

13. Population and Environment

Objectives

- Identify and analyze how population changes and how it is measured
- Evaluate theories of population growth
- Analyze how population and the environment influence each other

Vocabulary

biodiversity	ecosystem	illegal aliens	political asylum
carrying capacity	emigrants	immigrants	population density
census	fecundity	migration	refugees
demographics	fertility	migration rate	replacement rate
ecology	growth rate	mortality rate	vital statistics

Background

As members of the world's population and heirs of its environmental problems, students should be vitally concerned with the information in this chapter. It will help them become informed adults. Here they survey and analyze two disciplines in which "hard science" overlaps with sociology: the fields of demographics and ecology.

Students first examine how and why the science of demographics studies the size, composition, and distribution of populations. They look at census data and vital statistics and how these records are used to analyze trends and to affect public policy.

Next students survey three factors that change the population: births, deaths, and migration. They identify factors that lead to declines and increases in birth and death rates and analyze reasons for human migration. They also look at some of the social issues that are connected to immigration, such as the worldwide trend of emigration from poorer, less industrialized countries and immigration into richer, more highly developed countries.

The chapter ends with an analysis of population growth and its possible effects on society. Students look at the issues in global terms, and then in terms of population growth in the United States.

After getting this "big picture" of demographics, students turn to an even bigger picture—how the human population interacts with the environment. Students approach ecology by analyzing population factors that directly affect the environment.

Students identify four specific environmental concerns—biodiversity, habitat loss, resource depletion, and pollution—that concern both sociologists and ecologists. They look at the social dimensions of these concerns, such as public policy, lifestyles, and economic growth. Students also identify and evaluate promising answers to problems that are related to population and the environment.

Further Resources

- Barnet, Richard J. *The Lean Years: Politics in the Age of Scarcity*. Simon and Schuster, 1980.
- Sarre, Philip, Ed. *An Overcrowded World?: Population, Resources, and the Environment*. Oxford University Press, 1997.

For Discussion

Review

1. What is demographics, and why do sociologists study it?
2. What are three factors that change the population?
3. What is ecology, and why do sociologists study it?
4. What are four environmental concerns that relate to population growth?

Critical Thinking

1. Do you think the government should collect and use census data about ethnicity? Give reasons for your opinion.
2. Do you think democratic countries should be allowed to turn away people who are trying to immigrate by seeking political asylum? Support your opinions with examples.
3. The U.S. population is growing because of immigration, not an increasing birth rate. How will this fact change American culture and society in the future? Give reasons for your opinion.
4. How might the depletion of natural resources change our everyday life? Support your ideas with specific examples.
5. What legislation or other social devices do you think would be most effective in reducing pollution? Give reasons for your answers.

Activities

1. Local Demographics and Ecology

Select two student teams to research the population and environment history of your community. Possible sources include public libraries, historical societies, and state and federal census records. Have the teams report on results and display them in the form of maps, charts, and graphs.

2. Immigration Statistics in American History

Ask students to research and report on public records on immigration into the United States. Some students can record the numbers, beginning in 1780. Have them draw diagrams and charts to display results. Ask other students to research social aspects of immigration, such as where major groups of immigrants lived, what kinds of work they did, and how they adjusted to life in the U.S.

3. Internet: Census 2000 Results

Assign teams of students to visit official government websites around the world to gather results of the most recent census, which in many cases was the year 2000. Students can also visit sites maintained by the United Nations, the World Population Council, and similar organizations. Ask students to use graphics to record and display their results.

4. Special Sources: Architecture and Urban Planning

Encourage students to suggest elements in the design of buildings, towns, parks, and other human structures that take both population trends and the environment into account. Students can study architectural and design magazines as well as books on architecture and urban planning. Encourage them to make and display blueprints, drawings, and architectural models that support their ideas.

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As you read Chapter 13, write an answer to each question below.

1. What areas of everyday life are affected by the size, composition, and distribution of population?

2. What are some of the reasons humans migrate?

3. What are some methods being used to meet the challenges of population growth?

4. What are four natural resources that are being depleted because of population growth?

5. What are the effects of industrial and agricultural pollution on human beings and on everyday life?

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Find the best answer for each item. Then circle the correct answer.

1. What is the term for the number of organisms a particular environment can support?
 - a. population
 - b. life expectancy
 - c. carrying capacity
 - d. replacement rate
2. What is an official count of the people of a country or district?
 - a. population
 - b. census
 - c. demographics
 - d. vital statistics
3. What is usually measured in terms of the number of people per square mile or kilometer?
 - a. birth rate
 - b. growth rate
 - c. composition
 - d. density
4. What word means the potential number of children that could be born to the average woman of childbearing age?
 - a. fecundity
 - b. fertility
 - c. birth rate
 - d. replacement rate
5. What is measured in terms of the number of deaths per 1,000 members of a population?
 - a. growth rate
 - b. mortality rate
 - c. replacement rate
 - d. vital statistics
6. What word describes a person who moves away from a country?
 - a. emigrant
 - b. immigrant
 - c. alien
 - d. scab
7. What word describes someone who moves into a country from another country?
 - a. emigrant
 - b. immigrant
 - c. mercenary
 - d. pawn
8. What word best applies to a self-contained community of organisms that depend on one another?
 - a. biodiversity
 - b. population
 - c. demographics
 - d. environment
9. What word applies to all people who enter and live in a country against its immigration laws?
 - a. emigrants
 - b. refugees
 - c. asylum seekers
 - d. illegal aliens
10. What is the term for official records of births, deaths, marriages, divorces, and migrations?
 - a. census
 - b. demographics
 - c. vital statistics
 - d. political asylum

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Read each description, and write the letter of the correct term on the line.

1. The difference between the birth rate and the death rate is the _____.
 - a. growth rate
 - b. mortality rate
 - c. replacement rate
 - d. fertility rate
2. The difference between the number of emigrants and immigrants in a society is the _____.
 - a. growth rate
 - b. migration rate
 - c. replacement rate
 - d. mortality rate
3. Data collected in a census includes all of the elements listed below except _____.
 - a. age
 - b. education
 - c. types of residence
 - d. opinions and attitudes
4. The high birth rate in underdeveloped countries has been linked to _____.
 - a. high infant mortality rates
 - b. industrialization
 - c. immigration
 - d. pollution
5. _____ is the average number of years the average infant born into a population can expect to live.
 - a. Infant mortality
 - b. Growth rate
 - c. Life expectancy
 - d. Demographics
6. There is a worldwide mass migration away from _____ toward countries with more opportunities.
 - a. high infant mortality rates
 - b. biodiversity
 - c. underdeveloped countries
 - d. European countries
7. In the year 2000, the earth's population was about _____.
 - a. 40 percent higher than in 1990
 - b. 600 million people
 - c. half of what it will be in 2010
 - d. 6 billion people
8. The population of the United States in the year 2000 was about _____.
 - a. 275 million
 - b. 350 million
 - c. 5 times higher than in 1900
 - d. 600 million
9. Scientists estimate that human-caused extinction of species occurs at _____ times the natural rate.
 - a. 100
 - b. 1,000
 - c. between 10 and 20
 - d. 1,000,000
10. The problem of desertification refers to the loss of both plant cover and _____.

a. salt water	c. solar power
b. fossil fuels	d. topsoil

Essay Question

What do you think everyday life will be like 25 years from now if present trends in population continue? Discuss environmental factors in your answers.