Class 4b: Population basics

• Food production and hunger
• Population pressure (Egypt)
• Population basics
• Gender issues
Food resources

• Where? Sunshine, water, soil
• Population doubled since 1950
• So has food production
• But, in a different set of places
• And, with expensive inputs
Food resources

- 30,000 edible species
- 90% of food comes from 15 plants and 8 animals
- Four crops total over 50% of calories
- 90% of caloric energy is lost by going up a step in the food chain
Hunger, malnutrition, and famine

- Hunger: insufficient food
- Malnutrition: wrong kind of food
  - Insufficient protein, Vitamin A, etc.
  - Too much or not enough
  - Long-term problem
Hunger, malnutrition, and famine

- Famine: inability to get food
  - More localized, temporary
  - Poverty > food shortage
  - Drought or natural disaster
  - Political conflict or displacement
- Disease, not starvation, kills
World population

- 6.4 billion; 2.4 per second
Basic demographics

- Crude birth rate: live births per 1000 people
- Crude death rate: deaths per 1000 people
- Infant mortality rate: deaths under 1 year old per 1000 people
- Rate of natural increase: births - deaths
- Fertility rate: average children born per woman
Measuring prosperity

- GDP: gross domestic product
- Measures all goods and services produced within a country
- “Economic growth” means GDP growth
- What’s wrong with GDP?
  - Only measures money changing hands
  - No quality of life measures
  - No subtraction for resource use
Measuring prosperity

• HDI: human development index
• Life expectancy at birth
• Education (literacy and years of school)
• Standard of living (GDP per capita)
Gender and population

- Social, not biological, difference
- Gender roles tied to economic activity
  - Pre-agriculture, even responsibilities
  - Plow agriculture gave men land rights
  - Industrialization kept women at home
Gender and population

• Fertility rate from 4.5 in 1970 to 2.7
• But 840 million to 1.5 billion women; 80% in developing countries
• Low fertility rate correlates with high GDP
• And high female literacy correlates with low fertility
Gender and health

- Maternal mortality ratio as health disparity
- From 1 in 16 pregnancies (Africa) to 1 in 2000 (Europe)
  - 60% iron deficiency
- 100 million “missing females”
  - Cultural preference, not poverty
Gender and Subsistence Farming

- Men own land and plow
- Women do everything else
  - Planting, weeding, harvesting
  - Kitchen gardens
  - Water and fuelwood
- Environmental degradation affects women first
Gender and Commercial Farming

• Wage labor is more highly valued
• Men migrate to cities; women head the household
• But men still own the land and credit
• Paid crops discourage subsistence crops
• And men contribute 75% of wages