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Newspapers in Education: Global Issues and Sustainable Solutions

Facing the Future, Western Washington University

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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.

"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

What are Global Issues?

Global issues are significant issues involving most or all of the earth. Local issues, on the other hand, involve only a single specific location or geographic region. Most global issues affect people locally all over the world.

An issue is likely to be global if it:

- persists or is long-acting
- occurs across national and regional boundaries
- affects large numbers of people
- is an underlying cause of events
- is connected to other issues that meet these criteria

What are some global issues you have read or heard about? Take a look through the newspaper and use these criteria to find global issues in the news today.

Climate Change as a Global Issue

Climate change is a good example of a global issue. Climate change is a result of both natural and human-induced factors. Natural events such as volcanic eruptions can contribute to climate change. One major way that humans contribute to climate change is through activities that release greenhouse gases such as carbon dioxide and nitrous oxide. Greenhouse gases are released into Earth's atmosphere when we burn fossil fuels (such as coal, oil and natural gas) for energy to heat our homes or run our cars. When greenhouse gases build up in the atmosphere, they trap heat from the sun near Earth's surface, causing temperatures on Earth to warm. Climate change is persistent and long-acting in that

it may take many years to be fully felt, and it will require similar time frames to be resolved. Climate change has proven to be "transnational," meaning that its effects are felt well beyond the borders of countries that contribute to it most. Climate change 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.

Climate change is also interconnected to many other issues such as food security and forced migration. For example, as sea levels rise, citizens of island nations such as the Maldives, Tuvalu and the Solomon Islands are moving to areas of higher elevation, abandoning low-lying areas. Some of these climate refugees have migrated to New Zealand and other larger islands, where they must find new homes and jobs.*

Because climate change is interconnected to other issues, efforts to reduce climate change could in turn positively impact other issues. For example, reducing carbon dioxide emissions through use of more sustainable energy sources such as solar power would also reduce air pollution and smog.

The Iceberg Model

One model that is helpful for understanding global issues is the iceberg model. An iceberg is a large piece of ice floating in the ocean. We know that an iceberg has only 10% of its total mass above the water while 90% of it is underwater. But that underwater 90% is what the ocean currents act on and what creates the iceberg's behavior at its tip.

Global issues can be looked at in this same way. If we apply the iceberg model to climate change, we would say that at the tip, above the water, are "events," or things that we see or hear about happening in the world, such as flooding below glacial regions in Nepal or increased desertification in Chad. Events we hear about in the news often represent the iceberg tip.

If we look just below the water line, we often start to see patterns, or the recurrence of events. This might be multiple floods around the world or years of

worsening desertification. Patterns are important to identify because they indicate that a given event is not an isolated incident.

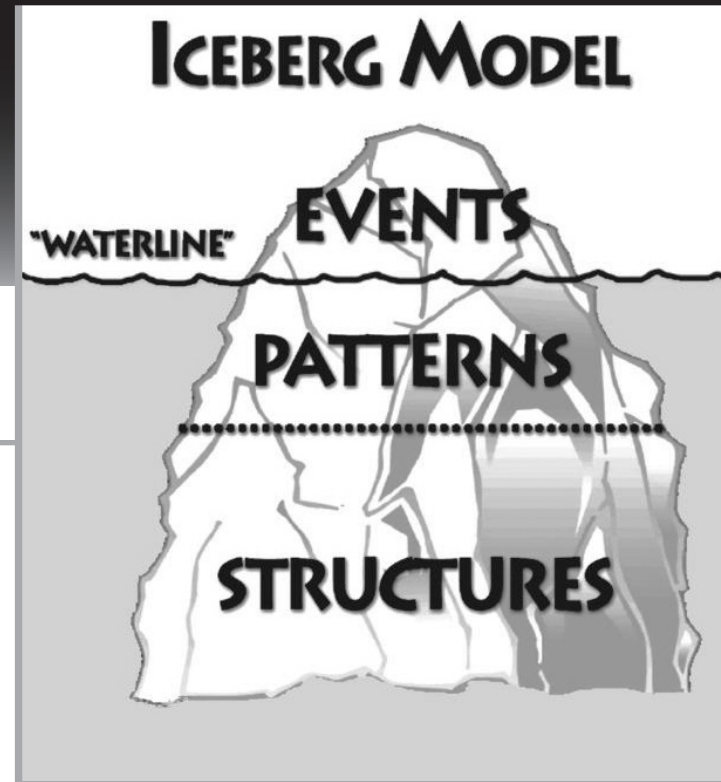
Like the different levels of an iceberg, deep beneath the patterns are the underlying structures or root causes that create or drive those patterns. For example, the flooding of New Orleans from Hurricane Katrina may be a symptom of a much larger problem of increased hurricane frequency and intensity.** These observed changes in weather are thought by many to be the result of long-term climate change. The devastating effect of Hurricane Katrina on the poorest citizens of New Orleans also highlights the potential of climate change to disproportionately impact the poor.

Finally, at the very base of the iceberg are the assumptions and worldviews that have created or sustained the structures that are in place. The important thing to understand is that in solving problems, changing the underlying structure will have the greatest effect on the events at its tip. To reduce human contributions to climate change, we will need to examine the assumptions and worldviews that have contributed to climate change. Can we use cleaner sources of energy for electricity? Can we build cities in such a way that people can walk or ride their bikes more easily? Can governments regulate the amount of greenhouse gases released into Earth's atmosphere?

Tune in on Friday for a more in-depth look at climate change and a closer look at solutions to this global issue.

* Alex Kirby, "Pacific Islanders Flee Rising Sea," *BBC News Online*, October 9, 2001. <http://news.bbc.co.uk/1/hi/sci/tech/1581457.stm>

** P. J. Webster, G. J. Holland, J. A. Curry, and H.-R. Chang, "Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment," *Science*, September 16, 2005, 1844-1846.



Activity

- ❖ Visit World Wildlife Fund's Climate Witness Web site www.panda.org/climatewitness to read about the effects of climate change witnessed by people all over the world. You can also learn what people are doing to stop climate change from further impacting their homelands.

Take Action!

- ❖ Interview a *climate witness*. Ask an older relative or community member to explain how climate (temperatures, rainfall, long-term weather patterns) has changed during his or her lifetime.

Global Issues and Sustainable Solutions

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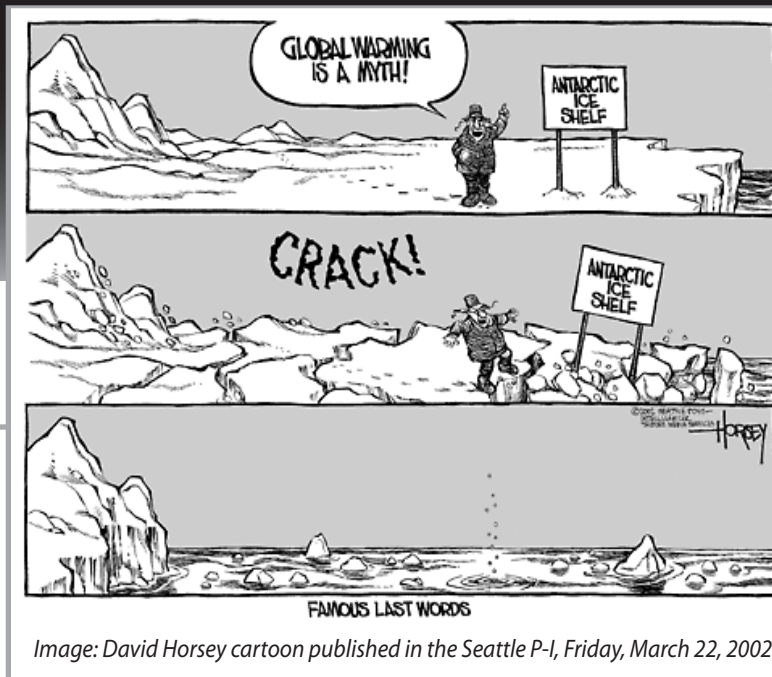


Image: David Horsey cartoon published in the Seattle P-I, Friday, March 22, 2002.

The Seventh Generation

Sustainability means that we meet our own needs without limiting the ability of people in the future to meet their needs. The “seventh generation” viewpoint of the Native American Iroquois Confederacy is a good example of what sustainability is all about. This viewpoint requires that tribal leaders consider the effects of their actions on their descendants through the next seven generations.

Finding Sustainable Solutions for Climate Change

Sustainable solutions to problems that people are facing today not only deal with present challenges, but also consider the well-being of future generations. The key to sustainability is first knowing what is necessary for a good life, and then figuring out how most people can have that and how future generations can have it as well.

Sustainable solutions to climate change must consider three broad areas: environment, economy, and society — each of which must be healthy and viable over time. Let’s look at a possible solution for climate change and whether or not it can be considered sustainable.

Wind energy can be used in many places to provide electricity without releasing the greenhouse gases that cause temperatures on Earth to rise. For wind energy to be a sustainable solution that will benefit us for many generations, it must be environmentally, economically and socially sustainable. Does wind energy provide a way to meet our needs today in such a way that future generations can also meet their energy needs?

Let’s first consider if wind energy is environmentally sustainable. If wind is a sustainable resource, this means that wind energy cannot be used faster than it can be replaced, or substituted for, and that its use does not damage the environment. How many and what kinds of resources are used for wind energy, and what kind of waste is created? How does its use impact ecosystems?

Next let’s examine the economic sustainability of wind energy. If wind energy is economically sustainable, it will have a positive impact on economic systems. Is it affordable? Does it create meaningful work and contribute to a community’s economic development?

Finally, let’s consider if wind energy is socially sustainable. Being socially sustainable means that it will not harm cultural and traditional resources and it will not benefit certain people while harming others. Does use of wind energy improve quality of life for all people? Does it preserve the cultural traditions or social institutions of present or future generations?

Two Types of Solutions

Throughout this series we will explore some “personal solutions” that individuals can take to bring about a more sustainable world. We will also discuss “structural solutions” that address the underlying causes of problems and often require action by governments, nations and large organizations.

Both types of solutions are important because the solutions to many of the issues facing us today are interconnected. For example, you may not be able to recycle (a personal solution that can reduce your greenhouse gas emissions) if recycling services are not available in your community. You can, however, encourage local governments to offer recycling in your community (a structural solution).

It’s All About You!

In many ways, sustainability is about making choices as an individual. The choices we make as individuals influence the choices that we make as a society. And the choices we make as a society can have a global impact.

Eating foods grown closer to home can reduce carbon emissions from transporting food long distances. Using buses, trains and bicycles to get where you need to go rather than using a car can also reduce your contributions to climate change. Recycling helps, too: It takes less energy to make an aluminum can, plastic bottle or piece of paper* from recycled materials than from raw materials.

It’s About All of Us!

Structural solutions occur primarily through government decisions and policies. All governments, regardless of their type, create policies and laws that encourage or discourage certain economic and social behaviors in their populations and in other nations. Policies designed to reduce the greenhouse gas emissions that contribute to climate change have been created at all levels of government, both in the United States and abroad.

Some schools have even gotten involved in structural solutions. Redmond High School and other schools are working to reduce their greenhouse gas emissions as part of the Cool Schools program. They set targets each year to reduce the greenhouse gas emissions produced by their school and then measure the progress of their energy conservation and recycling efforts.

Activity

- ❖ Send a letter to your U.S. senator telling him or her about your climate change concerns. Ask him or her to take a specific action (such as signing a climate treaty or supporting development of energy sources that do not emit greenhouse gases). To find your senator’s name and address, visit www.senate.gov/general/contact_information/senators_cfm.cfm.

Take Action!

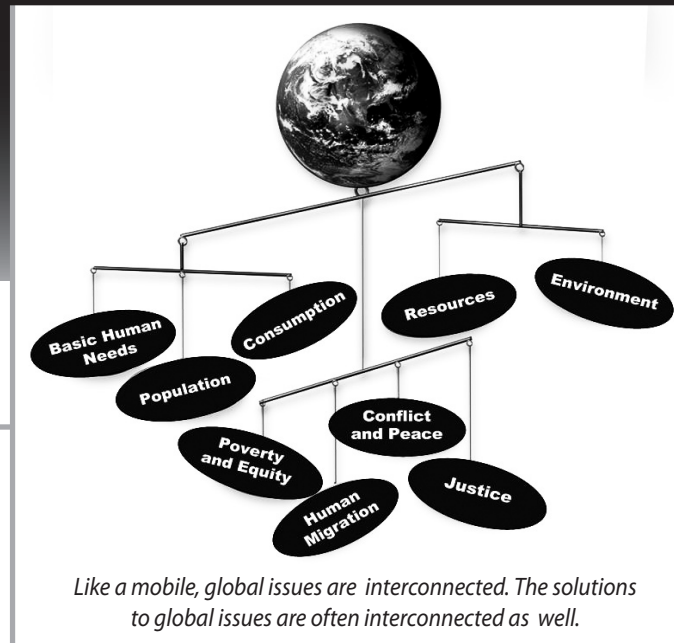
- ❖ Visit www.facingthefuture.org and click on *Fast Facts & Quick Actions* under *Latest News from Facing the Future*. Click on *Climate Change*, then choose one quick action and get started. Be sure to tell your friends and family how you are taking action on climate change, and get them involved.

* Guy Dauncey and Patrick Mazza, “Stormy Weather: 101 Solutions to Global Climate Change” (Gabriola Island, BC: New Society Publishers, 2001).

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"Nature provides a free lunch, but only if we control our appetites."

— William Ruckelshaus, first EPA Administrator

People and the Planet

There are certainly many people on the planet right now (about 6.6 billion, in fact!) — twice as many as there were just 40 years ago and 78 million more than just one year ago. Even in the time it takes to read this paragraph, about 80 more people will have been added to the planet.¹

That seems like a large amount of growth. But are there too many people? Have we grown beyond Earth's ability to support us all? Scientists use a term called "carrying capacity" to figure this out. Carrying capacity refers to the maximum number of people the planet can support (or "carry") now, without using up resources that future generations will need to support themselves. In other words, carrying capacity is the number of people that is sustainable — not using resources faster than the earth can reproduce them.

What's Your Shoe Size?

Because it's difficult to determine Earth's exact carrying capacity, some scientists have developed another way to study the impacts of human population and consumption. They use a concept called "Ecological Footprint."

Each person has an Ecological Footprint, the area of Earth's productive surface that it takes to support that person. This includes farmland, pasture and fishing grounds to provide food, as well as forested area to provide lumber and paper. It takes into account freshwater resources such as lakes and rivers. It includes all the area necessary to provide energy and jobs and dispose of wastes (including carbon dioxide). It also includes buildings, roads and recreational areas.

Ecological Footprints vary tremendously with each person's lifestyle and resource consumption choices. Experts calculate that the average person in India has a Footprint of about 2 acres. That means that 2 acres of land are required to support the average person in India, supplying that person's food, shelter, energy, oxygen and waste disposal needs. By comparison, the average Footprint is 6.4 acres in Mexico, 13.8 acres in France, and 23.7 acres in the United States.² This is an average, and some people in each of these countries have Footprints that are bigger or smaller.

An acre is about the size of a football field. So now you can imagine the size of these people's average Footprints and see the differences between them. If everyone on Earth had a Footprint the size of the average U.S. citizen (24 football fields apiece), it would take *five more planets* to support us all.³

As population grows, the total human Footprint on Earth grows too. If the average level of resource consumption per person increases, the human Footprint on Earth also increases. If both population and resource consumption per person increase — as is the case today — the total human Footprint on Earth grows even faster. The size of our Ecological Footprint can affect other species when we use environmental resources they depend on.

What Can We Do to Reduce Our Footprint?

If more people means a bigger global Footprint, then stabilizing our population is one way to limit our Footprint on the planet. If we reduced world population over time, we would have even more resources available for each person.

Another way to shrink our global Footprint is through technology. Much of the human Footprint today is taken up by the wastes we create, especially the land and

water area needed to absorb our carbon dioxide emissions. The good news is that there are some technologies — such as more effective farming techniques and more energy-efficient appliances — that allow people to consume resources while lowering their Footprint.

Of course we can also shrink our Footprint by reducing resource consumption. Some of this can be done by understanding what we truly need and not consuming more than we need. This means looking closely at how we live, including how much and what kind of food we eat, how we get around, what we do for recreation, and what we choose to buy.

One challenge is that some people in the world desperately need to increase their consumption of resources. There are 1.2 billion people who live in extreme poverty around the world; they need more food, more education, more health care, and more fuel and energy resources. Only after their basic needs have been met and when they have economic options can these people make choices about sustainable consumption.

Ultimately, the number of people Earth can support depends on the choices we make. Every day, each of us makes decisions about our lifestyle, our economic system, our values and what kind of world we want to live in. What kinds of choices can you make that will help enhance Earth's carrying capacity?

¹ About 253 new people are born worldwide every minute. U.S. Census Bureau, February 4, 2008, <http://www.census.gov/cgi-bin/ipc/pcwe>.

² Based on 2003 data from Global Footprint Network, "Ecological Footprint and Biocapacity (2006 Edition)," http://www.footprintnetwork.org/gfn_sub.php?content=global_footprint.

³ Based on data from World Wildlife Fund (WWF), "Living Planet Report 2006." WWF International, Switzerland, 2006. http://assets.panda.org/downloads/living_planet_report.pdf

Activity

- ❖ Measure your Ecological Footprint by visiting www.myfootprint.org, and answer this question: If everyone lived like you, how many planets would we need?
- ❖ You can compare your Footprint to average Footprints around the world by viewing the National Footprint Results from the Global Footprint Network at www.footprintnetwork.org.

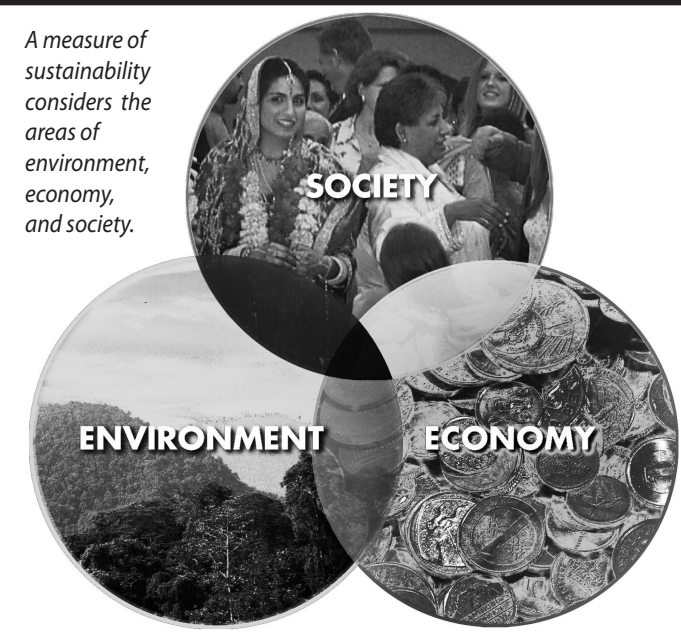
Take Action!

- ❖ Do a trash audit. Write down everything you throw away during the course of one day. Evaluate your list to see if any of the items you threw away could be reused or recycled in your community. Share your findings with your friends and family members, and then get started reducing and recycling your waste.

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Activity

- Think of at least two ways that you can reduce your Ecological Footprint by altering your energy consumption and carbon dioxide emissions. Share your ideas with everyone in your home. If you work together, you will have an even greater impact (plus, you might get a little moral support for trying something new!)

Take Action!

- Visit www.facingthefuture.org and click on *Fast Facts & Quick Actions* under *Latest News from Facing the Future*. Click on *Energy*, then choose one quick action and get started.
- Don't forget that next Tuesday is Earth Day; this is a perfect opportunity to celebrate and spread the word about the actions you are already taking through this newspaper series. Stay tuned for more ideas on how you can make your school, and your life, more Earth-friendly in the weeks ahead!

Energy in the Sustainability Puzzle

The largest component of the world's Ecological Footprint is energy. As you may recall, an Ecological Footprint is the area of land and sea required to support a particular human lifestyle. Energy is required for everything we do! We need energy to cook, to heat our homes and to travel from place to place. By learning about the resources required for different types of energy use and the kinds of wastes produced, we can investigate the sustainability of our energy use.

Energy sources, or fuels, are often categorized as renewable or nonrenewable. Renewable sources can provide us with energy indefinitely. For example, solar energy is a renewable resource because it is continuously created by the sun. Coal, on the other hand, is a nonrenewable source of energy because it can take millions of years for new coal to be produced.

Nonrenewable Energy Sources

Fossil fuels, such as coal and petroleum oil, are energy sources that are produced by the decomposition of prehistoric plants and animals. Burning fossil fuels has many environmental impacts, such as acid rain and smog. Also, when we burn fossil fuels, carbon dioxide and other gases are released into Earth's atmosphere. Carbon dioxide (CO₂) is a greenhouse gas that increases temperatures on Earth's surface by trapping the sun's heat. According to scientists from the Intergovernmental Panel on Climate Change, climate change caused by greenhouse gases could lead to droughts, rising sea levels and extreme weather events.

Burning fossil fuels is unsustainable not only because of its effects on Earth's atmosphere; fossil fuels are also nonrenewable resources. After we use them, they will not be replaced in our lifetime.

Renewable Energy Sources

Approximately one-third of all energy in the world is used for electricity in buildings, such as homes and offices.¹ While energy for use in buildings can be obtained from nonrenewable sources such as oil or natural gas, it can also be obtained from renewable sources such as solar, wind, geothermal and water resources. These energy sources are renewable because they can be replenished when we use them. Because they are renewable and produce far fewer greenhouse gases than fossil fuels, these energy sources are more sustainable than nonrenewable energy sources.

Wind energy is an example of a growing source of renewable energy. The U.S. Department of Energy reports that wind captured from just 6 percent of U.S. land area has the potential to supply more than 1.5 times the amount of energy currently used in the United States! Wind power is clean, abundant and inexpensive.

Transportation accounts for almost 30 percent of worldwide energy use.² Many renewable energy sources can help us get around. For example, gasoline-electric hybrid cars rely partially on a gasoline engine and partially on an electric motor. Biodiesel is a fuel created from vegetable oil; it can be used as an alternative to petroleum-based diesel (a fossil fuel). Ethanol is an alcohol made from grains or other plant materials; it can be mixed with gasoline to create a fuel that produces less CO₂ when it is burned.

You may already have guessed that human power is also a renewable source of energy. You can get around on your skateboard, bicycle or feet without polluting the air.

You Have the Power!

We can all reduce our Ecological Footprint by using sustainable sources of energy. One way to promote

renewable energy resources is to purchase "green power," or electricity generated from sustainable sources. Purchasing green power instead of nonrenewable sources of energy reduces greenhouse gas emissions and supports the development of sustainable energy sources. Your household can contact your local electricity provider to inquire about purchasing green power.

Conserving energy is another way that everyone can have a positive impact on the earth right now. "Conservation" is the careful use and preservation of natural resources, such as forests and water. We can conserve energy by making simple changes in our lives at home and at school to reduce energy use. Did you know that 5 percent or more of your home's electricity is "leaked" from appliances and other electronics that are turned off but still plugged in?³ At home, turn off lights, computer equipment and appliances when you are not using them to save energy.

Your voice can be a powerful tool for creating change. You can teach others about the importance of reducing energy use and using renewable energy sources when possible. Just think: If you persuade just one other person to live more sustainably, you'll have twice the impact that you would alone!

¹ *Worldwatch Institute, State of the World 2004 (New York: W. W. Norton & Co., 2004), p 32.*

² *Worldwatch Institute, p 28.*

³ *Michael Woods, "Pulling the Plug on Electricity Leaks," Pittsburgh Post-Gazette, May 8, 2005.*

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“No single measure would do more to reduce disease and save lives in the developing world than bringing safe water and adequate sanitation to all.”

– UN Secretary-General Kofi Annan, Millennium Report

How Much Water Is Available?

Imagine all the ways you use water each day: drinking, cooking and bathing. “Potable” water is clean and drinkable fresh water. What would your life be like if you did not have easy access to potable water?

Water is a renewable resource because it can be replaced as it is used — but there is a fixed amount of water on Earth. The following are some basic facts from the U.S. Geological Survey about water on Earth:

- Of all water on Earth, 97% is salt water in the oceans
- Of the remaining 3% that is fresh water, approximately 70% is frozen in the polar icecaps; the other 30% is mostly present as soil moisture or in underground aquifers
- Less than 1% of the world’s fresh water is readily accessible for human uses

Where Does Our Water Come From?

Aquifers (large, underground lakes) are a major source of drinking water. Humans drill wells into aquifers in order to pump the water out. Some aquifers get recharged by rainwater draining into the ground. Others called “fossil aquifers” recharge extremely slowly, over millions of years, if at all. Once they’re pumped dry, the stored water is essentially gone forever.

The Ogallala Aquifer in the United States, for example, after years of being used for farming, has fallen sharply in some areas and run completely dry in others. As a result, farmers in parts of the U.S. Great Plains have faced water shortages. Some farmers have been forced to stop irrigating their land altogether.

Water from rivers, another important source of freshwater, is replenished by precipitation and snowmelt. This water is often diverted for uses such as dams for producing electricity and water for irrigation. Great rivers such as the Nile in Africa, the Ganges in India and the Huang He in China have all been impacted by dams. The Colorado River in the United States often runs dry before reaching the sea because of reduced snow in the Rocky Mountains and increased human demands for its water.

Water Stress

There are different causes of water stress in different places. In some places, one community’s need for water may reduce another community’s water supply.

In other regions, water stress may be the result of climate change. Rivers and aquifers are both fed by rain and snowfall. Climate change can cause weather patterns to shift, which sometimes means that rain and snow fall in smaller amounts or in different places. Snow is particularly important because it stores the water over time, gradually releasing it as the snow melts.

Currently, 745 million people face water stress or water scarcity, which means they can’t get enough water throughout the year to meet their needs.¹ In the next few decades, up to two-thirds of the world’s population will be affected by water scarcity.² Many of the places experiencing water scarcity are also experiencing rapid population growth, which results in more people competing for access to water. Water scarcity in many parts of the world has led to predictions that in this century, wars will be fought over who has access to water.

Fortunately, there are many ways we can conserve water so that more people can use this essential resource.

Providing Enough Water for Everyone

Seventy percent of all freshwater is used for growing food and raising crops. Because agriculture requires a large amount of water, one way to conserve water is to irrigate crops more efficiently. Researchers have found that there are many ways to grow the same amount of food while using less water

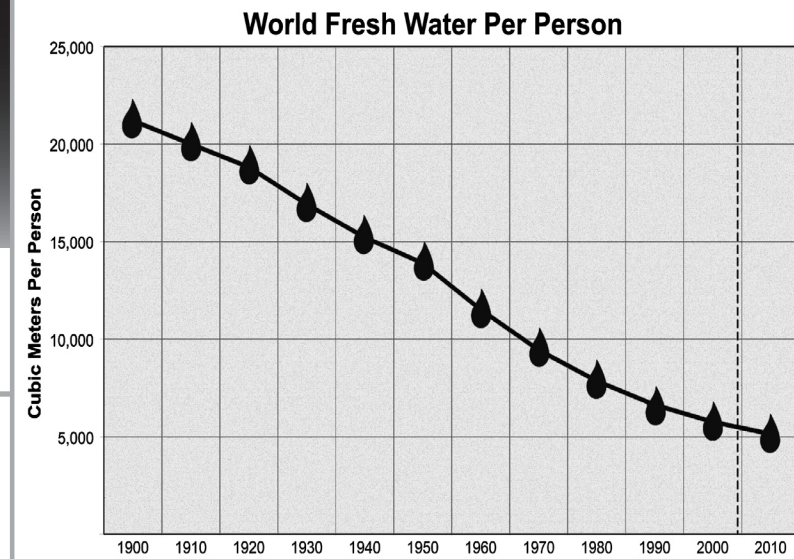
for irrigation. Technologies such as drip irrigation and irrigating less often but with more precise timing can save up to 25 percent of the water used to grow crops.³

Another key to water conservation is growing food that requires less water to produce. It takes about 37 times more water (1,260 gallons) to raise 500 calories-worth of beef than it does to grow 500 calories-worth of corn.⁴ The cow itself doesn’t drink this much water, but most cattle today are fed grains such as corn — and those grains require water to irrigate them. If people around the world eat a diet of foods that require less water to produce, there will be more water available for other uses.

What Can You Do?

There are many international organizations committed to improving access to safe water supplies around the world. Other groups such as the Washington State Department of Ecology are working to ensure availability of water locally. You can help preserve water resources through water conservation measures. Water conservation can help address local and global water availability issues. How can you use less water at home? How could your school conserve water?

- ¹ *Population Action International*, “People in the Balance” (Update 2006), http://216.146.209.72/Publications/Reports/People_in_the_Balance/Interactive/peopleinthebalance/pages/?s=2.
- ² *Falkenmark, M., A. Bernzell, A. Jagerskog, J. Lunquist, M. Matz and H. Tropp*. “On the Verge of a New Water Scarcity: A Call for Good Governance and Human Ingenuity.” *SIWI Policy Brief. Stockholm International Water Institute, 2007*.
- ³ *WorldWatch Institute*, *State of the World 2004*, New York: W. W. Norton & Co, 2004. Pp 47 and 53.
- ⁴ *Ibid.* P 54.



The fixed amount of water on Earth means that as population increases, the available water per person decreases.

Activity

- ❖ Test your water IQ. Go to <http://savingwater.org/kids/> to explore the source of the water you use every day, and how you can use water wisely.

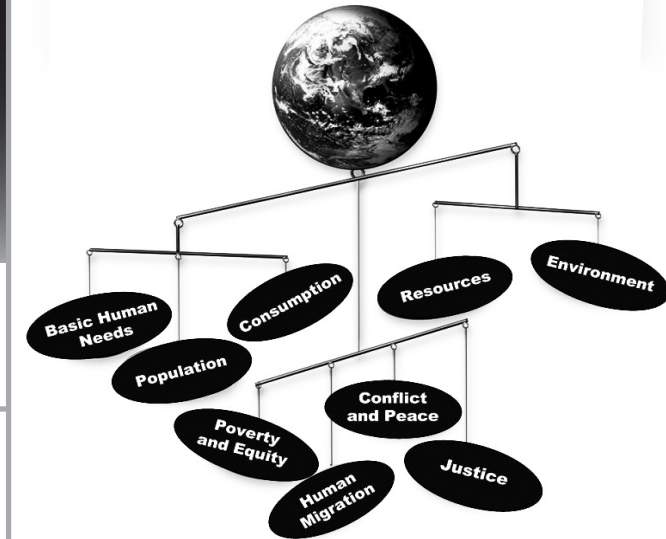
Take Action!

- ❖ Visit www.facingthefuture.org and click on *Fast Facts & Quick Actions* under *Latest News from Facing the Future*. Click on *Water*, then choose one quick action and start tackling water issues today!

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Like a mobile, global issues are interconnected. The solutions to global issues are often interconnected as well.

The Ocean Planet

Living in Washington, we are surrounded by water — Puget Sound, Hood Canal, the Columbia River, the Pacific Ocean. It also falls from the sky on a regular basis. With water all around, it can be easy to take it for granted and not think about how human actions can impact the waters that are so much a part of this state and our lives.

Nearly 95 percent of all space available for life on the planet is within the world's oceans. Oceans dominate world weather systems. They function somewhat like the human circulatory system, absorbing and redistributing heat around the globe and watering Earth's surfaces. Humans depend on the ocean for much of their oxygen, and also as a habitat for fish that are the main source of protein for 1 billion people.¹

Human Impacts on Ocean Health

The oceans are so big that it would seem like humans couldn't significantly impact their health. Unfortunately, the facts tell a different story. Many human activities cause damage to ocean ecosystems. The good news is that you have the power to make positive contributions to ocean health. Read on for ways you can help!

Marine Pollution and Solutions

You may have seen a storm drain on the street with a fish stencil painted near it and the words "Dump No Waste: Drains to Stream." That stencil is there to remind us that much of the rain that falls on the ground ends up in the nearest body of water. That runoff takes with it whatever chemicals may be on the ground it washes over — oil that leaks from a car, or agricultural or lawn chemicals. These substances are a type of pollution called "nonpoint source pollution," which is pollution that doesn't come from one specific place or source. Nonpoint source pollution includes industrial chemicals and agricultural pesticides, as well as nutrients such as fertilizers and animal waste.

Trash that enters the ocean is a different kind of marine pollution. Any long-lasting man-made material (like plastic)

that enters the marine environment is known as "marine debris." Some examples of trash found in the ocean include tires, fishing nets and plastic shopping bags. This debris can harm many kinds of animals, including whales, fish, seals, turtles, sea birds and corals. Animals can get tangled in marine debris or they may try to eat marine debris, mistaking it for food.

You can prevent nonpoint source pollution and marine debris from entering ocean environments by disposing of trash properly and not putting any waste in storm drains. You could even label storm drains so that other people will know not to put garbage in them. If you have a pet, cleaning up your pet's waste will also help keep our waters clean.

Fishing for the Future

Marine biodiversity (the variety of ocean life forms) is important for healthy ocean ecosystems. Maintaining high ocean biodiversity supports marine food webs. Unfortunately, numerous species of fish are suffering from overconsumption by humans. Between 1950 and 1994, ocean fishers increased their catch 400 percent by doubling the number of boats and using more effective fishing gear. In 1989, the world's catch leveled off at just over 82 million metric tons of fish per year. That was almost 20 years ago, and we're not catching any more fish than that today because the oceans can't produce more than that.²

Sustain fish and shellfish populations by eating only sustainably harvested seafood. Find out which types of seafood are best to eat by visiting Monterey Bay Aquarium's Seafood Watch Web site: www.montereybayaquarium.org/cr/seafoodwatch.asp where you can download a seafood guide to carry with you.

Exotic Species: Local Pests

Another threat to marine biodiversity is nonnative, or exotic, species. Eighty-four percent of the world's coastal waters are affected by nonnative species.³ These species can be introduced to a new marine area when they are accidentally transported in ships' ballast water and

discharged into environments where these species did not previously live. (Ballast tanks are large tanks of water that stabilize ships.) A local example of an exotic species is the European green crab, which has been found in Grays Harbor and Willapa Bay on the Washington coast. The commercial Dungeness crab fishery is important to the economy of Washington state. According to the Washington Department of Fish and Wildlife, European green crabs may beat out native Dungeness crabs for food and habitat, which could harm the Dungeness crab fishery.

You can help to prevent nonnative species from entering Washington state ecosystems and reducing local biodiversity. Never release nonnative plants or animals into the wild.

Small Actions Can Make Big Waves

The immense size of the oceans and the time lag between a damaging human action and its final impact on oceans may allow people to remain unaware of their impact on the world's oceans. But the reality is that many of our actions can have a large effect on marine environments. It is important that we work to protect our "blue planet." Can you think of other ways that we can protect the world's oceans?

- 1 *Shunji Sugiyama, et al., FAO Regional Office for Asia and the Pacific, "Status and Potential of Fisheries and Aquaculture in Asia and the Pacific," 2004.* <http://www.fao.org/docrep/007/ad514e/ad514e00.htm>
- 2 *Monterey Bay Aquarium, "What's Troubling Our Waters," February 25, 2008.* http://www.mbayaq.org/cr/seafoodwatch/sfw_of.asp
- 3 *Andrew C. Revkin, "Human Shadows on the Seas," New York Times, Feb. 26, 2008.*

Activity

- ❖ Visit the Surfrider Foundation's Web site to learn more about nonpoint pollution and ways you can help reduce it: www.surfrider.org/20_ways.pdf. Based on the Surfrider Foundation's suggestions, what are two ways that YOU can promote ocean health?

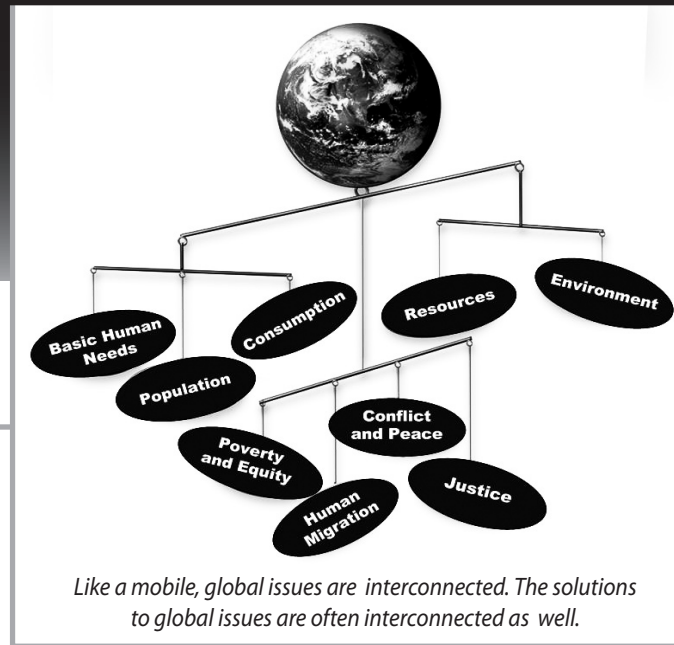
Take Action!

- ❖ Download a Seafood Watch card from Monterey Bay Aquarium: www.mbayaq.org/cr/seafoodwatch.asp. Carry this card with you and use it to determine which seafood is a good choice for maintaining healthy oceans.

Global Issues and Sustainable Solutions

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"In making sure that other species survive, we will be ensuring the survival of our own."

– Wangari Maathai (2004 Nobel Peace Prize Laureate and founder of the Kenyan Green Belt Movement)

The Source of Our Stuff

Can you think of anything you use that doesn't come from nature? Even man-made items such as laptop computers originally come from the earth. Our clothes, food and homes are all made of resources that the earth produces. The electricity we use to power our homes and the fuel we use to power our cars, buses and airplanes also come from Earth's resources.

How we use Earth's resources affects the present and future supply of these resources — or their sustainability. Sustainability means using the resources we currently need without limiting the ability of future generations to have the resources they need. The natural environment is one important component of sustainability.

Some of Earth's resources are renewable, meaning they can be restored or replenished at basically the same rate that we use them. Forests and fish are examples of living resources that may be renewed through natural processes, careful management and conservation. Wind, water, tides and solar radiation are examples of nonliving renewable resources.

Other resources are nonrenewable, meaning they exist in fixed amounts and cannot be quickly renewed or restored by natural or human processes. Nonrenewable resources include metals, minerals (including gold and silver) and fossil fuels (such as oil, gas and coal). Resources such as soil and water may be considered either nonrenewable or renewable, depending on circumstances. For example, water is often considered a renewable

resource. Yet, some underground water reservoirs (or aquifers), such as the Ogallala Aquifer in the southwestern United States, take over thousands of years to replenish.

The availability and use of renewable and nonrenewable resources are important because they largely determine how many people the earth can support now and into the future.

The Tragedy of the Commons

"Commons" are those resources that all members of a community may use, without payment. Examples include rivers and lakes, the air we breathe and the vast oceans that no one person can own. What commons are you using right now?

Garrett Hardin was a biologist who came up with a concept to describe how humans tend to use the natural resources that we share: "The tragedy of the commons." Commons can be destroyed when people use or pollute resources so heavily that they are no longer available for others to use. There are a number of examples of the tragedy of the commons: pollution of the air and atmosphere, deforestation and overfishing fish stocks in global waters.

Fishy Business

Fish is a key food source in the world today. One billion people rely on fish as their primary source of animal protein.¹

When there is no catch limit, a fisherman's best short-term interest is to catch as many fish as possible before others take home a larger share of the total catch. As the total number of available fish gets smaller, fishermen compete even more intensively to pay for their salaries, boats and fuel. Technology also plays a role as faster boats and improved fishing technology speed this race to a point where the fish stocks become too low to support a fishery. At this point, fishermen

often shift to harvesting other fish species. This tragedy of the commons can repeat itself until many stocks are diminished or overfished.

A Success Story²

How can we avoid the tragedy of the commons with wild fisheries? Sustainable fisheries can preserve fish species and provide humans with valuable protein. Alaskan fisheries are an example of sustainable management of the commons. The management of Alaska's major commercial species — salmon, pollock and cod — has been certified as sustainable by the Marine Stewardship Council.

It wasn't always that way. Alaskans learned about sustainability the hard way when salmon were overfished in the 1950s. Tough measures that limited catches were put in place. Slowly, the salmon runs were built up to record levels that have continued since the 1990s.

As a result of these efforts, not all fishermen can get a permit or catch as much as they would like. But many agree that the regulations have resulted in stable catches, increased efficiency and lower operating costs to fishermen, higher market value for fish and safer working conditions for fishermen.

The lesson from Alaska is that protecting common resources ensures that they are available for future generations.

¹ *Shunji Sugiyama, et al., FAO Regional Office for Asia and the Pacific, "Status and Potential of Fisheries and Aquaculture in Asia and the Pacific," 2004. <http://www.fao.org/docrep/007/ad514e/ad514e00.HTM>.*

² *Information from the Marine Conservation Alliance Foundation (MCAF) and National Oceanic and Atmospheric Administration (NOAA), Personal Communication, September 12, 2007.*

Activity

- ❖ Create a web diagram of all the resources required to make your favorite item of clothing. Start by drawing the item in the center of a large piece of paper. Next, think about the different parts of the item. For example, jeans are usually made of cloth as well as a zipper or buttons. Write or draw those parts surrounding your center picture. Think about where those materials come from. A zipper is made of metal. Where did that metal come from? What resources or vehicles are required to obtain, process and transport the metal? Write all of the environmental resources used on your web diagram. By the end of this activity, you will probably have a larger web diagram than you would have thought!

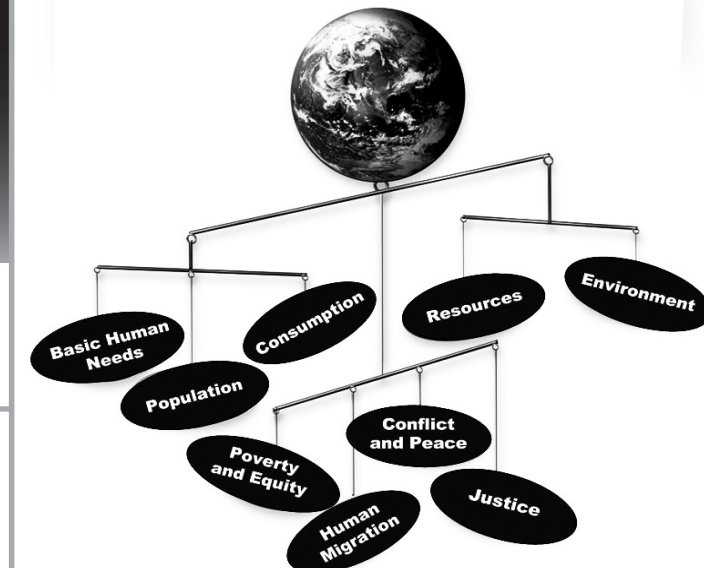
Take Action!

- ❖ Join Plant for the Planet's "Billion Tree Campaign," and be part of a global reforestation effort. Visit www.unep.org/treeplanting/plantfortheplanet/ to learn more.

Global Issues and Sustainable Solutions

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Like a mobile, global issues are interconnected. The solutions to global issues are often interconnected as well.

Earth's Resources

Earth produces everything that human beings need to survive — food, water, shelter and energy — as well as the beauty and diversity of nature. Does this mean that we can expect our planet to keep meeting our needs forever, no matter how we use its resources? Consider these facts:

- During modern times, half of the planet's tropical rain forests have been destroyed or degraded
- On average, three unique plant and animal species become extinct every hour¹

Variety Is the Spice of Life!

The health of the planet depends on the health of its many ecosystems. An ecosystem is a community of organisms (plants, animals, fungi and bacteria) that function as a unit together with their environment. The interdependence among diverse organisms and their environment defines and shapes an ecosystem. When any species is taken out of an ecosystem, the entire ecosystem is affected. The variety of life in all its forms is called "biodiversity."

Unfortunately, the world's biodiversity is disappearing. Each year as many as 27,000 species of animals, plants, insects and microorganisms vanish forever.² Mountain gorillas, giant pandas and snow leopards are just a few of the more well-known animal species on the brink of extinction. Many scientists believe that between 20 percent and 50 percent of all species on Earth could disappear in the next 30 years.³ Loss of habitat is the main threat to terrestrial species that are classified as "threatened" or "endangered" by the International Union for Conservation of Nature and Natural Resources.

Beans, Birds and Biodiversity

In the developing world, many farmers cultivate a single cash crop such as coffee or cocoa rather than produce staple food crops. In the 1980s, to meet rising worldwide demand for coffee, forests in Latin America and other developing regions were extensively cut and replaced with high-yield coffee trees that grow in the sun. This resulted in hillside erosion and habitat loss for many species, especially for birds like the western tanager that depend on the shade of the forest for survival. Additionally, the extensive use of pesticides to maximize coffee tree yields often pollutes nearby rivers and the lungs of coffee workers.

Agriculture workers in the coffee industry often toil for long hours in difficult conditions, and many small coffee farmers earn prices for their coffee that are less than the costs of production. This perpetuates a cycle of poverty and debt, as farmers borrow money to get from one coffee season to the next. Thankfully, of the 25 million coffee farmers in the world, approximately 1 million farming households in the Southern Hemisphere alone have already improved their living conditions as a result of sustainable coffee production.⁴

The United States consumes about one-fifth of the world's coffee, more than any other single country. Fortunately, people in the U.S. can now purchase "shade-grown," "organically certified" and "fair trade" coffee. Shade-grown coffee promotes higher biodiversity than sun coffee because it can be grown without clearing forests. Organic coffee is grown without the use of pesticides, which is a benefit to biodiversity and farmers' health.

Fair Trade certification assures consumers that a fair price is paid to coffee farmers. To become Fair Trade certified, an importer must pay a minimum price per pound, provide credit to farmers and offer technical assistance such as learning organic farming techniques.

The dominant player in the world coffee market is Starbucks, holding about 25 percent of the world market share. Since 1998, Starbucks has developed programs to lessen its environmental impact by promoting biodiversity and economic well-being. These practices include ecologically sound growing and harvesting, reduction of emissions during roasting, use of recycled materials for the storage and transport of beans and use of recycled paper coffee cups. A portion of Starbucks coffees are shade-grown varieties and purchased at fair-trade prices.

Many other coffee roasters and sellers are also promoting sustainable coffee production. Some coffee roasters have gone a step further than buying Fair Trade certified beans by directly purchasing the beans from coffee farmers rather than buying them from a broker. This practice is called "direct trade."

Purchasing a cup of coffee may seem like a small choice, but consider the millions of cups of coffee consumed each day. All of our small choices have a large collective impact. By making choices to sustain Earth's ecosystems, we can help the planet continue to meet basic human needs.

¹ E. O. Wilson, *The Diversity of Life* (New York: W. W. Norton & Co., 1999).

² *Ibid.*

³ Louis Harris and Associates, "Biodiversity in the Next Millennium," 1998 poll conducted on behalf of the American Museum of Natural History. <http://research.amnh.org/biodiversity/crisis/crisis.html>.

⁴ International Institute for Sustainable Development, "IISD Brews Up Sustainable Coffee Report," September 18, 2003. http://www.iisd.org/media/2003/sept_18_2003.asp

Activity

- ❖ Learn more about coffee and biodiversity by visiting www.shadecoffee.org. Click on *Shade Coffee*, then *FAQs* and answer these questions:

- How does shade-grown coffee support increased biodiversity?
- Why do you think biodiversity is important?

Take Action!

- ❖ Take action to preserve the world's rainforests. Visit www.facingthefuture.org and click on *Fast Facts & Quick Actions* under *Latest News from Facing the Future*. Click on *Rainforests*, then choose one quick action and start making a difference today!

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*"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.

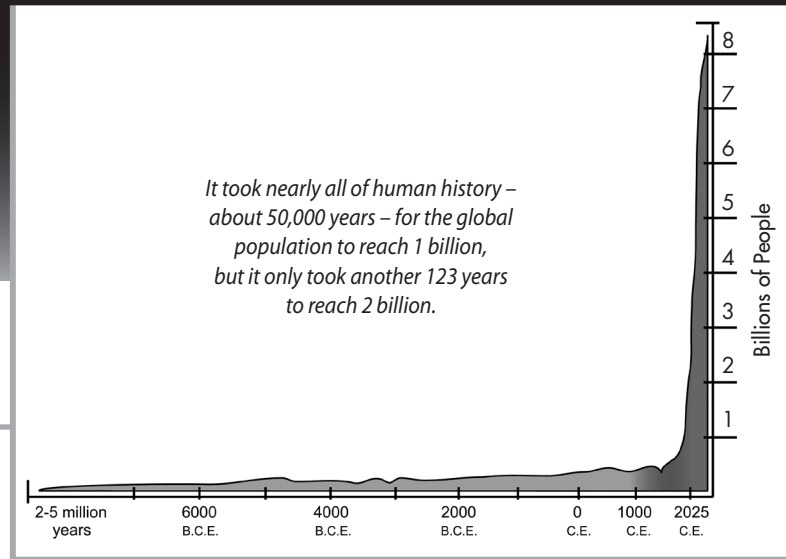
The fertility rate for a society is the average number of children born per woman. Although many developing countries are currently experiencing high fertility rates, worldwide fertility rates have come down, from an average of five children per woman in 1950 to 2.8 children per woman in 2004. However, 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?

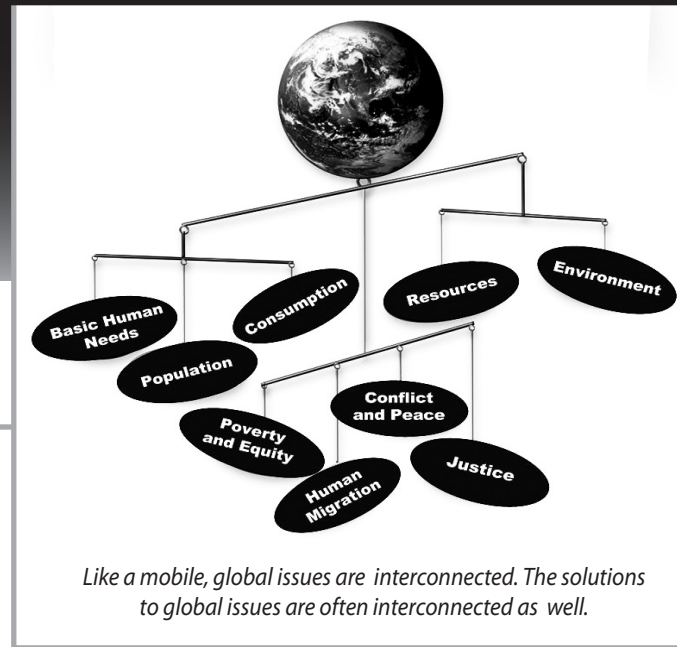
Take Action!

- ❖ 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.

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How Are We Growing?

Each year there are more and more people on Earth. Population projections suggest that by 2050 there will be over 9 billion people living in the area where 6.6 billion of us live now.¹ How and where will world population change? With almost half of the world's population under age 25, world population will increase by several billion when those young people start families over the next few decades.² Currently 95 percent of all population growth occurs in developing countries. India is expected to soon surpass China as the world's most populous country. Meanwhile, shrinking populations are predicted for some developed countries such as Japan, Russia and the nations of Europe.³

These population statistics and trends have important consequences, especially when combined with other global issues such as poverty. Of the 5.2 billion people living in developing countries, nearly 60 percent do not have basic sanitation, and one-quarter lack proper housing. Twenty percent do not have access to modern health services, and 20 percent of children do not attend school through grade five.⁴ Given these harsh realities, people in poorer countries may rely on large extended families to make a living and to care for the elderly. For example, in rural areas, people need help to gather cooking fuel, carry water, grow food and tend livestock. Yet because disease and malnutrition (inadequate or unbalanced nutrition) kill many children before they grow up, large families are often seen as a necessity. This tends to keep fertility and population growth rates up, which can have the effect of perpetuating poverty, illness and conflict over limited resources.

How Many People Can the Earth Support?

An important concept in looking at population growth is that of Earth's "carrying capacity." Carrying capacity is the number of people the Earth can support without using resources faster than the planet can reproduce them. Experts disagree on this number because carrying capacity depends on a number of debatable factors: the type and quantity of available resources; how these resources are distributed; how much of the resource each person uses; and people's relative quality of life.

Another variable in determining carrying capacity is whether or not people believe that areas need to be left for plants and wildlife, in addition to providing for humans and their immediate needs.

Sustainable Solutions to the Population Puzzle

Population growth and the associated demand for resources bring urgency to other pressing global issues such as poverty, conflict and environmental degradation. Stabilizing population growth could allow humans to live within Earth's carrying capacity and improve quality of life for many people. Given that people in wealthier countries on average have large Ecological Footprints, reducing Footprints in these countries is another important way to live within the carrying capacity of the planet.

Personal Solutions

At some time in their lives, most people will need to make a decision about family size. Family planning is perhaps the most important personal solution to population growth and carrying capacity.

Because of relatively higher rates of consumption of the average person in the United States compared to many other parts of the world, reducing our Ecological

Footprint is another possible solution to population-related issues. Here are a few ideas to get you started on shrinking your Footprint:

- If you or your family is going to buy a new car, consider getting one that is fuel-efficient and minimally polluting.
- Whenever you can, use your feet, a bicycle, a skateboard or take a bus to get around.
- Eat one fewer meal including meat each week. Production of meat requires many more resources than production of nonmeat protein sources.

Can you think of other humane ways in which individuals can personally address population growth and carrying capacity issues?

Structural Solutions

Many structural actions can be taken to help stabilize human population growth. One important step is providing primary health care around the world in order to lower infant and child mortality, increase life expectancies and provide other essential services. If families had access to basic health care — which prevents most childhood deaths — many families would have only the number of children that they ideally want. Reproductive health care is an important part of primary health care.

- 1 *Population Reference Bureau, "2007 World Population Data Sheet,"* http://www.prb.org/pdf07/07WPDS_Eng.pdf
- 2 *U.N. Population Fund, "State of World Population 2003,"* <http://www.unfpa.org/swp/2003/swpmain.htm>.
- 3 *U.N. Department of Economic and Social Affairs, "World Population Prospects: The 2004 Revision,"* <http://www.un.org/esa/population/publications/WPP2004/wpp2004.htm>.
- 4 *U.N. Family Planning Association, "The State of World Population 2001,"* <http://www.unfpa.org/swp/2001/english/ch01.html>.

Activity

- ❖ According to the U.S. Census Bureau, in 1950, the population of Seattle was 467,591. Visit www.census.gov to find out the population of Seattle in 2000. Calculate the rate of increase from 1950 through 2000. Based on your findings, estimate the population in the year 2050. Then answer the following questions:

- How will your life change as a result of increasing population?
- In what ways do you think Seattle will look different in 2050?

Take Action!

- ❖ Find alternative uses for materials currently being thrown in landfills (such as tires, cell phones and computers) in your community. Develop a project to support the reuse of at least one of these items in your home, school or community.

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"Food is our common ground, a universal experience."
— James Beard, American chef and food writer

Food for All

There are two big challenges to feeding the human population. The first is ensuring that people can get the basic food they need and that our food distribution systems work so that no one is seriously malnourished or starving. In this article, we will examine this challenge and some possible solutions.

The second challenge is to make sure that the way we produce food is sustainable so that the systems that support all life on Earth are not damaged. Tune in on Friday to learn more about this challenge and its solutions.

The United Nations reports that today more than 840 million people in the world — mostly women, children and the elderly — are hungry. This isn't because there's not enough food to go around. In fact, there is now more food grown than ever before.

Then Why Are People Going Hungry?

Even though there is more than enough food for everyone, the food is not distributed equally. In some cases, even if food is available, some people do not have the money to buy it. In other cases, a specific group of people may be prohibited from accessing food resources. In many cases, governments in poor countries sell the food they grow to other countries in order to pay their debts instead of using it to feed their people. Armed conflict also can lead to hunger when farmers are forced to abandon their lands.

People in wealthier or developed countries consume much more food and calories than do people in developing countries. This is primarily due to a high

consumption of animal-based foods. In India, the average person eats about 11 pounds of meat each year, while an average person in the United States eats about 269 pounds.¹ In fact, the consumption of food is so out of balance that more than 1 billion people, mostly in developed countries, are now overnourished to the point of being overweight or obese.²

Yet, even in the United States, millions of people live in households that experience hunger or the risk of hunger. Here in Washington state, approximately 100,000 residents are chronically hungry.

Causes and Effects of Malnutrition

All of us have probably experienced some form of hunger at some point in our lives. Can you remember a time when you were very hungry? What did it feel like? Were you able to think about anything else?

Malnutrition is a lack of healthy foods in a person's diet, which can negatively impact their growth and development. Malnutrition can be caused not only by lack of food, but also by eating poor-quality food. In developing countries, poor-quality food usually lacks sufficient nutrients, but in wealthier developed countries, poor-quality food is usually those items high in fats, salts and sugars. Obesity, due to poor-quality food, is rapidly becoming a worldwide problem as unhealthy Western foods — primarily fast foods — are becoming more popular.

Providing Food for Today and Tomorrow

Over the past 50 years, food production has grown faster than the rapidly growing population, and is predicted to keep growing faster than population through 2030. Yet experts believe that people will still go hungry in many parts of the world unless poverty and unequal food distribution systems are addressed.

Many organizations are dedicated to making sure that all people have access to food. Some are large intergovernmental organizations, such as the United Nations World Food Programme (WFP), which provides food for people in regions facing severe hunger and food shortages. WFP addresses the root causes of hunger, such as poverty, population and armed conflict, through programs that boost economic development, agricultural production and food security.

A large number of nongovernmental organizations (NGOs) are working on solutions to hunger. One such organization is Heifer International, whose programs provide livestock and training in livestock care to people in need around the world. Donors purchase gifts of domestic animals, such as goats, cows or chickens, for poor communities; residents are then trained to care for their animals and harvest their milk or eggs.

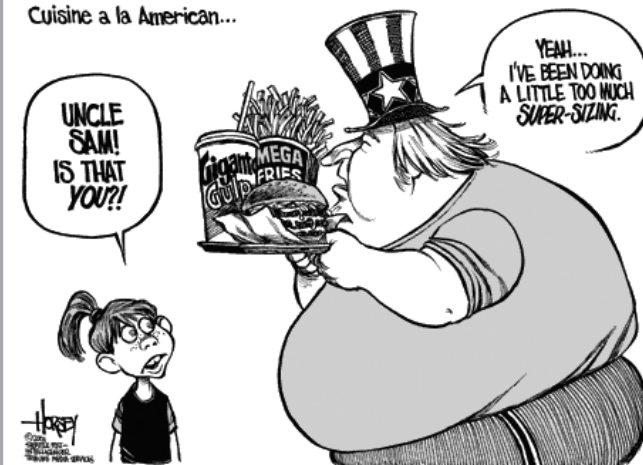
Other groups are working to ensure greater access to food locally. Most schools provide free meals to students who might not be able to purchase lunch. Many food banks, including Second Harvest and Northwest Harvest, help to distribute healthy food to families in Washington.

What measures can you take to help address food needs locally or globally?

¹ Norman Myers and Jennifer Kent, "New Consumers: The Influence of Affluence on the Environment," *Proceedings of the National Academy of Sciences*, April 15, 2003, <http://www.pnas.org/cgi/content/full/100/8/4963/T3>.

² Lester R. Brown, "Plan B Rescuing a Planet under Stress and a Civilization in Trouble," *Earth Policy Institute*, 2003, www.Earth-policy.org/Books/PlanB_ch5_socialdivide.pdf.

Cuisine a la American...



Horsey cartoon from June 14, 2001 – Uncle Sam super-sizing

Activity

Visit the United States Department of Agriculture's food pyramid page at www.mypyramid.gov. Click on *My Pyramid Plan* and enter your information to see your customized food pyramid. Then answer the questions below:

- How many servings of fruit should you eat each day?
- What kinds of vegetables are best for you?
- What kinds of foods should be the largest portion of your diet?

Take Action!

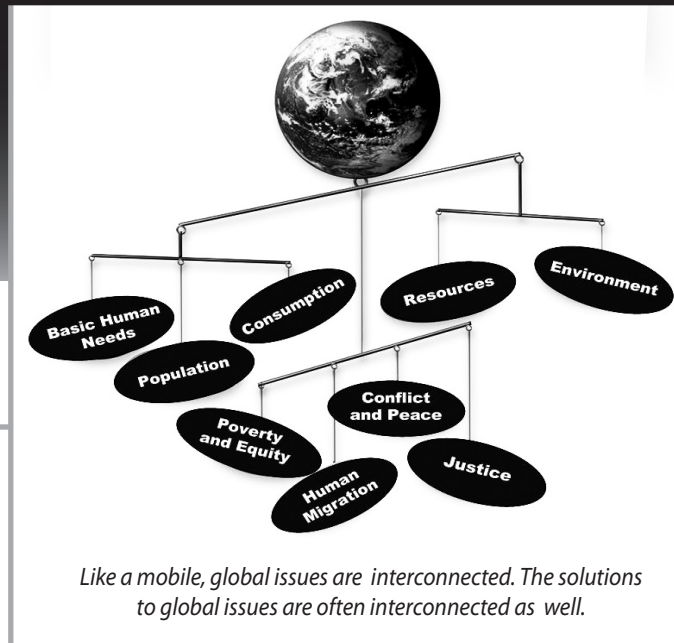
Does your community have what it takes to help end food security problems? Find out what kinds of foods are readily available in your neighborhood. Create a list of 10 foods that are part of a healthy diet. Think carefully about which foods are most healthy: fresh or processed fruits and vegetables, organic or nonorganic dairy products, fish or beef, etc. Visit the grocery store closest to your house and see if all 10 foods you listed are available. If not, talk to the store manager about why you think he or she should sell those foods.

Learn about other ways you can ensure food security in your community at www.foodsecurity.org/what_you_can_do.pdf.

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A Growing Food Supply

People have not always farmed. In fact, for thousands of years people lived as hunter-gatherers, following animal migrations and the seasonal growth of plants. During this time, population remained fairly stable as the number of people who died was about the same as the number of people who were born.

About 12,000 years ago, people began to grow their own food, which allowed population to grow as well. Slowly, farming evolved to support growing civilizations around the world.

Around the middle of the last century, agriculture went through a transformation called the Green Revolution. Fertilizers, pesticides, hybrid seeds, new machinery and irrigation projects began to be used around the world. These new agricultural practices and technologies dramatically increased crop yields, helping to feed a growing world population. By the 1960s, monocultures (fields where only one crop is grown) and heavy dependence on chemical fertilizers, pesticides and herbicides had become the norm in agricultural production worldwide.

Many of the Green Revolution's gains in food production have had an environmental cost. Converting forests, wetlands and prairies into farmland has resulted in a loss of valuable habitats for people and animals. Intensive irrigation (the artificial application of water to farmland) has led to a buildup of small amounts of salt and other minerals found in water over time. Eventually, these saltier soils are not able to produce as much food. Also, pesticides and fertilizers have been carried by water runoff into lakes, rivers and ground water, posing a danger to humans and other species.

Farming for the Future

The challenge we face now is to continue to grow enough food for everyone *without* continuing to damage the systems that support all life on Earth. Already, farmers around the world are using farming techniques that have been proven to protect the health of the soil and environment. This type of food production is often called "sustainable agriculture."

Sustainable agriculture can reduce soil erosion through reduced tillage. In some cases, a crop may be planted without first plowing the soil, which causes soil erosion. Crop rotation is another sustainable agriculture technique. By not planting the same crop year after year in the same ground, farmers are able to keep the soil full of nutrients and minerals for future crops. A third sustainable farming technique is to water crops more efficiently using techniques like drip irrigation that use only enough water for the crops to grow.

"Organic farming" is one form of sustainable agriculture. Instead of killing weeds and pests with man-made chemicals, organic farming uses other methods to fight pests. Some organic farmers work to increase numbers of predator insects like ladybugs that eat pest insects. Rather than using non-natural fertilizers, organic farmers often use decaying plant material (called "compost") and animal manure to provide important nutrients that plants need to grow.

Organic farming methods can reduce our contributions to climate change. Cattle raised organically on grass have been found to emit 40 percent less greenhouse gases than cattle raised on grain.¹ By eating a natural diet of grass rather than grain, cows actually release less methane, a greenhouse gas that leads to global warming.

These are just a few of the agricultural innovations that are taking place. Now let's talk about how you can contribute to the sustainable food movement.

Eat Well

Eating sustainably grown food is one way that you can make sure our planet can continue to meet our needs now and into the future. To eat sustainably, we have to learn about what we're eating. If you have ever grown your own food, you already know a lot about what goes into the food you eat. If you have never grown food, you can ask your teacher or a parent if you can take a field trip to a nearby farm or dairy. You could also visit a community garden or talk to the vendors at a farmers market.

When shopping for groceries, we can ask questions and learn more about ingredients. Requesting sustainably grown food will encourage stores and restaurants to provide more sustainable choices. Also, when we buy locally grown food, we reduce the carbon emissions from transporting the food to us.

If you're wondering what locally grown organic food is all about, do a taste test. This summer, you could do a taste test between a locally grown organic tomato or peach and one that has been grown using traditional methods and shipped from far away. Do you think they will taste different?

Sustainable, healthy and tasty food is making its way into school cafeterias. A chef in California started a program called the "Edible Schoolyard," which helps students to grow, harvest and cook food at their school. If your school does not already have a garden and you'd like to get your hands dirty, you may want to tell your principal and teachers about this! You and your friends can create change that benefits the entire school by encouraging your school or district to provide food choices that are sustainable and healthy.

¹ *Worldwatch Institute, State of the World 2008, New York: W.W. Norton & Company, 2008, p 65.*

Activity

❖ Learn about genetically modified (GM) foods by visiting Wikipedia at http://en.wikipedia.org/wiki/Genetically_modified_food. Read the entry to learn what GM foods are grown in the United States, and discuss the following questions with another student in your class:

- Will food security be attained through the higher yield levels of genetically modified food technology, or will these new technologies compromise food security by endangering the well-being of humans and ecosystems?
- Should people focus on increasing food supplies by producing more genetically modified foods, or should they focus on limiting demand for food by controlling population growth and altering their diet?

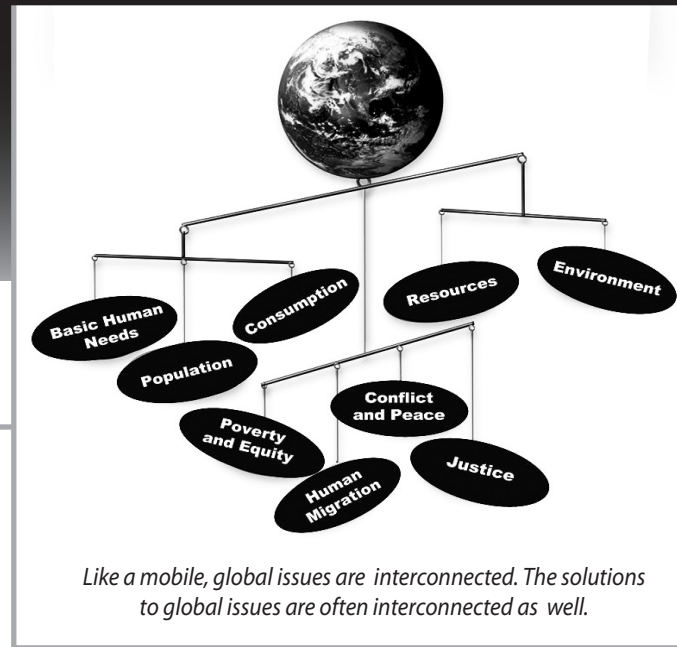
Take Action!

❖ Visit www.facingthefuture.org and click on *Fast Facts & Quick Actions* under *Latest News from Facing the Future*. Click on *Hunger* and choose one quick action to make an impact on hunger solutions today.

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“Well-fed people have many problems; hungry people have only one.”

— Chinese proverb

Poverty in Numbers

Nobody chooses to be poor. Yet many people in our world live in poverty. According to the United Nations Development Programme (UNDP), two out of every five people on the planet (2.8 billion people) live on less than \$2 per day, and one of every five people (1.2 billion people) live on less than \$1 per day. Imagine what it is like to be Jyoti, a girl in India who lives in a mud house. Jyoti lives in poverty. Her village has no electricity, running water or doctor. She works all day instead of attending school.

While many poor people live in developing countries, poverty is also a problem in wealthy nations. Over 12 percent of people in the United States live in poverty, which is defined as an annual income of less than \$21,000 for a family of four.¹ Consider Joan, a woman in her 40s who is a hostess at a restaurant in Florida. She lives in a van and showers in a friend’s motel room. Joan cannot afford to miss a day of work or see a doctor when she is sick.

The Haves and the Have-nots

Poverty relates to how wealth is distributed around the world. There is an extreme imbalance of wealth both in the U.S. and around the world. The wealth of the world’s 200 richest people is equal to the combined annual income of the world’s poorest 2.5 billion people.² The U.S. has the largest imbalance of wealth. In 2005, the wealthiest 1 percent of Americans earned almost a quarter of all U.S. income.³

A community or region where poverty is present inevitably affects neighboring communities and countries. For example, those who “have not” tend to migrate in search of what they need to survive. Those who “have” often try to secure their land and

resources so they can continue to have access to food, education, health care and safe neighborhoods. This dynamic can cause fear, tension, hostility and conflict from both the “haves” and the “have-nots.”

The Poverty Cycle

Because the effects of poverty are also the causes of poverty, people often say that poverty is cyclical. Most people living in poverty were born into poverty. This makes it difficult for the poor to break the cycle.

Many policies and systems in place at local, national and international levels can keep the cycle of poverty going. For example, in some U.S. areas where schools are funded by property taxes, schools in low-income districts receive less money while schools in high-income districts receive more money. This system can prohibit students in low-income areas from receiving the best possible education, which could help them break the poverty cycle.

Some people think other systems such as agricultural subsidies contribute to the cycle of poverty. Subsidies are money paid by the government to farmers so that people can buy food at low prices while farmers still earn sufficient income. Because they receive money from the government, farmers can sell food such as corn to countries outside the United States for less than it costs to grow the corn. How do you think this could affect U.S. farmers and those in other countries?

Breaking the Cycle

Governments, organizations, companies and individuals all have important parts to play in combating an issue as complex and common as poverty. To address poverty, we must critically analyze and adjust the systems we have in place: our educational systems, international trade systems, economic models, political structures and health care systems. Simply giving money to those in need may address the tip of the iceberg but fails to tackle the problem at its roots.

One long-term solution to global poverty is to support fair trade, so that poor farmers receive fair rewards for their labor. Fair trade ensures that farmers are paid a decent wage for their product. For governments, this could mean adopting fair trade agreements with other nations. For individuals like you, it can mean buying from companies that practice fair trade.

Another solution is to provide basic tools for people who have nothing to lift themselves out of extreme poverty. Heifer International is one organization that does this. Heifer International provides poor people with farm animals and training, so that they can begin to make enough money to support their families.

An international effort to end poverty is the United Nations’ Millennium Development Goals (MDGs). In 2000, 189 leaders from around the world agreed to complete the MDGs by 2015. The MDGs include eight specific targets for improving the lives of the world’s poorest people, including eliminating extreme poverty and hunger.

The UN argues that we now have the money, resources and technology to end poverty once and for all. Tune in on Friday to learn more about how you can join the movement to end world poverty.

¹ DeNavas-Walt, Carmen, Bernadette D. Proctor and Cheryl Hill Lee, U.S. Census Bureau, *Current Population Reports, Income, Poverty, and Health Insurance Coverage in the United States: 2004*, U.S. Government Printing Office, Washington, DC, 2005.

² “Economics For Ever: Building Sustainability into Economic Policy,” PANOS Media Briefing No. 38, March 2000. <http://www.panos.org.uk/global/reportdownload.asp?type=report&id=1000&reportid=1006>

³ Greg Ip, “Income-Inequality Gap Widens,” *The Wall Street Journal*, October 12, 2007.

Activity

❖ Learn more about some of the organizations working to end global poverty by visiting these Web sites:

- Heifer International
www.heifer.org
- The Grameen Foundation
www.grameenfoundation.org
- Oxfam America
www.oxfamamerica.org

After you research these three organizations, share what you learned by choosing your favorite organization and sending the link to one or more of your friends.

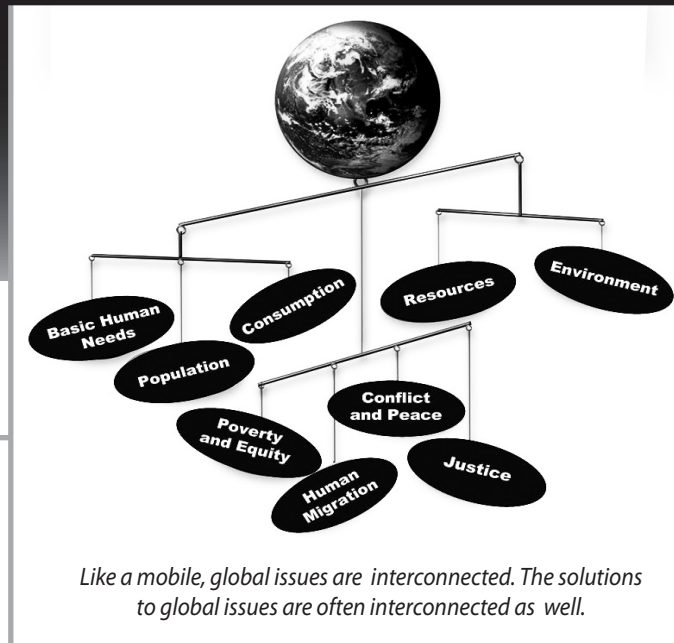
Take Action!

❖ Visit www.facingthefuture.org and click on *Fast Facts & Quick Actions* under *Latest News from Facing the Future*. Click on *Poverty* and choose one quick action to help eliminate extreme poverty.

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It's Not Just About Money

Poverty is a problem that affects people all over the world, including people here in the United States. Poverty affects every aspect of life and interconnects with many other issues including migration, conflict and violence, hunger, education, health and community well-being. How do you think poverty affects the issues just listed?

When we think about poverty, we often look at economic factors such as the number of people who live on less than \$2 a day or how much money people make in a year. But poverty is much more than an issue of money (or the lack thereof). Being poor means being deprived not just of food, shelter or safe drinking water, but also of things such as the opportunity to learn and to engage in meaningful work. Poverty is both an economic and a social issue.

Of course, economic growth is one key to reducing poverty. Another key is improving people's quality of life — ensuring that people have opportunities for long and healthy lives, education, a sufficient income and the ability to make personal life decisions. Without tools of empowerment such as health and education, an extra \$2 per day may provide an extra meal but may not break the cycle of poverty and improve quality of life in a lasting way.

What Does Prosperity Look Like?

What do you think a world without poverty looks like? While everyone may envision different details, all people want an environment in which we can develop our full potential and lead productive lives according to our needs and interests.

How we measure poverty and progress also affects how we work toward reducing poverty and increasing prosperity. Effective targets need to reflect human and ecological well-being. Most countries already measure the *quantity* of economic activity generated by their citizens through indicators such as average income or “gross domestic product.” Gross domestic product (GDP) is the total value of goods and services produced by a country. “GDP per capita” is the average amount of money a person earns during one year.

It is also important to examine the *quality* of economic activities through indicators such as how long people are expected to live, how clean our air and water are or how many people can read and write. These indicators are missing from traditional economic measures such as the GDP. Effective solutions to poverty must promote both economic and social progress.

Microcredit: A Powerful Solution

In 1976, an economics professor named Muhammad Yunus was visiting very poor households in Bangladesh when he realized that very small loans could lift people out of poverty. In 1983, Yunus helped found the Grameen Bank to provide loans to poor Bangladeshis. Since the Grameen Bank was founded, it has loaned money to more than 7 million people.

This system of providing very small loans to poor people, often poor women, is called “microcredit.” Microcredit is a powerful tool for helping break the cycle of poverty. As with any other form of credit, borrowers pay back the loaned money, with interest. A microcredit borrower might buy the materials to open a small store selling basic household supplies or buy a pot and bulk ingredients for selling simple snack foods on the street. Some borrowers take

out additional loans to expand their businesses — buying a second cow to sell even more milk in their village or building a simple hut with a tin roof to house a store.

The resulting income transforms borrowers' lives, enabling better nutrition, education, housing and health. Successful microcredit programs improve the economic well-being of whole communities. Women, who receive the majority of these loans, often use their earnings to support their families and community projects such as schools. In a 1998 study, the World Bank found that extreme poverty fell 70 percent within five years among borrowers of the Grameen Bank's microcredit program in Bangladesh.¹ Microcredit programs have branched out to reach rural and urban borrowers on nearly every continent, as well as in the United States.

You Can Create Change

Individuals can have a big impact on poverty. Here are a few actions you can take:

- Vote with your dollars. Support businesses that are environmentally sustainable and that provide workers with fair wages, safe working conditions and benefits such as health insurance.
- Become familiar with the Millennium Development Goals and support organizations that work to address poverty at its roots, both locally and worldwide.
- Volunteer with homeless shelters, food banks and other social service organizations that work to reduce the impact of poverty locally.

¹ RESULTS website, “Microcredit,” February 13, 2008, <http://www.results.org/website/article.asp?id=244>.

Activity

- ❖ Visit www.kiva.org, click on *Lend* and read about three or more entrepreneurs and how they plan to use their loan money. Then answer these two questions:
 - Do any of these projects surprise you?
 - How do you think these loan amounts compare to traditional loans for small businesses in the United States?

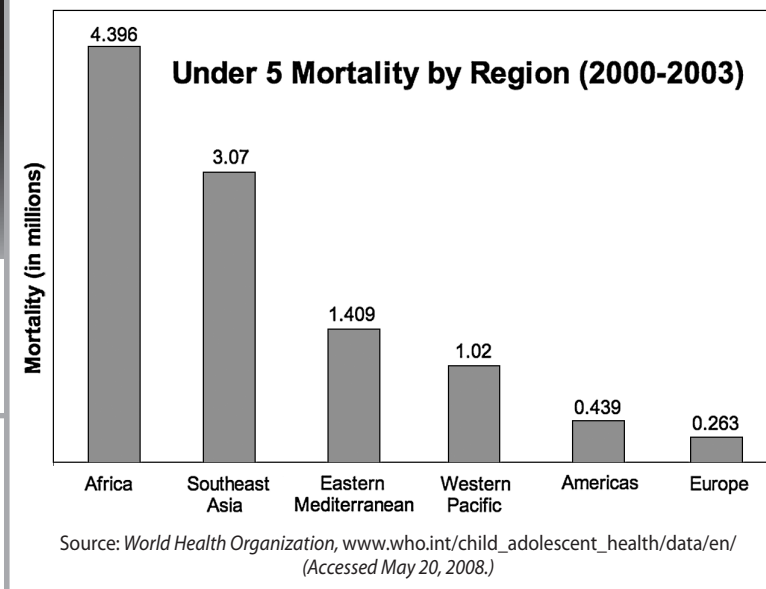
Take Action!

- ❖ Help people in your community that are struggling with poverty by holding a food drive. Consult with Northwest Harvest at www.northwestharvest.org to learn which foods are needed most and to coordinate your food drive. You can also download a Food Drive Kit from their Web site.

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“He who has health has hope, and he who has hope has everything.”

– Arabian proverb

A Global Checkup

Being healthy is something that everyone around the world cares about. Without good health, other aspects of a good quality of life — sufficient income, a good education and time spent with friends and family — are worth little. What current articles about health can you find in today’s newspaper?

Advances in medicine in the past 50 years have meant that more people around the world are surviving past childhood and the average life span is increasing. In fact, this has been one of the major reasons for population growth during the past 50 years. Yet many people struggle to meet the most basic human needs of food, water, shelter and personal safety.

Life expectancy (the number of years a newborn is expected to live) is significantly lower in the world’s poorer countries than it is in wealthier countries. Within wealthier countries there are also groups of people who have lower life expectancy. It is the women and children, especially in poorer countries, who suffer from illness and disease. Insufficient food and lack of clean drinking water are the main problems contributing to illness and disease.

Basic Need #1: Water

Lack of water can be fatal to those suffering from illnesses such as diarrhea, which causes people to become dehydrated. Consider these statistics from WaterPartners International:

- Approximately one in six people do not have access to safe drinking water
- Water-related diseases are the leading cause of death for children under the age of five

- 1.8 million children die each year from diarrhea

One organization working to improve health around the world is Partners in Health. Dr. Paul Farmer is one of the founders of Partners in Health. As a young man, Farmer traveled to Haiti to cure people living with tuberculosis (TB), a deadly but treatable infection of the lungs. In Haiti, he soon found that providing medicine was not enough — his patients needed food, clean water and access to health providers.

In one Haitian community, Dr. Farmer witnessed people climbing down a steep hillside to get their water from a reservoir of dirty, nonmoving water. Many people in the village were suffering from diarrhea; the foul water was making them sick. After learning this, a group of engineers devised a system to carry water to the village by pipes from a nearby river. This resulted in an immediate decrease in infant deaths.

Basic Need #2: Food

More than 30 percent of all childhood deaths are caused by malnutrition, according to a report from the Johns Hopkins School of Public Health and Aga Khan University in Pakistan. This is largely a problem for poor people who depend on basic food crops.

Yet, rich people are also affected by diet. Many people in wealthier countries suffer from overeating and unhealthy diets. In the United States, poor eating habits have led to increased rates of obesity, heart disease and diabetes. According to the Centers for Disease Control and Prevention (CDC), 33 percent of adults in the U.S. are obese, and 17 percent of children and adolescents are overweight.

Factors that contribute to being overweight or obese include nutrition and level of physical activity. The U.S. Department of Health and Human Services encourages us all to engage in physical activity, which includes playing sports, doing household chores and walking.

They also recommend increasing your intake of fruits, vegetables, whole grains and low-fat dairy foods.

Global Health Challenges and Victories

There are a growing number of health challenges in the world. Some diseases, like malaria, have been around for a long time, while new diseases, such as the West Nile virus, have recently emerged. The good news is that many people are working hard to prevent, treat and even eliminate these diseases.

One disease that has spread to all types of people in all corners of the globe is AIDS. Human Immunodeficiency Virus (HIV) is the virus that causes AIDS, a condition that includes symptoms such as infections and/or cancers. According to the World Health Organization, an estimated 33 million people worldwide live with HIV/AIDS. The CDC estimates that over 1 million Americans have HIV/AIDS.

Most health experts agree that the HIV/AIDS epidemic is the greatest threat to world health in terms of its proven potential for spreading. Although HIV/AIDS has reduced the average life span in some regions, people in countries such as Thailand and Uganda have been successful in limiting AIDS by encouraging education about how to prevent the spread of HIV. Educating yourself and others about HIV/AIDS and how to prevent its spread is one way that you can be part of a global solution.

Stay tuned for an in-depth look at the connections among health and other global issues in Friday’s Seattle P-I!

Activity

- ❖ Life expectancy is the average number of years that a person born today would be expected to live if the current mortality rate stays the same — that is, if the conditions affecting life do not change.

Choose a country that you want to know more about. Visit the World Health Organization (WHO) Web site at www.who.int/countries/en/ to learn more about health in your chosen country. Write three paragraphs about your country and offer a possible explanation for its average life expectancy. Share your findings with the rest of your class.

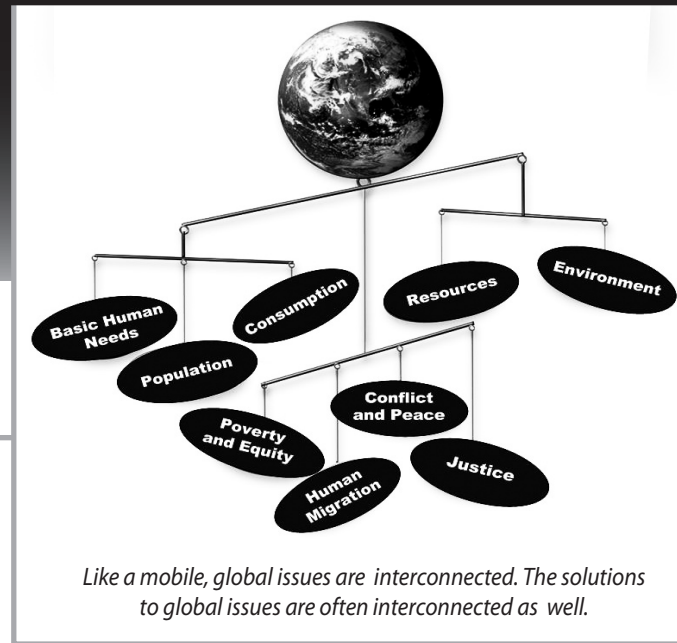
Take Action!

- ❖ Be part of a global solution for HIV/AIDS. Visit www.facingthefuture.org and click on *Fast Facts & Quick Actions* under Latest News from Facing the Future. Click on *HIV/AIDS* and choose one quick action to work on improving health around the world.

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What Is Good Health, Anyway?

What does good health mean to you? Many people think of health as the absence of illness. A broader definition of health is provided by the World Health Organization (WHO). WHO defines health as complete physical, mental and social well-being.

Health is a global concern connected to many other global issues such as poverty, the environment and education. Let's examine some interconnections and ways you can improve health and well-being for yourself and others.

Economic Equality: A Needed Booster Shot?

One issue connected with health is economic inequality. Economic inequality, sometimes called the rich-poor gap, refers to the difference between income levels of very poor and very wealthy people. Some research indicates that in wealthier countries there is a connection between economic inequality and the population's health.

In 2005, the United States ranked 30th in life expectancy, despite spending more money on health care than any other country. Researchers at the Population Health Forum, an organization founded at the University of Washington, believe that one major reason is our nation's large rich-poor gap. All of the 29 countries that have longer life expectancies also have greater economic equality among their citizens.

This raises some questions about the link between economic equality and physical health. Why do you think a smaller gap between rich and poor citizens might be related to better health in some countries?

How can we improve the well-being of our poorest citizens? While there are no easy answers, some possible strategies include increasing child care and educational services for people with low incomes.

Asthma and African Dust

Asthma is the most common chronic childhood illness in the U.S. According to the American Lung Association, 6.5 million children under 18 have asthma. Asthma is a lung condition that can make it difficult to breathe; in severe cases it can lead to death. Asthma attacks can be caused by many things, including allergens like pollen from trees and irritants like cigarette smoke and air pollution.

What does climate change have to do with asthma? This may seem like a strange question, but the answer may be even more surprising! Northern African soils are becoming drier and drier. This is due to several reasons, including drought, the drying of Lake Chad, and overgrazing — all of which are intensified by climate change.

Much of the dust from Africa is carried by winds across the Atlantic Ocean to Caribbean islands such as Trinidad and Barbados. Asthma rates on these two islands are the highest in the world, and dust from Africa is thought to be one reason. Dust from Africa has also reached Florida, where asthma rates have increased significantly over the last two decades.¹ This is a dramatic example of the impact that worldwide environmental and climate conditions can have on human health.

Fortunately, we can improve this situation, since we already know some steps we can take to reduce climate change. Can you recall some of the actions you've read about in this series? *Here are a few reminders:*

- Reduce your reliance on fossil fuels, which release greenhouse gases that warm the earth. You can do this by unplugging electronics when you are not using them and traveling by bus or bike instead of by car.

- Buy items produced close to your home. This reduces the fossil fuels and air pollution used to transport items from far away.
- Recycle and buy recycled products. Recycled products such as aluminum cans and paper require less energy (and therefore less fossil fuel) to produce.

Educate Yourself

You may never have thought about how education impacts your overall health. As it turns out, education has everything to do with health! There are examples all over the world of how educating women leads to better health of their children and families. Some researchers have also found that people who stay in school longer enjoy longer lives and better health during old age than people with less education.² Why do you think you might enjoy better health if you stay in school?

Improve your health and the health of others by learning more about health issues and solutions. For example, learning the signs of mental illness (see the National Association on Mental Illness: www.nami.org) could help you, a friend or a family member. Also, practicing good hygiene habits (see the Centers for Disease Control and Prevention: www.cdc.gov) could help you and others around you avoid illness.

What do you already know about good health habits, and what would you like to learn more about? Look through today's newspaper to see what else you can discover.

¹ Laurie J. Schmidt, "When the Dust Settles," *NASA Earth Science Enterprise Data and Services: Features*, May 18, 2001. <http://earthobservatory.nasa.gov/Study/Dust/>.

² Gina Kolata, "A Surprising Secret to a Long Life: Stay in School," *The New York Times*, January 3, 2007.

Activity

- ❖ In addition to what organizations are doing to address world health issues, there are actions you can take for a healthy life. Determine at least five factors that contribute to your physical and mental health. Set goals for these five factors in your life.

Take Action!

- ❖ Be a health ambassador: Learn and teach other students about good health habits. Visit Safe Kids Worldwide, www.safekids.org, the Washington State Department of Health, www.doh.wa.gov, and the CDC, www.cdc.gov for health and safety information. Then create an awareness campaign using posters, public service announcements, articles for your school newspaper, or pamphlets.

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"We buy a wastebasket and take it home in a plastic bag. Then we take the wastebasket out of the bag, and put the bag in the wastebasket."

— Lily Tomlin, comedian

Spending Spree

Picture all the things in your home, all the things in your neighbor's home and in your whole neighborhood. Here in the United States, many of us are used to having a lot of stuff. We don't even need very much money to be able to buy a lot of things or eat as much as we want. It wasn't always this way.

This purchase of goods and services is often called "consumption." In the last century, world consumption multiplied 16-fold, from \$1.5 trillion in 1900 to \$24 trillion in 1998.¹ During the same period, world population quadrupled; that means that overall consumption has increased four times as much as population has. People are buying a lot more stuff!

For hundreds of millions of people, increased consumption has meant more than just being able to meet their basic needs for food, water and shelter. A century ago, people could hardly have imagined many of the things we now take for granted, like shopping malls, airplanes and houses with electricity.

Not everyone has been part of the spending spree. Over two billion people in the world survive on less than \$2 a day. People living in extreme poverty need to *increase* their consumption in order to meet their basic needs for survival.

Consumption Costs

Even in wealthier countries, the rise in consumption has not been all good or equal for everyone. According to the U.S. Environmental Protection Agency, most of

what we buy ends up in landfills. Manufacturing and transporting all the things we purchase pollutes the air, water and soil with toxic chemicals, and releases greenhouse gases that contribute to climate change. Resources are being used up faster than they can renew themselves — which means we are losing many forests, natural areas and species of plants and animals.

While the wealthiest global citizens are the main consumers, the environmental damage from this consumption falls most severely on the poor. In both developed and developing countries, poor people are the ones most exposed to pollution, hazardous wastes, droughts, floods and deforestation. For example, landfills and power plants are usually located closer to poor people than to their wealthier neighbors.

The cycle of consumption is putting a strain on many people as well as the environment. In the United States, an increasing number of people are overweight, overworked and just plain stressed. We have more material goods but less leisure time because we are so busy making the money we need to support our lifestyle — and to buy more stuff!

Does This Mean We Have to Stop Consuming?

Of course not! But if we want a sustainable planet — one where future generations can enjoy plenty of resources and a healthy environment — we have to think about what and how we are consuming. One place to start is by not buying things we don't need, and by giving things we don't use to others who might need them. We can buy things that are reused or recycled (and make sure to reuse and recycle them when we don't want them anymore) and shop from companies that are committed to the health and well-being of their employees and the environment.

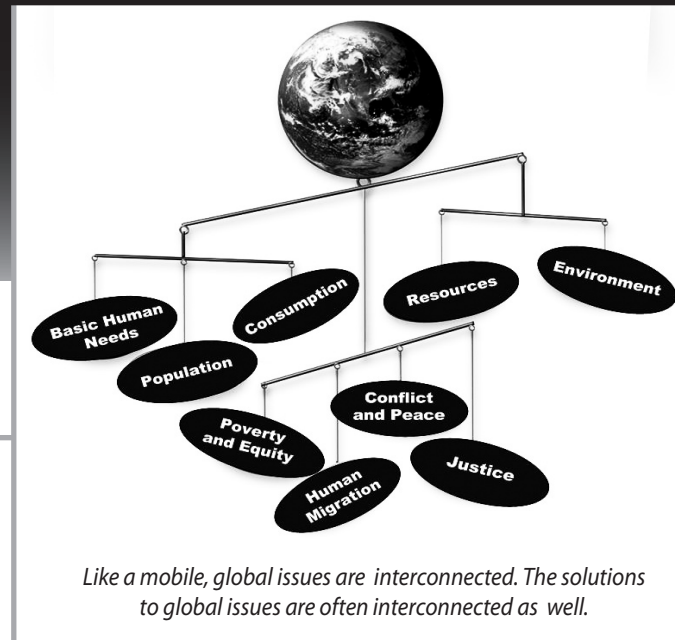
It's Up to All of Us

Governments can help ensure that the price of a product includes the environmental cost of producing and disposing of it. They can do this by providing economic rewards to companies that use renewable energy, efficient technology and clean production. Governments can also require companies to put labels on products to inform consumers about their lifecycle (how they were created and how people can dispose of them) and require companies to take back products at the end of their useful life. Some businesses are creating alternatives to products that eventually end up as waste, by making products out of components that can be reused again and again.

Governments can even affect our consumption of plastic bags. When we buy a plastic bag in the United States, we don't pay for its disposal. This changed in Ireland, when their government put a tax on plastic bags in 2002. Now almost nobody uses plastic bags in Ireland. Other countries and cities around the world have outlawed plastic bags entirely.

Ultimately, it's up to us to tell governments and businesses what we like, and the kind of information we want about the products we buy. What about the products you buy — how much do you know about them? Do they make you healthier and happier? How do they affect our environment? Would you be willing to pay more for them if you had to pay their true cost — including their disposal or recycling?

¹ *United Nations Development Programme, "Human Development Report 1998,"* <http://hdr.undp.org/en/reports/global/hdr1998/>.



Activity

- Go to www.newdream.org/walletbuddy.pdf and print out, cut and fold up "The New American Dream Wallet Buddy." Read the 13 questions on the buddy and highlight the questions that you think are most important to consider when purchasing a new item. The next time you are about to buy something, first pull out your wallet buddy and answer the questions you highlighted.

Take Action!

- Visit www.facingthefuture.org and click on *Fast Facts & Quick Actions* under *Latest News from Facing the Future*. Click on *Consumption*, then choose one quick action. Use what you learn to encourage your friends and family to make consumption choices they feel good about.

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Information Overload?

Everywhere you turn, you are likely to see and hear new information. "Mass media" refers to all of the ways that we communicate information (including television, radio and the Internet) to large numbers of people. In fact, the newspaper in your hands right now is a form of mass media. In this era of high-speed global connections, we can communicate with people across the globe through mass media.

Where do you get information about current events and world news?

Media, Democracy and Culture

While there are many benefits of mass media, there are also some issues that have people talking. One concern has to do with the topic of "democratic debate." Democratic debate means that all people can express their ideas and opinions.

In the past, United States media rules limited the number of news media outlets that one company could own, so that a variety of news sources were available to the public. Since the 1980s, however, media ownership rules have relaxed. Today the global media system is dominated by just five large companies, including Time Warner and Disney.¹ Some people worry that consumers may lose the variety of ideas that is essential to healthy democracies when the media are controlled by such a small number of powerful corporations.

Another concern about the role of media has to do with Western popular culture replacing traditional languages, art, music, religious practices and social values around the world.

Coca-Cola and McDonald's have already reached most countries.

On the other hand, media corporations can have a positive impact on culture when they enter countries controlled by corrupt political systems or countries that have significant state censorship over media.

And Now a Word From Our Sponsors ...

Many forms of media rely on advertising for financial support, and advertisers are increasingly targeting youth. According to the American Psychological Association, the average young person in the United States watches over 100 television ads every day, plus many more online, in magazines, movies, video games and on cell phones.

Many people may not think twice about advertising, but others have had enough. São Paulo, Brazil, the seventh-largest city in the world, banned most outdoor advertising altogether, citing "visual pollution." In the United States, billboards are illegal in Vermont, Maine, Hawaii and Alaska.

Where do you think advertising should and should not be allowed?

Consumer Beware and Be Wise

Advertising is not necessarily bad or good. In many cases, advertising gives us information so that we can make better choices. Commercial advertising helps potential customers learn about products. Advertising can also be used noncommercially: Think of public service announcements about health, energy conservation or security. What public service announcements can you find in today's newspaper?

As consumers, we benefit most from advertising when we think critically about its message. Many ads suggest that we need a particular product to fit in, look beautiful or seem smart. However, there are things advertisements don't tell us, such as how a particular product affects the environment.

Think about an ad that made you really want to buy a product. Why did the advertisement appeal to you? Do you think the advertisement told the whole story, or do you want more information about that product?

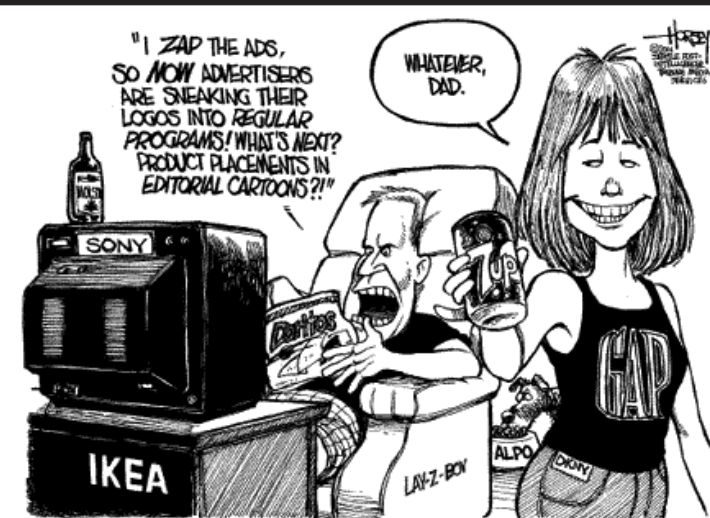
Putting the "Me" in Media!

Media is like democracy — it requires everyone's participation. It's important that we not only know the events of the day, but that we also consider how these events are related to each other and what causes them.

Communicating your ideas to others through blogs, podcasts and YouTube videos are all ways you can make your voice heard and share information with others around the globe. Plus, you can help other people make choices based on information that you provide. For example, you can rate and comment on products, shopping Web sites, restaurants and all sorts of things.

In many ways, each of us is a walking message, expressing ourselves through what we wear, how we live and what we say. Whether we wear designer brands or make our own clothes, or carry disposable or reusable cups, our choices are likely to influence the choices that others make. What message do you want to send?

¹ *World-Information.org*, "The Big Five of Commercial Media," March 14, 2008, <http://world-information.org/wio/infostructure/100437611795/100438659010>



Horsey cartoon from June 28, 2001 – advertising

Activity

❖ Do an in-depth analysis of a news article using the "iceberg model." Follow these steps to explore the facts, underlying patterns and root causes of a particular news story:

1. Choose one article about a current event in today's newspaper. Summarize the story by writing one paragraph in your own words. Briefly, what happened?
2. Look through the newspaper to see if there are stories about similar events that happened in different places, or think about other stories you have heard about that are related to your article. Is the event in your article part of a larger, ongoing story or series of events?
3. Consider the root cause(s) of the event based on the pattern you see. "Why" the event occurred may not be included in the article, but try to think about the most important reasons for this pattern of events. If you are not sure, what information would help you to determine the root cause(s)? Why do you think that information was not included in your article?

Take Action!

❖ Add your voice to the growing number of online customer reviews. Choose a Web site (such as **amazon.com** or **yelp.com**) where you can review a product you have bought or a restaurant where you have eaten, and write a short review of your experience to help inform other consumers.

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.

"The quality of life is determined by its activities."

— Aristotle, Greek philosopher, 384-322 BCE

Defining Needs

When we talk about sustainability, we're talking about meeting needs — both now and into the future. What are some of your needs?

Everyone has basic needs for food, water and some form of shelter. Once their basic needs are met, people strive to meet additional needs such as community, meaningful work and human rights. Meeting human needs depends on a healthy environment that can continue to provide resources for us and for our children.

How Do We Measure the Good Life?

"Quality of life" refers to the well-being of an individual or a group of people. It's likely that each of us has a different idea of what exactly the good life looks like — and it is also likely that many of us share similar ideas. What do you think a good life looks like?

Measuring quality of life for a community or a country can be a tricky thing. Often, health indicators such as how long an average person lives or how many children die are used to determine how well a population is doing. Or we might look at how many people can read, or how many people are living in poverty.

Economic indicators such as the gross domestic product (GDP, a nation's total income), the rate of unemployment, and the stock market are common ways to measure well-being in the United States. Some things that most of us agree are part of a good life — access to open spaces, clean water, clean air, healthy food and personal safety — are missing from traditional economic indicators such as the GDP.

Does Money Buy Happiness?

For many people, happiness is one indicator of a good quality of life. Sometimes it's easy to think that we'd be a lot happier if only we had more money. This is probably true for people who are very poor and still need to meet their basic needs. But beyond a certain level of income, more money does not seem to bring more happiness. While income levels doubled in the United States between 1957 and 2002, the percentage of people who reported being "very happy" did not change.¹

The ability to buy the things we want is tied to making money, which is also tied to the amount of time people spend working. No one in the world works more than in the United States, where the average person:

- Worked 199 hours more in 2000 than in 1973, an increase of almost five weeks annually.²
- Has 10 days of paid vacation each year, while European workers get at least 28 days.³

U.S. citizens work long hours to buy the things they want and need, and spend a great deal of time commuting and watching television. According to the U.S. Bureau of Labor Statistics, the main way that people in the United States spend their leisure time is watching TV.

Key Ingredients

If increased income beyond a modest level does not guarantee a better quality of life, what does?

Researchers have identified a number of key ingredients to happiness and well-being. Building strong relationships with family, friends and community often contributes to happiness. Read on to see how one city invested in their community to improve quality of life.

Building the Happy Life in Bogota, Colombia

Beginning in the late 1990s, Bogota Mayor Enrique Peñalosa initiated a bold campaign to improve the quality of life in his city by focusing on people and communities. In doing so, he challenged the stereotype of Colombia as being overwhelmed by civil war, the cocaine trade and violence.

Immediately upon taking office, Peñalosa decided not to build a highway intended to carry increased automobile traffic. Instead, the mayor expanded the city's less-expensive bus system to carry more than 700,000 passengers daily. The city of Bogota also created or improved more than 1,000 parks, created hundreds of miles of bike- and pedestrian-only paths, and built new public buildings such as libraries and schools. Said Peñalosa, "A city is successful not when it's rich but when its people are happy."

Good News about the Good Life

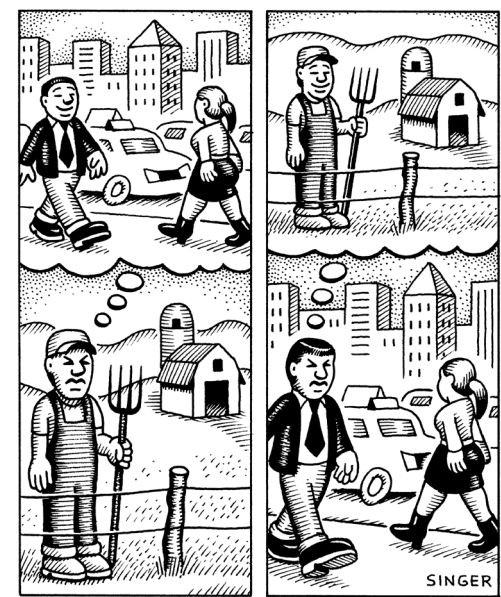
The goal for improving quality of life on Earth is relatively simple: to improve well-being in a sustainable way. This goal includes maintaining a healthy economy, environment and society for present and future generations.

How do you want to spend your time and money? Thinking about your answer to this question might get you — and all of us — a little closer to your idea of the good life.

1 David G. Myers, "Happiness," in *Psychology*, 7th ed. (New York: Worth Publishers, 2004).

2 Five weeks of additional work is based on a 40-hour week. Juliet Schor, "The (Even More) Overworked U.S. Citizen," in *Take Back Your Time*, ed. John de Graaf (San Francisco: Berrett-Koehler Publishers, 2003), p 7.

3 Joe Robinson, "The Incredible Shrinking Vacation," in *Take Back Your Time*, p 21.



Happiness means different things to different people.

Activity

- ❖ What contributes most to your quality of life? Write down five things that you think are most important for a good quality of life. Ask at least one other student and one adult to do the same, and compare your "top five" lists. How do your lists differ? Do you think your vision of a good life will change as you get older? How can you improve your quality of life?

Take Action!

- ❖ "Human rights" are the basic rights and freedoms to which all humans are entitled, including the right to life and liberty and freedom of thought and expression. Protecting human rights is one way to ensure that everyone has the opportunity for a good life. Visit www.facingthefuture.org and click on *Fast Facts & Quick Actions* under *Latest News from Facing the Future*. Click on *Human Rights* and choose one quick action; get started working on the human rights solution of your choice today!

Global Issues and Sustainable Solutions

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Thanks for joining us these past months for Skills for Everyday Living, our series that ventured beyond the classroom to prepare students for real-world challenges. This chapter was developed by *Facing the Future*, and wraps up our series.

A measure of sustainability considers the areas of environment, economy, and society.



Activity

Think of one fundamental right that is important for a good quality of life but that you know not everyone in your community has. Consider the following questions:

- How do you envision a community where everyone enjoys this right?
- What steps can you take to move your own community towards this vision?
- What resources do you need, and who can you collaborate with?

Take Action!

Visit www.facingthefuture.org and click on *Fast Facts & Quick Actions* under *Latest News from Facing the Future*. Click on *Women & Girls* and choose one quick action to help improve the lives of women and girls around the world. When women do better, everyone does better!

The Right to a Good Life

It may not seem like the quality of your life has much to do with your government. But think of all the services — schools, libraries and parks, for example — that are run by government agencies and paid for by taxes from citizens.

The government is also involved in deciding what people can do, or protecting people's basic "rights." Some rights may be so obvious that you don't even think of them as rights — for example the freedom to move around, or to think and express your own opinions. Yet these rights are not recognized by all governments. What would it feel like if the government decided that you could not hang out with certain friends or listen to your favorite music?

The Right to Vote

One of our most cherished rights in the USA is the right to vote. Many people consider active participation in local and national decisions to be an important part of a good quality of life. Yet voter turnout in past years has been relatively low.

But things seem to be changing. Right now, more young people than ever before are energized and engaged in politics. Voters aged 18 to 29 have shattered turnout records around the country during this year's presidential primary. Rock the Vote, an organization dedicated to involving youth in the political process, reports that 80 percent of young people say they are likely to vote in the presidential elections this November. Since 20 percent of the entire voting population is in this age group, young people have a real chance to shape the future of our country.

If you are old enough to vote, you can register to vote at many places such as the county courthouse or online at rockthevote.com. If you are not yet old enough to vote, you can still make your voice heard. Educate yourself about current issues and encourage voters to get out there and vote for your vision of the future!

What are some other fundamental rights in the United States? How might your life be different without these protections?

None for You, Girl!

Some rights that we consider essential for a good quality of life are not guaranteed in all places. For example, many girls and women around the world do not have equal opportunities to create a good life for themselves.

When there aren't enough resources to go around, somebody gets less. And whether the resource is food, education, income or credit to borrow money, it's most often girls and women who get less:¹

- Over half of primary school age children that are not in school are girls
- Two-thirds of all illiterate adults are women
- Women hold only 16 percent of all seats in parliaments or equivalent elected positions.

Reversing this trend — supporting equal rights for women and investing in women's education — is essential for creating a sustainable future. Think about how your family, your school and your city would be different if women were not able to go to school or get good jobs. Improving the lives of women often results in improved quality of life for entire communities.

Women in the United States have many educational and career opportunities. Yet, despite overall increasing salaries during the past century, women continue to earn less than men. Why do you think that is?

What Do You See?

You might have heard before that rights come with responsibilities. Rights are just ideas; they need people to bring them to life. We have to stand up for rights that we think are important. Otherwise, some people may not get to enjoy those rights.

You are already part of many communities, including your school, your neighborhood and maybe even some online communities. You have just as much power as anyone else to help shape your community and create a future of your own choosing where people share certain rights and freedoms.

What do you think your community will look like in 25 years? What will the environment be like? What kinds of jobs will people have? What kinds of things will people do for fun? Right now, stop reading and close your eyes for a few minutes to think about these questions.

Next, think about what you want your community (and even the world) to look like. Is this a different picture than what you think the future will be like? If so, how can we make the future you *want* happen?

What kinds of things do you think all people should have the right to do? What kinds of things would increase your quality of life and also improve the well-being of others and the planet?

¹ Information from Population Reference Bureau and Save the Children (2005).