

Population, Urbanization, and Ecology

The study of Population growth and the development of Cities and their relationship with the environment

Demographic Theories

1. Thomas Malthus held that population increases more quickly than food supply.
2. Karl Marx insisted that an excess of population is related to the availability of employment opportunities, not to a fixed supply of food.
3. Neo-Malthusians agree with many of Malthus' ideas, but favor contraception for population control.
4. Demographic transition theory holds that the process of modernization is associated with three stages in population change:
 1. **high potential growth, transitional growth, and population stability. Fertility reduction policies are based on**
 1. family planning,
 2. a developmentalist strategy
 3. or a socialist perspective.

Population

Demography is the science dealing with the size, distribution, composition, and changes in population. All population change within a society can be reduced to three factors:

- the birth rate,
- the death rate, and
- the migration rate into or out of the society.

Population Terms

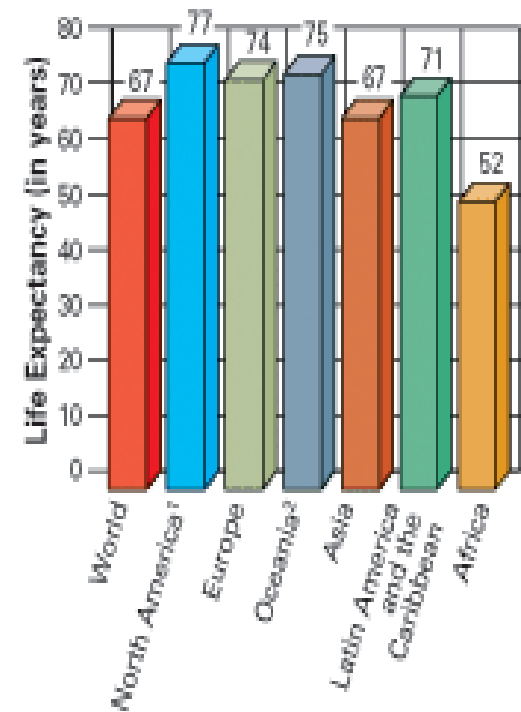
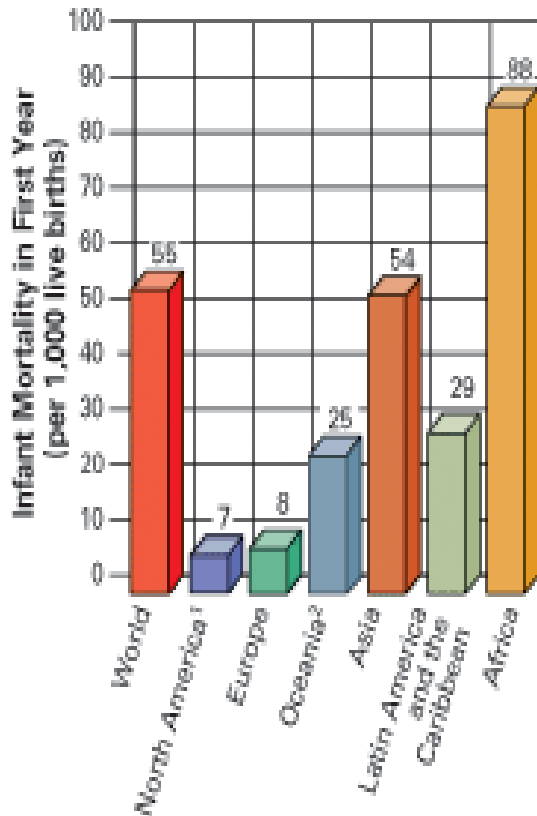
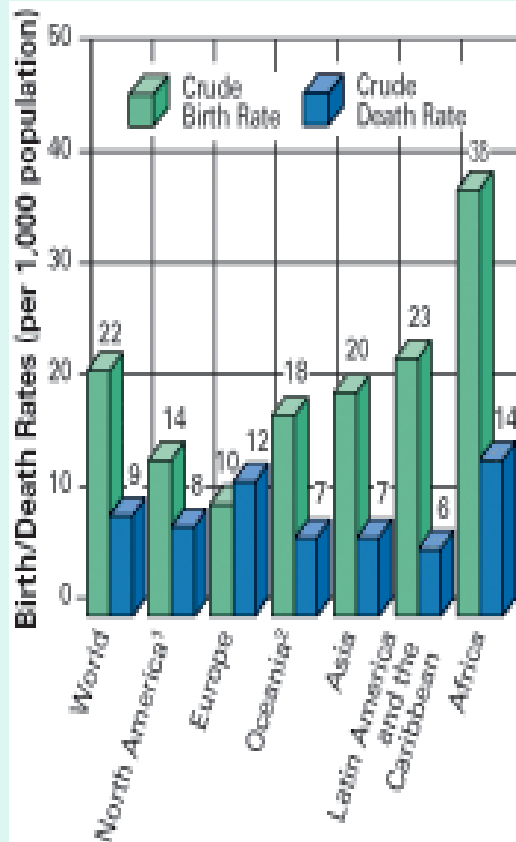
Fertility is the incidence of childbearing in a society's population.

- 1. Fecundity refers to the maximum potential childbearing ability of the women of a society. It is sharply reduced in practice by cultural norms, finances, and personal choice.
- 2. Demographers measure fertility using the **crude birth rate**, or the number of live births in a given year for every thousand people in a population.

Mortality is the incidence of death in a society's population.

- 1. Demographers measure mortality using the **crude death rate**, or the number of deaths in a given year for every thousand people in a population.
- 2. The **infant mortality rate** is the number of deaths among infants under one year of age for every thousand live births in a given year.
- 3. **Life expectancy** is the average life span of a society's population.

Birth, Death and life Expectancy Rates Around the World



Population Terms

Migration is the movement of people into and out of a specified territory.

- 1. It may be voluntary or involuntary. Voluntary migration may be explained by push and pull factors.
- 2. Movement into a territory is termed *immigration* and is measured by the *in-migration rate*, the number of people entering an area for every thousand people in the population.
- 3. Movement out of a territory is termed emigration and is measured by the *out-migration rate*, the number of people leaving an area for every thousand people in the population.
- 4. The *net migration rate* is the difference between the in-migration rate and the out-migration rate.

Population Terms

- The population growth rate is computed by subtracting the crude death rate from the crude birth rate. It is relatively low in the industrialized nations and quite high in the poor countries.

Doubling time is another way of expressing a society's growth rate.

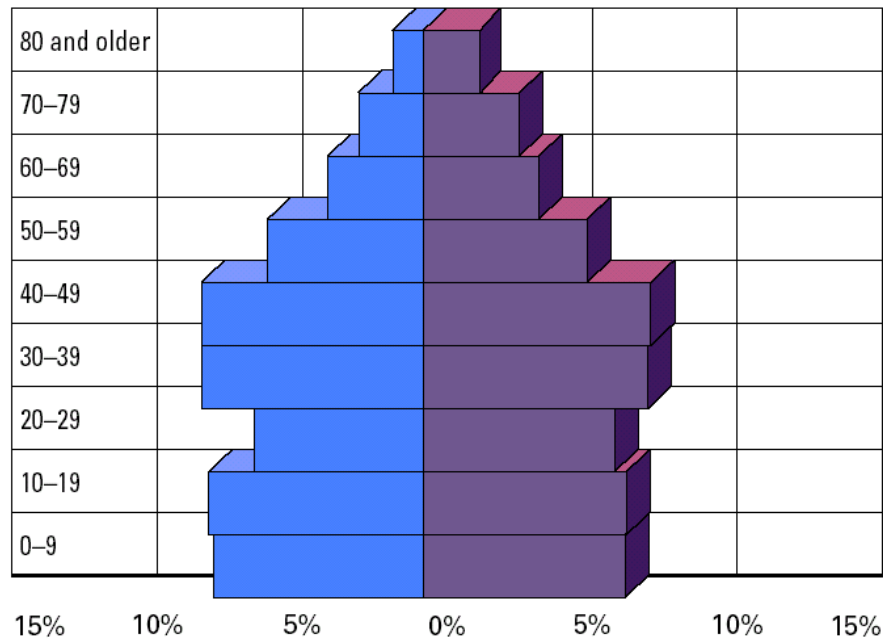
Population composition.

The **sex ratio** is the number of males for every hundred females in a given population. Sex ratios are usually below 100, because, on average, women outlive men.

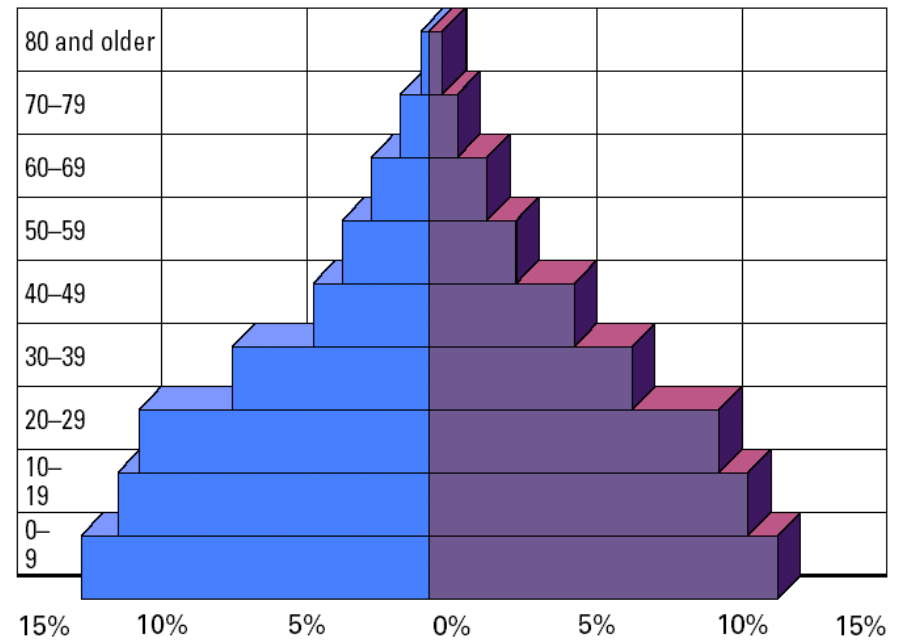
- .An **age-sex pyramid** is a graphic representation of the age and sex of a population

An Age-Sex Pyramid

Male Female



United States



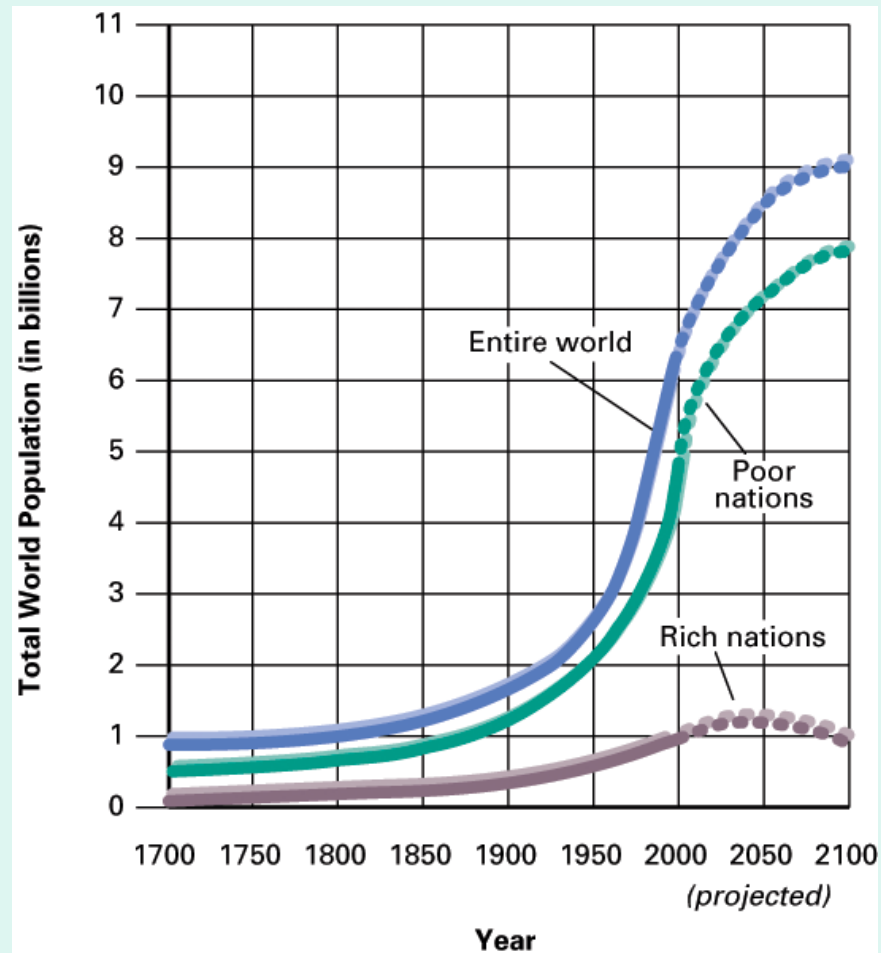
Mexico

Population Theories

History and Theory of Population Growth.

- The growth rate began to increase around 1750 and is presently extremely rapid.
- .Malthusian theory.
 - Malthus believed that population increased geometrically, while food could only increase arithmetically, leading to catastrophic starvation.
 - Only 3 ways to avoid this outcome
 - Disease
 - Famine
 - War
 - Humanity has avoided this outcome by learning to produce more food .. A technological solution to a biological problem

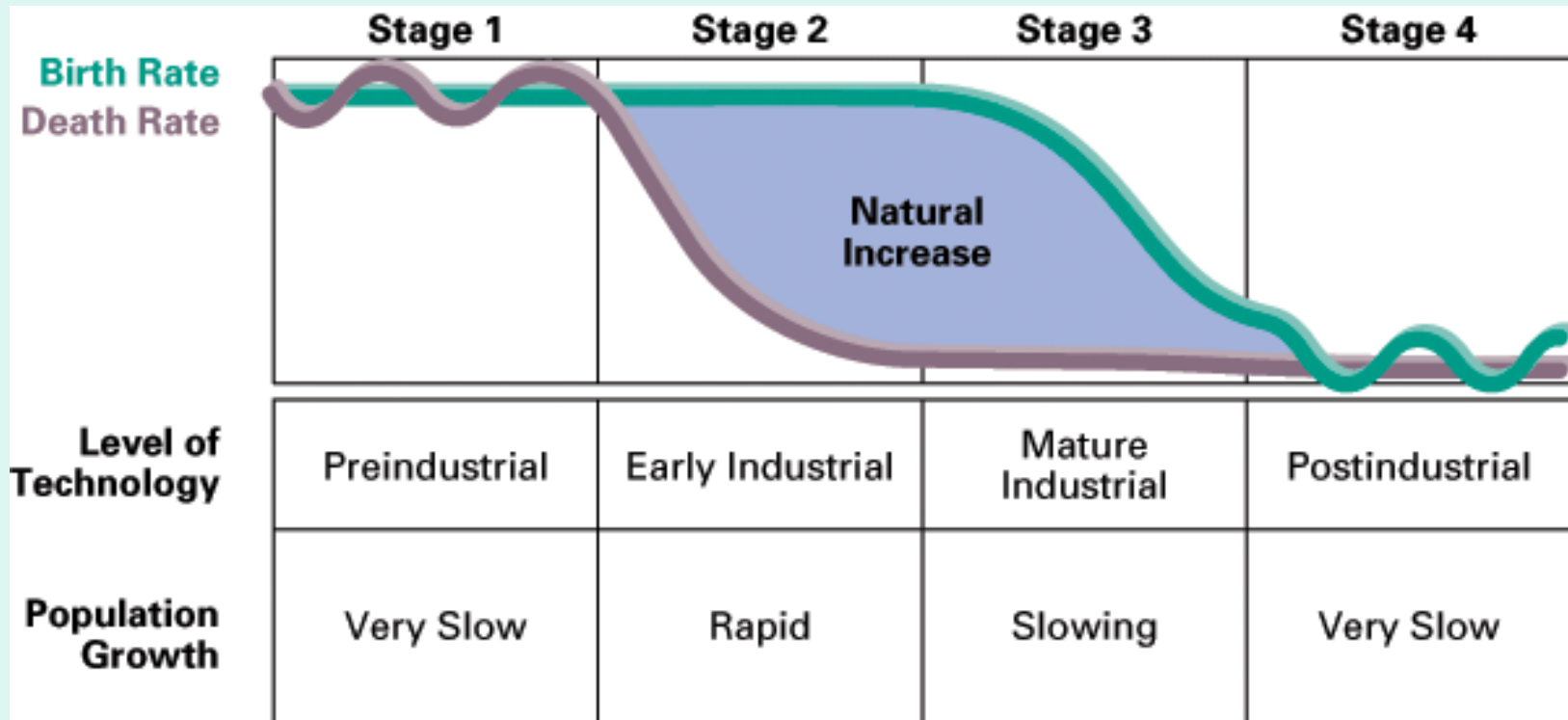
Population Growth 1700-2100



Population Theories

- **Demographic transition theory** is a thesis linking population patterns to a society's level of technological development. It entails four stages:
 - Stage 1, preindustrial: high birth rates, high death rates.
 - Stage 2, onset of industrialization: high birth rates, low death rates.
 - .Stage 3, industrial economy: declining birth rates, low death rates.
 - Stage 4, a postindustrial economy: low birth rates, steady death rates.
 - This approach suggests that technology holds the key to population control.

The Demographic Transition



Population Theories

- Global population today: A brief survey.
 - The low-growth industrial societies of the North are now close to zero population growth, the level of reproduction that maintains population at a steady state.
 - The high-growth less-developed societies of the South are still in Stage 2 of the demographic transition.

Urbanization: The Growth of Cities

Urbanization is the concentration of humanity into cities.

I. The evolution of cities.

- A. Earliest settlements were more villages than cities in today's terms.
- B. The emergence of cities led to a specialization and higher living standards. The first Western city—Jericho, which dates back some 10,000 years—was home to only around 600 people.
- C. Preindustrial European cities date back some 5,000 years to the Greeks and Romans.
- D. In the Middle ages cities began developing

Urbanization: The Growth of Cities

By 1750, a second urban revolution was transforming European cities into an industrial model.

The city is one of the most striking features of our modern era and is basic to many of the characteristics of modern society.

Preindustrial cities were primarily small affairs.

Urbanization has proceeded rapidly during the past 180 years, resulting in industrial-urban centers, metropolitan cities, megalopolises, and global cities.

Sociologists provide a number of models of city growth:

the concentric circle model,

the sector model,

the multiple nuclei model.

Urbanization: The Growth of Cities

The structural patterning of cities

derives from a number of underlying ecological processes.

Segregation

Invasion

Succession

Urban gentrification is the return of middle-class professionals to older urban neighborhood.

Urban decline in many American cities has been both descriptive and functional.

“Edge” cities have been made possible by beltways and expressway, and the development of a service-based economy.

Ferdinand Töennies: Gemeinschaft and Gesellschaft.

- Gemeinschaft is a type of social organization by which people are bound closely together by kinship and tradition.
- Gesellschaft is a type of social organization by which people have weak social ties and considerable self-interest.
- Töennies saw the development of modern urban society as a shift from Gemeinschaft to Gesellschaft.

Emile Durkheim: Mechanical and organic solidarity.

- Durkheim described traditional, rural life as mechanical solidarity, social bonds based on common sentiments and shared moral values.
- Organic solidarity refers to social bonds based on specialization and interdependence.
- Durkheim optimistically pointed to a new kind of solidarity. Where societies had been built on likeness, Durkheim now saw social life based on differences.

- Georg Simmel: The blasé urbanite. To prevent being overwhelmed by all the city stimulation, urbanites develop a blasé attitude, tuning out much of what goes on around them.
- The Chicago School: Robert Park and Lewis Wirth.
 - Robert Park was the founder of the Chicago School of urban sociology.
 - Louis Wirth sees a large population, dense settlement, and social diversity as the keys to understanding urban society. These traits tend to make human relations impersonal, superficial and transitory, as well as relatively tolerant.
- Census 2000: The Minority Majority in the Largest U.S. Cities. According to the 2000 census, minorities—Hispanics, African Americans, and Asians—are now a majority of the population of the 100 largest U.S. cities.

- Urban ecology is the study of the link between the physical and social dimensions of cities.
 - This approach helps explain why cities are located where they are.
 - It also generates theories concerning the physical design of cities
 - Ernest Burgess's concentric zone theory.
 - Homer Hoyt's wedge-shaped sector theory.
 - Harris and Ullman's focus on multicentered cities.
 - Social area analysis studies how neighborhoods differ in terms of family patterns, social class, and race or ethnicity.
 - Critique :This approach helps explain why many U.S. cities are in crisis, but both urban ecology and urban political economy are not easily applied to cities in other societies or in different eras.

Urbanization in Poor Societies.

- A third urban revolution is taking place because many poor nations have entered the high-growth Stage 2 of demographic transition theory.
- Cities do offer more opportunities than rural areas, but they provide no quick fix for the massive problems of escalating population and grinding poverty.

Environment and Society.

Ecology is the study of the interaction of living organisms and the natural environment.

Humans have transformed half of the world's land surface and use more than half of all the accessible surface fresh water in the world.

- Humanity's use of the environment has had a variety of debilitating effects on the natural environment. Humans have the capability to overexploit natural resources, but they can also restore and protect them.
- Functionalist theorists see the ecosystem as exhibiting a tendency toward equilibrium in which its components maintain a delicately balanced relationship.
- Some conflict theorists emphasize the reality of certain individuals and groups securing a disproportionate share of what is available.
- Symbolic interactionists focus on “people behavior” related to environmental issues.
- If a sustainable global society is to be created, some critics think that humans will need to check increases in population and energy use. Other observers believe that the free market will result in life improving indefinitely.

The **natural environment** consists of the earth's surface and atmosphere, including various living organisms and the air, water, soil, and other resources necessary to sustain life.

The global dimension.

Any study of the natural environment must necessarily be global in scope because the planet constitutes a single **ecosystem**, the system composed of the interaction of all living organisms and their natural environment.

Technology and the environmental deficit.

Complex technologies generally pose more threats to the global environment than did the simple technology of preindustrial societies.

- The world is now facing an **environmental deficit**, profound and negative harm to the natural environment caused by humanity's focus on short-term material affluence. This concept implies three important ideas:
 - The state of the environment is a social issue.
 - Environmental damage is often unintended.
 - Much environmental harm is reversible.

Culture: Growth and limits.

- The *logic of growth* thesis is a widely accepted cultural value which suggests that growth is inherently good and that we can solve any problems that might arise as a result of unrestrained expansion.
- The *limits to growth* thesis holds that humanity must implement policies to control the growth of population, material production, and the use of resources in order to avoid environmental collapse.
- Solid waste: The disposable society.
 1. Why Grandmother Had No Trash.
 2. Landfills pose several threats to the natural environment.
 3. Recycling, reusing resources we would otherwise discard, is one solution.

- Water and air.
- Water supply is problematic in many parts of the world.
- A special problem is **acid rain**, rain that is made acidic by air pollution and destroys plant and animal life.
- Water Consumption in Global Perspective. Some countries do not have an adequate supply of water.
- Polluted water is an increasingly serious concern as well.
- A deterioration of air quality was one of the unanticipated consequences of the development of industrial technology.

- **Rain forests** are regions of dense forestation, most of which circle the globe close to the equator.
- **Global warming** is apparently occurring as a result of the greenhouse effect, a rise in the earth's average temperature due to increasing concentration of carbon dioxide in the atmosphere resulting in part from the decline of the rain forests.
 - The shrinking of the rain forests reduces the earth's biodiversity.

- **Environmental racism** is the pattern by which environmental hazards are greatest in proximity to poor people, particularly poor minorities. In part, it is a deliberate strategy by factory owners and powerful officials.
- **Looking Ahead: Toward a Sustainable World.**
 - We need to develop an **ecologically sustainable culture**, a way of life that meets the needs of the present generation without threatening the environmental legacy of future generations.
 - This calls for three basic strategies:
 - We must bring world population growth under control.
 - We must conserve finite resources.
 - We must reduce waste.
 - Will People Overwhelm the Earth?