sweep of modern history,” theorizing that all developing economies pass through six stages of growth and advancement:

- *Traditional societies* of subsistence agriculture, simple technology, and poorly developed commercial economies are relatively static and limited to low productivity levels.
- *Preconditions for takeoff* are established when an “external intrusion” initiates political and economic change. The nation-state, rather than kinship units, becomes the primary organizing structure for society. Entrepreneurial elites invest in transportation systems and other productive and supportive infrastructure. Economic growth is accepted as a necessity.
- *Takeoff* to sustained growth is the critical developmental stage, lasting perhaps 20 to 30 years, during which rates of investment increase, farmers adopt mechanization and agriculture is commercialized, new industries are established, resources are exploited, and growth becomes the expected norm.
- *The drive to maturity* sees economic output growing faster than population. The country engages in specialization and international trade. Advanced technology is incorporated into all phases of economic activity; diversification carries the economy beyond the industrial emphases first triggering growth, and the economy becomes increasingly self-sufficient.



**Figure 10.18** The Gambia’s borders illustrate a common legacy of colonialism—boundaries designed for the exploitation of natural resources for export markets rather than nation-building. The narrow shape of the country, straddling the Gambia River, inhibits trade and communication between the northern and southern parts of the country.

Source: Redrawn based on E. Sheppard, P. Porter, D. Faust, and R. Nagar, *A World of Difference: Encountering and Contesting Development*, 2nd ed., Guilford, 2009.

- *The age of mass consumption* sees consumer goods and services begin to rival heavy industry as leading economic sectors and most of the population achieves consumption levels far above basic needs.
- *The postindustrial stage* is marked by the rise of services that replace secondary activities as the principal sector of the economy. Professional and technical skills assume pre-eminence in the labor force, and information replaces energy as the key productive resource.

**Rostow's stages of economic growth** turned the experience of western countries into a blueprint for developing countries in Latin America, Asia, and Africa. The 1960s, 1970s, and 1980s were all proclaimed by UN resolutions as "Development Decades," with a belief that foreign assistance, technology transfer from advanced economies, and infrastructure investments would trigger the upward, progressive march of development.

## The Core-Periphery Model

In contrast to the optimism of modernization theory, critics point out repeated patterns of **uneven spatial development**. They observed that within developing countries, undergoing modernization there often includes a modern **core area** of capitalist production integrated with the global economy alongside a traditional **periphery** with subsistence wages. The **core-periphery model** helps us understand the dualism that exists within many spatial systems such as the urban-rural contrasts commonly seen in infrastructure, health, and education.

The core and periphery are linked parts of a wider system. If for any reason (perhaps a new industrial process or product) one section of a country experiences accelerated economic development, that section becomes increasingly attractive for investors, entrepreneurs, and migrants. Assuming that investment capital is limited, growth in the developing core must come at the expense of the peripheries of the country. Economic growth sets in motion a process of **circular and cumulative causation**. Through the multiplier effect and agglomeration economies (see Chapters 9 and 11), new businesses spur the growth of other businesses. Businesses pay wages to workers, who purchase goods and services such as groceries and housing, supporting the local retail and construction industries. Firms and employees pay taxes, funding public services such as schools, parks, and roads. High-quality public facilities and infrastructure improve business productivity and the quality of life, making it an attractive place for additional businesses to locate, starting the process all over again. Circular and cumulative causation works to polarize development and, according to economist Gunnar Myrdal, leads to a permanent division between prosperous (and dominating) cores and depressed (and exploited) peripheral districts that are milked of surplus labor, raw materials, and profits.

A more optimistic version of this model suggests that within market economies, income disparities tend to be reduced as developmental levels increase. Eventually, it is argued, income convergence will occur as **trickle-down effects**, or **spread effects**, work to diffuse benefits outward from the center in the

form of higher prices paid for needed materials or through the dispersion of technology to branch plants or contract suppliers to lower-cost regions of production. The experience of developed countries offers only mixed support for this belief. Nearly all residents of developed countries have access to education, safe drinking water, and other indicators of development. Still, in most developed countries, there remain strong contrasts between wealthy, fast-growing urban cores and prosperous "high-tech" concentrations on the one hand, and depressed, depopulated rural peripheries or declining, deindustrialized "rust belts" on the other.

## Dependency Theory

**Dependency theory** emerged from dissatisfaction with modernization theory and development programs as they were applied to regions such as Latin America. Drawing upon Karl Marx's ideas, dependency theorists extended the core-periphery model to the international scene. They claimed that the development of the advanced core nations depended upon the underdevelopment of the peripheral nations. Unlike modernization theory, which sees poverty as the natural state of affairs, dependency theory argues that development creates underdevelopment. In other words, developing countries were made poor by their interactions with advanced countries, starting with colonialism and the slave trade and continuing in new forms to the present. Dependency theory sees the developing world as effectively held captive by the leading industrial nations. It is drained of wealth and deprived of growth by remaining largely a food and raw material exporter and an importer of manufactured commodities. Developing countries suffer because prices for the primary goods that they export remain low, while the prices for imported manufactured goods continue to rise. Development aid, where proffered, involves a forced economic reliance on donor countries that continues an imposed cycle in which, in a sense, selective industrialization leads not to independent growth, but to further dependent underdevelopment. A condition of **neocolonialism** is said to exist even after legal independence in which economic and even political control is exercised by developed states over the economies and societies of independent countries of the underdeveloped world. This control is said to be exercised through unequal terms of exchange and the power exerted by international bodies such as the WTO and IMF.

Support for dependency theory comes from the growing gap between the world's poorest and richest countries. Dependency theory holds that these differentials are not accidental but the logical result of the ability of developed countries and power elites to exploit other populations and regions to secure for themselves a continuous source of new profits. Today, transnational corporations, the theory contends, tend to dominate through their investments in key areas of developing economies. They introduce technologies and production facilities to further their own corporate goals, not to further the balanced development of the recipient economies. Dependency theory has been criticized for treating developing countries as passive victims and for viewing economic development as a zero-sum game. Critics of

dependency theory point out that technological innovations increase economic productivity, creating a larger pie to be shared by all. Another failing of dependency theory is its inability to account for the rising prosperity in newly industrializing countries such as China.

## World Systems Theory

**World systems theory** extends the core-periphery model to the entire capitalist global world economy. On the international scene, core-periphery contrasts are discerned between, particularly, Western Europe, Japan, and the United States as prosperous cores and the least developed countries on the periphery of the global economy. At all spatial scales, core-periphery models assume that in part, the growth and prosperity of core regions come at the expense of exploited peripheral zones. The core controls key high-level functions in the global economy, such as headquarters for transnational corporations, financial centers, and stock exchanges. In contrast with dependency theory, world systems theory acknowledges that countries can shift from a peripheral position to a core position. A **semi-periphery** of newly industrializing countries, such as South Korea and Brazil, occupies an intermediate position between core countries, such as the United States, and peripheral countries, such as Liberia.

## 10.5 Strategies for Development

Strategies for development have been strongly influenced by modernization theory and Rostow's stages of economic development. From the 1950s through 1970s, the leading model for economic development was the "Big Push" of massive coordinated investments in infrastructure and industry. The stimulus provided by this big push would cause the economy to "take off" through productivity increases, expansion of the consumer base, and the creation of backward- and forward-linked industries. Countries were to focus on industries where they had a *comparative advantage* in order to develop efficient industrial specializations, agglomeration economies, and expanding trade. Because the needed push was too large for the private sector, governments of developing countries were to take the initiative by borrowing large sums of money to finance the necessary investments.

The two major international lending agencies, the IMF and the World Bank, were the outcome of a conference held at Bretton Woods, New Hampshire, near the end of World War II. The IMF is mostly concerned with lending to governments to help stabilize their currencies or to pay for their imports or international debts when their reserves fall short. The World Bank has focused on lending for development, beginning with the restoration of war-devastated countries of Europe, and then shifting its attention to the world's developing countries. For example, from 1960–1975, the World Bank made 135 loans for power plants and 196 loans for roads or railroads in Africa, Asia, Latin America, the Caribbean, and the Middle East.

## New Directions in Development

During the 1980s, dissatisfaction with inefficiencies and corruption in government-led development projects led to a different strategy called the *Washington Consensus*. The new approach, sometimes called **neoliberal globalization**, was supported by the IMF, World Bank, and U.S. Treasury. It was called *neoliberal* because it revived the liberal faith in the market mechanism and the private sector. Countries were to eliminate tariffs and quotas to promote global free trade, and governments of developing countries were asked to reduce regulations, privatize state-run industries, and remove barriers to foreign firms and foreign investors. Instead of excessive spending on social needs, governments were to balance their budgets carefully and keep taxes low. Neoliberal thinking is reflected in a UN report concluding that "good government," including protection of property rights under a stable political and legal system, should be the top priority in development.

Another approach to development that emerged in the 1980s was a focus on *human capital*, a composite of skills, habits, schooling, and knowledge that—more than labor force numbers or capital availability—contributes to successful economic development and sustained growth. Technological progress in recent decades, it is pointed out, has been notably dependent on more educated workforces equipped with high levels of capital investment. The current deep global imbalance in literate and technically trained people has been called the most potent force of divergence in well-being between the rich world and the poor. When developing countries offer incentives to attract foreign direct investment and technology transfer, the imported ideas and technology help create *human capital*—labor and intellectual skills. This creates the potential to develop industrial specializations, export-led development, and rising levels of living, as presumably they did for Taiwan, Singapore, and the other surging Asian economies.

A different sort of foreign assistance comes in the form of **remittances**, flows of money sent home by workers who have left their homes in developing countries to take jobs in developed countries. Geographic differences in population growth rates and economic opportunities are behind much of the global flow of international migrants. For example, relatively high wages and declining labor forces in Europe versus low wages and rapid population growth in Africa creates strong migration pressures.

Remittances are among the most important flows of money from rich countries to poor countries. In many poor countries, remittances rival foreign direct investment as their largest source of foreign capital. While many transfers go unrecorded, officially recorded remittances were \$613 billion in 2017, according to the World Bank. In most cases, remittances are used to meet basic family needs, such as food, medicine, and school fees, or to allow children to stay in school longer before entering the workforce. They are sometimes used to fund construction of houses for family members or to purchase desired consumer goods that demonstrate the success of the migrant. While not always reaching their potential, remittances offer an important economic development opportunity for poor countries by transferring capital and providing startup funds for businesses ventures.

## Development Prospects

Rostow's expectations of an inevitable progression of development have proved illusory. Many developing countries remain locked in one of the first two stages of his model, unable to achieve the takeoff to self-sustained growth despite importing technology and attracting foreign aid investment funds from the more developed world (see the feature "Does Foreign Aid Help?"). Indeed, it has become apparent to many observers that despite the efforts of the world community, the development gap between the most and the least advanced countries may widen rather than narrow over time. A case in point is sub-Saharan Africa; between 1975 and 2000, per capita income declined by almost 1 percent a year, leaving all but a tiny elite significantly poorer at the end of the period. Over the same years, income per head in the industrial market economies grew at a 1.8 percent annual rate. More recently, the picture brightened for the developing world as a whole. On the bright side, newly industrializing countries such as China lead the world in economic growth. Even sub-Saharan Africa posted growth in the 2000–2010 period, growing at an average annual rate of 2.3 percent. For many, faith in the likelihood of growth—even if not in definable "stages of development"—was renewed.

## Challenges and Opportunities Facing Developing Countries

In addition to managing population growth and promoting economic development, developing countries often face special challenges. Major challenges facing developing countries include natural hazards, foreign debt, land ownership, and gender inequality. The case of Haiti illustrates several of these challenges. As noted in the chapter's opening vignette, natural disasters are often much more devastating when they strike developing countries. The reconstruction efforts following the 2010 Haitian earthquake demonstrate some of the challenges of providing effective development assistance. After the quake, an outpouring of international sympathy led to promises of \$2.5 billion in emergency relief work and \$4.5 billion in reconstruction assistance. While debating the aid packages, it was revealed that Haiti was already burdened by immense foreign debts, most of which were forgiven as part of the assistance. Delivery of the promised aid was delayed, and most of the relief and reconstruction work was performed by organizations and companies based in donor countries such as the United States, rather than by Haitian agencies, nongovernmental organizations, or businesses. This method of delivery aid only exacerbated Haiti's position of dependency and missed an opportunity to build the capacities of Haitian agencies and firms. The actual rebuilding of homes and businesses was complicated by issues of land ownership because only about 5 percent of Haiti's land holdings were properly titled and recorded prior to the earthquake. Finally, human rights advocates criticized the reconstruction planning for ignoring gender issues, such as the fact that women living in tent camps for years after the earthquake were highly vulnerable to sexual violence.

## Foreign Debt

In the pursuit of development, many developing countries borrowed heavily in the 1960s and 1970s. Money was spent on hydroelectric dams, power plants, ports, and other large, government-directed development projects. Unfortunately, many expensive World Bank–financed development projects were disappointing failures and did not generate sufficient returns to pay back the loans (Figure 10.19). Other borrowed money was spent on weapons or was lost to corruption. In the 1980s, rising interest rates and economic stagnation combined to push many borrowers into crisis. Mexico defaulted on its debts in 1982, and other countries followed. The IMF intervened, refinancing development debts and requiring structural adjustment programs that forced governments to eliminate tariffs and, in many cases, reduce spending on education, health care, and social services. Thus, the burden of structural adjustment fell most directly upon the poor.

Loans were refinanced during structural adjustment but not forgiven. The neoliberal reforms put in place did not stimulate economic growth sufficient to pay down debts. External debt owed by developing countries grew from \$567 billion in 1980 to \$1.6 trillion in 1990 and \$3.7 trillion in 2008. In some countries, foreign debts approached or even exceeded their



**Figure 10.19** The El Cajón Dam in Honduras is an example of a technology transfer development project funded by the World Bank. Honduras lacks fossil fuel supplies but was felt to have a comparative advantage in hydroelectric power generation thanks to its rugged topography and powerful rivers. The 226-meter (741-foot)–high dam cost almost \$800 million when it was built in the 1980s. The amount of debt required for the dam was staggering for a country with just 5 million residents and a per capita income of \$590 per year in 1990. The dam failed to stimulate enough economic growth to pay back the loans and contributed to Honduras being classified by the IMF and World Bank as a HIPC. The electricity was delivered to the cities, where it was used by new, export-oriented textile industries. Meanwhile, many rural areas of the country still lack electricity, and peasant farmers living near the dam lost their livelihoods when their lands were flooded by the reservoir.

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# AP | Geography and Citizenship

## Does Foreign Aid Help?

A 1998 World Bank report on “Assessing Aid” concluded that the raw correlation between rich-country aid and developing-country growth is near zero. Simply put, more aid does not mean more growth, certainly not for countries with “bad” economic policies (high inflation, large budget deficits, corrupt bureaucracy, and so on); for them, the report claims, aid actually retards growth and does nothing to reduce poverty. Similarly, other studies have found no clear link between aid and faster economic development. The \$1 trillion that rich countries and international agencies gave and loaned to poor ones between 1950 and 2002 did not have the hoped-for result of eliminating poverty and reducing economic and social disparities between the rich and poor countries of the world.

In part, that was because economic growth was not necessarily a donor country’s first priority. During the Cold War, billions flowed from both the Soviet Union and the United States to prop up countries whose leaders favored the donor state agendas. Even today, strategic considerations may outweigh charitable or developmental aims. Israel gets a major share of U.S. aid for cultural and historical reasons; Egypt, Lebanon, Pakistan, and Colombia get sizable portions for political and strategic reasons; and Afghanistan and Iraq have received billions for rehabilitation and restructuring. Up until 2005, in fact, the United States spent only 40 percent of its modest foreign aid budget on assistance to poorer states.

About one-quarter of all aid from whatever national source has been tied to purchases that must be made in the donor country, and additional large shares flow to former colonies of donor countries, regardless of need or merit. Even worse, a World Bank report admits, aid failures often reflect the fact that the bank and its sister agencies have wasted billions on ill-conceived projects.

In cases where the aid project involves advanced technology, much of the money is spent on hiring experts from the developed

countries, rather than building the expertise and capabilities in the recipient country. The reconstruction aid following the 2010 Haitian earthquake illustrates some of the problem. According to the Center for Economic and Policy Research, only 6 percent of the reconstruction aid was disbursed through Haitian nonprofit organizations, and less than 1 percent through the Haitian government. Of the reconstruction contracts funded by the U.S. government, 40 percent of the funds were awarded to firms from the Washington, D.C., area, while only 2.4 percent went to Haitian companies. In other words, aid following the Haitian earthquake came in a top-down fashion, strengthening U.S. firms and institutions, rather than building the capabilities of the Haitian government and local companies and nongovernmental organizations.

More optimistic conclusions are drawn by other observers who note that: (a) foreign aid tends to reduce poverty in countries with market-based economic policies, but is ineffective where those policies do not exist; (b) aid is most effective in lowering poverty if it is given to poor, rather than less poor, countries; and (c) aid targeted to specific objectives—eradication of a disease or Green Revolution crop improvement, for example—is often remarkably successful, though spending on food aid or on aid tied to purchases from donor countries is of little use.

Although some countries—Botswana, the Republic of Korea, China, and different Southeast Asian states—made great progress thanks to development assistance, a large number of others saw their prospects worsen and their economies decline. Slow growth and rising populations lowered their per capita incomes, and poor use of aid and loans failed to improve their infrastructures and social service levels. Most critical for the economic and social development prospects of those countries was that the financing offered to them over the years in the hopes of stimulating new growth became an unmanageable debt burden.

So great and intractable did their debt problem become that the international community recognized a whole class of countries distinguished by their high-debt

condition: Heavily Indebted Poor Countries (HIPC) that were so far in debt that many of them were paying more in interest and loan payments to industrialized countries and international agencies than they were receiving in exports to or aid from those sources. Gradually, the rich world accepted that debt relief, not lectures on capitalism, is the better approach to helping the world’s poor countries and people. In 1996 the World Bank, the IMF, and other agencies launched the first HIPC initiative, identifying 41 very poor countries and acknowledging that their total debt burden (including the share owed to international institutions) must be reduced to sustainable levels. In the following years, differing definitions of *sustainable* and criteria for debt relief were adopted but remained rooted in the requirement that benefiting countries must face an unsustainable debt burden, maintain good economic policies, and prepare a blueprint laying out how the country will fight poverty and promote health and educational programs. After 2000, both debt relief and continuing flows of aid were also tied to the United Nation’s MDGs. Part of the philosophy behind this debt forgiveness was to clean the slate and shift future aid away from loans to outright grants.

The expressed hope of the international community now is that the answer to the question “Does foreign aid help?” will finally be “Yes.” In a reconsideration of its former pessimism, the World Bank now concludes that, indeed, the answer is affirmative. It feels that foreign aid has been instrumental in increasing life expectancy at birth in developing countries by 20 years since 1960, cutting adult illiteracy in half since 1970, reducing the number of people in abject poverty by 200 million since 1980 even as world population increased by 2 billion, and more than doubling the per capita income in developing countries since 1965. The expectation now is that massive debt forgiveness will be reflected in accelerating social and economic improvement in emerging economies and further reduce the disparities between their conditions and those of more affluent developed states.

(Continued)

## Thinking Geographically

1. How should foreign aid programs be redesigned so that they strengthen existing institutions and firms within the recipient state rather than enriching agencies and firms in the donor country? Write a one-page essay answering this question.
2. Should donor countries such as the United States completely ignore all

self-interest in making aid decisions? Write a paragraph justifying your position.

3. Are international programs of debt forgiveness fair to lending countries and their citizens? Write a paragraph justifying your position.
4. One widely held opinion is that money now spent on direct and indirect foreign aid should be spent on domestic programs dealing with poverty,

unemployment, and homelessness. An equally strongly held but opposing view is that foreign aid should take priority, for it is needed to address world and regional problems of overpopulation, hunger, disease, destruction of the environment, and the civil and ethnic strife that those conditions foster. Choose one of the polar positions and create an oral argument justifying your position.

annual GNI. By 2000, African countries as a whole had external debt equivalent to more than 60 percent of GNI and made annual debt service payments equivalent to 27 percent of exports. Outrage at suffering on the part of the world's poor in order to finance debts owed to the world's richest nations sparked debt relief movements such as the Jubilee 2000 Movement. Rescheduled loans and debt relief has been offered to many of the world's poorest countries through the IMF's Multilateral Debt Relief Initiative and the joint IMF-World Bank Heavily Indebted Poor Countries Initiative. These two programs provided \$99 billion in debt relief to 36 countries. Debt relief, it was argued, was essential to meeting the MDGs. Freed from large public debts owed to the high income countries, African, Asian, Latin American, and Caribbean governments were able to direct public funds into health, sanitation, and education improvements. Still, debt troubles remain in a number of countries where debt payments exceed the growth rate of the economy.

## Land Ownership

In both urban and rural settings, resolving issues of land ownership is critical to improving the lives of the poorest residents. Urban squatter settlements built without registered land ownership are vulnerable to slum clearance and difficult to improve. Even if a squatter settlement is improved with better infrastructure and higher-quality buildings, its residents will not actually capture the increased value unless they have legal title to the property.

In rural agricultural societies, land is the most essential resource. In the most densely settled portions of the developing world, population growth increasingly leads to landlessness. The problem is most acute in southern Asia, particularly on the Indian subcontinent, where the landless

rural population is estimated to number some 300 million—nearly as large as the total population of the United States. Additional millions have access to parcels too small to feed the average household adequately (**Figure 10.20**). A landless agricultural labor force is also of increasing concern in Africa and Latin America.



**Figure 10.20** Terraced fields in Nepal are a response to land scarcity. A high population density and land ownership concentrated in the hands of large estates means that poor farmers must cultivate small plots on steep slopes. Landlessness is a major cause of poverty in Nepal. About 10 percent of the rural population is landless, and more than half of the rural population own farms smaller than 0.5 hectares, which cannot produce enough to meet subsistence requirements. Nearly half of the low-caste Dalit households are landless.

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Landlessness is in part a function of an imbalance between the size of the agricultural labor force and the arable land resource. It is also frequently due to concentration of ownership in the hands of a few and consequent landlessness for many. Concentrated ownership of large tracts of rural land appears not just to affect the economic fortunes of the agricultural labor force itself, but also to depress national economic growth through inefficient use of a valuable but limited resource. Large estates are often farmed carelessly, are devoted to the production of export crops with little benefit for low-paid farm workers, or are even left idle. In some societies, governments concerned about undue concentration of ownership have imposed restrictions on total farm size—though not always effectively.

In Latin America, where huge farms are a legacy of colonial land grants and many peasants are landless, land reform—that is, redistribution of arable land to farm workers—has had limited effect. The Mexican revolution early in the 20th century resulted in the redistribution of nearly half the country's agricultural land over the succeeding 60 years, but the rural discord in Chiapas beginning in the 1990s reflects the persistence of underused large estates and peasant landlessness. The Bolivian revolution of 1952 was followed by a redistribution of 83 percent of the land. Some 40 percent of Peru's farming area was redistributed by the government during the 1970s. In other Latin American countries, however, land reform movements have been less successful. In Guatemala, for example, 85 percent of rural households are landless or nearly so, and the top 1 percent of landowners control 34 percent of arable land; in Brazil, the top 5 percent of farms by size control 70 percent of the arable land, leaving only 2 percent of the land for the bottom 50 percent of farmers.

In India, where two-thirds of rural families either have no land at all or own less than 2 hectares (5 acres), a government regulation limits ownership of "good" land to 7 hectares (18 acres). That limitation has been effectively circumvented by owners distributing title to the excess land to their relatives. Population growth has reduced the amount of land available to the average farmer on the Indonesian island of Java to only 0.3 hectare (0.75 acre), and the central government reports that more than half of Java's farmers now work plots too small to support them.

The rural landless are the most disadvantaged segment in the poorest countries of the world. They have far higher levels of malnutrition and incidence of disease and lower life expectancies than other segments of their societies. In Bangladesh, for example, the rural landless consume only 80 percent of the daily caloric intake of their landholding neighbors. To survive, many there, and in other countries where landlessness is a growing rural problem, migrate to urban areas, swelling the number of residents in squatter settlements.

## 10.6 Gender Inequality

The most common measure of development, GNI per capita, takes no account of the sex and age structures of the societies examined. Yet among the most prominent strands

in the fabric of culture are the social structures, roles, and relationships (sociofacts) assigned to males and females. Gender relationships and roles vary across societies, introducing an important element of spatial variation. **Gender** in the cultural sense refers to socially constructed—not biologically based—distinctions between femininity and masculinity that are shaped by custom, religion, and other ideological forces. Because gender is such an important variable, development agencies increasingly track gender parity in education, literacy, and employment.

Gender roles and stage of development are related by a common belief that greater equality accompanies development. However, it appears that at least in the earlier phases of technological change and development, women generally lose rather than gain in status and rewards. Only recently, and only in the most developed countries, have gender-related contrasts been reduced within and between societies. Hunting and gathering cultures observed a general egalitarianism (see Figure 2.11 in Chapter 2). Gender roles are affected by innovations in agricultural societies (see the feature "Women and the Green Revolution," in Chapter 8). The Agricultural Revolution—a major change in the technological subsystem—altered the earlier structure of gender-related responsibilities. In the hoe agriculture found in much of sub-Saharan Africa and in South and Southeast Asia, women became responsible for most of the actual field work while retaining their traditional duties in child rearing, food preparation, and the like.

Plow agriculture, on the other hand, tended to subordinate the role of women and diminish their level of equality. Women may have hoed, but men plowed, and female participation in farm work was drastically reduced. Women are often more visibly productive in the market than in the field (Figure 10.21). As women's agricultural productive role declined, they were afforded less domestic authority, less control over their own lives, and few if any property rights independent of male family members.

Western industrial—*developed*—society emerged directly from the agricultural tradition, which subordinated females. Only within the later 20th century, and then largely only in the more developed countries, has that subordinate role pattern changed. The rate and extent of women's participation in the labor force has expanded everywhere, most dramatically in Latin America. Women's increased participation in the workforce reflects several changing conditions. Women have gained greater control over their fertility, thus increasing their opportunities for education and employment. Further, attitudes toward employed women have changed, and public policies on, for example, child care, maternity benefits, and the like are more favorable. Economic growth, including the expansion of service sector jobs open to women, was also important in many regions. Permissive attitudes and policies with regard to micro and small enterprises, including financing and credit programs, have in some areas played a major role in encouraging



**Figure 10.21** Women dominate the once-a-week *periodic* markets in nearly all developing countries. Here, a Nepali woman sells produce in a local market. More than half of the economically active women in sub-Saharan Africa and southern Asia, and about one-third in northern Africa and the rest of Asia, are self-employed, working primarily in the informal sector.

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# Empowering Women Financially

In 1976, a Bangladeshi economist, Muhammad Yunus, wandered into a poor village and got an idea that has captured international interest and changed accepted beliefs and practices of banking in developing countries. The concept behind the Grameen Bank that he established is simple: If individual borrowers are given access to credit, they will be able to identify and engage in viable income-producing activities, such as pottery making, weaving, sewing, buying and marketing simple consumer goods, and providing transportation and other basic services.

Declaring that “Access to credit should be a human right,” Yunus was a pioneer in extending “microcredit” for “micro-enterprises,” with women emerging as the primary borrowers and beneficiaries of Grameen Bank’s practice of lending money without collateral and at low rates of interest. Under the original Grameen concept, to be eligible for the average loan of about US\$160, women without assets

must join or form a “cell” of five unrelated women, of whom only two can borrow at first though all five are responsible for repayment. When the first two begin to repay, two more can borrow, and so on. As a condition of the loan, clients also must agree to increase their savings, observe sound nutritional practices, and educate their children.

By 2011, the bank had made more than 8 million loans in 40,000 villages in Bangladesh alone. A reported 97 percent of the borrowers are women, and repayment rates reach above 95 percent. The average household income of Grameen Bank members has risen much faster than that of nonmembers in the same villages, with the landless benefiting most and marginal landowner families following closely. Because of enterprise incomes resulting from the lending program, there has been a sharp reduction in the number of Grameen Bank members living below the poverty line. There has also been a marked

shift from low-status agricultural labor to self-employment in simple manufacturing and trading. That shift has encouraged a borrower and lender recognition that larger loans are needed to enable increasingly entrepreneurial women to build small businesses, hire employees, acquire office and manufacturing equipment, and the like. In consequence, some lenders now approve loans of several thousand dollars, although such larger loans are still much in the minority.

Muhammed Yunus was awarded the 2006 Nobel Peace Prize for developing his model of microcredit. His microcredit ideas have spread from their Bangladesh origins to other countries in Asia, Latin America, Eastern Europe, and Africa. Of those poorest clients, the vast majority are women. But the female recipients still represent only a fraction of the women worldwide who have virtually no access to credit—or to the economic, social, educational, and nutritional benefits that come from its availability.

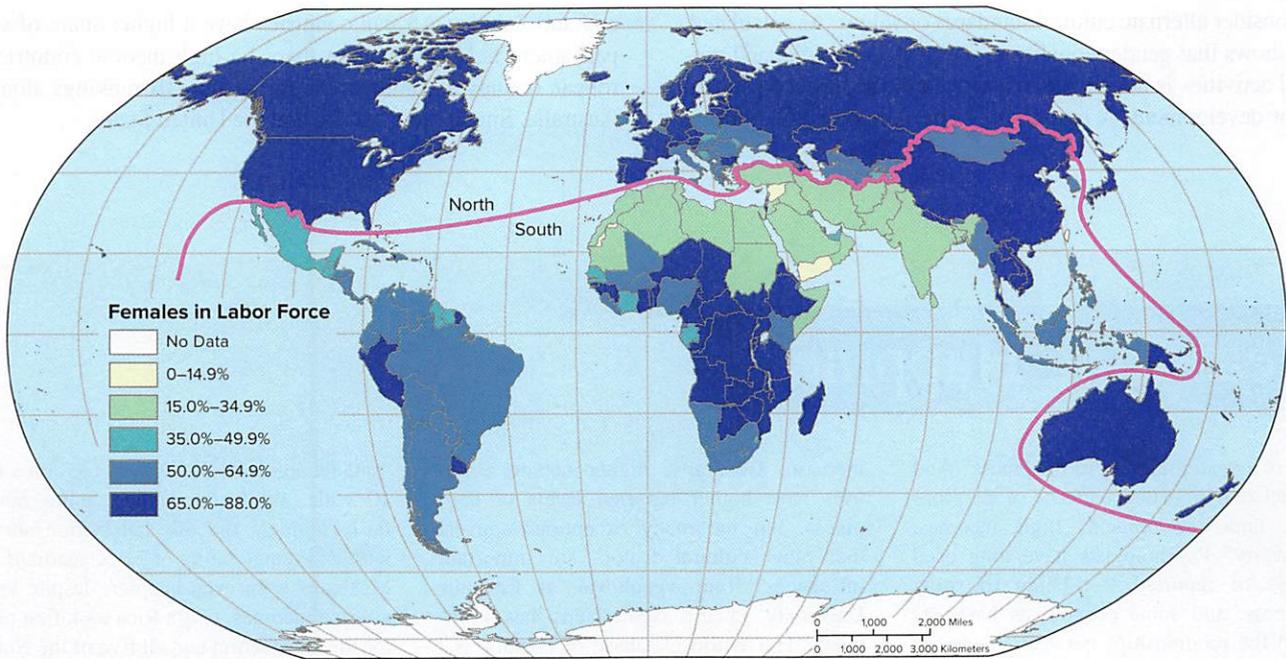
women entrepreneurs (see the feature “Empowering Women Financially”).

Considering all work—paid and unpaid economic activity and unpaid housework—women spend more hours per day working than do men in developed regions. In developing countries, the United Nations estimates, when unpaid agricultural work and housework are considered along with wage labor, women’s work hours exceed men’s by 30 percent and may involve at least as arduous—or even heavier—physical labor. The FAO reports that “rural women in the developing world carry 80 tons or more of fuel, water, and farm produce for a distance of 1 km during the course of a year. Men carry much less. . . .” Women are paid less than men for comparable employment everywhere, but in most world regions the percentage of economically active women holding wage or salaried positions is about equal to the rate for men. Exceptions are Latin America, where a higher proportion of active women than men are wage earners, and Africa, where wage-earning opportunities for women are few.

The present world pattern of gender-related institutional and economic assignments is varied. It is influenced by a country’s level of economic development, by the persistence of customary restrictions that some religions and cultures impose on women, and by the specific nature of its economic—particularly agricultural—base. The differential impact of these and other

conditions is evident in [Figure 10.22](#). The pattern shows a distinct gender-specific regionalization among the countries of the developing world. Among the Arab or Arab-influenced Muslim areas of western Asia and North Africa, the recorded proportion of the female population that is economically active is low. Religious tradition restricts women’s acceptance in economic activities outside the home. The same cultural limitations do not apply in the different rural economic conditions of Muslims in southern and southeastern Asia, where labor force participation by women in Indonesia and Bangladesh, for example, is much higher than it is among Western Muslims.

In Latin America, women have been overcoming cultural restrictions on their employment outside the home, and their active economic participation has been increasing. That participation is occurring almost entirely outside of the agricultural realm, where the high degree of farm labor tenancy as well as custom limits the role of females. Sub-Saharan Africa, highly diverse culturally and economically, is highly dependent on female farm labor and market income. The historical role of strongly independent, property-owning females formerly encountered under traditional agricultural and village systems, however, has increasingly been replaced by the subordination of women with the modernization of agricultural techniques and introduction of formal, male-dominated commercialized agriculture.



**Figure 10.22** Participation of women (ages 15 and above) in the labor force, 2016. Worldwide, 52 percent of women were in the labor force in 2008. Many of the countries with the highest rates of female participation in the labor force were in sub-Saharan Africa. Cultural factors lie behind low rates of female labor force participation in South Asia and the Middle East–North Africa zone.

Source: World Bank, World Development Indicators, 2018.

## 10.7 Alternative Measures of Development and Well-Being

Dissatisfaction with purely economic measures of development has spurred development agencies to seek composite measures that better measure human well-being. Development, it is maintained, goes beyond the purely economic and physical, and personal development may have little or nothing to do with objective statistical measures. The achievement of development must also be seen in terms of individual and collective well-being: a safe environment, freedom from want, opportunity for personal growth and enrichment, and access to goods and services beyond the absolute minimum to sustain life (see the feature “Measuring Happiness”). Health, safety, educational and cultural development, security in old age, political freedom, and similar noneconomic criteria are among the evidence of comparative developmental level that is sought in composite statistics. Also sought is a measure of development that is neither ethnocentric nor colored by political agendas. The values of one culture—for example, in housing space per person, in educational levels, or in distribution of national income—are not necessarily universally applicable or prioritized, and comparative statistics should not imply that they are.

One comparative ranking that has gained increasing recognition is employed by the UNDP. Its **Human Development Index (HDI)** combines per capita GNI (corrected for purchasing power), life expectancy, and education (years of schooling) (Figure 10.23).

The HDI reflects the program’s conviction that the important human aspirations are leading a long and healthy life, receiving adequate education, and having access to economic resources sufficient for a high quality of life. The weighting of the three input variables lends a further element of subjectivity to the rankings.

The UNDP has also developed a measure of poverty in its Multidimensional Poverty Index (MPI). While the HDI measures average *achievement*, the MPI measures *deprivation* in the same three dimensions of development underlying the HDI. Deprivation within a household is measured by children not attending school, childhood deaths, malnourished children, and poor living standards at home. Household living standards are evaluated by the availability of electricity, an improved drinking water source, sanitation, finished flooring, and basic household assets. The dimensions of poverty are discussed in more detail in the feature “What Is Poverty?”

The UN’s Gender Development Index (GDI) simply computes the HDI for women and men separately and then compares them. Countries with high HDI scores tend to have high GDI scores. The global GDI is 0.938, indicating that men tend to score higher than women on the HDI. Among world regions, South Asia has the lowest GDI at 0.822. A number of countries have GDI scores above 1.0 (largely because of higher levels of education and longer life expectancies for women). A “**gender inequality index**” (GII) devised by the UNDP, emphasizes female reproductive health, educational attainment, and participation in political, management, professional, and technical positions. The GII rankings are heavily biased toward measures that technologically advanced, career-oriented, Western cultures consider indicative of gender equality and progress; they

do not consider alternate cultural standards or values. As calculated, the GII shows that gender equality in political, economic, and professional activities is not necessarily related to the level of national wealth or development. A number of Latin American, Caribbean,

and sub-Saharan African countries have a higher share of seats in parliament held by women than the high income countries. European countries dominate the top of the GII rankings along with Australia, Singapore, Canada, and the United States.

## Measuring Happiness

Is there a spatial pattern to happiness? And is it related to spatial patterns of development, underdevelopment, high incomes, or poverty? Psychologists have long used surveys of reported well-being to study happiness, and some economists have explored the relationships between economic variables and measures of life satisfaction. The results are fascinating, complicated, and sometimes surprising. Within a country, those with higher incomes tend to report greater happiness, but as standards of living rise, happiness does not necessarily

increase. Generally, higher-income countries have higher reported levels of happiness, but the many exceptions suggest that other cultural factors are important influences. Ruut Veenhoven at Erasmus University in the Netherlands has compiled "The World Database of Happiness," containing the results of surveys of life enjoyment drawn from 155 countries. The following is a sample of top-ranked countries, middle-range countries, and bottom-ranked countries on surveys administered between 2005 and 2014 that asked people to rate their

"satisfaction with life as a whole" on a 0 to 10 scale. While the United States ranked fairly high on the life satisfaction survey, with an average rating of 7.3, Canadians and Mexicans were even happier, despite lower average incomes. Costa Rica took first place for life satisfaction and all five of the Nordic European states (Denmark, Finland, Iceland, Norway, Sweden) ranked in the top 11. The countries with the lowest happiness ratings are in Africa.

| Country                       | Happiness Score (0–10) | GNI/Capita (US\$), 2017 |
|-------------------------------|------------------------|-------------------------|
| <b>Happiest Countries</b>     |                        |                         |
| Costa Rica                    | 8.5                    | \$15,750                |
| Denmark                       | 8.4                    | \$51,040                |
| Mexico                        | 8.3                    | \$17,740                |
| Iceland                       | 8.1                    | \$52,490                |
| Canada                        | 8.0                    | \$43,420                |
| Norway                        | 8.0                    | \$62,510                |
| Switzerland                   | 8.0                    | \$63,660                |
| <b>Middle-Range Countries</b> |                        |                         |
| Croatia                       | 6.0                    | \$22,880                |
| Pakistan                      | 6.0                    | \$5,580                 |
| Romania                       | 6.0                    | \$22,950                |
| Turkey                        | 6.0                    | \$23,990                |
| <b>Least Happy Countries</b>  |                        |                         |
| Sierra Leone                  | 3.5                    | \$1,320                 |
| Benin                         | 3.0                    | \$2,170                 |
| Burundi                       | 2.9                    | \$770                   |
| Togo                          | 2.6                    | \$1,370                 |
| Tanzania                      | 2.5                    | \$2,740                 |

Sources: R. Veenhoven, *Average Happiness in 158 Nations 2005–2014*, *World Database of Happiness*, and Carol Graham, 2005. "The Economics of Happiness," *World Economics*, 6(3): 41–55.

# What Is Poverty?

According to the UNDP, of the world's 7.5 billion people (2017), 770 million lived on less than \$1.90 per day. At this level, people struggle to meet their basic needs and are vulnerable to a precipitous decline in well-being if they were to experience an illness, natural disaster, crop failure, or economic shock. Although the dollar definition of poverty is applied as if it were a worldwide constant, in reality, poor people define the wealth of people quite differently. One researcher wrote:

In some ways the "poor" cultures of the Third World are rich psychologically and spiritually, enjoying a contentment and sense of tradition sorely lacking in hectic, ulcer-ridden, depersonalised industrial societies. To many Buddhists, for example, inner peace is more valuable than a high Gross National Product. The highest divorce and suicide rates occur in the First and Second Worlds. If personal

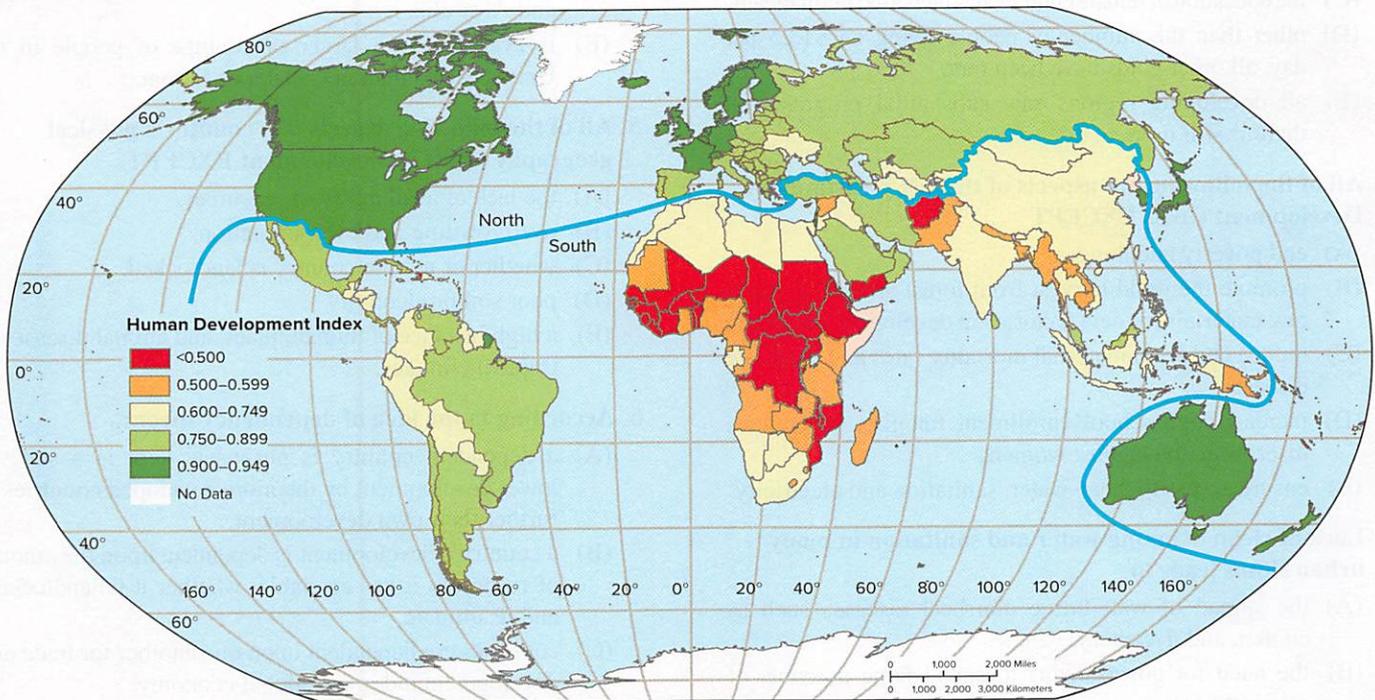
happiness were our criterion, the Third World might rank first.<sup>a</sup>

Research on how the poor view poverty suggests that poverty has multiple dimensions, some of which are noneconomic, such as a sense of shame, powerlessness, or insecurity. The poor define poverty not just in monetary terms, but as a lack of education, health, proper housing, physical safety, or decent employment. As a consequence, a multidimensional measure of poverty has been developed by the Oxford Poverty and Human Development Initiative at Oxford University. It measures poverty using a short survey to assess quality of employment, sense of empowerment, feelings of physical safety, shame, and psychological well-being. Survey questions ask, for example, about hazards that respondents might be exposed to while at work, whether they believe that they have control over personal and household decisions,

whether they feel respected by others and society, and their degree of satisfaction with life and overall happiness. An overall measure of poverty is created by counting the number of different dimensions in which a poor person feels he or she is deprived.

One key to improving both the economic and social lot of the "poorest of the poor," the World Bank and United Nations argue, is to target public spending on their special needs of education and health care and to pursue patterns of investment and economic growth that can productively employ the underused and growing labor force that is so abundant in the least developed countries. These identified socioeconomic needs are important elements in the United Nation's interlocked SDGs.

<sup>a</sup>Merriam, A. H., "What Does the 'Third World' Mean?" in J. Norwine and A. Gonzalez, eds., *The Third World: States of Mind and Being*. Boston: Unwin and Hyman, 1988, 15–22.



**AP Figure 10.23** Country rankings according to the HDI, 2015. Because this index is intended to measure the absence of deprivation, it discounts incomes higher than needed to achieve an acceptable level of living and therefore does not distinguish between the richest countries. The three measures that are used by the UNDP—life expectancy, school enrollment, and real (PPP) income—are highly correlated with one another. For that reason, it has been noted, the rankings derived by the HDI differ only slightly from income rankings adjusted for purchasing power parity; the Indian minister for human resources in 2002 objected that the HDI ignored “spiritual happiness” and “intellectual advances.” The countries at the bottom of the HDI closely match the “least developed” countries recognized by the United Nations and shown on Figure 10.3.

Source: United Nations, Human Development Report, 2016.

## AP KEY WORDS

Use the terms below with a **I** to focus your study of AP Human Geography key words in this chapter.

|  |   |                               |
|--|---|-------------------------------|
| brain drain                            | <b>I</b> gross national income (GNI)        | spread effect                 |
| circular and cumulative causation      | <b>I</b> Human Development Index (HDI)      | technology                    |
| <b>I</b> core area                     | <b>I</b> informal economy                   | technology gap                |
| core-periphery model                   | modernization theory                        | technology transfer           |
| dependency theory                      | neocolonialism                              | Third World                   |
| development                            | neoliberal globalization                    | trickle-down effect           |
| food security                          | <b>I</b> periphery                          | underdevelopment              |
| <b>I</b> formal economy                | purchasing power parity (PPP)               | uneven spatial development    |
| gender                                 | remittances                                 | <b>I</b> world systems theory |
| <b>I</b> Gender Inequality Index (GII) | <b>I</b> Rostow's stages of economic growth |                               |
| gross domestic product (GDP)           | <b>I</b> semi-periphery                     |                               |

## AP TEST PRACTICE

### Multiple Choice Questions

1. **According to the Achievements of the Millennium Development Goals as listed in Table 10.1 on page 320,**

- (A) all regions have shown progress except Sub-Saharan Africa.
- (B) Southeastern Asia has made the least developmental progress.
- (C) the education of female children has increased dramatically.
- (D) other than the number of people living on \$1.25 per day, all other goals have been met.
- (E) all developing regions saw substantial progress but there is still more to do.

2. **All of the following are aspects of the UN's Sustainable Development Goals EXCEPT**

- (A) end poverty and hunger.
- (B) promote the rapid harvest from forest areas to provide raw materials for new factories in developing countries.
- (C) reduce child and maternal mortality rates and eradicate diseases.
- (D) increase high school enrollment for girls and reduce discrimination against women.
- (E) ensure access to clean water, sanitation and electricity.

3. **Lack of clean drinking water and sanitation in many urban slums leads to**

- (A) the spread of waterborne diarrheal diseases such as cholera and dysentery.
- (B) the need for governments to spend large amounts of money to bring water in by truck.
- (C) the building of pipelines by charitable organizations and the United Nations.
- (D) the lowering of maternal and infant mortality rates.
- (E) successful rebellions among lower class people who are angered by their treatment.

4. **According to the map in Figure 10.16 on page 332, access to the Internet**

- (A) is nearly 100% in developed countries.
- (B) is less than 10% in some developing regions.
- (C) is not available in some rural areas of highly developed countries.
- (D) is not available to most people in Sub-Saharan Africa and Australia.
- (E) is available to a larger percentage of people in the United States than in Canada or Europe.

5. **All of the following aspects of a country's physical geography affect its development EXCEPT**

- (A) the lack of availability of resources.
- (B) overcrowding and overpopulation.
- (C) whether or not the country is landlocked.
- (D) poor soil productivity.
- (E) a high instance of human, plant, and animal diseases in tropical climates.

6. **According to the idea of dependency theory,**

- (A) a dependent country is purposely kept in a state of lower development by the more developed countries to further their own development.
- (B) a country's development is dependent upon the amount of resources it has available, whether it is landlocked, and its climate.
- (C) countries are dependent upon one another for trade and development aid in our global economy.
- (D) countries in the periphery are dependent upon core countries to keep up their level of development.
- (E) lower class workers can unite to raise their standard of living.

**7. The World Bank and IMF (International Monetary Fund) are important for development because**

- (A) they make loans to the governments of developing countries to aid in development.
- (B) they provide funds to developed countries for modernization of aging infrastructure.
- (C) they provide microloans to individuals, so they can start up small businesses.
- (D) they send advisors and administrators to take control of failing economies.
- (E) they provide a place for people in developing countries to invest their money.

**8. The UN Development Program does all of the following EXCEPT**

- (A) ranks countries according to their level of development.
- (B) measures the poverty level of countries around the world.
- (C) gives charity to groups in developing countries.
- (D) ranks the development of men and women within countries separately.
- (E) uses income, education levels, access to medical care, and other indicators to determine countries' standard of living.

**9. According to the Measuring Happiness table on page 344,**

- (A) a country's happiness directly correlates to the wealth of its citizens.
- (B) citizens in developed countries are happier than people in developing countries.
- (C) the happiest countries are all in Scandinavia and other cold climates.
- (D) the least happy countries are all in Sub-Saharan Africa.
- (E) as standards of living rise, happiness increases.

**10. Technology transfer is a goal of many development projects because**

- (A) it makes developing countries more dependent on core countries for their technology.
- (B) it lessens the technology gap between developed and developing countries, allowing the latter to increase development.
- (C) it aids large communication corporations to expand their networks worldwide.
- (D) people in developing countries have little need for higher level technology.
- (E) due to lack of education, people in developing countries do not know how to use high level technology.

## Free Response Questions

**1. Answer Parts A, B, and C below.**

- (A) Explain the impact of colonialism on the development of two countries.
- (B) Explain the impact of the slave trade on the development of the Americas and Sub-Saharan Africa.
- (C) Explain the impact of colonization on one country in Sub-Saharan Africa during the period of decolonization (1945-2000).

**2. Answer Parts A, B, and C below.**

- (A) Describe the path a country takes to development according to Rostow's stages of economic growth model. Explain one problem with using this model.
- (B) Explain Wallerstein's core-periphery model. Give an example of this theory at a global scale.
- (C) Give an example of core-periphery model at a national or local scale.

**3. Answer Parts A, B, and C below.**

- (A) Explain the role of women in traditional, agricultural economies. Give an example from either South America, Southeast Asia or Sub-Saharan Africa.
- (B) Explain two ways in which women's roles change as an economy becomes industrialized.
- (C) Explain one way developed countries can aid in helping women's economic prospects and one way that this may change their gender roles.