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

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| AquacultureBid-rent theory BiotechnologyCarrying CapacityClusteredColumbian ExchangeCommercial Agriculture (monocropping or monoculture)Commodity chainsCommunity-supported agriculture (CSA)DeforestationDesertificationDiffusion of Agriculture DispersedDraining wetlandsEconomies of ScaleExtensive farming practicesFair tradeFertile CrescentFood Deserts Food Insecurity Genetically modified organisms (GMOs)Global supply chains/food distributionGreen Revolution | Hearths of DomesticationIndus River ValleyIntensive farming practicesIrrigationLinear Local-food movements - Farm to TableLong lot Market GardeningMediterranean climateMetes and boundsOrganic farmingPastoral nomadismRural settlement patternsRural survey methods Second Agricultural RevolutionShifting cultivationSlash and burn Soil salinizationSubsistence Agriculture TerracesTownship and rangeUrban farmingValue-added specialty cropsVon 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