**Unit 5: Agriculture and Rural Land-Use Patterns and Processes**

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| Aquaculture  Bid-rent theory  Biotechnology  Carrying Capacity  Clustered  Columbian Exchange  Commercial Agriculture (monocropping or monoculture)  Commodity chains  Community-supported agriculture (CSA)  Deforestation  Desertification  Diffusion of Agriculture  Dispersed  Draining wetlands  Economies of Scale  Extensive farming practices  Fair trade  Fertile Crescent  Food Deserts  Food Insecurity  Genetically modified organisms (GMOs)  Global supply chains/food distribution  Green Revolution | Hearths of Domestication  Indus River Valley  Intensive farming practices  Irrigation  Linear  Local-food movements - Farm to Table  Long lot  Market Gardening  Mediterranean climate  Metes and bounds  Organic farming  Pastoral nomadism  Rural settlement patterns  Rural survey methods  Second Agricultural Revolution  Shifting cultivation  Slash and burn  Soil salinization  Subsistence Agriculture  Terraces  Township and range  Urban farming  Value-added specialty crops  Von Thünen model |

**I CAN - Unit 5 Agriculture and Rural Land-Use Patterns and Processes - Study Guide**

**5.1 Introduction to Agriculture**

* I can explain the connection between physical geography and agricultural practices
  + Agricultural practices are influenced by the physical environment and climatic conditions
    - Mediterranean climate and tropical climates
  + Intensive farming practices
    - market gardening, plantation agriculture, and mixed crop/livestock systems.
  + Extensive farming practices
    - shifting cultivation, nomadic herding, and ranching.

**5.2 Settlement Patterns and Survey Methods**

* I can identify different rural settlement patterns and methods of surveying rural settlements.
  + Specific agricultural practices shape different rural land-use patterns.
  + Rural settlement patterns
    - Clustered
    - Dispersed
    - linear
  + Rural survey methods
    - metes and bounds
    - Township and range
    - long lot

**5.3 Agriculture Origins and Diffusion**

* I can identify major centers of domestication of plants and animals.
  + Early hearths of domestication of plants and animals arose in the
    - Fertile Crescent
    - Indus River Valley
    - Southeast Asia
    - Central America
* I can explain how plants & animals diffused globally
  + Patterns of diffusion
    - Columbian Exchange
    - agricultural revolutions

**5.4 The Second Agricultural Revolution**

* I can explain the advances and impacts of the second agricultural revolution.
  + New technology
    - increased food production
    - better diets
    - longer life expectancies
    - more people available for work in factories.

**5.5 The Green Revolution**

* I can explain the consequences of the Green Revolution on food supply and the environment in the developing world.
  + The Green Revolution was characterized in agriculture by
  + high-yield seeds
  + increased use of chemicals
  + mechanized farming
* The Green Revolution had positive and negative consequences for both human populations and the environment

**5.6 Agricultural Production Regions**

* I can explain how economic forces influence agricultural practices
  + Agricultural production regions are defined by the extent to which they reflect subsistence or commercial practices monocropping/ monoculture
  + Intensive and extensive farming practices are determined in part by land costs
  + bid-rent theory

**5.7 Spatial Organization of Agriculture**

* I can explain how economic forces influence agricultural practices
  + Large-scale commercial agricultural operations are replacing small family farms.
  + Complex commodity chains link production and consumption of agricultural products.
  + Technology has increased economies of scale in the agricultural sector and the carrying capacity of the land.

**5.8 Von Thünen Model**

* I can describe how the von Thünen model is used to explain patterns of agricultural production at various scales.
  + Von Thünen’s model helps to explain rural land use by emphasizing the importance of transportation costs associated with distance from the market; however, regions of specialty farming do not always conform to von Thünen’s concentric rings.

**5.9 The Global System of Agriculture**

* I can explain the interdependence among regions of agricultural production and consumption.
  + Food and other agricultural products are part of a global supply chain.
  + Some countries have become highly dependent on one or more export commodities.
  + The main elements of global food distribution networks are affected by political relationships, infrastructure, and patterns of world trade.

**5.10 Consequences of Agricultural Practices**

* I can explain how agricultural practices have environmental and societal consequences and alter the landscape
  + Environmental effects of agricultural land use
    - Pollution
    - land cover change
    - desertification
    - soil salinization
    - and conservation efforts
  + Agricultural practices
    - slash and burn
    - terraces
    - irrigation
    - deforestation
    - draining wetlands
    - shifting cultivation
    - pastoral nomadism
* Societal effects of agricultural practices
  + - changing diets
    - role of women in agricultural production
    - and economic purpose

**5.11 Challenges of Contemporary Agriculture**

* I can explain challenges and debates related to the changing nature of contemporary agriculture and food-production practices.
  + Agricultural innovations
    - biotechnology
    - genetically modified organisms
    - aquaculture
  + have been accompanied by debates over
    - sustainability
    - soil and water usage
    - reductions in biodiversity
    - extensive fertilizer & pesticide use
* Patterns of food production & consumption are influenced by movements relating to individual food choice
  + urban farming
  + community-supported agriculture (CSA)
  + organic farming
  + value-added specialty crops
  + fair trade,
  + local-food movements
  + dietary shifts
* Challenges of feeding a global population
  + lack of food access
  + food insecurity
  + food deserts
* problems with distribution systems
  + adverse weather
  + land use lost to suburbanization
* These locations all have economic effects on food-production practices
  + food-processing facilities and markets
  + economies of scale
  + distribution systems
  + government policies

**5. 12 Women in Agriculture**

* I can explain geographic variations in female roles in food production and consumption.

The role of females in food production, distribution, and consumption varies in many places depending