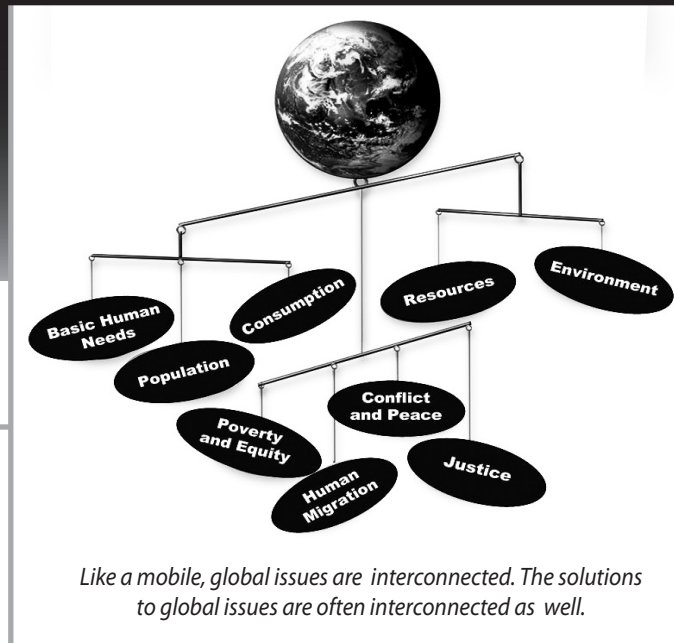


Global Issues and Sustainable Solutions

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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.



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.