Human Development and Underdevelopment

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Ram, a forty-eight-year-old father of three, lives in a rural village in India's most populous state, Uttar Pradesh. He is a shoemaker with just a second-grade education, and he can barely read. Ram is diminutive, having been malnourished for years as a child, but at least he is alive. Two of his eight siblings did not see their fifth birthday: one died of dehydration from diarrhea in the 1970s and the other died of measles in the early 1980s. Unsanitary conditions and the lack of trained health professionals in his village contributed to both calamities.

Fortunately, Ram's three children have had a better lot. All three of them completed primary school, and the youngest is finishing secondary schooling in a nearby town with dreams of landing a plum government job. The three have also avoided major health catastrophes, and Ram never experienced the misfortune his parents did of losing a child, in part because the village now has piped water and a health clinic. Still, struggles remain. Although seemingly well fed, Ram's children ate a diet in their youth that lacked in protein, so they are also undersized. In addition, while Ram is proud of his children's educational achievements, he is the first to express frustration at the quality of the education they received in the village. Teachers frequently did not show up for class, and Ram is convinced that they discriminated against his kids for being members of a scheduled "lower" caste.

Ram's family embodies the recent development tragedies and triumphs of not just India but of much of the global South. Quality of life is improving, as evidenced by the fact that his children have better health and educational attainment than he and his siblings. Yet his children's malnourishment and low-quality education exemplify how living standards remain far below living standards in high-income countries.

This chapter describes the nature of health and education in the developing world. In doing so, it introduces and illustrates the concept of human development, which envisions development not just as economic progress and income gains but also as improvements in health, education, and other forms of social development. The chapter describes human development in LDCs from multiple angles. In two "snapshot" sections, it contrasts health and then education outcomes in today's South with those in today's West, and it provides some of the immediate reasons for the discouraging deficits on these two fronts between the developed and less developed worlds. In two "trends" sections, the chapter depicts how health and then education outcomes have evolved in the South over the past half century, a perspective that paints a far more optimistic picture—a picture of major improvements to human development. The chapter closes with a case study of India that illustrates how these two sets of patterns have played out in the world's second-largest country.

Underdevelopment is more than an economic status. Being poor entails more than just the inability to procure modern amenities, such as a personal computer and a spacious home. Poor health, undereducation, and a frustrating lack of self-fulfillment also accompany economic underdevelopment. These are the fundamental aspects of human development.

The Human Development Approach

A leading body of scholarly thought on the noneconomic aspects of underdevelopment is the **human development** approach, also called the capabilities approach. Pioneered by philosopher Martha Nussbaum and economist Amartya Sen, the human development approach maintains that economic poverty is important because it creates the even more fundamental problem of capability deprivation. **Capabilities** are substantive freedoms, meaning opportunities that allow people to be who they want to be and do what they want to do. Capabilities include the opportunities to be alive, to be formally educated, to have nourishment, and to be professionally treated when sick or disabled. Conversely, capability deprivation, sometimes called human poverty or substantive unfreedom, exists when a person faces a lack of freedom to pursue these core opportunities and thus to live the kind of life he or she has reason to value. To Nussbaum and Sen, the goal of social and economic progress should be to advance human development, defined as the process of removing capability deprivations from people's lives.[1]

Although they are not the only important capabilities, health and education are *central* capabilities in the human development approach—hence the focus of this chapter. Aside from their inherent importance to human potential, these two sets of substantive freedoms are crucial for building capabilities in other areas of life. In the area of health, premature death is the antithesis of human fulfillment, but nonfatal health problems, such as chronic pain, preventable disability, or recurring sickness, hinder the ability of humans to realize their goals. Illness can be devastating to a family's budget, and malnutrition stunts a person's long-run productivity and brain development. Formal education is also a fertile capability because it increases consumption, employment opportunities, and personal control over life events. Further, education grants the ability to communicate and participate more effectively in one's community, and it improves health outcomes by making people more knowledgeable about modern medicine. Other capabilities that are central to most conceptualizations of human development include intergroup equality, gender equity, and political rights, all of which are discussed in later chapters.

The Complex Relationship between Economic and Human Development

In general, rich countries have contexts that provide wider options for human fulfillment than do LDCs. To Sen, "The process of development . . . is not essentially different from the history of overcoming . . . unfreedoms."[2] Economic development

contributes mightily to enhancing capabilities because higher incomes open opportunities for human fulfillment. As Chapter 1 showed, rich countries tend to have better health and education outcomes as well as greater political freedom and gender equality than poor ones, and the snapshots sections below report even more of these positive relationships between GDP per capita and human development outcomes.

That said, human development and economic development are conceptually and empirically distinct. On a conceptual level, human development values education, health, social equality, and political freedoms in their own right, not just as a means to greater material wealth. The approach flips standard economics on its head: "Improvements in health, education, and security are what we *want* from development, while income is just a tool to help achieve them."[3] On an empirical level, economic and human development, although correlated with one another, do not always march hand in hand. Major advances in human development have often occurred without commensurate economic growth. For instance, Costa Ricans average longer lifespans than U.S. citizens, but Costa Rica has just one-quarter of the GDP per capita of the United States.[4] More generally, over the last fifty years health and education outcomes have improved throughout the developing world, and on average these outcomes have improved just as rapidly in countries with slow-growing economies as they have in countries with fast-growing economies.[5] Indeed, because of gradual improvements in health and education, much of the developing world is converging toward rich-world qualities of life, leading some observers to conclude that "global development is succeeding."[6] Some of the evidence for this convergence is presented below in the two sections on health and education trends.

HEALTH SNAPSHOT: DESCRIPTION AND CAUSES OF THE DEVELOPING WORLD'S DEFICIT

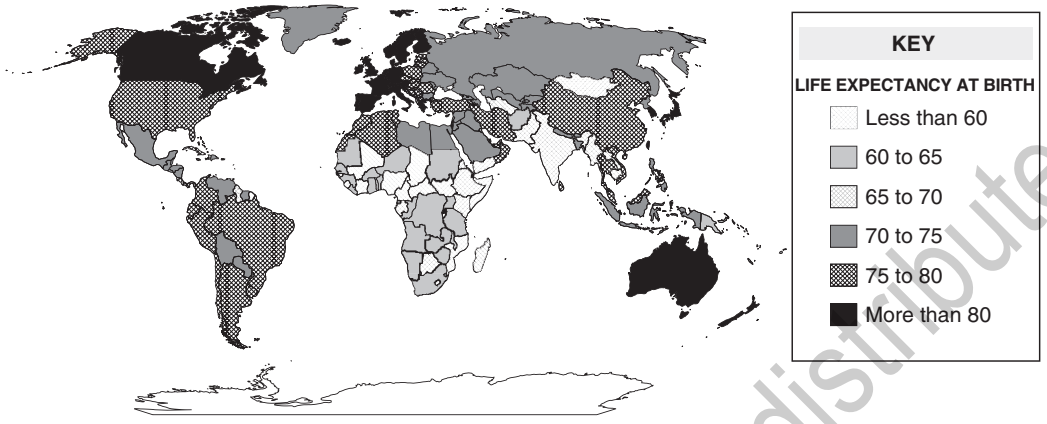
Good health is the most important aspect of human development. This section introduces some indicators of health and uses them to illustrate differences in health quality across world regions. The comparisons reveal one of the major human development deficits between LDCs and the West, although the size of the deficit varies by region. The section then describes the precise nature and immediate causes of various health challenges in LDCs.

Key Health Indicators: Life Expectancy and Child Mortality

Perhaps the most important overall measure of a society's health is its **life expectancy at birth**. For a given year, this is the average number of years that newborns are expected to live if current mortality patterns prevail for their entire lives. Longer life expectancies mean fewer premature deaths are occurring, with more people living into old age and dying of natural causes. For the world as a whole, life expectancy at birth is about 72 years, but regional averages vary around this global central tendency. Average life expectancies now exceed 80 (80.7) in the West, but they are below 70 in sub-Saharan Africa (60.8) and South Asia (68.9). Averages in the other three developing world

MAP 2.1

Life Expectancy at Birth around the World, 2017



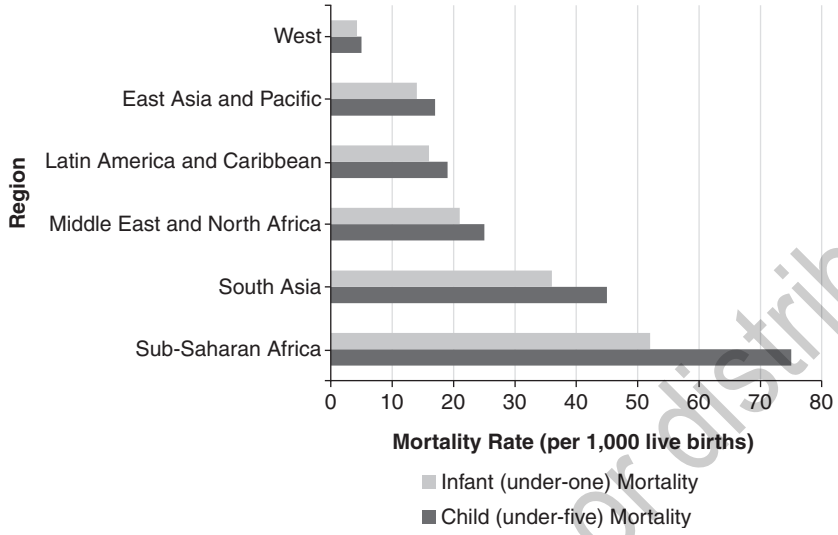
Source: World Bank Open Data, https://data.worldbank.org.

regions fall in between these extremes near the mid-70s.[7] Map 2.1 reports life expectancies for every country.

Two other leading indicators of a society's health are its child and infant mortality rates. **Child mortality**, or under-five mortality, is the death of a child before her or his fifth birthday. In 2017 around 5.4 million children under the age of five died, a staggering 15,000 per day.[8] Almost all of these deaths are preventable, meaning they would not have occurred had the child been born in a high-income country. About 75 percent of these deaths are cases of **infant mortality**, in which the fatality occurs before the child's first birthday, and in fact the first 28 days of life carry the greatest risk of death. The child mortality rate in the developing world is around 43 deaths per 1,000 live births, while in the developed world it is just five.[9] Again, this health indicator is worse in some LDC regions than in others. (See Figure 2.1.) In particular, sub-Saharan Africa has the world's highest rate of child mortality (75), and fully half of all under-five deaths worldwide occur in sub-Saharan Africa, even though the region has less than 15 percent of the world's population. Within LDCs rural residents tend to have shorter lives and run a higher risk of experiencing child mortality than their compatriots in the cities.

Because life expectancy and child mortality rates summarize life-and-death matters, they are headlining indicators of public health, but they are the tip of the iceberg in thinking about cross-national differences in health quality. The World Health Organization (WHO) tracks more than 1,000 indicators on topics ranging from adolescent mortality to zoonosis,[10] and most of these further illustrate the nature of the health deficits between LDCs and high-income countries. Many hard-to-measure and less life-threatening health problems are more prevalent in LDCs than in developed countries. Life without modern dental care, anesthesia, prosthetic limbs, and other

FIGURE 2.1
Infant and Child Mortality Rates in Six World Regions, 2017



Source: World Bank Open Data, http://data.worldbank.org/.

important medical innovations is an important reality for many people in the global South. For example, billions of people, from truck drivers to tailors, lack much-needed corrective eyewear.

The Immediate Causes of Poor Health Outcomes

What are the immediate causes of the shorter life spans, higher rates of child mortality, and other health challenges in the less developed world? This section gives biological, social, and economic answers to this question, looking at the higher prevalence of malnutrition and infectious diseases and then moving to the lack of funding for modern health technologies.

Malnutrition. The WHO views malnutrition as the single greatest threat to global public health. **Malnutrition** is a condition in which the human body does not receive enough nutrients, and the closely related concept of **food insecurity** refers to the absence of a reliable and sufficient supply of nutritious foods. In LDCs malnutrition takes two main forms. The most obvious is chronic hunger or undernourishment, which refers to insufficient caloric intake. Full-scale famines are mercifully rare in today's world, but an estimated 800 million people (including 19 percent of sub-Saharan Africans) still cannot afford or cannot access the necessary minimum number of calories.[11] More than twice as many people worldwide suffer from the less obvious form of malnutrition called hidden

hunger or micronutrient deficiency. Hidden hunger exists when a person consumes a sufficient number of calories, but either the calories are lacking in necessary nutrients or a medical condition, such as diarrhea or intestinal worms, prevents proper absorption of necessary nutrients. Deficiencies in vitamin A, iodine, iron, and protein are common forms of hidden hunger in LDCs. Most individuals suffering from hidden hunger do not even know of their condition because they are eating regular meals.

Malnutrition is such a major health threat because it is a "many-headed monster" that carries numerous consequences.[12] Most dramatically, malnutrition is a contributor in at least 45 percent of child mortality cases, since it weakens immune systems and makes children more vulnerable to infectious diseases.[13] Vitamin A deficiency can cause blindness and death in children, and iron deficiency results in anemia, which is life-threatening in pregnant women and a cause of lethargy in workers and students. Finally, malnutrition often causes **stunting**, which is extremely low height given one's age, and **wasting**, which is extremely low weight given one's height. Recent studies find that nearly a quarter of under-five children in LDCs are stunted and 8 percent are wasted.[14] When these conditions onset during the first 1,000 days of life, they are associated with irreversible physical damage, cognitive delays, and higher susceptibility to diseases later in life. For these reasons, some experts see malnutrition as the cause of a poverty trap in LDCs: poverty causes malnourishment, which in turn makes the poor less productive, which in turn keeps them impoverished.

Infectious Diseases and Poor Water Infrastructure. People in the global South also suffer from a high burden of **infectious diseases** (also called communicable diseases), which for this reason are sometimes called diseases of poverty. An infectious disease is one resulting from the presence of a harmful microorganism in the body. Examples include AIDS, cholera, COVID-19, Ebola, influenza, malaria, measles, and tuberculosis. Infectious diseases are the primary cause of premature death in LDCs. After the first month of life, the leading causes of child mortality are infectious diseases, especially acute respiratory infections (e.g., influenza and pneumonia), diarrheal diseases, and malaria.[15] In contrast, the vast majority of citizens in the developed world die from **noncommunicable diseases** such as cancer, diabetes, and heart disease, so these are considered diseases of affluence. To illustrate, only 34 percent of sub-Saharan Africans died of noncommunicable diseases in 2016, compared to 90 percent of Europeans.[16]

A primary reason for the greater incidence of infectious diseases in LDCs is the frequent consumption of water that is soiled by human feces or other contaminants—contaminants that contain bacteria or viruses such as *E. coli* or rotavirus. Bouts of diarrhea typically leave no permanent effects, but in infants and young children they have the potential to cause dehydration, electrolyte imbalance, and death. Half a million children die this way every year.[17] Similarly, infection by intestinal worms (e.g., hookworm and roundworm) occurs through consumption or mere skin contact with water or soil that contains human feces with worm eggs. At any given time, an estimated 10 percent of people in the developing world, most of them children, are infected by parasitic worms.[18] While only rarely fatal, parasitic worms do cause malnutrition, abdominal pain, and listlessness.

These communicable diseases proliferate where water infrastructure, sometimes known by the acronym WASH (WAter, Sanitation, Hygiene), is inadequate. Many households in LDCs lack an **improved water source**, meaning an easily accessible supply of water that has been treated for or intentionally kept separate from potential contaminants. Worldwide, 2 billion people do not have an improved water source in their homes, and a third of these do not even have one within 15 minutes of their residences.[19] Thus nearly 30 percent of humanity either fetches water from untreated streams, ponds, wells, and rainwater collectors or takes its chances with whatever contaminated water supply is on or near their premises. Above and beyond this 30 percent are billions of users, many of them city dwellers in middle-income countries, who rely on expensive bottled water because they know the treatment of their tap water by local utilities is insufficient.

The other, and even scarcer, main component of WASH is an **improved sanitation facility**, which is a means to safely separate people from their feces. It has been said that "the toilet has saved more lives than any other health device,"[20] since its primary function is to distance humans from the dangerous microbes in their solid waste. Yet only 40 percent of humans meet the sanitation ideal of having a safely managed system, meaning one in which a household toilet transports excreta in wastewater to a sewer or septic system to be treated. At the opposite extreme, nearly a billion people regularly practice open defecation, meaning they relieve themselves in a nearby body of water, ditch, or field where their fecal pathogens can subsequently contaminate crops and wells. This includes residents of urban slums who occasionally use "flying toilets," defecating into a bag and tossing it somewhere in a public area. Another billion people use various types of (often communal) latrines, which store the waste underground in a pit or a tank.[21] Latrines are safer than open defecation because they collect and hold feces in a single location, but they can still allow waste to contaminate groundwater that is eventually consumed by humans. Two billion others have an improved sanitation facility but live in an area where their waste is not safely managed and treated by underground systems.[22]

Other Causes of Infectious Disease. Limited medical information and an absence of vaccines are two other reasons for the higher rates of communicable disease in developing countries. To the untrained person, the notion that sickness is caused by living things that are invisible to the naked eye is not self-evident, so information and knowledge about disease prevention are often lacking. The behaviors one should employ for prevention, such as frequently washing one's hands or not coughing near others, are not readily obvious. A particularly notorious example is the HIV/AIDS epidemic in sub-Saharan Africa. During the 1980s and 1990s, the prevalence of the disease spiraled upward on the continent. At the epidemic's peak, more than 15 percent of the adult populations of several African countries were HIV positive, and it became the leading infectious killer of adults worldwide. In the epidemic's early days, however, relatively few Africans knew about the disease and about how to avoid contracting it. (The vast majority of HIV transmissions occur through heterosexual intercourse, although another important source of transmission is mothers passing the virus to their children during birth or breastfeeding.) In fact, most people who died from AIDS during these two decades did not even know they had it. Africa's societies were predominately rural,

poorly educated, and relatively unconnected to modern mass media, so communicating information about the disease and prevention behaviors was difficult. This situation has improved in recent years as HIV testing and public awareness campaigns have proliferated, but even today an estimated 25 percent of HIV-positive individuals do not know they are infected.[23]

Another reason for the higher rates of communicable disease is a relative lack of vaccines (also called vaccinations or immunizations). Vaccines are medical treatments that make a person immune to a certain disease, and their widespread application has virtually eliminated infectious diseases such as mumps, polio, and tetanus from the developed world. Death from measles, for instance, is rare in rich countries because roughly 95 percent of children are immunized via an injection they received in infancy. By contrast, a quarter of children in low-income countries are not immunized against measles, and it has been a leading cause of child mortality over the past few decades.[24] (See "Development in the Field: Humanitarian Groups in Health and Education" for more on how aid agencies are working to improve outcomes in LDCs.)

Infectious diseases are also more prevalent in the developing world because of a host of maladies, called tropical diseases, that only exist in the warm climates where poor countries tend to be located. This textbook describes tropical diseases, and especially malaria, in Chapter 13.

Poorly Functioning Health Care Sectors. Throughout the developing world large-scale shortcomings in health care provision exacerbate the suffering and death rates caused by all kinds of health ailments. Half the world's population lacks access to certain essential health services, such as prenatal care and cancer detection, and 90 percent of LDC residents cannot get simple surgeries, such as caesarean sections and hernia operations.[28] Funding for health sectors tends to be poor. In 2016 governments and consumers in high-income countries combined to spend an average of US$5,600 per person on health care. By contrast, the average was US$540 in LDCs and just US$93 in low-income countries.[29]

Health care is provided by both government (public) and private sectors in LDCs. Care provision by the public sector is an important element of the broader **welfare state**, which is the part of government that seeks to promote or protect the well-being of its citizens by providing social services like formal education, health care, housing, and retirement pensions. Public sectors in LDCs are less well funded than those in rich countries because poor-country governments are themselves poor. Through taxation, in other words, governments rely heavily on their citizenries for revenue, yet poor citizenries cannot pay much in taxes. To fill the gap, the private sector provides a majority (60 percent) of health services in LDCs—a greater share than in the developed world—but the private sector too is only as well funded as its customer base. Consumers typically must pay out of pocket for private sector services, and these user fees discourage patients from seeking necessary care. They also push an estimated 100 million people below the extreme poverty line every year.[30]

The lack of funding for both the private and public health sectors creates a number of problems. First, many countries have a severe shortage of trained and qualified health

Development in the Field

HUMANITARIAN GROUPS IN HEALTH AND EDUCATION

Aid agencies that attempt to improve health and education outcomes in less developed countries are legion. They range from major international governmental organizations affiliated with the United Nations (UN) to small groups run by a single director. The premier health organization worldwide is the WHO, a specialized agency of the UN that coordinates major health initiatives, such as efforts to combat COVID-19, HIV/AIDS, and polio. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) administers a multiorganization effort called the Education 2030 Agenda, which aims to achieve inclusive and quality education for all by 2030. Finally, the United Nations Development Programme (UNDP) is the agency most associated with the capabilities approach. It promotes a wide array of development goals and publishes an annual report that tracks human development worldwide.

Private organizations are also plentiful and range greatly in size. The Bill and Melinda Gates Foundation has a multibillion-dollar endowment from which it makes grants to humanitarian groups that are often (although not exclusively) involved in improving health in LDCs. Among other things, the Gates Foundation funds research on and the dissemination of vaccines. Smaller philanthropic groups devoted to health and education number in the thousands. For example, Engineers Without Borders taps Western engineering knowledge to improve WASH infrastructure, onebillion develops education technology (EdTech) software that allows children to learn at their own pace, and buildOn constructs schools in rural parts of poor countries.

Although these groups engage in philanthropic and humanitarian work, they are not beyond criticism. Some are accused of having excessive administrative costs, meaning a high share of their revenues, which largely come from charitable donations, goes toward employee salaries, marketing, and other operating costs rather than toward the advertised humanitarian purposes. For instance, one study alleged that fully half of all the UNDP's revenue went toward the salaries of its employees.[25] Also, these groups sometimes fund the flashy ribbon-cutting part of projects—the countable inputs that attract donors—while failing to sustain them. Anecdotes of "white elephant" charitable projects abound: shiny new school buildings and health clinics with no or low-quality staffing, newly dug wells with broken water pumps, and so on.[26] Similarly, the One Laptop per Child nonprofit organization funded a program that distributed nearly 1 million laptops to Peruvian children, but studies subsequently showed that the computers had little effect on learning outcomes, partly because teachers did not incorporate them into their curricula.[27]

care personnel (nurses, midwives, and physicians), so millions in need simply do not see a health expert. In Europe there is one doctor for every 270 people. Ratios in the Middle East (one doctor per 890 people), South Asia (1,330), and sub-Saharan Africa (5,000) are far lower.[31] Perhaps the most serious consequence is the large number of births that are unattended by a health professional (42 percent in low-income countries), making prematurity and birth complications the leading cause of infant mortalities. The lack of properly trained health professionals is exacerbated by the fact that many health

professionals fail to show up at their clinics or hospitals because of low pay or weak incentives to report in. A collection of studies on nine LDCs found that health providers were absent from their jobs 27 percent of the time in the median country, and up to 35 to 40 percent of the time in large countries like Bangladesh and Indonesia.[32] Absenteeism can be particularly devastating to rural dwellers, who may have walked long distances, all while feeling miserable or toting a sick child, just to reach a health clinic that is inexplicably unstaffed for the day. Furthermore, false and underqualified health providers often emerge to fill the void, missing easy diagnoses and mistreating common illnesses. Many individuals without medical degrees advertise themselves as doctors and attract a patient base, while still other patients cope with the shortage by visiting traditional healers (herbal clinicians or medicine men).

Second, LDCs experience shortages of health care facilities and supplies. Hospitals and health clinics are less prevalent. As one rough statistic, high-income countries have four times as many hospital beds on a per capita basis as low-income countries, and the gap extends down to clinics and health supplies as well.[33] For many communities, lack of funding and poor infrastructure translates into shortages of simple but lifesaving supplies, such as clean needles and bandages. Similarly, many medical treatments are hard to carry out without electricity and clean water. For instance, vaccinations can be difficult to administer in rural areas because they require refrigeration.

Third, health care spending in LDCs is often regressive, meaning it benefits the wealthy more than the poor. Health sectors tend to cater to an urban elite. Well-trained doctors and nurses typically prefer to live in cities, where pay, supplies, and support staff tend to be better. This leaves millions of rural dwellers hours from the nearest qualified health professional.[34] For this and other reasons, urban/rural inequalities in health outcomes tend to be steep.

Finally, resource constraints make the health sectors of the global South ill equipped to treat the noncommunicable diseases of affluence that are on the rise. As LDCs experience rising economic prosperity, they are undergoing the epidemiological transition, meaning noninfectious diseases are gradually overtaking infectious ones in prevalence. For example, cancer now kills more Africans than AIDS, malaria, and tuberculosis combined. Despite this shift, many African countries have fewer than a dozen oncologists, and cancer treatment centers are rare. As a result, the five-year survival rate for breast cancer is 12 percent in Gambia, for example, compared to 90 percent in the United States.[35] Similarly, a quarter of Pakistani adults now have diabetes, but many do not know it. Pakistan's capacity to implement prevention and treatment efforts is limited.[36]

Poor Decisions by Health Consumers. To be fair to the health professionals and governments of the developing world, health shortcomings are not strictly their responsibility. Many citizens of the global South also make poor health choices. Some parents, for example, do not get their children immunized out of procrastination. Parents do not always view immunizations with urgency because their positive effects are future nonevents, and many immunization courses are inconvenient, requiring multiple visits over several months to a clinic. Another example is a lack of breastfeeding, which is a powerful combatant against malnutrition at a most crucial time in a person's life.

Worldwide, only 40 percent of infants are breastfed exclusively for the first six months of life because many mothers are too busy working in the fields or are unaware of the health benefits.[37] Of course, suboptimal consumer behaviors are also common in the developed world, but their consequences can be more severe in poor countries, given their more precarious health environments.

HEALTH TRENDS: TRACKING IMPROVEMENTS IN LDCs

This snapshot comparison of the contemporary West to today's South demonstrated that lives are shorter, infectious diseases more prevalent, and health care systems shoddier in the developing world. Viewed over a longer period of history, however, health in the developing world contains major success stories. Comparing the contemporary South to itself a mere fifty years ago reveals a picture of impressive progress.

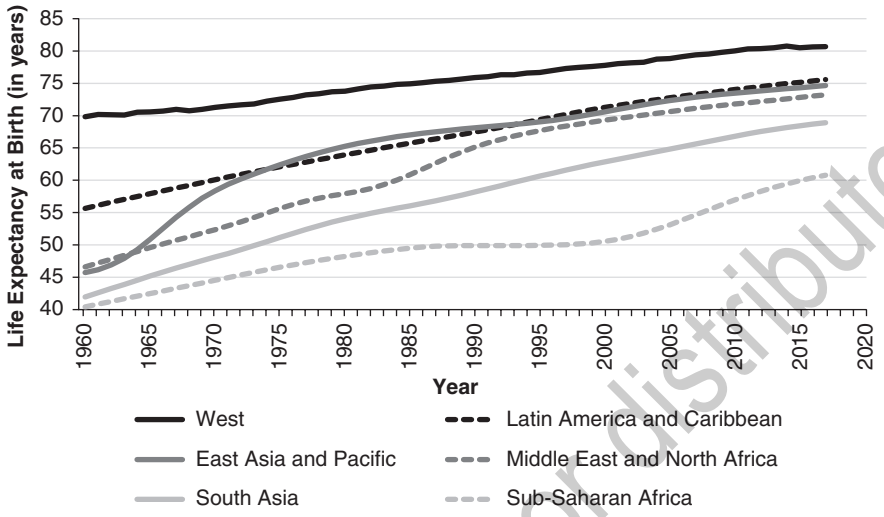
Longer Lives

Life expectancies in the less developed world have increased by nearly twenty-five years since 1960, the most rapid advance in human history. The improvement in LDCs has been roughly twice as large as that experienced in developed countries, shrinking the gap between the two. Figure 2.2 illustrates this convergence by depicting post-1960 trends in life expectancy in six world regions. Improvements have been especially dramatic in East Asia, the Middle East, and South Asia, where life expectancies have risen by nearly thirty years. In Latin America and sub-Saharan Africa improvements were also impressive at roughly twenty years. This change occurred in Africa despite the headwind of the AIDS epidemic, which noticeably but temporarily stalled the region's upward trend in the 1990s. When making the contemporary snapshot comparison above, this chapter reported the life expectancy gap between each LDC region and the West, and these range from five to twelve years, except for sub-Saharan Africa. (These differences can now be seen graphically by comparing the rightmost parts of the lines in Figure 2.2.) These gaps remain meaningful and troubling, but they pale in comparison to the gaps, some of them close to thirty years, that prevailed in 1960. Overall, both the improvement and convergence in life expectancies worldwide can only be described as dramatic, representing what one observer calls "... a triumph of human well-being whose magnitude the mind cannot begin to comprehend."[38]

A major driving force behind better life expectancies has been falling infant and child mortality rates. In 1960 one in five children born in an LDC died before their fifth birthday, which translates into a child mortality rate of 200 (per 1,000 births).[39] The global rate was 190. Now compare these numbers with the contemporary child mortality rates reported in Figure 2.1. Today, not a single regional average exceeds 75 (one in thirteen), and all five LDC regions have rates far closer to the West's rate of 5 than to the 1960 figure of 200. After six decades of falling mortality rates in *every* country, only six countries exceeded 100 in 2017, compared to the global rate of 190 just sixty years earlier. Over this time, the 75 percent decline in the globe's child mortality rate (from 190 to 45) has been driven almost entirely by the improving rates in less developed countries.

FIGURE 2.2

Life Expectancy at Birth: Trends in Six World Regions, 1960–2017



Source: World Bank Open Data, http://data.worldbank.org/.

The human element of this sea change can get lost in all of these statistics; to describe this trend differently, tens of millions of children and young adults who would have died had they been born before 1990 are alive today.[40]

Causes of Convergence: The Declining Cost of Good Health

Why and how did this stunning recent success in prolonging lives and saving children occur? The most important reason is that it has gotten less expensive over time for societies to achieve better health outcomes. Constructing toilets, piping clean water, administering vaccines, treating diarrhea, curing infectious diseases, growing crops, adding precious micronutrients to food, and doing other things that are beneficial for health have become dramatically cheaper in recent decades. For instance, Vietnam had a GDP per capita in 2000 that was similar to that of the United Kingdom 200 years ago, yet Vietnam's life expectancy in 2000 was sixty-nine years, compared to a life expectancy in the United Kingdom in the early 1800s of forty-one years. As another example, between 1950 and 2017, per capita income in Haiti fell by 25 percent, but infant mortality also fell—by 80 percent![41]

The worldwide spread of ideas and technologies has contributed to the declining cost of good health outcomes. Far and away the most important example of this is success in the discovery and dissemination of scientific knowledge about infectious diseases, along

with the distribution of effective preventions and treatments for these diseases. Many powerful medical technologies, such as vaccines, rehydration packets for diarrhea spells, and deworming pills, now cost less than a dollar per unit to produce, and governments, health providers, businesses, community groups, and international aid workers have worked hard to deliver these technologies where they are needed. For instance, despite the ongoing threat of measles, the number of childhood deaths from the disease has plummeted by more than a factor of 10 over the past thirty years (from roughly 700,000 in 1990 to 60,000 in 2015) because the share of children worldwide who are immunized increased from about 50 percent to 85 percent over that time.[42] Similar vaccination programs have already eradicated smallpox, which killed nearly 300 million people in the twentieth century alone, and (nearly) polio. Furthermore, through concerted investments in WASH infrastructure, more than 2.5 billion people have gained newfound access to improved drinking water and/or sanitation facilities since 1990.[43] Through the sum of these and all other efforts against communicable diseases, an estimated 100 million children have been saved from death by infectious diseases since 1990.[44]

The spread of technology and ideas has also mitigated the severity of hunger and malnutrition. The global population has ballooned to 7.8 billion from 3 billion in 1960 and from just 1.6 billion in 1900, but food production has grown at an even faster rate, making it possible for humanity to more than keep pace in feeding itself. Technological innovations such as fertilizers, irrigation, and new seed varieties have allowed the world's farmers to more than triple total food output since 1960, all while the amount of agricultural land in use has largely remained constant.[45] These adoptions have made food cheaper, boosting the globe's average caloric intake, increasing the number of people who can afford protein-rich foods, and reducing the number of famines and the amount of malnourishment. Famines were a recurring peril throughout human history until the 1960s, but their frequency fell dramatically soon thereafter.[46] Undernourishment has declined from 35 percent of the developing world's population in 1970 to 13 percent today,[47] and childhood stunting has fallen from 44 percent to 24 percent—just since 1990.[48]

Governments have contributed to these health improvements by expanding welfare states. Per capita public sector spending on health has more than doubled in virtually every LDC since 1990. A majority of LDC governments, moreover, have introduced targeted antipoverty programs that give cash grants or even jobs to the poor. These have given the poor more cashflow to manage health needs, and some programs, known as conditional cash transfers (CCT), directly incentivize better consumer health behavior. Implemented in more than sixty countries, CCT programs grant cash payments to poor families who can demonstrate their compliance with certain behavioral requirements, including regularly visiting a doctor and having their children vaccinated.[49]

EDUCATION SNAPSHOT: DESCRIPTION AND CAUSES OF THE DEVELOPING WORLD'S DEFICIT

Formal education is instruction provided by trained individuals in a structured schooling organization. Besides good health, access to formal education is widely regarded as the

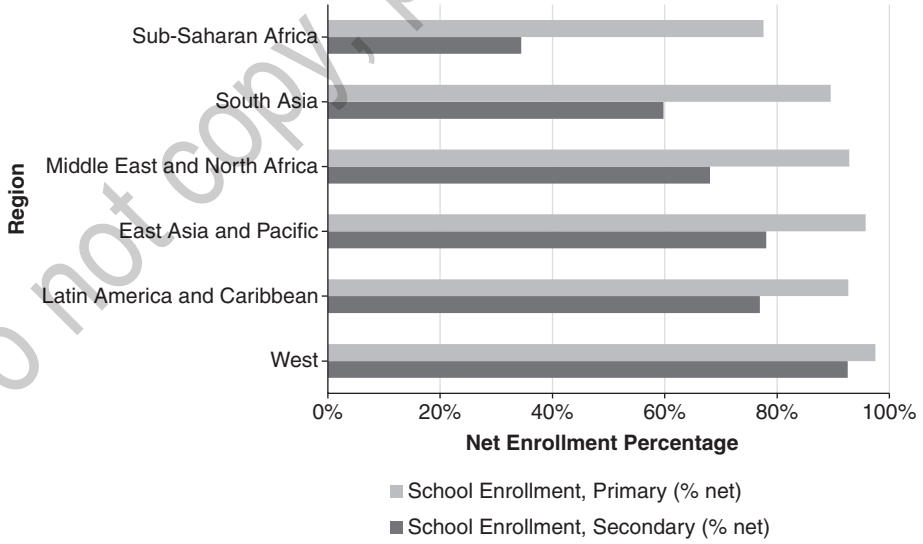
most important central capability. Not only does education create life and job-market skills, but it also turns people into more empowered members of their community. Unfortunately, education systems in LDCs pose a dual disadvantage to their citizens: students attain less formal schooling and learn less while they are in school. This section describes the nature and causes of these educational deficits.

Key Education Indicators: Attainment and Achievement

Commonly used education indicators measure either attainment, meaning the amount of formal schooling received, or achievement, which captures the amount of learning that has occurred. The most common measure of educational attainment is the **net enrollment ratio** at the primary and secondary levels. Net enrollment is the percentage of people of the relevant age group (ages six to eleven/twelve for primary, eleven/twelve to seventeen/eighteen for secondary) who are enrolled in school. Figure 2.3 shows these ratios for six world regions. Primary education is virtually universal in East Asia, just as it is in the West, and the enrollment ratios are at or above 90 percent in Latin America, the Middle East, and South Asia. Sub-Saharan Africa is the one laggard on this indicator, although the figure, nearly four in five children, is high in an absolute sense. The developing world's educational deficits are larger when considering secondary

FIGURE 2.3

Net Enrollment Ratios for Primary and Secondary Schooling in Six World Regions, 2017



Source: World Bank Open Data, http://data.worldbank.org/.

enrollment ratios. In the West more than 90 percent of children remain enrolled in school after completing their primary studies, but the figure is below 80 percent everywhere else and just one in three in sub-Saharan Africa. Worldwide, 200 million children of secondary school age are not in school.[50] Gaps in tertiary (college, university, or postsecondary vocational training) enrollments are even more yawning. Only about 30 percent of LDC residents receive some postsecondary education, whereas three-quarters of Westerners do.

Two other useful indicators of educational attainment are mean years of schooling and the adult literacy rate. Mean years of schooling is the average number of years of formal education per adult. Adults in the West average 12.0 years of schooling, but that number drops to just 8.5 in Latin America, 7.0 in the Middle East, 6.4 in South Asia, and 5.6 in sub-Saharan Africa.[51] The adult literacy rate is the percentage of adults who can read and write. Importantly, the bar for literacy is quite low in practice, since literacy statistics are typically based on survey respondents' yes/no answers to a simple "Can you read and write?" question.[52] By this measure one in six adults in LDCs is illiterate, compared to the 99 percent literacy rates in the West. (Revisit Table 1.3 for figures by region and sex.) As with health outcomes, rural areas tend to have lower rates than urban ones on these attainment measures. In low- and lower-middle income countries, for example, adult literacy rates are anywhere from 10 to 40 percentage points lower in the countrysides than in the cities.[53]

In contrast to these attainment indicators, measures of achievement seek to capture the quality of schooling, meaning the amount of actual learning and skill acquisition that takes place in educational settings. Recent research has revealed a "learning crisis" in developing countries, showing that schooling often yields little learning.[54] Every three years, for example, the Programme for International Student Assessment (PISA) administers cross-nationally equivalent tests to fifteen-year-olds in about seventy countries. Twenty country participants have been from one of the five LDC regions, and almost all twenty fall in the bottom quartile when ranking countries by their national scores in mathematics, reading, and science.[55] Eighth-graders in developing countries tend to read and perform math and science problems as well as fifth-graders in developed countries, meaning the typical year of schooling in an LDC accomplishes about a third less learning.[56] Even worse, in a study of ten LDCs, rates of functional illiteracy—meaning the child could not read a three-sentence passage—ranged from 20 to 80 percent among children who had completed primary school.[57] In short, there is a massive schooling–learning gap in LDCs: many enrolled students learn rather little.

The Immediate Causes of Poor Educational Outcomes

Scholars cite at least three immediate causes for these shortcomings in educational attainment and achievement.

Low Funding. As with health, an important cause of poor education in the global South is a relative lack of funding. In the United States government spending per

primary school student is about US$10,500, a figure greater than the entire GDP per capita of many low- and middle-income states. LDCs spend less than a tenth that amount.[58] On top of this, most LDC governments devote far more effort to schooling tertiary students than primary and secondary students, a product oftentimes of elite bias.[59] This dearth of funding for primary and secondary schools creates a host of problems. Many communities, especially rural ones, lack a school, discouraging attendance by forcing children to walk long distances. Low funding also means inadequate facilities when they do exist. For instance, half of primary schools in Indonesia lack electricity, and only 12 percent in Chad have a latrine or toilet.[60] In rural parts of low- and middle-income countries, computers are often a rarity, and some schools lack a building entirely. Funding constraints also limit the number of teachers a school can afford to hire, forcing the teachers who are hired to manage large multigrade classrooms. The average pupil-to-teacher ratio in primary schools is 14:1 in high-income countries; it is 39:1 in low-income countries and 26:1 throughout the developing world.[61] Additionally, school days tend to be shorter in the developing world. Many schools, even in middle-income countries like Brazil, save on costs by operating on double shifts, in which children attend for just a half day (either in the morning or afternoon) with teachers covering both shifts. Finally, limited government support means that some public schools in the developing world charge tuition or user fees. Fees, mandatory uniforms, school supplies, and lunch charges are costs that deter many parents from keeping a child in school.

Private schools have recently proliferated in LDCs because of these failings in the public sector, but private schools offer their own set of problems. Many cater to poor families and parents, who must scrimp to pay private school fees out of frustration with their children's public school options. In return, these children are often educated by what amounts to a mom-and-pop operation. Private school teachers in poor communities are typically untrained community members who teach out of their homes or a public space simply because they see the need and a business opportunity. Like public schools, moreover, private schools that cater to the poor tend to be ill funded because their customers cannot afford to pay much in fees.

Still, it is important not to exaggerate low funding as a cause of poor educational outcomes. Studies of LDCs show that increases in funding often fail to improve achievement, partly because governments commonly channel higher government spending to upper-class students.[62] In addition, 80 percent of school funding goes to teachers' wages, and higher wages often fail to yield better teaching.[63] In fact, poor instruction is a crucial cause of poor learning outcomes.

Poor Instruction. Poor instruction contributes to the schooling–learning gap in LDCs. High-quality teachers are not in abundant supply. In low-income countries an estimated 25 percent of primary school instructors and 45 percent of secondary school instructors are not formally trained teachers.[64] Less than a quarter of teachers in sub-Saharan Africa completed secondary education themselves, and many sixth-grade teachers perform no better on reading tests than their highest-performing students.[65] In some

countries, such as Mexico, most teaching jobs are handed out as political favors rather than on merit.[66] Finally, because of bad or no incentives, absenteeism among teachers is rampant. A recent study of eight African countries found that teachers were absent from school a median of 25 percent of the time and absent from the classroom 45 percent of the time.[67]

Even when students and trained teachers are present, the curriculum is often highly inadequate. Instruction in LDCs tends to occur by rote memorization, with teachers reading or copying directly from a book onto a blackboard. Furthermore, teaching typically carries an elite bias that is a carryover from colonial days. Millions of children in LDCs are taught in a nonnative language, which is detrimental to learning. Schools throughout Africa and South Asia teach in the official (often colonial) language, such as English, French, or Hindi, which many children do not speak or understand before enrolling in school. Similarly, many instructors teach to the top of the class to prepare talented students for secondary and university entrance exams, a remnant of the preindependence era when schools were meant to create a colonial elite.[68] With this approach, students with average or below average academic performance receive little remedial instruction and are simply left behind.

Parental Decisions. Bottom-up decisions, particularly those by parents, also contribute to educational deficits. When children drop out of school, it is typically by choice of their parents, who have a variety of good reasons for making such a decision. Most importantly, the opportunity cost for poor parents of keeping their able-bodied children in school is high, especially since the benefits of schooling are not reaped until the future. Children can provide valuable assistance around the house or in the fields, and they can even hold wage-paying jobs that contribute to family income. Foregoing this help or income is too much for many needy parents. The same logic can result in frequent absences by students, even if they do not fully drop out of school. For these reasons, the prevalence of **child labor**—when a child under the age of fifteen engages in sustained full- or part-time work (rather than just occasional household chores)—tends to be high where educational enrollments are low or student absenteeism is high. About 12 percent of five- to fourteen-year-old children worldwide engage in child labor, and, while most are still in school, a large minority have dropped out entirely.[69]

Parents' perceptions of opportunity costs can be particularly high when the eventual payoff from education is low. Many low-income economies do not reward formal education, so parents see little value in keeping their kids in school. Without a well-developed industrial base or modern service economy, some LDCs simply have little demand for trained labor, or they do not provide wages to well-educated workers that are sufficiently higher than those paid to untrained workers. Similarly, when schooling is of low quality or when a child's school performance is poor, it is natural for many parents to conclude that schooling the child is a waste of time, especially when opportunity costs are high. Indeed, many poor families with multiple children invest in the child they think has the best academic prowess by removing all but that child from school and encouraging her or him to be the one to pursue secondary and tertiary studies.

EDUCATION TRENDS: TRACKING IMPROVEMENTS IN LDCs THROUGH TIME

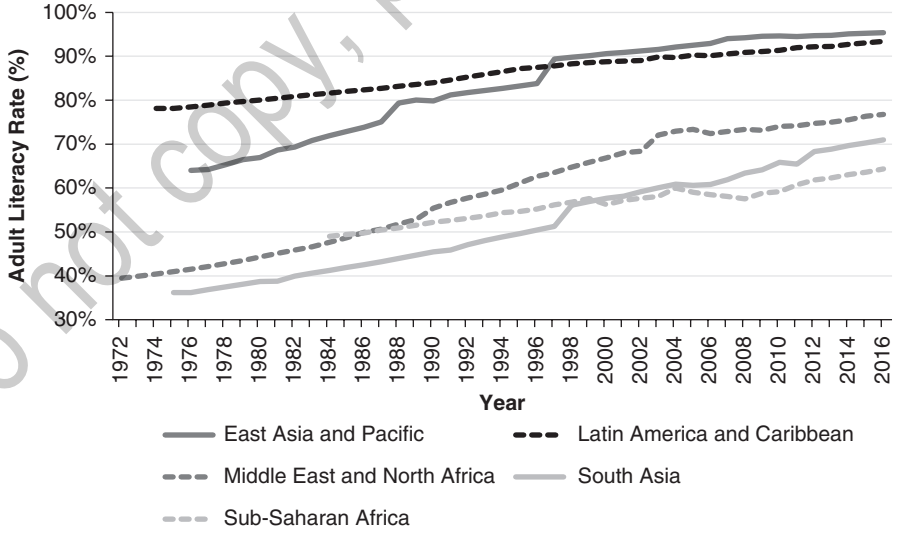
As with health outcomes, educational quantity and quality seem dire relative to those of the developed world. Again, however, a look back into recent history reveals dramatic improvements over a relatively short period of time.

Higher Enrollments and Better Quality

Since 1960 the mean years of schooling throughout the developing world has nearly quadrupled, rising from 1.9 years to 7.3, and the percentage of children who are unenrolled in primary school has fallen from over 30 percent to nearly 10 percent.[70] Declining rates of child labor have accompanied these changes. Partly as a result, the adult literacy rate of the entire developing world jumped from 60 percent to 84 percent between 1975 and 2016; in the Middle East and South Asia, the rates nearly doubled during this time. (See Figure 2.4.) Globally, illiteracy has fallen from 44 percent in 1950 to 14 percent today.[71] In short, the developing world is educating a higher share of its youth than ever before, and illiteracy is gradually becoming a problem of the past. (Also see "Understanding Indicators: The Human Development Index.")

FIGURE 2.4

Adult Literacy Rates: Trends in Five World Regions, 1972–2016



Source: World Bank Open Data. World Bank, http://data.worldbank.org/.

As further evidence of these encouraging patterns, some experts point to promising trends in another statistic, the expected years of schooling. This is the average number of years of formal education that children of school-entering age can expect to receive if contemporary patterns of enrollment prevail throughout their lives. The expected years of schooling is a much better indicator than mean years of schooling of a society's commitment to educating its current child population. In countries where enrollment rates are improving quickly, the expected years figure is much greater than the mean years figure; the mean years figure is pulled down by older adults who received little education because they were children in more austere times. For instance, sub-Saharan Africa's expected years of schooling is 10.1, nearly twice its current mean years of 5.6. South Asia's expected years (11.9) is also nearly twice its current mean (6.4), and in the other developing regions the expected mean is 70 percent higher than the current one.[72] In summary, the educational attainment of less developed societies will continue to improve over the next several decades.

Finally, although converting schooling into genuine learning remains an ongoing challenge, achievement data also show improvement in learning outcomes. According to PISA, test scores in several Latin American countries improved between 1985 and 2015.[73] Similarly, intelligence quotient (IQ) testing shows dramatic increases in IQ scores throughout the developing world over the past century.[74]

Causes of Convergence: Better Funding and More Parental Commitment

The causes of these improvements lie in at least four developments. First, the developing world's governments are spending more on education. Because political leaders almost universally see education as an important element of nation-building and of economic success, they have ramped up their efforts to construct and fund schools, especially in rural areas where distance is such a barrier to attendance. Most governments in low-income countries have moved to mandate primary education and to abolish public school fees, which has translated into a notable boost in enrollments.[75] Malawi, for instance, boosted primary school enrollment by half after dropping fees.[76] Second, the boom in private schooling has addressed unmet demand, even among the poor. For example, 80 percent of primary school-aged children in low-income Haiti attend private schools. Private schools appear to have lower rates of teacher absenteeism,[77] and they tend to be more cost-effective, educating children at a lower per pupil cost than public schools.[78] Third, parents' calculus for keeping their children in school has changed. Economic growth has transformed economies in the developing world. Globalization, industrialization, and technological dissemination have all increased the demand for formally educated workers. In turn, this increased demand has boosted the skill premium, meaning the higher wages that well-educated workers receive for having technical and specialized skills. Stated differently, education increasingly pays off, so parents are more willing to absorb the immediate sacrifices of keeping their children in school. Finally, better nourishment and less sickness keep children in school and make them better learners while there.

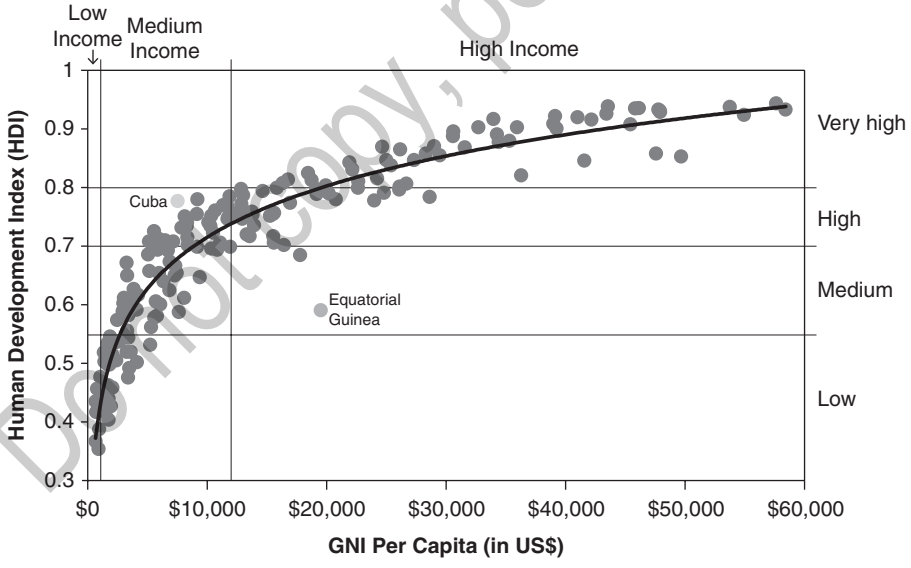
Understanding Indicators

THE HUMAN DEVELOPMENT INDEX

A leading effort to address some of the shortcomings of GDP and GNI as measures of well-being (see Chapter 1) is the **Human Development Index (HDI)**, established by the UNDP in the early 1990s. HDI is motivated by Sen's claim that the fundamental goal of human progress should be the expansion of capabilities. HDI is a composite of four different indicators, incorporating three measures of the two central capabilities—health (life expectancy) and educational attainment (mean and expected years of schooling)—plus income (logged GNI per capita) into a single index of well-being. Each of these four indicators is converted to a 0 to 1 scale, with zeroes equivalent to natural minimums (e.g., 20-year life expectancy, no schooling) and ones equivalent to aspirational but realistic targets (e.g., 85-year life expectancy, GNI of US$75,000). For a given country and year, the four scores are collapsed into a single number by taking their average; the resulting number, which also varies between 0 and 1, is the country's HDI score for that year.[79] The UNDP classifies countries into one of four human development categories (depicted on the right of the figure) based on their HDI score.

The figure shows the relationship in 2017 between HDI and average income. Each point in the scatterplot is a country plotted according to its HDI (indexed on the *y*-axis) and its GNI per capita (*x*-axis). The relationship between the two variables is far from a simple, one-to-one correspondence. For example, Equatorial Guinea

The Human Development Index and Its Relationship with GNI Per Capita, 2017



Source: Human Development Data, http://hdr.undp.org/en/data.

Note: To improve readability, countries with GNI per capita greater than US$60,000 are not shown.

is well below the trendline that summarizes the relationship; the country ranks relatively high on GNI per capita (61st worldwide) but rather low on human development (.591 ranks 141th of 189). By comparison, Cuba is above the trendline; its HDI (.777 ranks 73rd) is much better than its GNI per capita rank (115th). In other words, Equatorial Guinea does a poor job of converting its income into good health and educational outcomes. Cuba performs a more efficient job with its lower income. Additionally, the curved trendline shows that increased GNI improves HDI dramatically in low-income countries, but GNI's impact declines considerably in middle- and high-income countries. This is an example of a logarithmic relationship, which exists both because the index uses GNI per capita in *logged* form and because life expectancies in rich countries are approaching a natural ceiling.

In calculating a single number per country year from four different components, the HDI is one of many mashup indexes used in studying development. (More examples of mashup indexes appear elsewhere in this textbook.) HDI and other mashup indexes offer more encompassing measures of human well-being than do single components, but they also attract criticism. The HDI weights health, education, and income equally in arriving at a country's annual score, a decision that is not motivated by any compelling argument for why human development is an equal combination of the three. By logging GNI per capita, moreover, the HDI builds in the perverse assumption (which its designers surely did not intend) that an extra year of human life in a rich country is worth more money than it is in a poor country![80] Users interested in studying aspects of human development might be better off analyzing, say, mean years of schooling on its own or life expectancy on its own.

- What would you conclude about the well-being of a population in a country that has a high HDI but a low GNI per capita? What about the reverse situation—a low HDI but a relatively high GNI per capita?
- What are the advantages and disadvantages of an index, such as the HDI, that summarizes multiple and very different indicators of a country's development with a single number?

Case Study

WHAT ARE INDIA'S HUMAN DEVELOPMENT CHALLENGES AND SUCCESSES?

The world's second-largest country is underdeveloped. Only 14 percent of India's citizens live above the global poverty line of US$5.50 per day, and a fifth live in extreme poverty (below US$1.90 per day). On either measure, India houses almost a third of the world's poor people, far more than any other country.[81] This economic poverty limits capabilities and human development in India. In 2017 India had an HDI score of .640, well short of the "very high" human development level to which its leadership aspires. Yet India is rising—in global politics, in economics, and in human development. The 20 percent extreme poverty figure is down from 62 percent just a few decades ago (1977), and the .640 HDI

(*Continued*)

(Continued)

An Indian teacher crouches to assist a child sitting on the floor of a primary school classroom. Many of India's schools are poorly equipped, and studies show that teachers often fail to show up for class. The share of children who are enrolled in primary and secondary school, however, has been steadily increasing in India for decades.

SAM PANTHAKY / Stringer / Getty Images

score is up from .431 ("low" human development) just a mere 30 years ago (1990). Depending on how one looks at it, India could be viewed as a human development failure or a success. This case study conveys evidence from both perspectives, providing details on the nature and dynamics of health and education in India. (To reiterate, the South/West/natural world format for case studies does not start until Chapter 4.)

Health and Education Challenges

The shortfalls of human development in India are severe in the arena of health. Indian children are more than ten times as likely as European children to die before their fifth birthday, and India's life expectancy trails Europe's by twelve years.[82] A prime contributor to both deficits is malnutrition, and in fact malnutrition is frequently called "India's shame" because its prevalence is high despite the growing economy. Stunningly, 38 percent of Indians under the age of five are stunted, even though virtually all Indian adults think their families have enough to eat—a paradigmatic case of hidden hunger.[83] The lack of clean drinking water and, especially, basic sanitation also contributes. Just 45 percent of Indians have a household latrine or toilet,[84] and an estimated 40 percent regularly practice open defecation.[85] Clearly, many defecate outdoors out of necessity, but others choose to walk past an available latrine/toilet to defecate in a nearby open space. Millions do so to follow religious norms that stipulate latrines and toilets as impure, and men often see open defecation as a sign of virility. Sanitation advocates have pushed back against open defecation norms with carrots (e.g., government subsidies to install household toilets, a recent Bollywood film entitled *Toilet: A Love Story*) and sticks (e.g., public officials taking and posting online photos of people while in the act).[86] For now, however, the consequences of the practice are devastating; an estimated one in ten Indian deaths is caused by poor sanitation.

Furthermore, medical care is highly inadequate in India. At less than US$100 per person each year, government spending on health care is lackluster. As a result, trained and registered physicians are rare—one-fourth the number (on a per capita basis) available in high-income countries.[87] Citizens thus turn to the private sector, where total spending, most of it made out of pocket, is four times as great. Three-quarters of patient visits are to untrained informal providers,[88] and throughout rural Indian villages only 20 to 50 percent of health providers have a formal medical degree.[89] Scandals in which informal doctors (called "quacks") have proliferated diseases by using unsanitized needles or administering the wrong drugs are common. Moreover, public medical clinics have high absentee rates. A study of Ram's state of Uttar Pradesh found that health professionals showed up to work only 60 percent of the time.[90] Even when present, providers spend little time with patients and only give the correct diagnosis an estimated 30 percent of the time. One research team that observed patient–provider interactions in India coined the term "3-3-3 rule": the typical interaction lasted three minutes,

the provider asked three questions, and the patient was offered three (often unnecessary or even harmful) medicines.[91]

India's educational outcomes also lag those in the West. Today, the vast majority of its primary school–aged children are enrolled in school, but India has a schooling-without-learning problem. A recent study found that 85 percent of Indian second-graders could not read a single word in a short text, and 85 percent could not perform two-digit subtraction.[92] In 2009 India ranked seventy-two out of seventy-four countries in PISA. There is no shortage of explanations for these poor achievement indicators. A shocking study by the World Bank found that public school primary teachers, despite earning four times India's average income, missed a quarter of school days and, when present, often did not bother to teach, instead spending hours per day socializing with other teachers or reading the newspaper.[93] Only 10 percent of teachers could themselves solve a three-digit by one-digit division problem. Despite this, as unionized public sector workers, few teachers are ever fired.

In response, millions of parents are voting with their pocketbooks by enrolling their children in private schools, putting India at the forefront of a major trend in the global South. Out-of-pocket spending by consumers on private schooling has nearly quadrupled since 2000, and more than a third of children now attend private schools.[94] Yet this trend toward private schooling is at best a partial solution. Most private schools are unregulated and staffed by untrained teachers, and the Indian government is trying to shut down many of the 20,000 unlicensed ones. The fees they charge tend to burden families that already struggle to meet basic needs.

Health and Education Successes

These facts and figures on health and education seem dire, but they look far less dire when tracked over India's recent history. India's HDI was over .200 lower just thirty years ago, and it graduated from low to medium human development status around 2005. Table 2.1 summarizes some of these human development trends.

The signs of improvement in health outcomes are overwhelming. Technological advancements have been quietly saving Indian children and adults by the hundreds of millions. At independence in 1947, the child mortality rate in India was a staggering 270 (per 1,000 live births), nearly

TABLE 2.1

Development Comparison: India in the Past and India Today

Indicator	India 1990	India 2018
GDP per capita at PPP	US$1,808	US$6,537
Human Development Index	.431 (114th of 144)	.647 (129th of 189)
Life expectancy at birth	57.9	68.8
Mean years of schooling	3.0	6.4
Expected years of schooling	7.6	12.3

Sources: (Row 1) World Bank Open Data; (2–5) Human Development Data.

(*Continued*)

(Continued)

seven times its 2018 rate (41). Life expectancy has more than doubled over that time, rising from thirty-three to sixty-nine.[95] Despite the shortage of sanitation, today the leading cause of death in India is neither diarrhea nor malnutrition but, much like most rich countries, heart disease in older age. Malnutrition remains a plague, but India used to have recurring famines that killed millions. It has not had a major famine since 1943, and the rate of stunting has fallen from nearly 60 percent in 1989. Both declines are due in large part to major improvements in agriculture productivity.[96] Finally, the expansion of basic sanitation facilities has even made a significant dent in the stubborn practice of open defecation. Nearly 100 million latrines and toilets have been built since 2014, and the share of rural residents regularly engaging in open defecation has fallen by 26 percentage points (82 percent to 56 percent) just in the past two decades.[97]

Improvements in education have also been striking. Few readers probably batted an eyelash when reading, a few paragraphs ago, that the vast majority of primary-aged Indian children are enrolled in school. Yet this fact is the culmination of decades of massive and gradually successful efforts to enroll and keep children in school and to diminish the allure of child labor. As recently as 1971, 40 percent of Indian children were not in primary school, but India is now "within striking distance of universal elementary education."[98] Indeed, a main reason for the teacher shortage in India is the surging demand for them. Despite their drawbacks, the boom in private schools has seemingly helped. Monthly fees tend to be low enough (US$2 to US$20) for even poor families to afford them, and private schools are much cheaper for Indian society. Because private schools are not beholden to teachers' unions, they educate children at about a third the public school cost.[99] Public school teachers are paid around five times more than private ones but show up to class less often, and learning outcomes for private schools are better.[100] In response to all of these trends, the literacy rate has jumped by 30 percentage points in just forty years.[101] Today's Indian children will be far more literate and far better educated than any generation that preceded them.

Conclusion

India's human development situation is a study in contrasts. As is widely assumed, its education and health systems do leave much to be desired. Its distance from the rich world on many human development measures, however, is smaller than many Westerners think, and these gaps are shrinking at an impressive speed. India's patterns in human development capture the nuance with which observers should view the developing world.

Thinking Critically about Development

- Since 1990 India's GDP per capita has tripled. What are some ways in which economic growth has caused the country's advances in human development, and what are some ways in which human development caused this economic growth?
- Is the human development approach sufficient for prioritizing what is important for well-being in India, or are there other criteria by which India's progress should be judged?
- Will India's remaining problems in health and education automatically disappear as its economy continues to grow, or will the government need to take direct action to improve the welfare state in order to advance human development?

KEY TERMS

capabilities 32
child labor 47
child mortality 34
food insecurity 35
human development 32
Human Development Index (HDI) 50
improved sanitation facility 37
improved water source 37
infant mortality 34
infectious disease 36
life expectancy at birth 33
malnutrition 35
net enrollment ratio 44
noncommunicable disease 36
stunting 36
wasting 36
welfare state 38

ACTIVE LEARNING EXERCISES

Write a Data Report

Write a three- to five-page data report with a small group of classmates. Using Gapminder, Excel, or a statistical software package, plot an economic or social development indicator through time for a single country, for two countries, or for an aggregation of many countries (similar to Figures 2.2 and 2.4 in this chapter). Describe the trend(s) and, after conducting more research, explain what caused the indicator to change through time. Data can be downloaded from Gapminder (https://www.gapminder.org/), the World Bank (https://data.worldbank.org/), Our World in Data (https://ourworldindata.org/), or other websites listed at the end of each chapter in this book. Consult Our World in Data for examples of data reports.

DATA AND WEB RESOURCES

Global Hunger Index, https://www.globalhungerindex.org

HumanProgress, https://www.humanprogress.org

Joint Monitoring Programme WASH Data, https://washdata.org

Programme for International Student Assessment (PISA), http://www.oecd.org/pisa/data/

State of Food Security and Nutrition in the World, http://www.fao.org/publications/sofi/en/

Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS), https://timssandpirls.bc.edu

United Nations Development Programme, Human Development Data, http://hdr.undp.org/en/data

United Nations Educational, Scientific, and Cultural Organisation (UNESCO) Institute of Statistics, http://uis.unesco.org

World Bank Health Nutrition and Population Statistics, https://datacatalog.worldbank.org/dataset/health-nutrition-and-population-statistics

World Health Organization Global Health Observatory, http://apps.who.int/gho/data/node.home