5.5 The Green Revolution

Objective and Essential Learning

Explain the consequences of the Green Revolution on food supply and the environment in the developing world.

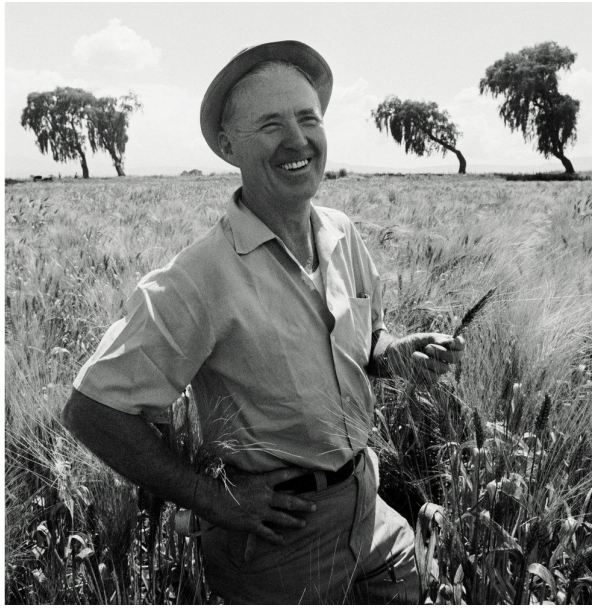
- The Green Revolution was characterized in agriculture by the use of chemicals, and mechanized farming.
- The Green Revolution had positive and negative consequences for both human populations and the environment.

The Green Revolution

- When & Where: 1950s-1960s
- Diffusion: Research of MDCS spread to developing countries in Latin America & Asia

Causes

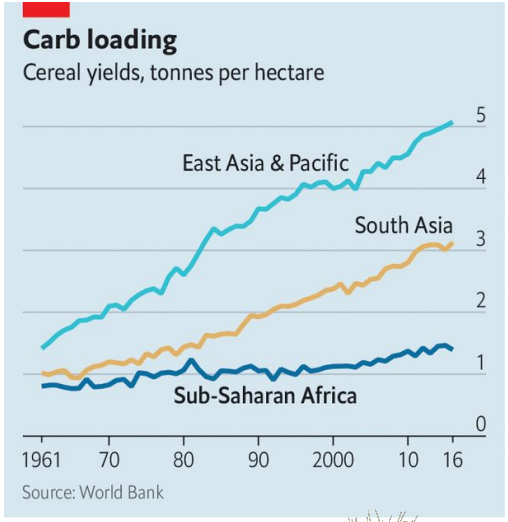
- Massive population growth occurring in the 20th century - mostly in developing regions of the world.
- Norman Borlaug - Researcher that traveled to Mexico to improve agricultural and biotechnological techniques in order to feed the growing population of the world.

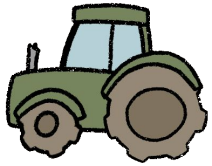


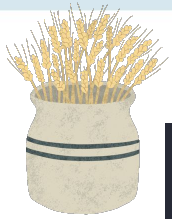
The Green Revolution

Characteristics

- Development of higher-yielding, disease resistant, faster-growing varieties of grains (rice, corn, wheat).
  - Hybrids & Genetically Modified Organisms
- Double Cropping: Growing more than one crop per year
- Increased use of fertilizers, pesticides, irrigation techniques and machinery in developing countries.



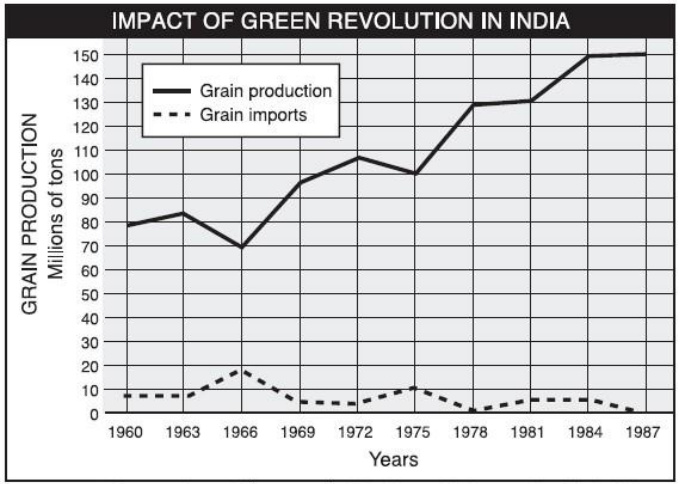




The Green Revolution

Positive Results

- Higher yields on the same amount of cultivated land.
  - Increased yields -> surplus -> sustain population growth -> begin exporting crops -> more wealth -> better farming technology -> more crops
  - Led to self-sufficiency in developing regions like Latin America, South Asia, East Asia and Southeast Asia.
  - Lower food prices - increased access

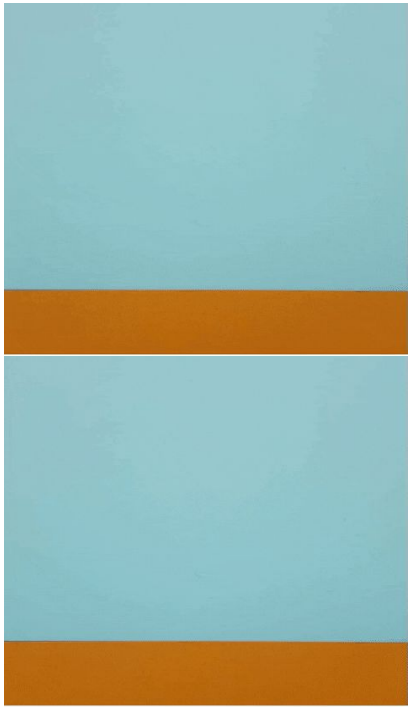


Source: James Killoran et al., *The Key to Understanding Global History*, Jarrett Publishing Co. (adapted)

The Green Revolution

Negative Results

- Environmental Consequences
  - Mass use of chemical fertilizers and pesticides -> runoff in local water systems -> impact ecosystems, habitats, pollute water, poison animals
  - Intensive double cropping system and aggressive irrigation -> soil erosion and salinization.
  - More machinery -> more use of fossil fuels -> air, sound & water pollution
  - Loss of biodiversity



The Green Revolution

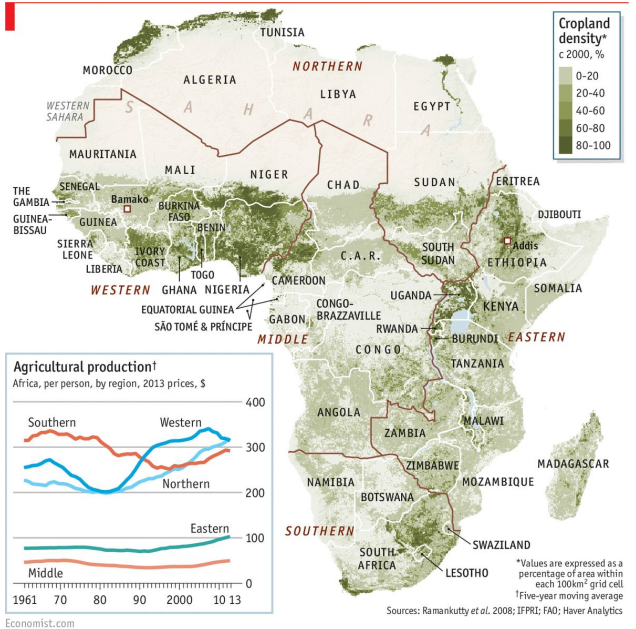
Negative Results

- Gender Consequences
  - In many developing countries PRIOR to the Green Revolution, women were in charge of the farming labor.
  - The development of new technologies and techniques were communicated to male heads of households.
  - Women are excluded from learning or having decision making power due to their lack of economic and social equality. This contributes to further gender inequality.

The Green Revolution

Negative Results

- Poor Success in Africa
  - Harsh and diverse environmental conditions, droughts, soil fertility, etc.
  - Lack of infrastructure and reliable transportation networks.
  - African crops such as sorghum, millet, cassava, yams, and cowpeas were not included in the genetic research that resulted in GMOs and hybridization.
  - Lack of government investment to kick start the process.



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