

# Development

# 9

## Learning Outcomes

*After reading, studying, and discussing the chapter, students should be able to:*

**Learning Outcome 9.1.1:** Identify the HDI standard of living factor.

**Learning Outcome 9.1.2:** Identify the HDI health factor.

**Learning Outcome 9.1.3:** Identify the HDI access to knowledge factor.

**Learning Outcome 9.2.1:** Describe the UN's measures of gender inequality.

**Learning Outcome 9.2.2:** Describe changes since the 1990s in gender inequality.

**Learning Outcome 9.3.1:** Explain the principle sources of demand for fossil fuels.

**Learning Outcome 9.3.2:** Describe the distribution of production of the three fossil fuels.

**Learning Outcome 9.3.3:** Analyze the distribution of reserves of fossil fuels and differentiate between proven and potential reserves.

**Learning Outcome 9.3.4:** Describe the role of OPEC and changes in the price and availability of petroleum.

**Learning Outcome 9.3.5:** Describe the distribution of nuclear energy and challenges in using it.

**Learning Outcome 9.3.6:** Identify challenges to increasing the use of alternative energy sources.

**Learning Outcome 9.3.7:** Compare and contrast between passive and active solar energy.

**Learning Outcome 9.4.1:** Summarize the two paths of development.

**Learning Outcome 9.4.2:** Analyze shortcomings of the two development paths and reasons international trade has triumphed.

**Learning Outcome 9.4.3:** Identify the main source of financing development.

**Learning Outcome 9.4.4:** Explain problems with financing development in developing and developed countries.

**Learning Outcome 9.4.5:** Explain the principles of fair trade.

**Learning Outcome 9.4.6:** Describe ways in which differences in development have narrowed or stayed wide.

## Chapter Outline

### Key Issue 1: Why Does Development Vary among Countries?

Geographers study levels of **development** (the material conditions of people) to understand how development varies across space, the determinants of development, and the economic connections between **more developed countries** (MDC) and **less developed countries** (LDC). A central question is how less developed countries can develop.

The United Nations compares levels of development on an index called the **Human Development Index** (HDI). The HDI considers development to be a function of three factors: standard of living, overall health and life expectancy, and access to education. Each country gets a score of these three factors, which are then combined into an overall HDI. The UN groups countries into four classes according to HDI: very high, high, medium, and low. Countries with very high HDIs are considered developed. The other three classes are considered developing.

**Income** The **gross national income** (GNI) is the value of the output of goods and services produced in a country in a year, including money that leaves and enters the country. By dividing the GNI by the total population, it is possible to measure the contribution made by the average individual towards generating a country's wealth in a year. Per capita GNI measures the average (mean) wealth, not the distribution of wealth. Other studies refer to **gross domestic product** (GDP), which is also the value of the output of goods and services produced in a country in a year. The GDP does not account for money that leaves or enters the country. The **purchasing power parity** (PPP) is an adjustment made to the GNI to account for differences among countries in the cost of goods.

**Economic Structure** Jobs fall into three categories. **Primary sector** jobs include activities extracting materials from the Earth through agriculture, mining, fishing, and forestry. **Secondary sector** jobs process, transform, and assemble raw materials into manufactured products. **Tertiary sector** jobs involve the provision of goods and services to people in exchange for payment. The share of GNI accounted for by the primary and secondary sector has decreased dramatically in the last century in most developed countries. The tertiary sector accounts for the greatest share of the GNI in developed countries.

**Productivity** Workers in developed countries are more productive than those in developing countries. The term **productivity** means the value of a particular product compared to the amount of labor needed to make it. The **value added** in manufacturing is the gross value of the product minus the raw materials and energy. Productivity can be measured by the value added per capita. Workers in developed countries produce more with less effort because they have access to more machines, tools, and equipment to perform much of the work.

**Consumer Goods** Part of the wealth generated in developed countries is used to purchase goods and services. Especially important are goods related to transportation and communication, including motor vehicles, telephones, and computers. These products are accessible to virtually all residents in developed countries and are vital to the economy's functioning and growth. In contrast, in developing countries,

these products do not play a central role in daily life for many people. Most people in developing countries are familiar with vehicles and computers but cannot afford them. Cell phone ownership is actually expanding in developing countries.

**A Long and Healthy Life** The health indicator contributing to the HDI is life expectancy. The life expectancy is 80 in developed countries. Variations among developing regions is especially wide; life expectancy is 75 in Latin America, 65 in South Asia, and 55 in sub-Saharan Africa. People are healthier in developed countries than developing ones. When a person in a developed country gets sick, the country possesses the resources to care for him or her.

**Quantity of Schooling** The UN considers years of schooling to be the most critical measure of the ability of an individual to gain access to knowledge needed for development. The assumption is that no matter how poor the school, the longer the pupils attend, the more likely they are to learn something. The average person over 24 years old in a developed country has attended school for 11 years. The average person that is over 24 years old in a developing country has attended school for 6 years.

**Quality of Schooling** The fewer pupils a teacher has, the more likely that each student will receive instruction. The pupil/teacher ratio in primary school is 14 in developed countries and 26 in developing countries. The **literacy rate** is the percentage of a country's people who can read and write. The literacy rate exceeds 99 percent in developed countries. It exceeds 90 percent in East Asia and Latin America, but is less than 70 percent in sub-Saharan Africa and South Asia. Students in developing countries are at a disadvantage because most of the textbooks are not published in their native language. Improved education is a major goal of many developing countries, but funds are scarce.

## Key Issue 2: Why Does Development Vary by Gender?

A country's overall level of development can mask inequalities in the status of men and women. At best, women have achieved near-equality with men in some countries, but in other countries the level of development for women lags far behind the level for men. The UN created the **Gender Inequality Index (GII)** to measure the extent of each country's gender inequality. The GII combines multiple measures: empowerment, labor, and reproductive health. The higher the GII, the greater the inequality between men and women. The GII is higher in developing countries than developed ones.

**Empowerment** In the context of gender inequality, empowerment refers to the ability of women to achieve economic and political power. The empowerment dimension of GII is measured by two indicators: the percentage of seats held by women in the national legislature and the percentage of women who have completed High School.

**Labor Force** The **female labor force participation rate** is the percentage of women holding full-time jobs outside the home. For every 100 men in the labor force, there are 75 women in developed countries. The lowest rate of female participation in the labor force is in Southwest Asia and North Africa, where there are only 35 women for every 100 men in the labor force.

**Reproductive Health** Poor reproductive health is a major contributor to gender inequality around the world. The **maternal mortality rate** is the number of women who die giving birth per 100,000 births.

The ratio is 15 deaths of mothers per 100,000 live births in developed countries and 140 in developing countries. The **adolescent fertility rate** is the number of births per 1,000 women ages 15 to 19. The lowest teenage pregnancy rate is in Europe where it is 8 per 1,000. In sub-Saharan Africa the teenage pregnancy rate exceeds 100. The UN includes reproductive health as a contributor to GII because in countries where effective control of reproduction is universal, women have fewer children, and maternal and child health is improved.

### **Key Issue 3: Why Is Energy Important for Development?**

Developed countries use large quantities of energy to produce food, run factories, keep homes comfortable, and transport goods and people. Historically, in developing countries, people relied primarily on power supplied by themselves or by animals, known as **animate power**. Supplementing animal power was energy flowing from water and burning **biomass fuel**, which is fuel derived from plant material and animal waste. During the Industrial Revolution, developed countries converted to **inanimate power**, generated by machines.

The quantity of something that producers have available for sale is known as the **supply**. **Demand** is the quantity that consumers are willing or able to buy. Five-sixths of the world's energy needs are supplied by **fossil fuels**. Coal, petroleum, and natural gas are fossil fuels. A fossil fuel is an energy source formed from the residue of plants and animals buried millions of years ago. As sediment accumulated over these remains, intense pressure and chemical reactions slowly converted them into the fossil fuels that are currently used.

**Demand for Energy** Demand for energy comes from three principle types of consumption: businesses, homes, and transportation. China consumes 20 percent of the world's energy, followed by the United States at 18 percent. Per capita consumption of energy is three times higher in developed countries than developing countries. The consumption of fossil fuels has been increasing at a much faster rate (3 percent per year) in developing countries compared to 1 percent per year in developed countries.

**Energy Supply** Earth's energy resources are not distributed evenly. Coal is formed in lush, swampy tropical areas rich in plants. Thanks to the slow movement of Earth's drifting continents, the tropical swamps of 250 million years ago have relocated to the mid-latitudes. Petroleum and natural gas formed millions of years ago from residue deposited on the seafloor. Some still lies beneath such seas as the Persian Gulf and North Sea, but other reserves are located beneath land that was underwater millions of years ago.

Earth's energy sources are divided between those that are renewable and those that are not. **Renewable energy** has an essentially unlimited supply and is not depleted when used by people. **Nonrenewable energy** forms so slowly that for practical purposes, it cannot be renewed. Fossil fuels are nonrenewable energy sources and supply most of the world's energy needs. Other resources can be used for heat, fuel, and manufacturing but they are likely to be more expensive and less convenient to use than fossil fuels.

**Energy Reserves** The supply of energy remaining in deposits that have been discovered is called a **proven reserve**. At current demand, proven coal reserves would last 131 years, natural gas reserves would last 49 years, and petroleum reserves would last 43 years. Taken as a group, developed countries

have historically possessed a disproportionately large amount of the world's proven fossil fuel reserves. This dominance is ending in the twenty-first century. The United States still has extensive coal reserves, but its petroleum and natural gas reserves are being depleted rapidly. Many of Europe's coal mines have closed and the region's petroleum and natural gas reserves account for only a small percentage of worldwide supply.

**Potential Reserves** The supply of fossil fuel deposits that are undiscovered but thought to exist is a **potential reserve**. When a potential reserve is actually discovered, it is reclassified as a proven reserve. The largest, most accessible deposits of petroleum, natural gas, and coal have already been exploited. Newer reserves are generally smaller and more remote. Exploration costs have increased because methods are more elaborate and the probability of finding new reserves is less. But as energy prices climb, exploration costs may be justified.

**Controlling Petroleum Reserves** Several developing countries possessing substantial petroleum reserves created the Organization of Petroleum Exporting Countries (OPEC) in 1960. OPEC was originally formed to enable oil rich-rich developing countries to gain more control over their resources. Countries possessing the oil reserves nationalized or more tightly controlled the fields, and prices were set by the government rather than U.S. or European petroleum companies. U.S. petroleum imports have increased from 14 percent of total consumption in 1954 to 58 percent in 2009. European countries and Japan have always depended on foreign petroleum because of the limited domestic supply. China changed from a net exporter to an importer of petroleum during the 1990s.

**Nuclear Energy** Like fossil fuels, uranium is a nonrenewable resource. Proven uranium reserves will last about 124 years at current rates of use. Nuclear power supplies 14 percent of the world's energy. Only 30 of the world's nearly 200 countries make some use of nuclear power, including 19 developed countries and only 11 developing countries. The countries most highly dependent on nuclear power are in Europe. Dependency on nuclear power varies widely among regions in the United States. Four states get over half their electricity from nuclear power and 20 states have no nuclear power plants.

A nuclear power plant produces electricity from energy released by splitting uranium atoms in a controlled environment, a process called **fission**. It is possible to have a runaway reactor which overheats, causing a meltdown, possibly steam explosions, and scattering of radioactive material into the atmosphere. One product of all nuclear reactions is **radioactive waste**, certain types of which are lethal to people exposed to it. No one has yet devised permanent storage for radioactive waste. The waste cannot be burned or chemically treated, and it must be isolated for several thousand years until it loses its radioactivity.

Nuclear power plants cost several billion dollars to build, primarily because of the elaborate safety measures required. Without double and triple backup systems at nuclear power plants, nuclear energy would be too dangerous to use. A **breeder reactor** turns uranium into a renewable resource by generating plutonium, also a nuclear fuel. Plutonium is more lethal than uranium and could cause more deaths and injuries in an accident. Because of the risks, few breeder reactors have been built, and none are in the United States.

**Renewable Energy** Generating electricity from the movement of water is called **hydroelectric power**. Hydroelectric is now the world's second-most popular source of electricity after coal. Moving water turns the water wheel and the rotational motion produces electricity. Biomass energy sources include wood and crops. Wood is a renewable resource that can be used to generate electricity and heat. Crops such as sugarcane, corn, and soybeans can be processed into motor-vehicle fuels.

Wind power has a greater potential for increased use because only a small portion of the potential resource has been harnessed. Like moving water turning a water wheel, moving air can turn a turbine. Construction of a windmill modifies the environment much less severely than construction of a dam across a river. **Geothermal energy** is energy from steam or hot water produced from hot or molten underground rocks. The creation of energy by joining the nuclei of two hydrogen atoms to form helium is called **fusion**. Fusion is not a practical fuel source yet.

**Solar Energy** Solar energy is harnessed through either passive or active means. **Passive solar energy systems** capture energy without using special devices. These systems use south-facing windows and dark surfaces to heat and light buildings on sunny days. **Active solar energy systems** collect solar energy and convert it to heat energy or electricity. In direct electric conversion, solar radiation is captured with **photovoltaic cells**, which convert light energy into electrical energy. The cost of the photovoltaic cells must drop and their efficiency must improve for solar power to expand rapidly. Solar energy may become more attractive as other energy sources become more expensive.

#### **Key Issue 4: Why Do Countries Face Obstacles to Development?**

**Self-Sufficiency Path** In the self-sufficiency model, countries encourage domestic production of goods, discourage foreign ownership of businesses and resources, and protect their businesses from international competition. The idea is that this will promote all parts of the economy, leading to jobs and development. For most of the twentieth century the self-sufficiency path was popular with developing countries. India was one of the leading examples of the self-sufficiency strategy in the twentieth century.

**International Trade Path** International trade became more popular beginning in the late twentieth century. The sale of raw materials, food, or manufactured products in the world market brings funds into the country that can be used to finance development. This approach is idealized in Rostow's model based on the historic development of MDCs. Rostow's model appears to have been followed by the four Asian dragons (South Korea, Singapore, Taiwan, and Hong Kong) and petroleum-rich Arabian Peninsula states (Saudi Arabia, Kuwait, Bahrain, Oman, and the United Arab Emirates).

**Shortcomings of the Two Development Paths** The safeguards necessary to protect local industries from foreign competition in the self-sufficiency model creates the opportunity for factories and businesses to be inefficient. A large bureaucracy is also needed to regulate many aspects of the economy in the self-sufficiency model. If the government adopts the international trade approach it may compromise its ability to care for its own people because of the resources diverted to support new industries. Not all countries have equal access to the same resources (raw materials or labor) or to the same markets. Also, there may not be a sufficiently large market for all countries to compete using the international trade approach.

**International Trade Approach Triumphs** Longtime advocates of the self-sufficiency approach converted to international trade during the 1990s. Even India dismantled its formidable collection of barriers to international trade. Countries like India converted from self-sufficiency to international trade because of overwhelming evidence at the time that international trade better promoted development. Worldwide, GNI increased more than 4 percent annually in countries strongly oriented towards international trade compared with less than 1 percent in countries strongly oriented toward self-sufficiency.

**World Trade Organization** The World Trade Organization (WTO) works to reduce barriers to international trade in two principal ways. First, through the WTO, countries negotiate reduction or the elimination of international trade restrictions on manufactured goods, such as government subsidies for exports, quotas for imports, and tariffs on both imports and exports. The WTO also promotes international trade by enforcing agreements.

**Foreign Direct Investment** An investment made by a foreign company in the economy of another country is known as **foreign direct investment (FDI)**. Foreign direct investment grew rapidly during the 1990s, from \$130 billion in 1990 to 1.5 trillion in 2010. In 2010, nearly 40 percent of all FDI destined for developing countries went to China and 20 percent went to Brazil, Russia, and Singapore. The major sources of FDI are transnational corporations that invest and operate in countries other than which the company headquarters are located.

**Loans** Two UN agencies, the International Monetary Fund (IMF) and the World Bank, provide loans to LDCs to develop. The IMF and World Bank were conceived at a 1944 United Nations Monetary and Financial Conference to promote economic development and stability after the devastation of World War II and to avoid a repetition of the disastrous economic policies contributing to the Great Depression in the 1930s. Developing countries borrow money to build new infrastructure, such as hydroelectric dams, electric transmission lines, flood-protection systems, water supplies, roads, and hotels. The theory is that new infrastructure will make conditions more favorable for domestic and foreign businesses to open or expand.

**Financing Challenges in Developing Countries** Large infrastructure projects have often failed to provide the intended economic stimulus and have left countries saddled with debt. Before a developing country applies for a loan, it is required to prepare a Policy Framework Paper outlining a **structural adjustment program**, which includes economic goals, strategies for achieving the objectives, and external financing requirements. Lenders' imposition of structural adjustment programs on poor countries was intended to restructure their economies so that they did not fall farther into debt, but critics claim that these programs bring even more hardship on a country's citizens.

**Financing Challenges in Developed Countries** Political leaders have been sharply divided on the optimal strategy for fighting the severe economic downturn. Proponents of a stimulus strategy argue that during a downturn, governments should spend more money than they collect in taxes. Proponents of the austerity strategy argue that government should sharply reduce taxes, so that people and businesses can revive the economy by spending their tax savings. European countries are divided between supporting

stimulus or austerity. The lack of agreement has led to serious difficulties in Europe and may possibly result in the demise of the euro currency.

**Housing Bubble** Developed countries were especially hard hit by the severe economic downturn that began in 2008. The heart of the global economic crisis was the poor conditions of banks and other financial institutions in developed countries. The shaky status of many financial institutions resulted from making loans to businesses and individuals that could not be repaid. Bad loans were especially widespread in housing, especially after the bursting of the **housing bubble** in 2007. Contributing to the creation and bursting of the housing bubble was a relaxation of long-standing restrictions on the ability of individuals to buy homes.

**Closing the Gap** The UN began measuring the HDI in 1980, for both developed and developing countries. Progress in reducing the gap in the level of development between developed and developing countries varies depending on the variable. The infant mortality rate has gone way down in developing countries and remained the same in developed countries. Life expectancy has increased by the same rate in both developing countries and developed countries. Unfortunately, the gap in wealth between the developed countries and developing countries has widened.

**Fair Trade** Commerce in which products are made and traded according to standards that protect workers and small businesses in developing countries is considered **fair trade**. The fair trade movement is an alternative vision of the international trade approach which attempts to increase the prices that are paid to producers in LDCs. Fair trade also tries to eliminate the very low wages and extremely poor working conditions for workers in LDCs. Standards for fair trade are set internationally by Fairtrade Labeling Organizations International.

**Development through Microfinance** An alternative source of loans for would-be business owners in developing countries is **microfinance**. Microfinance is the provision of a small loan to individuals and small businesses that are unable to get a loan from commercial banks.

## **Introducing the Chapter**

Development captures the imagination of many students in a way that some other topics in economic geography do not. The great puzzle of why so many states continue to be poor despite many honest efforts to improve the lives of their people remains to be solved.

The chapter starts with a discussion of where less developed and more developed countries are distributed and the indicators of development. Some students may protest that many of the indicators are more or less connected with wealth, and that people may be poor and uneducated but still happy. Ask whether happiness can be measured between cultures and countries. Someone may volunteer Bhutan, which references the “gross national happiness” of its citizens.

### **Icebreaker: Vacation**

Start a discussion with the class about “where would you like to go on vacation.” Decide on a popular less-developed destination and discuss what it is that makes it an attractive destination. Create a list of



those amenities, which are likely to include an agreeable climate, scenery, and low prices for food and lodging. Now ask the class to consider the following questions:

- Are the people who live in this place year-round fortunate to live at such a desirable destination?
- What do the local people depend on for income? Does tourism play a role?
- What do the people in this country, who do not live in a tourist area, do for work?
- Can any of these people, who wish to, come to our country on a vacation? Why not? Is that fair?

## Challenges to Comprehension

Students may ask whether there are any countries that are “medium developed” instead of simply “less” and “more.” Instead of answering this question directly, consider asking your students to look at the HDI and make up their own minds. Note that some development agencies do reference low, medium, and high levels of development. Also, suggest that if there were three categories, they might be named something else, such as “more developed”, “less developed”, and “more less developed.” Of course, the status of Russia raises the question of whether a country can become less developed (Russia’s HDI is the same as Latin America).

### Former Soviet Countries

The Human Development Index (HDI) for Russia and Latin America are equal. Thus, students want to know, how can one be considered less developed and the other more developed?

The best answer is probably that Russia has seen its level of development drop from a higher level, whereas Latin America’s HDI has been increasing.

The main statistic of distinction between these regions is that Russia is in the late stage 4 of the demographic transition, with declining populations, while Latin America as a region is in stage 3, with population growth still creating issues for urban areas, job growth, the economy, and the environment.

## Assignments

### Review/ Reflection Questions

- If you were to create an index of development, what indicators would you use, and why? How would you weigh each indicator? Could your index be used around the world, or would it be mostly relevant to our society?
- The HDI is used to measure development at a whole-country level. Is it adequate to measure development *within* a country? Why or why not? (Another way of thinking about this: Are there minority groups that may be “glossed over” by the HDI?)
- The GDI is used as a way of ranking development scores to compare the development of women compared to men in society. However, looking at the Gender Development Index rankings might imply that those countries at the top of the list have gender equality. Discuss whether this is the case or not.

- Discuss whether our economy requires other countries to remain underdeveloped. That is, could we maintain our standard of living if the rest of the world had the same level of development, and thus presumably the same wages and costs of living? What does this mean for the future?

### **Assignments: Two Dollars per Day**

An estimated three billion of the world's population subsists on less than U.S. \$2 per day.

Research and write a four-to-five page descriptive essay (approximately 1200 words) describing in detail what your life on this income (\$700 per year) would be like. Make sure to include:

- What do you do for work? Describe your daily routine.
- What happens when you become sick or injured?
- What are your most pressing concerns?
- What are the hopes for the future for yourself and your family?

### **Thinking Geographically**

*9.1: In what ways would you expect the severe recession of the early twenty-first century to change some of the development indicators?*

The severe recession of the early twenty-first century will lower the Gross National Income of many countries. It may also lower the quality of schooling in many countries because budget cuts to schools have increased the pupil/ teacher ratio.

*9.2: Review the major economic, social, and demographic characteristics that contribute to a country's level of development. Which indicators can vary significantly by gender within countries at various levels of development? Why?*

In less developed countries the women are treated like second class citizens. All the economic, social, and demographic indicators for women will be lower in less developed countries compared to developed countries. Women in less developed countries do not attend school for very long because they typically get married before they turn 18 years old. They are expected to have lots of children and do all the household chores. Their husbands make all the major decisions. Women in less developed countries have very little freedom.

*9.3: The average American consumes approximately 500 gallons of gas a year in his or her car. Does your family use more or less than the average? To answer this, you need to know how many miles your or your family's vehicles are driven, and the vehicles fuel efficiency (average miles per gallon). The fuel efficiency can be found by Googling "fuel efficiency" plus the vehicles model and year.*

I consume less than 500 gallons of gas a year. I have a very fuel efficient car and work close to home. I do not travel during summer because I always teach summer school. I also do not travel during the winter because I have relatives that stay with me during that time of the year. I just don't drive much.

*9.4: Some developing countries claim that the requirements placed on them by lending organizations such as World Bank impede rather than promote development. Should developing countries be given a greater role in deciding how much the international organizations should spend and how such funds should be spent? Why or why not?*

I would like to say the developing countries should be given a greater role in deciding how the World Bank spends money in their country, but I honestly don't feel that way. Unfortunately, many developing countries have a lot of problems with corruption in government. A lot of money simply gets stolen. The leaders will often times misappropriate the funds given to them. Many of these less developed countries are not democracies and the leaders make decisions based upon what is best for them, not the country as a whole. It's really sad.

### **Pause and Reflect Questions**

*9.1.1: The IHDI is 0.77 in the United States and 0.83 in Canada. Which country has greater inequality?*

The United States has greater inequality than Canada. A lower score indicates higher inequality.

*9.1.2: In addition to cell phones, what other electronic devices might diffuse rapidly to developing countries because of low cost equipment and lack of need for expensive infrastructure?*

Personal computers are becoming more common in LDCs. Most computers can get the Internet wirelessly. Internet users no longer need to be connected to a cable or telephone line. Less infrastructure needs to be available to be connected to the Internet. Computers are also becoming more affordable.

*9.1.3: The HDI measures the quality of schools in a country as a whole. What are ways in which differences among schools or colleges within a country might be measured?*

Accreditation committees and the percentage of students who earn a degree are the ways we measure the quality of community colleges in the United States.

*9.2.1: Can you name a major political leader in your community or in another country who is a woman?*

Barbra Boxer is the senator in California.

*9.2.2: The GII is 0.299 in the United States and 0.140 in Canada. Which country has greater gender inequality?*

The United States does. The higher number indicates higher gender inequality.

*9.3.1: Which energy source increased most rapidly in the United States during the twentieth century?*

Petroleum use increased very rapidly in the twentieth century.

*9.3.2: Which country produces at least 20 quad BTUs of all three fossil fuels?*

The United States.

*9.3.3: No country ranks among the leaders in proven reserves in all three fossil fuels. Which two countries possess at least 10 percent of the proven reserves of two of the three fossil fuels?*

Russia and Iran have at least 10 percent of the proven reserves of two of the three fossil fuels.

*9.3.4: What country exports the most petroleum to the United States?*

Canada exports the most petroleum to the United States.

*9.3.5: Iran has claimed that it is interested in nuclear power for peaceful uses. Review the maps and charts of fossil fuel production and proven reserves on the previous two spreads. Does Iran appear to have other resources for generating electricity?*

Iran has a large amount of natural gas and petroleum. They can both be used to generate electricity.

*9.3.6: Chicago is nicknamed “the Windy City.” Based on Figure 9-47, does the Chicago area appear to be a good location for wind power?*

Chicago is unsuitable for wind energy production.

*9.3.7: Why are people warned not leave a dog or child unattended in a parked car during the summer?*

Between 1998 and 2008, 445 children died in the United States by being left in a hot car. They suffered heat stroke because the intense heat inside the car could not escape out of the closed windows.

*9.4.1: Many countries that have adopted the international trade model are relatively small states. Why might a nation’s size be a factor in the early adoption of the international trade path?*

Many small countries lack certain natural resources that they need or want. They will try to trade with other countries to acquire these resources.

*9.4.2: Top WTO officials meet every two years in a so-called ministerial conference. Where was the most recent conference held? Google “WTO ministerial conference” to find out and to see if there were protests at the conference.*

The last WTO ministerial conference was held in Geneva, Switzerland, in 2011 and there was a small protest that took place outside of the conference.

*9.4.3: Fortune magazine names the 500 largest transnational corporations every year. What is the world’s largest transnational corporation?*

Royal Dutch Shell is the largest corporation in the world. Royal Dutch Shell is a petroleum extracting corporation and supplies gasoline to Shell gas stations.

9.4.4: *In 1637, the world's first recorded bubble occurred in the Netherlands when tulip bulbs rapidly increased greatly in price and just as suddenly decreased. Apart from the rise and fall in prices, what does the recent housing bubble have in common with the Dutch tulip craze?*

Prices for homes in parts of the United States increased dramatically between 2003 and 2008. The housing bubble eventually burst in 2008 and many homes were suddenly worth half of what they were worth in 2007.

9.4.5: *Based on the table above, which Millennium Development Goal appears to be making the most limited progress?*

We are not ensuring environmental sustainability in the world. Most of this is due to overpopulation. There is a “tragedy of the commons” situation taking place in the world today. There are huge demands on resources and a dwindling supply of those resources.

9.4.6: *Do you have any fair trade products?*

My wife buys Starbucks coffee and I know that Starbucks prides itself on carrying fair trade products.

## Google Earth Questions

GOOGLE EARTH 9.1: *Vehicle ownership rates are extremely low in Kenya, yet if you zoom into the center of Nairobi, what is the volume of traffic on the roads?*

Extremely high.

GOOGLE EARTH 9.2: *Women comprise nearly one-half of Sweden's Parliament. Fly to Parliament of Sweden, Stockholm. What is the distinctive physical site on which the Parliament is located?*

An island.

GOOGLE EARTH 9.3: *If you fly to 1301 W 120 St, Chicago, what type of energy is being supplied by the large rectangular feature?*

Solar.

GOOGLE EARTH 9.4: *A portion of the Trans-African Highway can be seen in the center of Voi, Kenya, running east-west in a curving arc immediately south of the center. Drag to street view, exit street view, and rotate so that north is to the right. For approximately what distance is the highway divided?*

1 kilometer.

## **Resources**

### **United Nations Development Program**

Online at [www.undp.org/](http://www.undp.org/), the UN Development Program's site contains reams of information about development, including the annually themed Human Development Report.

### **Transparency International**

Some critiques of development charge that corruption in government plays a role in hindering development. Students can explore this through the reporting of Transparency International ([www.transparency.org](http://www.transparency.org)), a corruption monitoring and reporting organization operating around the world.

### **Life and Debt**

The 2001 film by Stephanie Black presents the case against the IMF's structural adjustment policies in Jamaica. The theme of the film echoes the introductory paragraphs of the chapter, contrasting the tourist experience with the lives of everyday Jamaicans in poverty.

Extremely popular with students, it features interviews with then deputy director of the IMF and the former prime minister of Jamaica. The film serves as an excellent bridge to Chapter 10 because it raises the issue of farm subsidies in the developed world.

### **Bhutan: The Last Place**

There is a 2002 Frontline World documentary on the arrival of satellite TV to Bhutan, a mountain kingdom which did not have a television until 1999.

Orville Schell comments of the Bhutanese conception of "gross national happiness" and the effects of TV in his essay at [www.pbs.org/frontlineworld/stories/bhutan/gnh/html](http://www.pbs.org/frontlineworld/stories/bhutan/gnh/html).

### **United States Agency for International Development (USAID)**

This is a clearinghouse of information on U.S. international development, including current projects, reports, and the agency's policy priorities and standards. It is online at [www.usaid.gov/](http://www.usaid.gov/).

## **Connections between Chapters**

### **Back to Chapter 2**

Instead of relying on the tenuous connection to Chapter 8, refer to Chapter 2. While many will have forgotten by now, ask what connection there is between countries in stage 2 of the demographic transition and their level of development . . . some lights should go on!

**Forward to Chapter 10**

A natural transition to Chapter 10 is suggested by the discussion in Key Issue 1 of measuring the division of labor by economic sector. This idea that the percentage of a country's labor force in each sector of the economy can serve as an indicator of development, prepares students to learn about each sector. The tremendous difference between the least developed countries and developed countries in agriculture is particularly relevant.