

# Phase 1

# agribusiness

*Def.* : An industrialized, corporate form of agriculture, where the production, distribution & processing of food are integrated together

*Sig.* : small number of large corporations rather than large number of independent farmers

*AKA:* industrial agriculture

# Agriculture

- Modification of the earth's surface through cultivation of plants and rearing of animals to obtain sustenance or economic gain (food & fibers).
- Significance: share of labor force in agriculture is small in MDCs & large in LDCs

# bioclimatic zones

- Def: the earth's zones differentiated by climate (temperature & precipitation) and soil conditions.
- Sig: land uses are affected by climatic conditions (e.g. pastoralism & ranching tend to be in arid zones).

# Economic Sectors

- Primary: extraction of materials (agriculture, mining, fishing)
- Secondary: manufacturing, processing and assembly of products
- Tertiary: transportation, communication and utilities (service for money)

Sig: historically, agriculture was solely a primary sector activity, but it is now connected to all three.

# Extensive agriculture

- Crops or livestock involving relatively large amounts of land and relatively small amounts of labor, energy or capital
- Ex in MDC: U.S. wheat farmer with a 500-acre farm and gigantic farm equipment (small amounts of labor & chemical inputs)
- Ex in LDC: pastoral nomadism or swidden

# forestry

- Def: the farming of trees to ensure a continuing supply of timber & other forest products
- Sig: forestry is considered agriculture & part of the primary sector

# Intensive Agriculture

Def: Crops or livestock involving relatively small amounts of land and relatively large amounts of labor, energy or capital

Ex in MDC: U.S. market gardens have high yields through large amounts of labor & capital

Ex in LDC: family rice paddies or non-rice plots (high labor demands)



# Intensive subsistence agriculture

- Labor intensive, year-round farming in densely populated LDCs (more food produced per acre compared to other extensive patterns)
- Ex: wet rice production

# labor-intensive farming

Def: a form of agriculture where the amount of labor is high relative to the amount of employed capital (technology) or land

Sig: found in the LDCs or with specialty farming (e.g. truck farming)

# Neolithic (First) Agricultural Revolution

- During the Neolithic era some 10 -14 thousand years ago, humans first planted seed crops and domesticated wild animals.
- Carl Sauer's independent seed hearth:
  - W. India, Ethiopia and northern China
  - Meso-America and the Andes

# pastoral nomadism

- A form of subsistence agriculture based on herding domesticated animals
- Primarily in arid and semiarid parts of North Africa, Middle East, and parts of Asia

# Seed Agriculture

- Reproduction of plants through annual planting of seeds
  - Was the biggest development of the first agricultural revolution.
  - Today seed agriculture is changing because of genetic modification.

# Shifting cultivation

- A form of subsistence agriculture where small tropical societies shift activity from one field to another rather than crop rotation or use of fertilizers.
- AKA: swidden, milpa, slash-and-burn

# Slash-and-burn Agriculture

Def: farmers clear land by slashing vegetation and burning debris (for nutrients).

Sig: commonly used in shifting cultivation

# Staple Crop

Def: Food that is routinely eaten and constitutes a dominant portion of the standard diet.

Ex: rice, maize (corn) and wheat



# Subsistence Agriculture

- Agriculture designed primarily for the direct consumption by the farmer and his family, (not for sale or profit).
- Low technology, uses hand tools and animal labor, non-mechanized due to lack of capital.
- Found in poor regions of LDC' s and tropics

# Transhumance

- The seasonal migration of livestock between mountains and low land pastures
- Ex: animals may pasture up in alpine meadows in the summer and be herded down into valleys for winter pasture

# Vegetative Planting

- Reproduction of plants by direct cloning from existing plants (cutting stems and dividing roots).
- Significance: predates the first agricultural revolution, less complex than seed crops

# Phase 2

# Agricultural location model

Def: An attempt to explain the pattern of agricultural land use in terms of transportation costs, distance to market, economic rent and prices

Ex. Von Thünen model

# Aquaculture

Def: the management of aquatic environments to increase production of organic materials for harvest (AKA fish farming)

Sig: the conditions are controlled so the aquatic life grow more rapidly. Some worry about increased chemical inputs, specie escapes, disease & degradation of land/waters.

# capital-intensive farming

*Def.* : A single farmer produces as much as a large number of people by using capital goods rather than labor (mechanization)

*Ex.* : MDCs

# Combine & Reaper

*Reaper:* A machine that cuts grain standing in the field

*Combine:* A machine that reaps, threshes and cleans

Sig: Replaces human labor (requires large capital investment)



# cash cropping

- Def: growing a surplus of crops with the intention of selling (or bartering) what is not consumed on the farm.
- Sig: plantations in the developing world typically produce crops for export (e.g. coffee)

# Commercial Agriculture

Def: Agriculture undertaken primarily to generate products for sale off of the farm.

Sig: Usually uses machinery and other capital investments over labor and is often connected to the secondary sector (canneries, etc.)

# grain (cereal)

*Def.* : A grass yielding grain for food (or feed)

*Ex.* : Oats, wheat, rye, or barley

# horticulture

*Def.* : The growing of fruits, vegetables, flowers and tree crops

*Ex:* In the lands bordering the Mediterranean Sea, the two most important cash crops are olives and grapes

# market gardening

(e.g. commercial gardening or truck farming)

Def: The intensive, specialized production of fruit and vegetables. \* Truck gardening may be farther from market & more specialized than market gardening.

Sig: Practiced in the US Southeast (for the NE market)

# milkshed

*Def.* : the area surrounding a city from which milk is supplied. The production of fluid milk.

*Ex.* : Up-state New York serves east coast cities.

# Mixed Crop & Livestock

Def: farmers grow crops to feed to their commercial livestock. The manure is then used to grow crops.

Sig.: most common form of agriculture in North America and Europe (AKA mixed farming)

# Plantation farming

- A large, usually foreign owned, farm that specializes in one or two cash crops in the tropics (legacy of colonialism)
- Ex: coffee plantations in the tropical Americas or rubber plantations in SE Asia



# Ranching

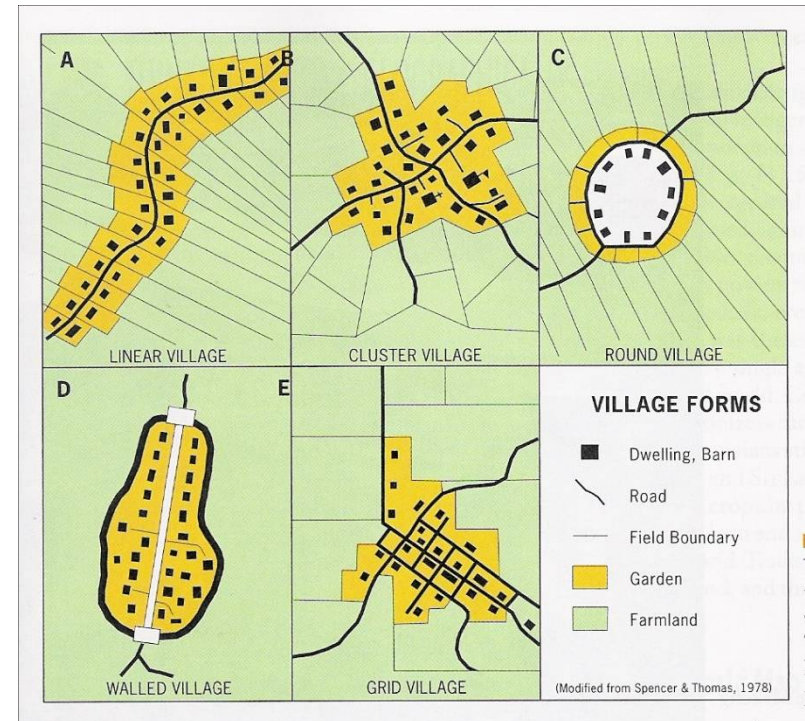
*Def.* : A form of commercial agriculture in which livestock graze over an extensive area

*Sig.:* practiced in MDCs where the vegetation is sparse and the soil too poor to support crops

# Settlement patterns

Def: the spatial distribution of settlements

Ex: dispersed (township and range sys.) and clustered



# Sinclair Model

Def: an agricultural location model that has updated the Von Thunen model.

Sig: transportation advancements has made proximity to market less important & the land closest to market will not be used for agriculture at all because of future urban sprawl

# survey systems

(cadastral survey)

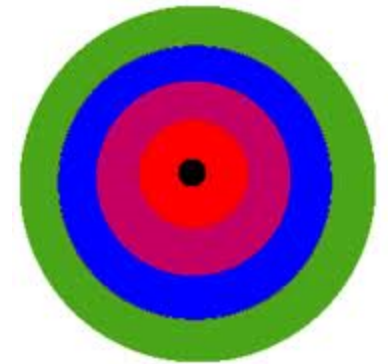
Def: how landed properties are arranged and demarcated

Ex: township & range system, longlot & metes and bounds

# Spring and Winter wheat

- Winter wheat is planted in the fall/autumn and harvested in the late spring or early summer (Kansas, Colorado, and Oklahoma)
- Spring Wheat is planted in the spring and harvested in the late summer (Montana, the Dakotas, and southern Canada)
- Sig: winter wheat is planted in warmer belts than spring wheat

# Von Thünen Model



Central City  
Intensive Farming/Dairying  
Forest  
Extensive Field Crops  
Ranching/Animal Products  
Matt T. Rosenberg, 1997

Def: The idea that different crops are suitable specific distances from the market based on their transportation costs and market prices

Sig: Model assumptions are that there is one market, all land is equal & transportation costs increase from the market

# Phase 3

# Columbian Exchange

- Def: The exchange of plants, animals & diseases between the newly arriving Europeans in the late 15<sup>th</sup> century & the Americas.
- Sig: An example of crop diffusion (colonialism, conquest & trade).



# Commodity Chains

- Def: A network or process where firms gather resources, process them and then distribute the finished goods to consumers.
- Sig: Agribusiness employs all three economic sectors to get food to our tables.

# Crop Rotation

- The practice of rotating use of different fields from crop to crop each year to avoid exhausting the soil.
- Part of the second agricultural revolution; it increases yield and self-fertilizes.

# Double/Multi Cropping

- Two or more harvests a year from the same fields in succession (without leaving fields fallow).
- Significance: some Vietnam rice paddies produce three yields of rice per year due to irrigation

# Economies of Scale

- Def: The savings in cost per unit due to increasing the level of production (think Fordism).
- Sig: Agribusiness produces cheaper crops and finished goods than traditional farming, in part, because they produce at a large scale.

# factory farms

Def: technique of capital intensive animal-raising in an artificial environment for meat, dairy or eggs.

Sig: the lack of space is argued by many to be inhumane and unhealthy

# Fair Trade

- Def: Trade in which fair prices (higher than usual) are paid to the producers of commodities in developing countries.
- Ex: Fair trade coffee & chocolate gives more money to the local farmers of Central or South America and West Africa.

# Genetically Modified Food

Def: Plants whose genetic characteristics have been altered through recombinant DNA technology (higher yields & less need for chemicals)

Ex. Salmon DNA added to Tomato DNA to battle freezes

# Green Revolution (Third)

Def: the diffusion of higher yielding (cross-bred & hybridized) crops and techniques (chemical fertilizers, etc.) to the LDCs

Sig: Diffused commercial agriculture & later GMOs (miracle rice, miracle wheat) to the periphery.



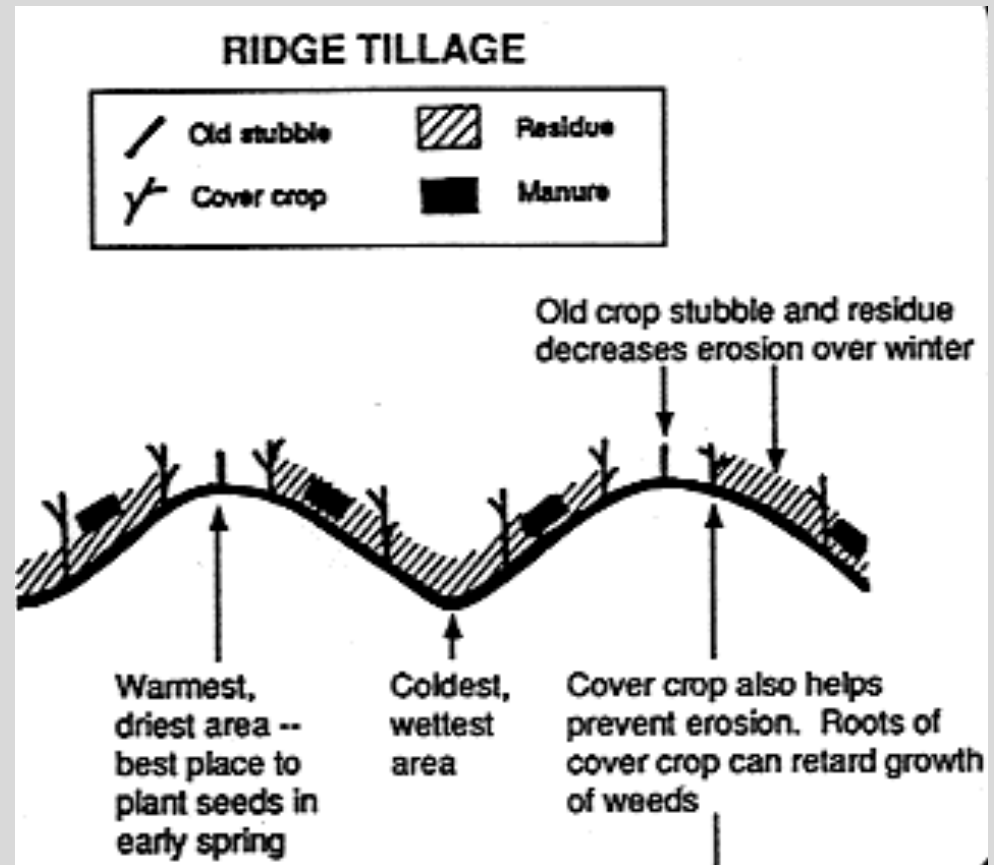
# industrial agriculture

Def: a process where farming is integrated with other processes such as production, storage, processing, distribution, marketing & retailing (i.e. combines the primary, secondary and tertiary sectors)

Sig: it has increased mechanization, innovation of inputs (GMO & pesticides) and the use of processed substitutes (NutraSweet)

# Ridge Tillage

- Def: planting on the ridge without having to re-till each year
- Sig: conserves soil & fights weeds by leaving crop residue from previous harvest



# Second Agricultural Revolution

Def: improvements made during the middle ages through the 1800s in Europe

Ex: crop rotation, field drainage, mechanization & fertilization

# Tragedy of the commons

- a situation in which individuals, acting in their own self-interest, will ultimately deplete a shared limited resource
- Sig: rationale for private property & enclosure laws

# Phase 4

# Aquifer

- Def: natural storage of underground water
- Sig: Aquifers are depleting faster than they are being replenished due to excessive pumping for irrigation.

# Biotechnology

- Def: application of science and technology to living organisms and their parts and products. (Many limit it to genetic engineering).
- Sig: Biotech allows us to overcome many challenges (e.g. climate, distance) but may create new challenges (e.g. health, super pests).

# Ester Boserup

Population growth forces a conversion from extensive to intensive agriculture. As population increases, we will find a way to supply food.

Ex: The green revolution



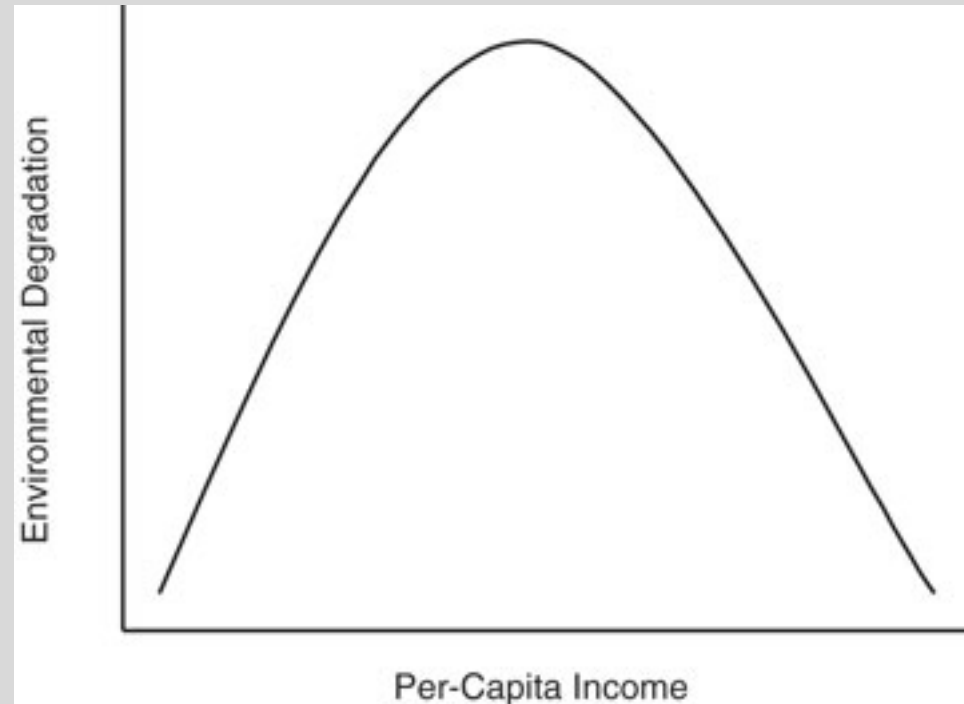
# Debt-for-nature swap

Financial transactions in which a portion of a developing nation's foreign debt is forgiven in exchange for a reduction in deforestation

Ex. Tropical Forest Conservation Act (1998)

# Deforestation

- Def: the complete felling and clearing of a forest (often for agricultural purposes).
- Sig: it increases as societies increase in population and industrialize but decreases as they stabilize and develop.



# Desertification

Degradation of land, especially in semiarid areas primarily because of human actions like excessive crop planting, animals grazing, and tree cutting

Ex. Sahel region below the Sahara desert

# Intertillage

Def: a sustainable technique where one crop is grown between the rows of a different crop

Sig: Planting taller and stronger crops to protect smaller more fragile crops

# Local-Food Movement

- Def: An emphasis on buying agricultural products that are produced closer to the market for environmental & health reasons.
- Sig: Some argue that local produce requires less fuel & chemical preservatives. It is a reaction to global industrial agriculture.

# Monoculture

- Def: a cultivation of a single crop specie exclusively.
- Sig: it can lead to a buildup of disease and pests without crop rotation

# Organic farming

Def: farming without the use of synthetic pesticides

Sig: healthier with less environmental impact though lower yields

# Sustainable Agriculture

Def: Farming methods that preserve long productivity of land and minimize pollution.

Ex. Soil rotation, organic farming & intertillage



# Regional Appellations

- Def: the marketing of a product with the name of the region where it is produced in order to add value
- Ex: Napa wines, Champagne sparkling wine, parmigiano-reggiano cheese

# Value-Added Specialty Foods

- Def: small scale, or craft, foods processed on the farms
- Ex: craft chocolate made locally with organic milk (more expensive)

# Wetlands Destruction

- Def: filling in wetlands with development (often high-demand coastal lands)
- Sig: wetlands serve as flood control, home to many species and stopping grounds for migratory birds