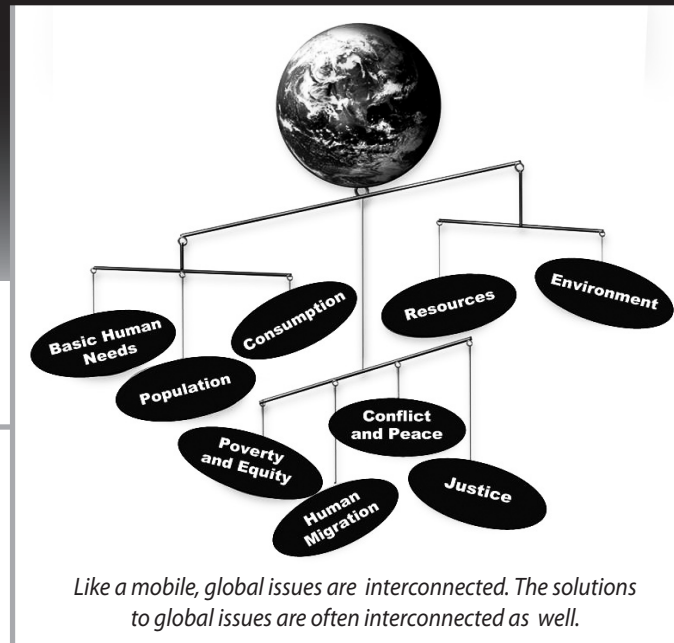


# Global Issues and Sustainable Solutions

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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.



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

*"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.<sup>1</sup>

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 Story<sup>2</sup>

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.

<sup>1</sup> *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>.*

<sup>2</sup> *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/](http://www.unep.org/treeplanting/plantfortheplanet/) to learn more.