Chapter 10
Agriculture
Key Issues

1. Where did agriculture originate?
2. Where are agricultural regions in less developed countries?
3. Where are agricultural regions in more developed countries?
4. Why do farmers face economic difficulties?
Origins of Agriculture

- Determining the origin of agriculture first requires a definition of what it is—and agriculture is not easily defined.
- We will use this definition: Agriculture is deliberate modification of Earth’s surface through cultivation of plants and rearing of animals to obtain sustenance or economic gain.
Hunters and Gatherers

- Before the invention of agriculture, all humans probably obtained the food they needed for survival through hunting for animals, fishing, or gathering.
- Hunters and gatherers lived in small groups.
- The men hunted game or fished, and the women collected berries, nuts, and roots.
- This division of labor sounds like a stereotype but is based on evidence from archaeology and anthropology.
- The group traveled frequently, establishing new home bases or camps.
- The direction and frequency of migration depended on the movement of game and the seasonal growth of plants at various locations.
Contemporary Hunting and Gathering

- Today perhaps a quarter-million people, or less than 0.005 percent of the world’s population, still survive by hunting and gathering.

- Contemporary hunting and gathering societies are isolated groups living on the periphery of world settlement, but they provide insight into human customs that prevailed in prehistoric times, before the invention of agriculture.
Two Types of Cultivation

- Over thousands of years, plant cultivation apparently evolved from a combination of accident and deliberate experiment.
- The earliest form of plant cultivation, according to Carl Sauer, was vegetative planting, direct cloning from existing plants, such as cutting stems and dividing roots.
- Coming later, according to Sauer, was seed agriculture. Seed agriculture is practiced by most farmers today.
Fig. 10-1: There were several main hearths, or centers of origin, for vegetative crops (roots and tubers, etc.), from which the crops diffused to other areas.
Sauer believes that vegetative planting probably originated in Southeast Asia. The region’s diversity of climate and topography... encouraged... plants suitable for dividing.

Also, the people obtained food primarily by fishing rather than by hunting and gathering, so they may have been more sedentary and therefore able to devote more attention to growing plants.

The first plants domesticated in Southeast Asia... probably included roots such as the taro and yam, and tree crops such as the banana and palm.

The dog, pig, and chicken probably were domesticated first in Southeast Asia.

Other early hearths of vegetative planting also may have emerged independently in West Africa and northwestern South America.
Seed agriculture also originated in several hearths and diffused from those elsewhere.
Differences between Subsistence and Commercial Agriculture

- The most fundamental differences in agricultural practices are between those in less developed countries and those in more developed countries.

- Subsistence agriculture... is the production of food primarily for consumption by the farmer’s family.

- Commercial agriculture. .. is the production of food primarily for sale off the farm.

- Five principal features distinguish commercial. . . from subsistence agriculture:
  - purpose of farming;
  - percentage of farmers in the labor force;
  - use of machinery;
  - arm size;
  - (and) relationship of farming to other businesses.
A large proportion of workers in most LDCs are in agriculture, while only a small percentage of workers in MDCs are engaged in agriculture.
Tractors, per Population

Tractors per 1,000 people. Use of machinery is extensive in most MDC agriculture, but it is much less common in LDCs.
Farm Size

- The average farm size is relatively large in commercial agriculture, especially in the United States and Canada.
- Commercial agriculture is increasingly dominated by a handful of large farms.
- In the United States the largest 4 percent of farms... account for more than one half of the country’s total output.
- One half of U.S. farms generate less than $10,000 a year in sales.
- Large size is partly a consequence of mechanization.
- As a result of the large size and the high level of mechanization, commercial agriculture is an expensive business.
Relationship of Farming to Other Businesses

- Commercial farming is closely tied to other businesses.
- Commercial farming has been called agribusiness, integrated into a large food production industry.
- Although farmers are less than 2 percent of the U.S. labor force, more than 20 percent of U.S. labor works in food production related to agribusiness: food processing, packaging, storing, distributing, and retailing.
Mapping Agricultural Regions

- Several attempts have been made to outline the major types of subsistence and commercial agriculture currently practiced in the world, but few of these classifications include maps that show regional distributions.

- The most widely used map of world agricultural regions was prepared by geographer Derwent Whittlesey in 1936.

- Whittlesey identified 11 main agricultural regions, plus an area where agriculture was nonexistent.

- Whittlesey sorted out agricultural practices primarily by climate.

- Agriculture varies between the drylands and the tropics within LDCs—as well as between the drylands of less developed and more developed countries.

- Because of the problems with environmental determinism discussed in Chapter 1, geographers are wary of placing too much emphasis on the role of climate.

- Cultural preferences, discussed in Chapter 4, explain some agricultural differences in areas of similar climate.
Whittlesey’s Agricultural Regions