Chapter 9 – Populations

Section 1

Objectives

- **Describe** how the size and growth rate of the human population has changed in the last 200 years.
- **Define** four properties that scientists use to predict population sizes.
- **Make** predictions about population trends based on age structure.
- **Describe** the four stages of the demographic transition.
- **Explain** why different countries may be at different stages of the demographic transition.

Studying Human Populations

- _____ is the study of the characteristics of populations, especially human populations.
- Demographers study the historical size and makeup of the populations of countries to make comparisons and _____.
- Demographers also study properties that affect population growth, such as _____ and social structure.
- Countries with similar population trends are often grouped into two general categories: developed and developing countries.
- Developed countries have higher average incomes, _____ population growth, diverse industrial economies, and stronger social support systems.
- Developing countries have lower average incomes, simple and _____-based economics, and rapid population growth.

The Human Population Over Time

- The human population underwent exponential growth in the 1800s, meaning that the population growth rates increased during each decade.
- These increases were mostly due to increases in food production and improvements in _____ that came with the industrial and scientific revolution.
- However, it is unlikely that the Earth can _____ this growth for much longer.

Age Structure

- **Age structure** is the classification of members of a population into groups according to age or the distribution of members of a population in terms of age groups and helps demographers make predictions.
- Countries that have high rates of growth usually have more _____ people than _____ people.
- In contrast, countries that have slow growth or no growth usually have an even distribution of ages in the population.
- Age structure can be graphed in a population pyramid, a type of double sided bar graph.

Survivorship

- **Survivorship** is the percentage of _____ individuals in a population that can be expected to survive to a given age.
- It is used as another way to predict population trends.
- To predict survivorship, demographers study a group of people born at the same time and notes when each member of the group dies.
- The results of these studies are then plotted on a graph and might look like one of the types of survivorship graphs below.

- Wealthy developed countries such as Japan and Germany currently have a _____ survivorship curve because most people live to be very old.
- Type II populations have a similar death rate at all ages.

- Type III survivorship is the pattern in very _____ human populations in which many children die.
- Both Type I and Type III may result in populations that remain the same size or grow slowly.

Fertility Rates

- A **fertility rate** is the number of births (usually per year) per _____ women of childbearing age (usually 15 to 44).

- _____ level is the average number of children each parent must have in order to "replace" themselves. This number is slightly more than 2 because not all children born will _____ and reproduce.

- In 1972, the total fertility dropped below replacement level for the first time in US History.

- Fertility rates remained _____ replacement level for most of the 1990s, but recently have been growing partly because the children of the baby boom grew up and had children.

Migration

- **Migration** in general, is any _____ of individuals or populations from one location to another.

- Movement into an area is _____ and movement out of an area is _____.
- The populations of many developed countries might be decreasing if not for immigration.
- Migration between and within countries is a significant part of population change.

Declining Death Rates

- The dramatic increase in Earth's human population in the last 200 years has happened because death rates have declined more rapidly than birth rates.
- Death rates have declined mainly because more people now have access to adequate food, _____, and safe sewage disposal.

- The discovery of _____ in the 20th century also contributed to the declining death rates.

Life Expectancy

- **Life expectancy** is the average length of time that an individual is expected to live.

- Life expectancy is most affected by _____ mortality, the death rate of infants less than a year old.
- Expensive medical care is not needed to prevent infant deaths. Infant health is more affected by the parents' access to _____, food, fuel, and clean water.

- The graph shows that average life expectancy worldwide has increased to more than ____ years old. But, new threats, such as _____ and AIDS are arising as populations become denser.

The Demographic Transition

- The **demographic transition** is the general pattern of demographic change from high birth and death rates to low birth and death rates, and observed in the history of more-developed countries.

- The theory behind the demographic transition is that _____ development causes economic and social progress that then affects population growth rates.

Stages of the Transition

- In the first stage of the demographic transition, a society is in a preindustrial condition. The birth rate and the death rate are both at _____ levels and the population size is _____.
- In the second stage, a population _____ occurs. Death rates decline as hygiene, nutrition, and education improve. But, birth rates remain _____, so the population grows very fast.
- In the third stage, population growth slows because birth rate _____. As the birth rate becomes close to the death rate, the population size stabilizes. However, the population is much larger than before the demographic transition.
- In the fourth stage, the birth rate drops below _____ level, so the size of the population begins to decrease.
- It has taken from one to three generations for the demographic transition to occur.

Women and Fertility

- The factors most clearly related to a decline in birth rates are increasing _____ and economic independence for women.
- In the demographic transition model, the lower death rate of the second stage is usually the result of increased levels of _____.
- Educated women find that they do not need to bear as many children to ensure that some will _____. They may also learn family _____ techniques.
- Women are able to contribute to their family's increasing _____ while spending less energy bearing and caring for children.
- As countries modernize, parents are more likely to work away from home. If parents must pay for child care, children may become a _____ burden rather than an asset.
- All of these reasons contribute to lower birth rates in both developed and developing countries.

Chapter 9 – Populations

Section 2

Objectives

- **Describe** three problems caused by rapid human population growth.
- **Compare** population growth problems in more-developed countries and less developed countries.
- **Analyze** strategies countries may use to reduce their population growth.
- **Describe** worldwide population projections into the next century.

Changing Population Trends

- Throughout history, and currently in many parts of the world, populations that have _____ rates of growth create environmental problems.
- A rapidly growing population uses _____ at an increased rate and can overwhelm the infrastructure of a community.
- **Infrastructure** is the basic facilities of a country or region, such as _____, bridges, sewers, _____ plants, subways, schools, and hospitals.

Problems of Rapid Growth

- A rapidly growing population can use resources faster than the environment can _____ them, unless resources come from elsewhere.
- Standards of living decline when _____ is removed from local forests faster that it can grow back, or when _____ overwhelm local water sources.
- Symptoms of overwhelming populations include _____, polluted rivers, barren land, inadequate housing, and overcrowded schools.

A Shortage of Fuelwood

- In many of the poorest countries, wood is the main fuel source.
- When populations are stable, people use _____ for fuel. When populations grow rapidly, deadwood does not accumulate fast enough to provide enough fuel.
- People then begin cutting down living trees, which reduces the amount of wood available in each new year.
- A supply of fuel ensures that a person can _____ and cook food.
- In many parts of the world, water taken directly from wells is not safe to drink. Food is often unsafe to eat unless it is cooked.
- Water can be sterilized, and food can be cooked, but _____ is needed to do so. Without enough fuelwood, many people suffer from disease and malnutrition.

Unsafe Water

- In places that lack infrastructure, the local water supply may be used not only for drinking and washing but also for _____ disposal.
- As a result, the water supply becomes a breeding ground for _____ that can cause _____ such as dysentery, typhoid, and cholera.
- Many cities have populations that are doubling every _____ years, and water systems cannot be expanded fast enough to keep up with this growth.

Impacts on Land

- Growing populations may have a shortage of _____ land.
- **Arable land** is _____ that can be used to grow crops.
- Growing populations also make _____ between competing uses for land such as agriculture, housing, or natural habitats.
- For example, Egypt has a population of more than 69 million that depends on farming within the narrow Nile River valley.

- Most of the country is desert, and less than ____ percent of Egypt's land is arable.
- The Nile River Valley is also where the _____ are located, and where most Egyptians live. They continue to build housing on what was once farmland, which reduces Egypt's available arable land.
- _____ is an increase in the ratio or density of people living in urban areas rather than in rural areas.
- People often find work in the cities but move into _____ areas around the cities.
- This suburban sprawl leads to traffic jams, inadequate infrastructure, and reduction of land for farms, ranches, and wildlife habitat. Meanwhile, housing within cities becomes more costly, more dense, and in shorter supply.

A Demographically Diverse World

- Not every country in the world is progressing through each stage of demographic transition.
- Some countries now have modern industries, but incomes remain _____. A few countries have achieved stable and _____ populations with little industrialization.
- Some countries seem to remain in the second stage and are unable to make enough educational and economic gains to reduce _____ rates and move into the third stage.
- In recent years, the international community has begun to focus on the _____ developed countries.
- **Least developed countries** are countries that have been identified by the United Nations as showing the fewest signs of development in terms of income, human resources, and economic diversity.
- These countries may be given priority for _____ and development programs to address their population and environmental problems.
- Populations are still growing rapidly in less developed countries, with most of the world's population now within _____.

Managing Development and Population Growth

- Today, less developed countries face the likelihood that continued population growth will prevent them from imitating the development of the world's economic leaders.
- Countries such as China, Thailand, and India have created _____ to reduce the fertility rates of their citizens.
- These campaigns include public _____, family planning programs, economic incentives, or legal punishment.
- In _____, the United Nations held the International Conference on Population and Development (ICPD),
- It involved debates about the relationships between population, development, and the environment.
- Many countries favor stabilizing population growth through investments in development, especially through improvements in _____ status.

Growth Is Slowing

- Fertility rates have _____ in both more-developed and less-developed regions.
- Demographers predict that this trend will continue and that worldwide population growth will be slower this century than the last century.
- If current trends continue, most countries will have _____ level fertility rates by _____. If so, world population growth would eventually stop.

Projections to 2050

- Looking at the graph below, most demographers predict the medium growth rate, and a world population of ____ billion in 2050.