

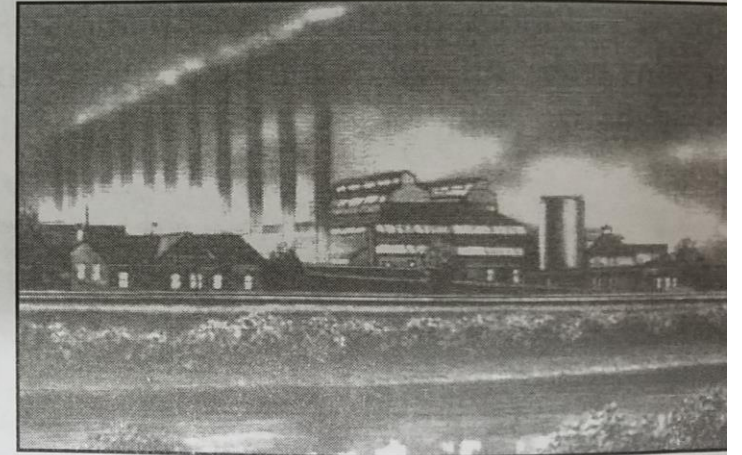
Resources

Types and the effect of change

Natural Resources

NATURAL RESOURCES

Natural resources are the materials from nature — the minerals, plant fibers, animal products, and energy — that go into making a good. They also include the rivers, lakes and oceans that often make it possible to bring these materials together. Manufacturing is often located close to these natural resources. For example, large amounts of coal are needed to make steel. In the United States, western Pennsylvania has valuable coal deposits. For this reason, Pittsburgh became the center of the U.S. steel industry. Similarly, Saudi Arabia has large oil reserves. For that reason, oil companies have invested in drilling and recovering crude oil in Saudi Arabia.

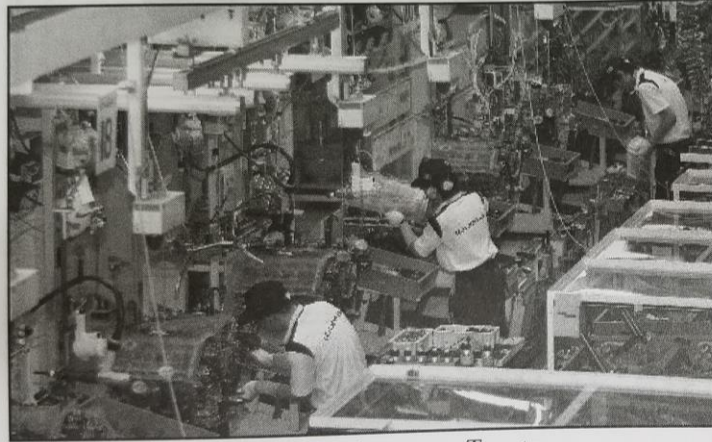


A steel mill in Pittsburgh, Pennsylvania.

Renewable	Non-renewable
Water	Oil
Solar	Coal
Air	Metals
Soil	Minerals

Human Resources

HUMAN RESOURCES



Japanese workers on a Toyota production line.

Natural resources are one ingredient in producing a good. **Human resources** and entrepreneurship are just as important. Where they are located also affects the location of economic activities. For example, Japan lacks many natural resources, but its population is highly educated and provides a large supply of skilled labor. Because of its advanced technology and skilled workers, it has become a center of manufacturing. Electronics manufacturers, like Sony, and automobile manufacturers, like Toyota and Honda, are located in Japan.



Population



Human Resources

Climate

CLIMATE

Climate is another important factor affecting the location of economic activities. It greatly influences the types of crops that can be grown in a place and therefore is especially important in the location of agricultural activities. For example, many Caribbean islands experience warm temperatures with plentiful rainfall. In the 1700s, these islands became centers for growing sugar cane. In those days, most sugar cane was grown by enslaved workers from Africa. Because it was expensive

to ship raw sugar cane, which is heavy and bulky, plantation owners built refineries on these islands to process the sugar cane and turn it into sugar. Another example is Southeast Asia. Because of its warm, tropical climate, it became a center for growing and processing rubber.



Harvesting sugar cane in Cuba.

Infrastructure

INFRASTRUCTURE

Infrastructure also plays an important role in the location of economic activities. **Infrastructure** is a type of capital resource. It is the investment that a society makes by building roads, laying railroad tracks, constructing electric power plants, and setting up telephone and Internet lines. Infrastructure also includes the investment a society makes in providing a system of law-and-order, money and banking, hospitals and healthcare, and other essential services. Infrastructure is simply the foundation upon which businesses operate.

Infrastructure is an essential ingredient for economic growth. The available infrastructure makes it possible for different productive resources to come together. It also makes it possible for producers to bring their finished goods to consumers. It reduces a company's costs of production, provides access to modern technology, and reduces workers' time spent on non-productive activities. The existence of infrastructure is a critical factor in the location of farms, manufacturing plants, offices, and other economic activities. For example, if a location lacks electric power, telephone communications, railroad tracks, or paved roads, it cannot become a center of manufacturing.



Electricity is a vital part of the infrastructure that many economic activities require.

Changes in Resources

THE EFFECT OF CHANGES IN GEOGRAPHY

Because geography influences the location of economic activities, changes in physical or human geography often lead to changes in the location of these activities.

CHANGES IN CLIMATE

Changes in climate, such as global warming, can affect the location of economic activities. For example, the Sahel region in Africa separates the Sahara Desert from the Savannah region. Traditionally, peoples in the Sahel engaged in herding cattle. However, because of climate change, there is less water and grass in the Sahel region for cattle, and people are migrating farther south. Recent changes in climate may also mean that farming activities in the Northern Hemisphere will move northward. The United Nations estimates that for every degree of global warming, farming should move 200 to 300 kilometers northward.

CHANGES IN RESOURCES

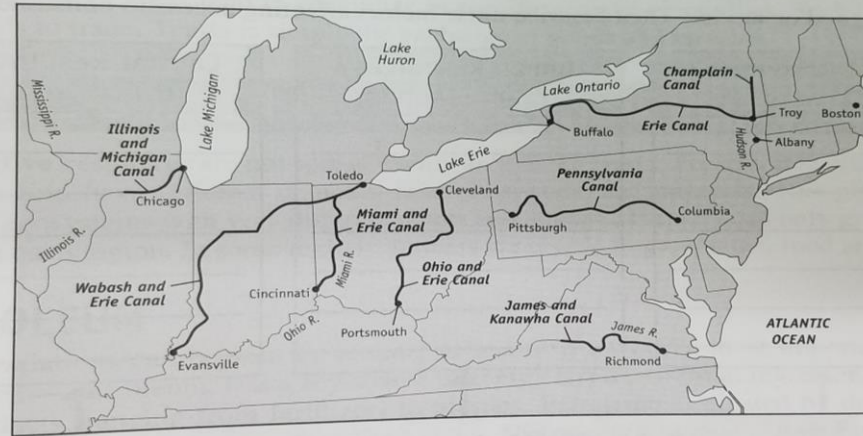
Often the discovery of resources, such as precious minerals, leads to a flourishing of economic activity. During the California gold rush, mining towns blossomed in the Sierra Nevada Mountains almost overnight. After the gold ran out, these towns were suddenly deserted and their activities were abandoned.

CHANGES IN INFRASTRUCTURE

Changes in infrastructure also affect the location of economic activities. The construction of new canals, railroad lines, or paved roadways make it possible for producers to obtain resources less expensively or to reach new markets. This can attract new activities.

Changes in Resources (cont'd)

For example, the completion of the Erie Canal in 1825 made it possible for farmers in the Midwest to ship their goods to the Great Lakes, across the Erie Canal, and down the Hudson River to New York City and the Atlantic Ocean. Now that farmers had access to population centers in the Northeast, they could grow wheat and other crops for sale to Eastern consumers.



Similarly, the completion of railroad lines after the Civil War linked the Western United States to the East. It became possible for ranchers in Texas to drive their cattle across the open range to railroad lines in Kansas. Railroad cars then carried the cattle to stockyards and slaughterhouses in Chicago. From there, beef could be shipped by railroad to consumers in the East.

Give an example of loss of infrastructure and how it might affect the economy.