

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