

APHG CHAPTER 11

AGRICULTURE

**KEY QUESTION #1:
WHAT IS
AGRICULTURE,
AND WHERE DID
AGRICULTURE
BEGIN?
(10 slides)**

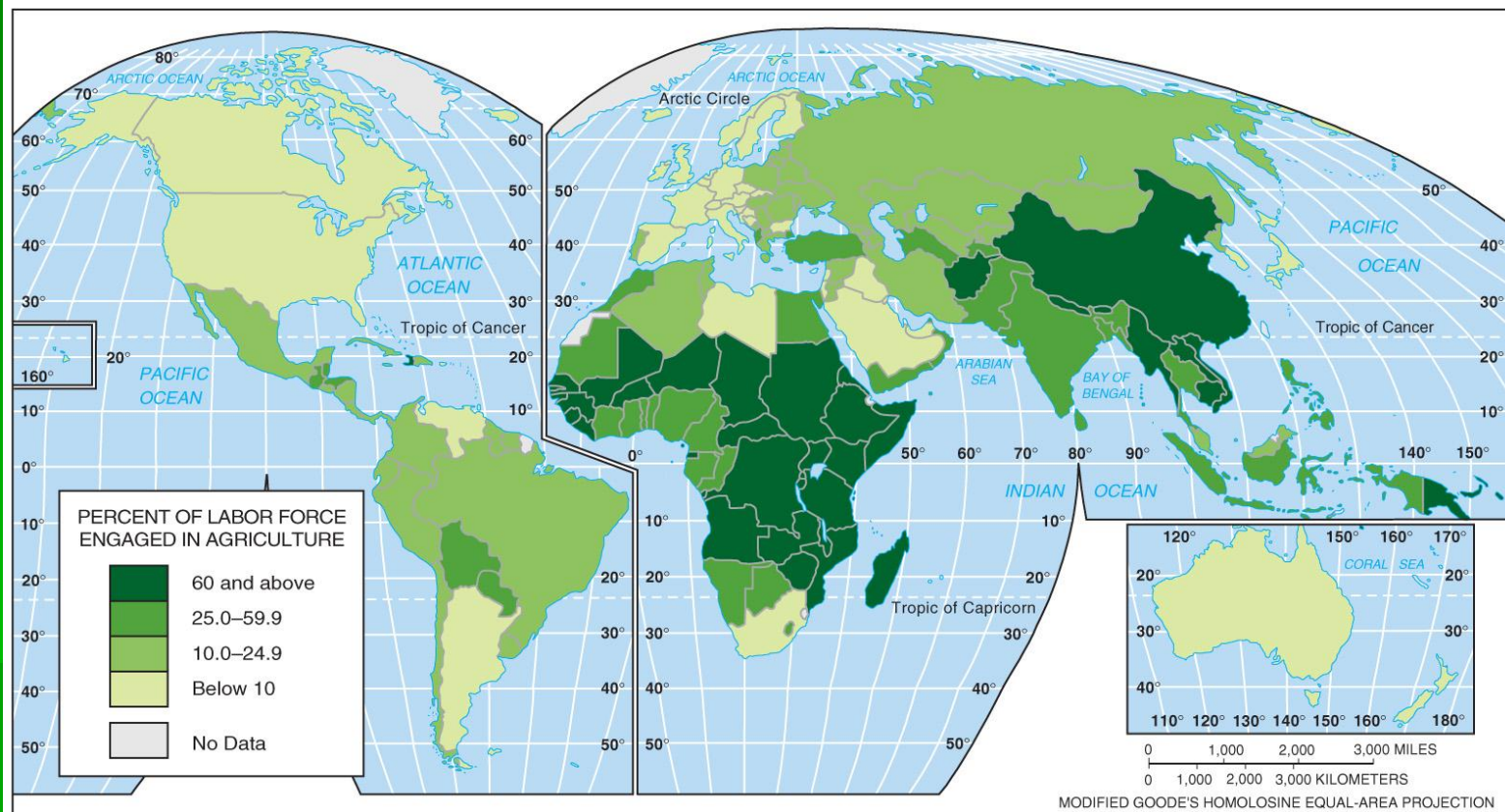
KQ #1: What is agriculture, and where did agriculture begin?

- Definition
 - Deliberate tending of crops and livestock to produce food, feed and fiber
 - ½ of the staple grains grown in the U.S. are eaten by people; the other ½ is used for feed
 - Raising livestock for their milk, eggs or meat makes up a large segment of U.S. agriculture
 - Can be intensive (high labor/small land) or extensive (low labor/lots of land)
- Classification of economic activities focuses on what is being produced and what activity is taking place

KQ #1: What is agriculture, and where did agriculture begin?

- Five categories
 - PRIMARY: agriculture, ranching, hunting/gathering, fishing, forestry, mining
 - SECONDARY: take a primary product and manufacture it
 - TERTIARY: service industry jobs
 - QUATERNARY: job involving information transmission or the exchange of money/goods
 - QUINARY: research type jobs
 - Everything begins with primary activities
 - There are no countries with developed secondary, tertiary, quaternary & quinary jobs that didn't, at some point, have success in the primary sector

Labor Force in Agriculture, 2005



Copyright © 2008 Pearson Prentice Hall, Inc.

Fig. 10-3: A large proportion of workers in most LDCs are in agriculture, while only a small percentage of workers in MDCs are engaged in agriculture.

KQ #1: What is agriculture, and where did agriculture begin?

- In LDCs, high amounts of labor are involved with agriculture
 - Usually includes a lack of mechanization
- In MDCs, very few people are involved in proportion to the rest of the work force
 - 2% of Americans are involved in agricultural production
 - However, thousands work in fields of science, for seed companies, chemical producers, engineers that build machinery, as retailers that sell agricultural goods or politicians that try and protect the interests of farmers & ranchers
 - In 1950, 1 farmer in the U.S. could feed 27 people
 - Today, 1 U.S. farmer feeds 135 people
 - How? Mechanization & technological advancements

KQ #1: What is agriculture, and where did agriculture begin?

- How people lived before the origins of agriculture, as well as the origins of agriculture are important in terms of understanding how things have changed
- Before agriculture, hunting & gathering as well as fishing dominated
 - What they hunted & gathered was dependent on the region
- Hunter-gatherers perfected tools, fire control & adaptation to their environments
 - These advancements led to increased food supplies; but it wasn't always reliable, and people still had to be migratory

KQ #1: What is agriculture, and where did agriculture begin?

- Geographers believe that plant domestication began in Asia & South America over 14,000 years ago
 - Led to the planned cultivation of root crops
- Geographers believe that seed crop cultivation began around 12,000 years ago in the Nile River Valley and Mesopotamia regions
 - Was much more complex than root crops (had to have more elaborate watering, sowing & harvesting)
 - This marked the beginning of the “First Agricultural Revolution”

KQ #1: What is agriculture, and where did agriculture begin?

- Impact of First Agricultural Revolution led to a more reliable food source & permanent settlements
 - Led to the first time period of population growth
- P. 356 shows where most of the world's major crops were first domesticated
 - All of these agricultural hearths eventually experienced diffusion to other areas
 - Many crops that we associate with certain parts of the world didn't actually originate there

KQ #1: What is agriculture, and where did agriculture begin?

- Most experts think that animal domestication happened after plant & seed domestication
 - Experts guess animals were first domesticated around 8,000 years ago
- Animals were first domesticated for pet purposes
- Its believed animals were drawn to human settlements as scavengers (looking for food) and even for protection against predators
- Read p. 357 to see where specific animals were domesticated first

KQ #1: What is agriculture, and where did agriculture begin?

- Today, there are still hunters & gatherers
 - Most are indigenous peoples
- Today, there are hundreds of millions of “subsistent” farmers
 - Subsistence farmers involves growing only enough food to survive
 - In certain times, these farmers might have a surplus, and will sell them...but that’s not the intent
- Subsistent farming regions are much more communal---food is commonly shared

KQ #1: What is agriculture, and where did agriculture begin?

- Two methods common to subsistent farmers are...
 - Shifting Cultivation: move from place to place farming land until its not useable any more; then they move again
 - Slash-and-burn Agriculture: trees are cut down, vegetation is burned off; the layer of ash makes the soil much more fertile
- Today, subsistent land use is dying
 - Shift is towards intensive large-scale farming & cash cropping...with mechanization

**KEY QUESTION #2:
HOW DID
AGRICULTURE
CHANGE WITH
INDUSTRIALIZATION?
(9 slides)**

KQ #2: How did agriculture change with industrialization?

- Second Agricultural Revolution
 - Involved improved methods of cultivation and harvesting
 - Occurred at the same time as the Industrial Revolution
- Europe was the hearth of the change
 - Farmers increased the size of their farms
 - Used crop rotation
 - Used modernized forms of soil preparation, fertilization, crop care & harvesting
 - New technology was the foundation for these changes
 - All of these changes led to one result: higher output

KQ #2: How did agriculture change with industrialization?

- Diffusion of the railroad led to agricultural growth
 - Led to increased trade & movement of grains/crops
- Eventually, tractors & combines were used
 - Banks gave loans to farmers to buy the new equipment
- By the late 1800s and early 1900s, these practices had taken root in America (especially the Great Plains region)

KQ #2: How did agriculture change with industrialization?

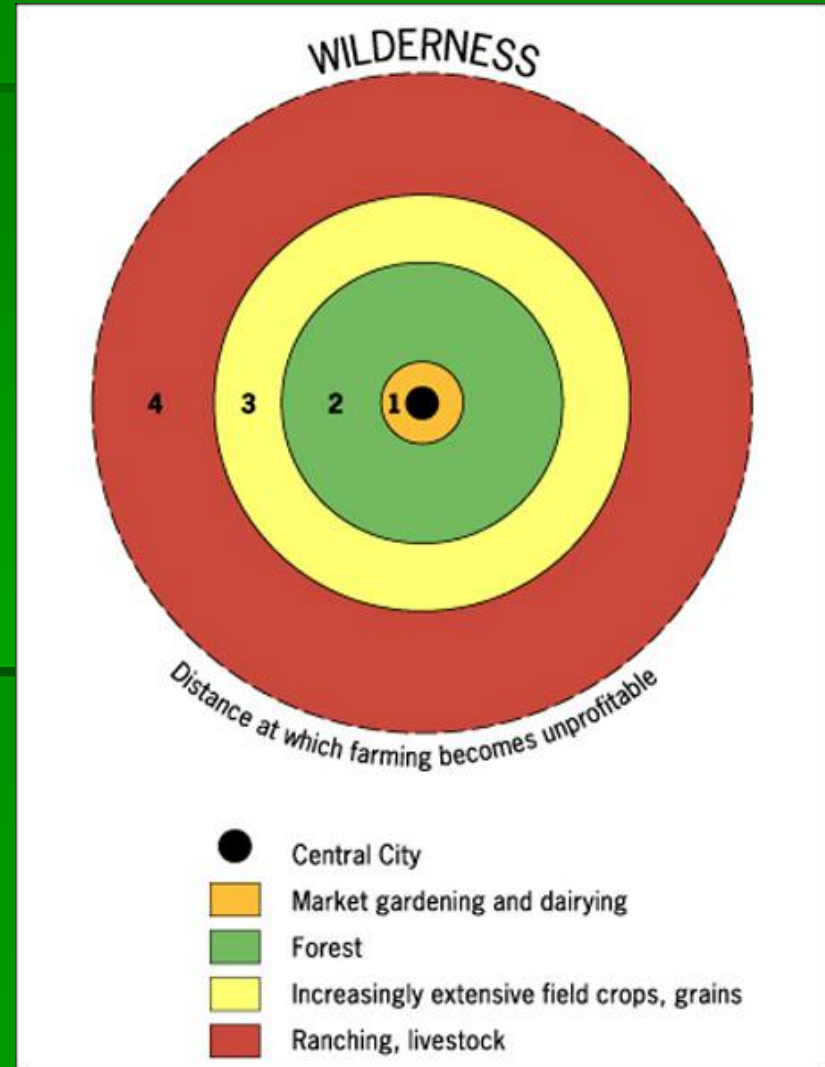
- Two key elements of agriculture
 - Cost of transportation
 - Perishability of products
- The two go hand in hand
 - Perishable goods need to get to the market fast
 - Non-perishable goods don't
 - Therefore, the closer perishable crops are to the consumer the better
- German farmer names Johann Heinrich von Thunen experienced this as a 19th century farmer

KQ #2: How did agriculture change with industrialization?

- The Von Thunen Model tries to explain this
 - Center ring: city
 - Just outside the center: market gardening & dairy farming
 - Outside that zone: forest(usually non-cropped)
 - Outside that zone: Field crops, grains
 - Outside that zone: Livestock & ranching activities took place
- The model looks like a bulls-eye (draw it on the page you are instructed)

Von Thunen Model

- Von Thunen Model
 - What farmers produce varies by distance from the town, with livestock raising farthest from town.
 - Cost of transportation governs use of land.
 - First effort to analyze the spatial character of economic activity.



KQ #2: How did agriculture change with industrialization?

- Things the Von Thunen model doesn't consider:
 - Climate
 - Soil quality
 - Preferences of the consumer
 - Costs of production
 - Sometimes its cheaper to grow something a long ways away and ship it here than it would be to grow it close
- However, his model does show the connection between perishability and transportation cost

KQ #2: How did agriculture change with industrialization?

- A concept related to the Von Thunen model is called “land-rent curve” or “bid-rent curve”
 - The further away one gets from the center of town, the less the cost or rent one will pay for land
 - Also creates the scenario where the people paying higher rent closer to town (fruit growers, gardeners, etc) will have to charge more for their goods by volume than people paying less rent

KQ #2: How did agriculture change with industrialization?

- Third Agricultural Revolution or the “Green Revolution”
 - Dates back to the 1930s
 - Basic definition: agriculture meets science
 - Involves genetically manipulated seeds and crops (Genetically Modified Organisms or GMOs)
 - Done usually to increase quality and/or quantity
 - Sometimes done to allow food to be grown in a new area where it wasn't grown before
- Read page 363 for examples; read italicized part of 363 for a criticism of the Green Revolution

KQ #2: How did agriculture change with industrialization?

- Many feel the Green Revolution has hurt subsistent farmers that may try and sell their surplus
- The U.S. is the world leader in this movement
 - 38% of our corn & 80% of our soybeans are sown with genetically engineered seeds
- Some countries don't have access to the technology while some countries have resisted (even banned) genetically engineered food

KQ #2: How did agriculture change with industrialization?

- Another interesting fact about modern agriculture is the role of women
 - In Sub-Saharan Africa, women perform 85% of the labor work in agriculture
 - 75% in China
 - 70% in India

**KEY QUESTION #3:
WHAT IMPRINT DOES
AGRICULTURE MAKE
ON THE CULTURAL
LANDSCAPE?
(5 slides)**

KQ #3: What imprint does agriculture make on the cultural landscape?

- If you fly, you can see the impact that agriculture has on the cultural landscape
 - Big green circles where center-pivot irrigation systems take place
 - Checkerboard patterns that show land ownership/property lines
- Land is usually bought or sold in 1 square mile sections
 - Sometimes bought and sold in whole, half or quarter sections
 - Look at picture on 365