

IT'S ALL CONNECTED

A COMPREHENSIVE GUIDE TO
GLOBAL ISSUES AND SUSTAINABLE SOLUTIONS



FACING THE FUTURE:
PEOPLE AND THE PLANET

By Benjamin Wheeler, M.A.; Gilda Wheeler, M.Ed.; and Wendy Church, Ph.D.

IT'S ALL CONNECTED

A Comprehensive Guide to Global Issues and Sustainable Solutions

Preface 3

Unit 1 Getting Started With Global Issues..... 4-18

Chapter 1 Introduction..... 4

Chapter 2 Understanding Sustainability and Resources..... 8

Chapter 3 Sustainable Solutions and New Ways of Thinking..... 12

Unit 2 Understanding Population and Carrying Capacity: History, Trends, and Possibilities 19-30

Chapter 1 Introduction..... 19

Chapter 2 Population Throughout History 21

Chapter 3 Population Trends, Carrying Capacity,
Ecological Footprint, and Migration 24

Chapter 4 Sustainable Solutions: Stabilizing Population
and Reducing Consumption..... 28

Unit 3 Meeting Essential Human Needs: Food, Water, and Energy 31-46

Chapter 1 Introduction..... 31

Chapter 2 Food for People and Water for Food..... 33

Chapter 3 Sustainable Solutions: Food and Water 38

Chapter 4 Energy—Fossil Fuel Issues and Impacts 41

Chapter 5 Sustainable Solutions: Energy Enough for People and the Planet..... 43

Unit 4 Environment: Keeping Our House in Order..... 47-65

Chapter 1 Introduction..... 47

Chapter 2 Biodiversity and Forest Habitats 49

Chapter 3 A Breath of Fresh Air 54

Chapter 4 The Ocean Planet 58

Chapter 5 Sustainable Solutions: Environmental Justice..... 62

Unit 5

Quality of Life: Culture, Health, Education, and Human Rights 66-92

Chapter 1 Introduction.....	66
Chapter 2 Well-Being and Happiness—In Search of the Good Life	68
Chapter 3 Improving Quality of Life— Government, Business, and Individuals.....	72
Chapter 4 Tradition, Technology, and Media—Preserving Culture	74
Chapter 5 World Health.....	78
Chapter 6 Sustainable Solutions: Human Health	83
Chapter 7 Education—Issues and Solutions	85
Chapter 8 Human Rights—Issues and Solutions.....	88

Unit 6

Building Sustainability: Governance, Economic Development, and Peace 93-122

Chapter 1 Introduction.....	93
Chapter 2 Governance: Standards of Effectiveness.....	94
Chapter 3 Ineffective Governance: Sources and Impacts.....	98
Chapter 4 Governance in the United States	101
Chapter 5 Global Governance and Sustainability	103
Chapter 6 Economy, Inequality, and Poverty—Past and Present	105
Chapter 7 Sustainable Solutions: Strategies for Economic Development.....	110
Chapter 8 The Evolution and Impacts of Conflict.....	116
Chapter 9 Sustainable Solutions: Halting Conflict at its Roots	119

Unit 7

Possible Futures and Sustainable Solutions 123-131

Chapter 1 Introduction.....	123
Chapter 2 On the Road With Global Issues: Sustainable Solutions Close to Home	124
Chapter 3 Going Global: Sustainable Structural Solutions	125

Glossary	132-137
Endnotes.....	138-144

UNIT 1

GETTING STARTED WITH GLOBAL ISSUES



The essence of global issues is a recognition that the people of the world are inexorably linked and that, in today's world, that which touches some touches us all.

—Paula J. Dobriansky
(U.S. Undersecretary of State
for Global Affairs, 2002)

Essential Questions

- What are global issues?
- What is sustainability?
- What is a global perspective?
- How can youth be involved in global issues and sustainable solutions?
- What concepts and tools can help people understand and work toward sustainable solutions?

Chapter 1. Introduction

We are living in an increasingly interconnected world, especially since the advent of the computer age in the twentieth century. This interconnection and integration among people, **economies**^{*}, and societies throughout the world is commonly called **globalization**.

Human beings around the world, now more than ever, are connected to each other. Coca-Cola markets its products all over the world; information about political movements, **terrorism**, and war spread almost instantly via the Internet. Epidemics of disease can spread quickly around the globe via air travel. In many cases, as human beings change the environment in their own communities, they affect the environment of people in other countries. Because of this, it is more important than ever for people to understand some of the basic concepts about global issues and learn how to develop a global perspective.

* Glossary words appear in **bold** the first time they occur in each unit.

This book discusses a number of global issues—issues that affect nearly everyone on the planet. A good place to start is to first define what global issues are and also to define some other important concepts that are important in understanding global issues. Then we will explore some of the most important global issues facing us today, including what kinds of solutions exist that can make life better for people and the planet.

What Are Global Issues?

Global issues are significant issues relating to or involving most or all of the Earth. An issue is likely to be global if it:

- persists or is long-acting
- is **transnational** or **transboundary**
- affects large numbers of people
- is an underlying cause of events
- is connected to other issues that meet these criteria

Global warming serves as a good example of a global issue that meets these criteria. Global warming occurs when **greenhouse gasses** such as **carbon dioxide** (which can result from the

GLOBAL ISSUES MOBILE



burning of **fossil fuels** including coal, oil, and natural gas) build up in the atmosphere and trap heat from the sun. Global warming is *persistent and long-acting* in that it may take years or even decades to be fully felt, and it may require similar time frames to be resolved. Global warming has proven to be *transnational*, meaning that its effects are felt well beyond the borders of countries responsible for creating it. Global warming can *significantly affect millions of people* and is an *underlying cause* of many events such as **desertification** (spreading of desert areas), crop failure, and diminished water supplies.¹ Last, global warming is *interconnected* to many other issues: efforts to slow global warming could in turn positively impact a number of other issues such as food security and **refugee** issues tied to climate change; these efforts could also affect economies, for better or worse.

Under the criteria listed above, many issues could be considered “global.” This book focuses on some of the most pressing global issues recognized today by experts and the public.

Interconnections

A useful metaphor that shows the interconnectedness of global issues is that of a mobile. Although a mobile’s component parts are separate and unique and may move in different directions, they are linked to one another by strings or wires. A force exerted on one part of a mobile will affect all of its other parts—in ways major or minor, sometimes predictable, and sometimes surprising.

A mobile serves as a model of the interconnectedness that is inherent in natural environments, wherein each individual organism is part of an elaborate web of life. Human-made systems and environments also mirror mobiles. For example, a great many of the items consumed in **developed countries** such as the United States are produced in **developing countries**. The production of these consumer goods plays a key role in those countries’ economies, the lives of people there, and the natural environment. The Earth itself is one large, interconnected “system” that may be thought of as a remarkably complex mobile, wherein changes in one part of the system cause changes elsewhere.



Desertification in Darfur contributes to dust storms and resource scarcity

Photo © CARE Evelyn Hockstein

The conflict in Darfur in western Sudan serves as a good example of the global issues mobile. The most recent conflict there began in an arid and impoverished region early in 2003 after a rebel group began attacking **government** targets. The rebels asserted that the government oppressed black Africans in favor of Arabs. As of 2004, it is estimated that as a direct result of this conflict, up to 300,000 Darfur residents died and more than 1.2 million were displaced from their homes.

The region has long suffered from **scarcity** of wood, food, and water, stemming in part from desertification—which many experts believe is caused by human-induced climate change. This resource scarcity created fierce competition for diminishing water and **arable land** between Arab nomadic herders and African farmers. The combination of a high **fertility rate** of about six or seven children per woman and resource scarcity contributed to increased poverty and hunger in the region. The people of Darfur also lacked services, especially those of education, health care, and transportation. The desertification fueled **migration** from rural to urban centers because of a loss of animal resources and crops, as well as due to a lack of job opportunities and services in rural areas.²

The issues underlying the Darfur conflict—resource scarcity, lack of services and education, rapid population growth, migration, and environmental degradation—are interconnected (that is, connected to each other). Like a mobile, a change in one issue (whether positive or negative) clearly affects the other issues.

How might this interconnected mobile reflect other past and present situations around the world?

Imagining a Future that People Want

So why should people care about global issues? One reason is that global issues will, to a large extent, determine what the world will be like in the future. Think for a moment about what future you want.

Most people in the world would agree that they want to enjoy a **good quality of life**. Quality of life means different things to different people, depending on their circumstances and their **culture**. We know that everyone wants good food, clean water, good health, and shelter to stay warm and comfortable. Most people also want to enjoy their friends and family and be part of a community. They don't want to worry about war or some other crisis disrupting their lives.

Like this Thai mother and daughter, most people in the world want a good quality of life for themselves and their family.

Photo © CARE 2001/
Pairat Saensawat

People want to ensure that their children and their grandchildren have a good life as well. Most people would say that it is not acceptable for their generation to have a good quality of life and knowingly deprive later generations. Of course, most parents think they are doing their best for their children. But sometimes doing their best for their family and their community can have a negative impact on others and the Earth's long-term ability to support their descendants. And these days, with the global reach of national economies, what people do locally can have an impact on the happiness and well-being of people around the world. As you begin this exploration of global issues, it is important to keep in mind the future you want for yourself, your family, and future generations—at home and around the world.

What is your vision for the future?

Systems Thinking: A Framework for the Future

Systems thinking takes a comprehensive approach to problem solving that is well suited to global issues. It is a field of study that looks carefully at all the important components of a system and how they interrelate. Systems thinking offers a particular perspective, a specialized language, and a set of tools that can be used to address problems. It has been an important tool for many businesses and is a useful way to address global issues.

A *system* is a group of interrelated components that form a complex and unified whole. Systems are everywhere. For example, your school and classroom, the circulatory system in your body, and the predator/prey relationships in nature are all systems.

This organic fair trade coffee farm in Jinotega, Nicaragua is one example of a dynamic system which depends on and is affected by the interactions of people and the environment.

Photo © 2002
April Pojman,
Courtesy of Photoshare

Ecological systems and human social systems are living systems; human-made systems such as cars and washing machines are nonliving systems. Most systems thinkers focus their attention on living systems, especially human social systems. Other systems thinkers are also interested in how human social systems affect the larger ecological systems of our planet.

Suppose a landfill in a city becomes full, leaving the citizens with nowhere to put their garbage. A nonsystems approach to this problem might be to build another landfill or find a landfill in another city that would take the garbage for a fee. A systems thinking approach would look not only at these two options, but also at other aspects to this problem and ask a number of questions: Where does the garbage come from? What's in the garbage? Is there a way to reduce the amount of

garbage produced? Is there a use for the garbage? Answering these questions could give the city a number of alternatives, including starting or expanding a recycling program, raising fees for garbage disposal as an incentive for citizens to create less garbage, or working with manufacturers to produce less packaging for their products, thus leaving fewer materials to throw out.

A systems thinking approach can help structure the study and analysis of global issues in such a way as to account for the interconnections between environment, economy, and society. This greatly improves the chance of achieving sustainable solutions. Systems thinking can help people seek out underlying causes and address them in solutions, rather than merely responding to surface events and leaving the system unchanged.

Worldview

Understanding people's **worldview**—their beliefs and assumptions about how the world works—is a key component of systems thinking. People's worldviews are influenced by major cultural forces in their lives, such as history, family, politics, religion, and education. It is a powerful force in what people do and believe—even, and often, when they are not aware of it.

Worldview is often what some people believe to be true about the world, but other people in the world may not believe it to be true. For example, if you visited India you might be surprised to see cows wandering around freely. That's because in many countries, cows are owned by farmers and ranchers and kept in pens or otherwise fenced in, but in India cows are considered sacred and are often seen roaming freely. So for many people, their worldview about cows would be that they are owned by people and live in enclosures, whereas the worldview of a person in India regarding cows would be different.

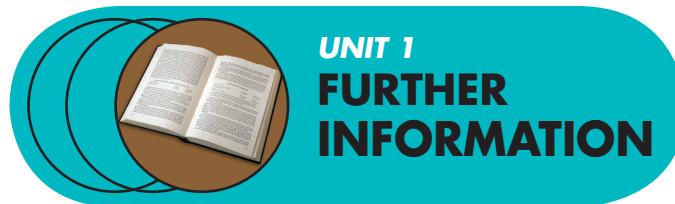
As you study global issues and explore solutions, it is important to keep in mind how different worldviews affect problems and their solutions.





- **From Issue to Opportunity**
(defining and exploring global issues)
- **Creating Our Future**
(envisioning and taking action for a future that people want)
- **What's in the News**
(using the iceberg model to analyze the news)
- **Worldview Mingle**
(understanding how our worldview affects us and others)

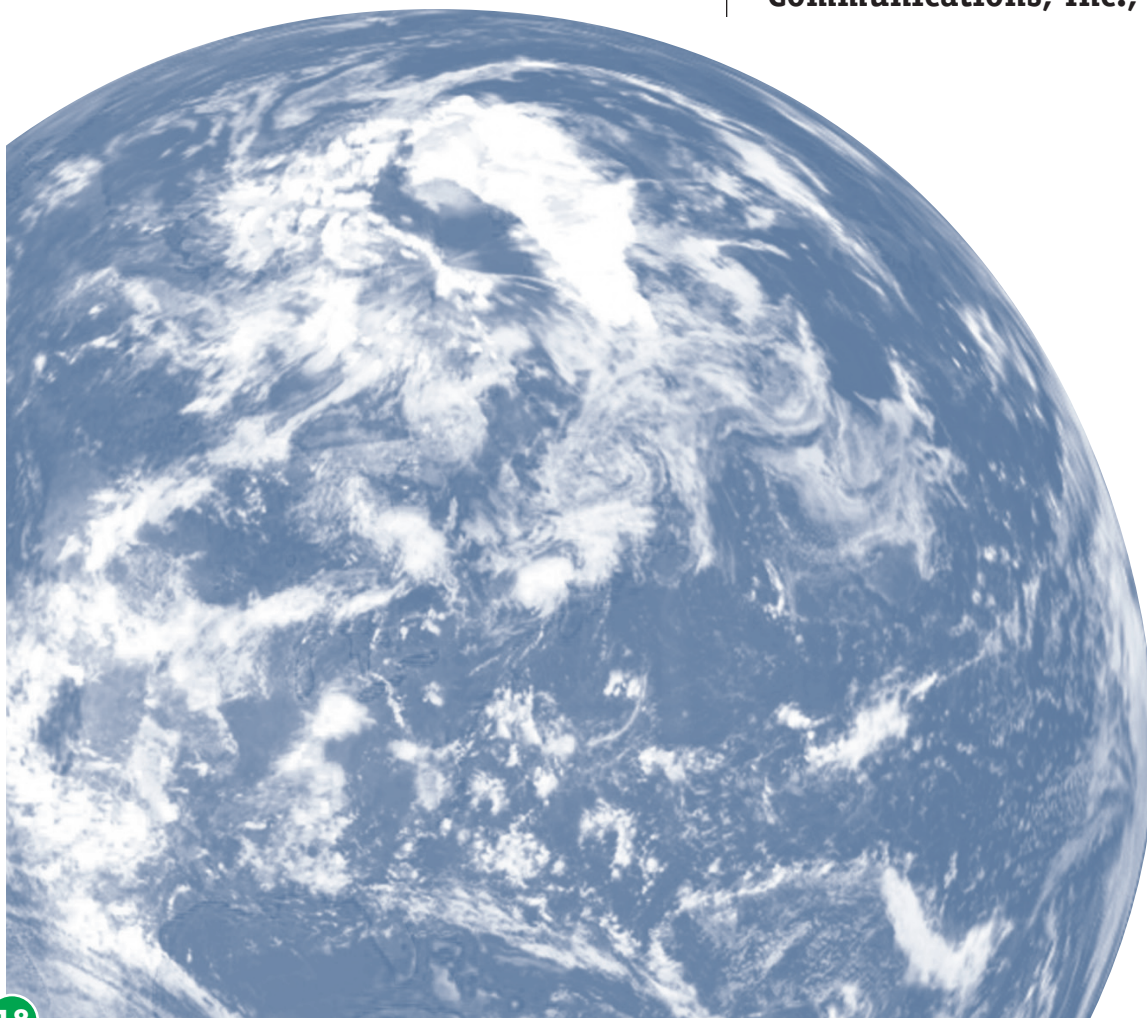
To download activities visit <http://www.facingthefuture.org>



For in-depth information about sustainability and sustainable development, visit <http://www.iisd.org/>, the website of the International Institute for Sustainable Development.

For explanation of Genuine Progress Indicator, visit Redefining Progress at <http://www.redefiningprogress.org>.

For a brief, reader-friendly explanation of systems thinking, read the book, *Introduction to Systems Thinking*, by Daniel H. Kim, Pegasus Communications, Inc., 1999.



The Industrial Revolution Powers Population Growth

Beginning in the 1800s, resources extracted by Europeans in the New World (North and South America), Africa, and Asia, as well as the technological advances of the Industrial Revolution, created an economic boom. Europeans began using coal to power their industries, rather than the earlier methods of animal labor, wood fuel, or wind. Steam-powered trains and ships (fueled by coal) allowed goods and raw materials to be transported farther and more quickly than ever before. New technologies meant that fewer workers could produce even more food from the same amount of land. Increased food supplies allowed for increased populations, though not necessarily a better **quality of life**. In Ireland, importation of the potato from the New World led to rapid population growth; however, when the new food source was suddenly eliminated due to a crop disease (the infamous potato blight), poverty worsened. This precipitated a major famine and mass migration to other continents, including North America.

By 1830 CE, there were more than 1 billion people on Earth. People in Europe began to live longer, healthier lives. By the early 1900s, the discovery that germs cause disease had 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.

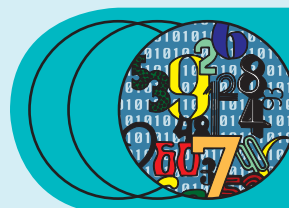
Population Growth in the Modern Era

In the second half of the twentieth century, health and sanitation advances from the developed world were brought to **developing countries**, where 72 percent of the global population lived.¹⁵ Because of improved medicine, sanitation, and health care, deaths from disease fell and many more children survived to adulthood. In addition, twentieth-century advances in agricultural practices, such as the use of fertilizers, pesticides, and irrigation techniques, increased food production, which in turn allowed more people to survive and thrive. The rapid fall in the **mortality rate** and increased food production created **exponential growth** of global population expansion. India and China, which already had large populations, experienced some of the biggest population increases after World War II.¹⁶

It took nearly all of human history—about 50,000 years—for the global population to reach 1 billion, but in only another 123 years it reached 2 billion. The third billion was added in just 33 years and the next billion in only 14 years. Presently, another billion people are added to the planet every 12 to 14 years.¹⁷



A small slice of a billion—this photo was taken at the busiest street in Chennai, India.
Photo © 2002 Vijay Sureshkumar, courtesy of Photoshare



MATH & TECHNOLOGY CONNECTION:

EXPONENTIAL GROWTH—LIKE LILIES GROWING IN A POND

A quantity grows exponentially when a constant rate of growth is applied to a continuously growing base. A common example of exponential growth is seen with compound interest in bank accounts. If you deposit \$100 in a savings account with a 7 percent annual compound interest rate, your investment will double in ten years. Exponential growth also applies to populations. If a population grows at 7 percent per year, it too will double in ten years.

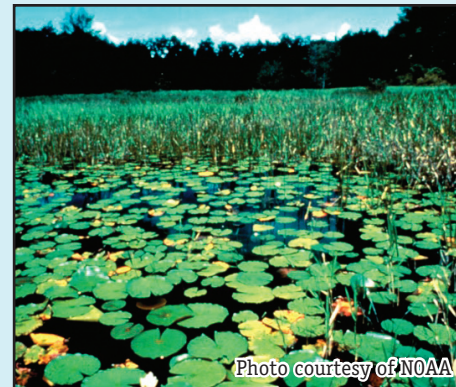


Photo courtesy of NOAA

Consequences of the phenomenon of exponential growth are surprising. The \$100 invested at a 7 percent annual return will double in ten years to approximately \$200, double in another ten years to approximately \$400, and double again in the next ten years to approximately \$800. Significant gains can be made by simply relying on exponential growth over time. One way of saying this is that the longer you wait (on your investment), larger returns will start to come in faster.

Unfortunately, exponential growth can work against us, too. When populations continue to grow, the impact of growth becomes increasingly significant over time. In other words, because of the nature of exponential growth, when things get bad, they get bad in a hurry.

Consider a country with 1,000 people, growing at 7 percent per year. In ten years, the population will double to 2,000 people, in another ten years it will double again to 4,000 people, and ten years after that it will double again to 8,000 people.¹⁸

With populations, this “doubling” effect of exponential growth can go unnoticed until a doubling of startling consequences or scope occurs. A French riddle captures the surprising potential of the doubling effect:¹⁹ Imagine a water lily growing on a pond. The plant doubles in size every day. You are told that, left unchecked, it would cover the pond in thirty days, choking out all other life forms in the pond. Because the lily plant seems so small, at first you decide you will not cut it back until it covers half the pond. On what day will that be?

ANSWER: On the twenty-ninth day, the pond is half covered. Because its growth is exponential, it will double by day thirty to cover the pond. You have just one day to save your pond! If you hadn't been warned about the doubling effect, would you have figured this out?