Agriculture and the Origin of Cities

Cities first, or Ag first?
- Traditional Timeline (Bottom up):
  - Hunting & Gathering
  - Herding 15000 BCE
  - Agriculture 10000 BCE
  - Urban 8000 BCE – cities form to serve agriculture
- Top down theories:
  - Jacobs:
    - Trade
    - Import substitution
    - Demand by cities drive agriculture
  - Mumford:
    - Cities for elites (religious or wealthy)
Traditional Agriculture

- Sedentary vs Nomadism
- Shifting cultivation vs crop rotation
  - Shifting:
    - Tropical soils poorer
    - Soils used for several years than left fallow for several decades
    - Slash and burn
    - Labor intensive
    - Intertillage
  - Rotation:
    - Crops changed annually to balance nutrient withdrawal
Intensive Agriculture

- Able to support larger populations
- Some crops more suitable (rice)
- Usually requires fertilizer
- Plantation system introduced with colonization
  - Beginning of modern-day agriculture
- Agricultural Revolution (1750-1900)
  - Advanced crop rotation
  - Mechanization
  - Four-crop system
“Green Revolution”

- Export of technology to LDCs
  - Fertilizer
  - Mechanization
  - Hybrid Species
- Problems
  - Unequal adoption of technology (at all scales)
  - Consolidation
  - Loss of local food supply (shift to luxury crops)
  - Loss of species diversity
  - Environmental degradation
    - Soil fertility
    - Erosion
    - Resource Depletion (esp. water)
Rural Population Change

Table 1 (inverted to highlight the rural proportion of the populations)

Source: Kilkenny, 2004
Rural vs. Agricultural Population

- Is population change rural -> urban or farm -> urban?