

Global Issues and Sustainable Solutions

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Join us on Wednesdays and Fridays for Skills for Everyday Living, a series that goes beyond the classroom to prepare students for the many challenges of the real world. Our current topic is **Global Issues and Sustainable Solutions**, developed by *Facing the Future*. Series ends June 13.

*"When we try to pick out anything else in the universe, we find it hitched to everything else in the universe."
— John Muir, Sierra Club Founder*

Populating the Planet

It might be argued that without the pressure of population growth, none of the issues facing humanity today would be large enough to qualify as global. Stabilizing population growth and lowering the consumption rate of wealthy nations are two interconnected and critical steps to addressing global issues.

About 50 years ago, there were 2.5 billion people living on Earth. It took nearly all of human history — from prehistoric time until after World War II — for human population to reach that level. Now that number has more than doubled to 6.6 billion people, with about 80 million people added to the planet each year. That's like adding another Germany every year or another San Francisco every three-and-a-half days. Experts who study population growth project that by 2050 there will be over 9 billion people living in the area where 6.6 billion of us live now.¹

The larger question surrounding population growth is not only the number of people living on the planet, but also what their collective impact is — whether positive or negative.

Planting the Population Seeds

For most of human history, population growth occurred slowly. Living in small tribes as hunter-

gatherers, early humans (about 50,000 years ago) followed the migrations of animals and the seasonal growth of plants. Population during this time remained stable, with almost as many people dying every year as were born.

About 10,000 years ago, that started to change. Human existence and population growth rates were radically altered as people learned to grow plants and raise animals. Farming can produce up to 100 times as much food as will grow wild on the same amount of land. When food is plentiful, a population tends to grow. When people learned to grow their own food, regional populations around the world grew rapidly and were increasingly concentrated in towns and villages. The cycle of increased food supplies and growing populations has continued throughout history.

Can you find any articles in the newspaper that demonstrate the connections between food and population today?

By the early 1900s, the discovery that germs cause disease led to improvements in medicine and sanitation. Better water and sewer systems cut back the death toll from communicable diseases. The development of antibiotics and vaccines controlled many diseases that had been fatal in the past. The seeds for a modern population explosion had been planted.

The Population Equation: It All Adds Up

Population growth is affected by numbers of births and deaths worldwide. About 139 million people are born each year and 60 million die; the

difference is the increase in global population.² The bottom line is that the human population grows whenever more people are born in a year than die. As population increases, exponential growth (a constant rate of growth applied to a continuously growing base) can cause population to increase faster and faster.

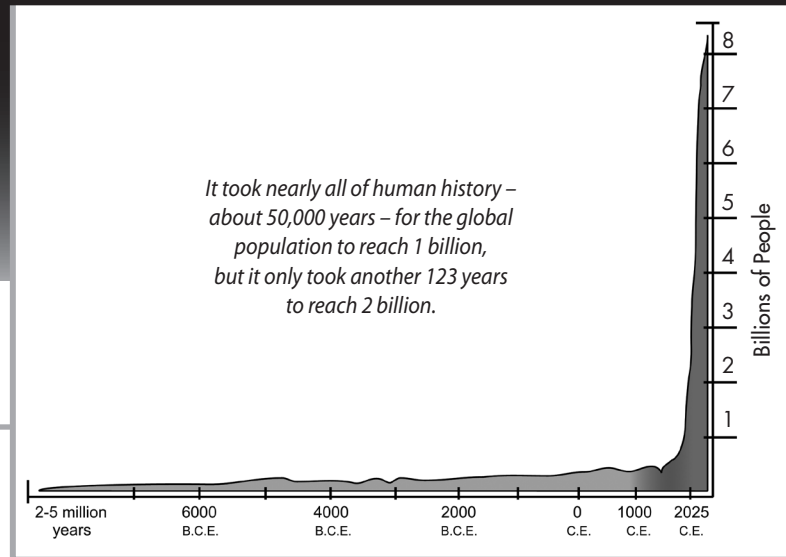
The fertility rate for a society is the average number of children born per woman. Although many developing countries are currently experiencing high fertility rates, worldwide fertility rates have come down, from an average of five children per woman in 1950 to 2.8 children per woman in 2004. However, there are many more people of childbearing age today than ever before. It takes only a slight increase in fertility rates to significantly increase population.³

Tune in on Friday for a more in-depth look at how exponential growth impacts population size and Earth's carrying capacity. We will also take a closer look at personal and structural solutions to this global issue.

1 *Information from U.S. Census Bureau, CIA World Factbook, and Population Reference Bureau.*

2 *Ibid.*

3 *"World in the Balance," NOVA (video), WGBH Boston, <http://www.wgbh.org>.*



Activity

- View the 2007 World Population Data Sheet on the Population Reference Bureau's Web site at www.prb.org. Compare the population, health and environment statistics of the United States and two other countries and answer these questions:
 - How do life expectancy, rate of natural increase, and carbon dioxide emissions per capita compare among these three countries?
 - What are some possible explanations for the trends that you observed?

Take Action!

- While the United States only has 5 percent of the world's population, we consume 25 percent of the Earth's resources. The energy consumed in our homes and our methods of transportation are the two biggest culprits. Make a pledge to reduce your impact in one of these areas for one week. Share with your friends, family and classmates the results of your efforts to reduce your energy consumption.