Key Issue 1: Where Did Agriculture Originate?

Pages 346-351

1. Define agriculture:
   deliberate modification of Earth's surface... to obtain sustenance or economic gain

2. What factors contributed to the first agricultural revolution?
   Environmental - end of last ice age
   Cultural - preference for living in a fixed place

3. Using Figures 10-3 and 10-4, indicate the crop hearths and animal hearths on the map below.

4. Define subsistence agriculture:
   developing countries - food for family consumption

5. Define commercial agriculture:
   developed countries - food for sale off the farm
6. Read pgs. 350-351 and complete the chart below with important information. The text will generally explain commercial agriculture, and you will need to deduce the situation of subsistence agriculture on your own.

<table>
<thead>
<tr>
<th></th>
<th>Subsistence Agriculture (Mostly in LDCs)</th>
<th>Commercial Agriculture (Mostly in MDCs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Farmers in Labor Force</td>
<td>44%</td>
<td>5%</td>
</tr>
<tr>
<td>Use of Machinery</td>
<td>hand tools &amp; animal power</td>
<td>small # of farmers needed mostly machines</td>
</tr>
<tr>
<td>Farm Size</td>
<td>Small 2.5 acres</td>
<td>large 418 acres</td>
</tr>
</tbody>
</table>

Key Issue 2: Why Do People Consume Different Foods?

Pages 352-355

1. In what three ways does consumption of food vary around the world?
   - development, climate, culture

2. Define food security:
   - physical, social, & economic access at all times to safe & nutritious food

3. How much of the world does not have food security?
   - 1/8

4. Define undernourishment:
   - dietary energy consumption below minimum requirement for healthy life

5. How much of the world suffers from undernourishment? Where are those places?
   - 870 million
   - 99% are in developing countries
     - India, China, Sub-Saharan Africa
Key Issue 3: Where Is Agriculture Distributed?

Pages 356-373

1. Describe territoriality among pastoral nomads. 
   depends on wealth & power 
every group controls a territory 
& will invade another only in emergency 
2. What is transhumance?
   seasonal migration of livestock between mountains & lowland pastures 
3. In what way do modern governments currently threaten pastoral nomadism?
   efforts to resettle them b/c they want their land 
4. In what climate does shifting cultivation predominate?
   tropical 
5. Identify the two distinctive features of shifting cultivation.
   1. slash & burn 
   2. grow for only a few years on one plot 
6. What is a swidden?
   the cleared area 
7. How long are swiddens used?
   3 years or less 
8. Case Study: A Kayapo swidden field in Brazil's Amazon region. Take notes from the description given in the text on pages 360-361.
   - plant in concentric rings 
   - rotate rings by year 
   - outer ring contains crops that need more nutrients 
9. How is land owned in a typical village that practices shifting cultivation?
   land is owned by the village as a whole 
10. What percentage of the world's land area is devoted to shifting cultivation?
   1/4
11. What percentage of the world’s people work it?

less than $5\%$

12. Describe the **PROS** and **CONS** of shifting cultivation, or the arguments made for it and criticisms leveled against it in the space below.

<table>
<thead>
<tr>
<th>Pros (Arguments against replacing shifting cultivation)</th>
<th>Cons (How is shifting cultivation being replaced?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- most environmentally sound approach in tropics</td>
<td>- inefficient</td>
</tr>
<tr>
<td>- helps prevent global warming</td>
<td>- small pop only</td>
</tr>
<tr>
<td>- protects local traditions</td>
<td>- replaced by more sophisticated techniques</td>
</tr>
</tbody>
</table>

13. What is meant by “intensive”?

**Farmers must work intensively to subsist on a parcel of land.**

14. Where is **intensive subsistence agriculture** practiced? Why there?

- South, East, Southeast Asia
- densely populated

15. What is **double-cropping**?

- 2 harvests per year on one field

16. Where is double-cropping possible? Where is it not?

- China
- Taiwan (warm winters)
- India (dry winters)

17. In areas of intensive subsistence agriculture where wet rice is not dominant, what is the major crop?

- wheat, followed by barley

18. How are multiple harvests made possible in these less mild regions? Explain.

**Crop rotation** - rotating use of different fields from crop to crop each year to avoid exhausting the soil
19. Make some important notes about intensive subsistence farming in communist China.

<table>
<thead>
<tr>
<th>Agriculture in Communist China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture following the communist revolution, communes.</td>
</tr>
<tr>
<td>- government organized ag. communes</td>
</tr>
<tr>
<td>- combined several small fields</td>
</tr>
</tbody>
</table>

Mixed Crop & Livestock - p. 366

20. Describe the irony between the amount of land devoted to crops vs. animals and the income generated by each in this region.

\[ \frac{3}{4} \text{ of land} \rightarrow 1 \text{ all} \text{ of income} \]

21. In what different ways is corn used?

- animal feed, oil, margarine

22. Where is the U.S. Corn Belt, and what crops are grown there?

Ohio to Dakotas, center in Iowa.

Corn & soybeans

23. What three conditions make the southeast U.S. an ideal location for this commercial gardening and fruit farming?

- long growing season
- humid climate
- accessible to markets of NYC, Philly, D.C.

24. What is a milkshed?

Ring around city from which milk can be supplied without spoiling
25. Why do some regions specialize in “milk products” like cheese and butter rather than fluid milk? Identify some of these important regions.

keep fresh longer
New Zealand, Wisconsin!

26. What country is the world’s largest producer of dairy products?

New Zealand (per capita); India (milk)

27. What problems do dairy farmers currently face?

- labor intensive
- winter feed

28. What is the principal difference between grains grown in “commercial grain farming” regions and grains grown in “mixed crop and livestock” regions?

- grown for human consumption
- wheat mostly

29. Complete a bullet list that details the significance of wheat as a crop.

* bread flour
* can be sold for a higher price
* stored easily
* transported easily

30. Identify the three regions of large-scale grain production in North America.

1. Winter wheat belt of KS, CO, OK
2. Spring wheat belt of ND, SD, MT, Southern Saskatchewan
3. Palouse region of Washington State

31. Most crops in Mediterranean lands are grown for human consumption rather than for animal feed.

32. What is horticulture?

growing of fruits, vegetables, flowers
33. Why did cattle ranching expand in the U.S.?

1860's - demand for beef in east coast cities

34. Why did cattle ranching decline?

1880's - came into contact w/sedentary agr. "Code of the West"

35. Where does cattle ranching take place today?

U.S., Spain, Portugal, Argentina, Brazil, Uruguay, China

36. What were the three U.S. and world stages of ranching?

1. Herding - open range
2. Fixed farming - ranches
3. Part of meat-processing industry

Key Issue 4: Why Do Farmers Face Economic Difficulties?

Pages 374-387

1. What is the dilemma that is faced by LDCs as they seek to increase the amount of export crops to sell to MDCs?

lack $ to buy equipment & supplies

2. Summarize Africa's food-supply struggle.

- pop. is growing
- threat of famine
- overplowing & overgrazing
- poor gov. policies - price controls

3. How have efficient agricultural practices, fertilizers, and mechanical equipment created a problem for commercial farmers?

face low prices for their output (overproduction) → surpluses
4. According to the von Thunen model, what two factors does a farmer consider when deciding what to plant?
   - ( ) Cost of land
   - ( ) Cost of transporting to market

5. How does transportation cost influence profitability of growing wheat?
   - Closer to market = more profit
   - (less transportation cost)

6. List the largest regions and countries exporting agricultural products.
   - Latin America - Brazil & Argentina
   - North America, SE Asia, & South Pacific

7. What countries are the leading importers of food?
   - Japan, UK, China, Russia

8. What country exports the most grain? What kind and how much?
   - U.S. - 1/2 of world's corn

9. Identify and briefly describe **three** reasons why land is currently being removed from agricultural use.
   - (1) Lack of water
   - (2) Excessive water
   - (3) Urbanization

10. What countries are the leading fishing countries?
    - China, Chile, Indonesia, Peru
11. Have MDCs or LDCs consumed more fish?
   \[ \text{LDCs (less developed)} \sim \frac{5}{6} \text{ of consumption} \]

12. What are the two main practices of the Green Revolution?
   - new higher-yield seeds
   - increased use of fertilizers

13. Because of the Green Revolution, agricultural productivity at a global scale has
   \[ \text{increased faster than population growth} \]

14. Describe the characteristics of the "miracle wheat seed".
   - less sensitive to variation in day length
   - responded better to fertilizers
   - matured faster

15. Describe the characteristics of the "miracle rice seed".
   - harder
   - increased yields

16. What specific problems do farmers in LDCs have which might prevent them from taking full advantage of the Green Revolution?
   - no money for tractors, irrigation pumps, & other machinery, fuels

17. What three crops are often genetically modified?
   - soybeans, cotton, corn

18. Approximately how much of major crops in the US are genetically modified?
   \[ 94\% \text{ of soybeans}, \quad 90\% \text{ of cotton}, \quad 88\% \text{ of corn} \]

19. What are the principal practices that distinguish farmers practicing sustainable agriculture from those operating conventionally?
   - sensitive land mgmt.
   - limited use of chemicals
   - better integration of crops & livestock

20. In what ways are animals treated differently in sustainable agriculture?
   - number, confinement
   - weather conditions, flexible feeding
   - marketing