

## Human Interactions with the Environment

### Post Classical (600-1450)

- This period saw new methods and technologies to manipulate the environment to mankind's advantage
  - The Vikings used the longship to navigate waterways as shallow as rivers and as deep as oceans
  - The knowledge of monsoon winds continued to aid traders in the Indian Ocean region
  - Camels were employed by Arab groups for the Trans-Saharan trade system
  - Pastoral groups in Asia, like the Mongols, used the horse to great effect
- Migrations during this period had a great environmental impact
  - Two major migrations:
    - Polynesian migrations
      - Brought new food and animal types to islands in the Pacific
        - Pigs devastated plant species in areas they were brought to, such as Hawaii
      - Hunted many species to extinction
      - Had heavy deforestation in many islands they migrated to
      - Biggest example of environmental impact was the region of Easter Island
    - Bantu migrations
      - Brought iron metallurgy to various regions in Central, East, and South Africa
      - Brought agricultural techniques with them as they spread as well
- New crop types were introduced to certain regions through trade contacts
  - Best example was Champa rice into China
    - This was a rice variety that was drought resistant and could yield two crops of rice per growing season instead of just one
- Disease continued to spread due to trade routes
  - This was generally on a much larger scale during this time period, which was best illustrated by the Black Death
    - Heavily impacted the populations of Europe and Asia
- Postclassical Empires had impacts on the environment too
  - Irrigation techniques continued. Remember, the world is still agricultural in nature.
  - Technology transfers occurred due to connections between empires
    - Mongols
    - Tang and Abbasid
    - Crusades
  - Postclassical Chinese Dynasties (Sui, Tang, and Song) built and maintained the Grand Canal
  - The Mongols often devastated the environment in regions they took over. This was especially true in Persia, where the Mongols turned agricultural land into pasture land for their animal herds (at first)

- Europeans employed various agricultural techniques during feudalism
  - Three Field System
  - Horse collar and improved plows were used as well
- The economic features of the time period also demonstrated environmental interactions
  - Agricultural production increased in many areas
    - This was due to things like Champa rice and the use of the horse collar
  - Crops were transported from indigenous regions to brand new areas
  - Industrial production of iron expanded in China
  - Cities declined at the start of the periodization due to environmental factors
    - Disease
    - Little Ice Age (period of cooler temperatures) (this does refer more to the 1200s-1800s though)
    - A decline in agriculture
  - Cities rose toward the end of the period due to environmental factors as well
    - Warmer temperatures
    - Increases in agriculture
  - New labor techniques were used to exploit agriculture
    - Serfdom was heavily employed to increase productivity

#### Early Modern (1450-1750)

- Increased trade networks and connections heavily demonstrated environmental interactions
  - Humans once again manipulated the environment to their advantage
    - Better ships were developed like the caravel
  - The want of more natural resources motivated Europeans to explore new lands
  - With colonies established, a global movement of crops and resources occurred
    - Silver
    - Sugar
    - General cash crops
    - Potato
  - Columbian Exchange had various environmental and disease impacts
    - Disease spread throughout the Americas, killing off a wide variety of people
    - Invasive species were transferred to new locations, such as the rat
    - Cash crops were farmed and sent back to the Old World
    - New animals were brought to regions, such as the horse
    - An increased diversity of crops occurred, which led to population growth
    - Deforestation was a huge impact, as humans destroyed forested areas to increase crop production
    - Soil depletion occurred in various areas as well, such as the Americas
- Increased production occurred that related in to the environment
  - Peasant labor of natural goods increased
    - Cotton textile production in India
    - Silk in China
  - Plantation economy led to heavy increases in agricultural productivity in many regions

- Empires during this time period had an impact as well
  - Impacted the environment through expansion efforts
  - Continued increase in agricultural production occurred

### Modern Era (1750-1900)

- Industrialization had a huge impact on the environment
  - Geographic factors led to industrialization in some areas, such as Britain
    - Had access to coal and iron deposits
  - New exploitation of natural resources occurred
    - Coal and oil were the big examples of this (fossil fuels)
  - Pollution issues began to occur due to the increase in factories in various locations
    - An example of this would be dirty coal on buildings and urban areas
  - Sanitation issues began to occur as cities urbanized, leading to the spread of water borne disease and public health issues
  - Export economies began to grow in various regions
    - Exploitation of food supplies and of raw materials were present with these systems
    - A big example of this would be rubber, sugar, metals, and other minerals
  - A decline in agriculturally based economies occurred in some regions, such as India
    - Began to devote more land to cotton growing and less land for production of food
  - Mining centers began to grow for copper (Mexico) or gold and diamonds (South Africa)
    - This led to the destruction of the environmental and natural landscape in various regions it occurred
  - Transportation changes led to environmental impacts
    - Land was cleared for the increase of railways
      - Tunnels were cut through hills
    - Canals were built for growing steamships
  - Public health movements began to grow to address sanitation issues in cities
  - Urbanization led to unsanitary conditions
- Imperialism had an impact on the environment during this periodization as well
  - Resource exploitation occurred in various areas by imperialists looking for more natural resources
    - An example would be rubber in the Belgian Congo
    - Also had neo-colonialism in Latin America focused on getting natural resources
- The Enlightenment movement changed the way man thought about nature
  - Had a scientific approach with rational theories for natural phenomena
- Migrations during the modern period had a large impact as well
  - Increases in agricultural production and medical advances led to population increases
    - This led to the need to migrate to new locations by many people and groups
  - Seasonal migrants often moved based on the availability of certain crops
  - Environmental factors often led to migration

- Big example of this was the Potato Famine

### Contemporary (1900-present)

- Transportation developments continued to impact the environment
  - Emissions from vehicles led to environmental issues and pollution concerns
  - Roads and highways being built would occasionally lead to deforestation
- The Green Revolution occurred during this time period
  - Growth of big farms and pesticides/chemicals led to concerns about environmental damage
  - Concerns about genetically modified crops have grown as well
  - Did lead to some agricultural productivity increases
- Medical advances have led to more population increases
- Energy technology has increased
  - Electricity has been heavily used of course, powered by oil and natural gas
  - Humans using oil and nuclear power have led to environmental concerns
    - Fossil fuels have led to pollution and global warming issues
    - Nuclear disasters such as Three Mile Island, Chernobyl, and Fukushima have led to nuclear power concerns
  - Have had an increase in alternative energy sources, such as solar, water, and wind power
- Exploitation and competition for resources has increased in recent years
- Global warming/climate change as well as pollution has been a concern in the 20<sup>th</sup> century
  - Greenhouse gases and pollutants have caused this
    - Comes from industrial growth
  - Have also had deforestation occur with this and the increased extinction of certain animal species like the golden toad
- Disease based on water borne pathogens has continued (malaria and cholera)
- In response to environmental concerns, certain groups have formed to protest conditions
  - Biggest example has been Greenpeace and Green Parties
    - Have advocated for a wide variety of changes
      - Protection of forest areas and oceans
      - Clean energy
      - No more nuclear energy
      - “good agriculture” (no pesticides)
  - There has also been attempts to cap CO2 emissions in various regions
- Global conflict in the 20<sup>th</sup> century has also impacted the environment
  - Nuclear bombings
  - General destruction of landscapes and the countryside from wars
  - Population pressures from forced relocation of people
- Famines and other issues have occurred in some areas
  - Stalin’s collectivization attempts in the Soviet Union is an example of a human caused famine (can also use Mao’s China)