

Chapter 9 Section 1 Notes

The Human Population Over Time –

Demography – the study of populations

Demographers – professionals who study and make predictions about human populations

Human population growth was most rapid during the Modern Age

The Industrial Revolution of the late 1800s had a huge impact on the human population.

- population doubled from 2 billion to 4 billion in 44 years
 - high birth rates
 - low death rates
 - improvements in societal infrastructure and services

Main contributing factors to exponential human population growth (because they reduced the death rate):

- access to more food
- clean water
- safe sewage disposal
- better hygiene

The graph of human population growth since 1200 BCE looks like a J-curve

Forecasting Population Size

Human demographic trends – when birth rates and death rates are both high, the population grows slowly, if at all

Scientists use age structure, survivorship, fertility rates, and migration to predict population sizes.

- **Age Structure** – the distribution of ages in a specific population at a certain time
 - age structure data includes
 - ratio of males to females in a population
 - members of a population who are between 5 and 11 years old
 - the ratio of older people to younger people in a population
 - represented by a population pyramid
 - A population pyramid is created by graphing the distribution of ages in a population at a specific time
- **Survivorship** – percentage of members of a group that are likely to survive to a given age
 - infant mortality rates are most affected by
 - parents' access to education
 - clean water
 - adequate food
- **Fertility Rates** – **total fertility rate** – average number of children a woman gives birth to in her lifetime
 - Since 1970, fertility rates have decreased in both more-developed and less-developed countries
 - **Women and Fertility** – educating women worldwide has lowered birthrates partly because educated women are more likely to learn family-planning techniques
- **Migration** – the movement of individuals into or out of a population
 - **emigration** – movement of individuals out of a population
 - **immigration** – movement of individuals into a population

A population will shrink if deaths plus emigrants exceeds births plus immigrants

Declining Death Rates –

- **Life Expectancy** – the average number of years a person is likely to live
 - life expectancy in sub-Saharan Africa has declined due to the AIDS epidemic

The Demographic Transition – a model that describes how changes in a population may occur

- **Stages of Transition** –
 - **Stage 1: preindustrial** – small population size, low growth rate, so populations remain the same
 - **Stage 2: transitional** – increasing population size, very high growth rate, death rate decreases
 - **Stage 3: industrial** – large population size, low growth rate; characterized by societal conditions that favor smaller families
 - **Stage 4: postindustrial** – decreasing population size, zero or negative growth rate