Sustainable Communities:
A Way For Everyone to Win?

Unit Overview

This unit is designed to help students grasp one of the central concepts of sustainable development: that economic, environmental and social issues are interdependent. Sustainable solutions are ones that provide win-win outcomes and balance these three areas of consideration wherever possible.

The purpose of the lessons in this unit are to give students an opportunity to experience problem solving that promotes sustainable outcomes. Students then apply this approach to problem solving and development in their own community.

Using the Unit

Students will discuss how the lessons of this exercise might be applied to sustainable community development and problem solving. The first activity shows students how utilizing a win-win approach to problem solving is working in some exemplary communities around the nation and the world. Students will examine these case studies and analyze how the lessons from the exercise are illustrated in each case.

In the second activity students assess opportunities for creation of sustainable solutions in the context of their own community, and develop simple proposals that communicate their ideas.

Grade Levels: High School (9-12)

SOL's: World History II 1, 15; World Geography 1, 2, 4,5, 6, 7, 8, 9, 11, 12; Virginia and US History 1, 14

Skills: problem solving, analysis, cooperation, evaluation

Key Terms/Concepts: sustainable communities, economy, environment, social climate

Background for Teachers

What is a "sustainable community"? Specific definitions vary, but generally sustainable communities are ones that manage to stay healthy and vital over an extended term. Their citizens enjoy living in these communities and are able to meet basic needs for employment, education, health, safety, consumption of goods and services, preservation of their environment, aesthetic beauty and quality of life. Some actions and patterns of development tend to promote sustainability over the long term and others detract from it. It is the job of citizens and community leaders to assure that decisions made in the community will promote long term benefits to the community as a whole.

Sustainable development provides a model for community development and problem solving that promotes the creation of sustainable communities. The first step in working towards a sustainable community development is recognizing that a healthy community, depends upon economic opportunity, environmental quality and social harmony in equal measures. Ultimately, success in each arena depends in large measure upon the success of the other two.

A community may be able to thrive for a period of time in an atmosphere of rapid growth and industrial expansion without consideration for environmental or social consequences, but ultimately problems in these areas will emerge and cloud the benefits of such development. Communities have followed such unbalanced patterns for centuries; history shows us the consequences in case after case.

Sustainable development requires that we think about community development in a broad scope and over a long period of time. Rather than simply planning for the next five or ten years, it requires considering the next

fifty or one hundred years in our decisions and it requires seeking solutions that do not require sacrifice of one important goal to achieve another.

Sustainable models of development seek to produce economic gain while preserving habitat, minimizing harm to the natural environment and promoting social harmony. These goals must be taken into consideration in the planning phases of development in order to be most effective.

Traditionally, communities have often felt that it was necessary to trade-off one benefit for another in the process of community development. For example, a community might feel that environmental quality or preservation of open space is a necessary sacrifice in order to assure adequate jobs for residents and substantial economic growth. An alternative approach that has the potential to lead to more sustainable outcomes is to look at the big picture and seek out ways for multiple parties to benefit simultaneously. The following activities give some examples of how this approach is working in three different communities.

Unit Context

In the context of our Hard vs Soft Green Framework (see Chapter 2), Hard Green enthusiasts focus on education and human capital development as the most important factor in shaping and nurturing sustainable communities. Soft Green advocates see government as a key player, e.g., in formulating environmental policies based on logical economic incentives and in limiting access to public lands and resources to avoid the "Tragedy of the Commons." Perhaps there is wisdom in both perspectives.

Learning Objectives

- Solve a problem using cooperative methods.
- Analyze application of sustainable solutions to community development in several contexts.
- Analyze local communities for their strengths and weaknesses in terms of sustainability.
- Generate ideas for promoting sustainable development in the local context.

Materials

Copies for Activity A: "What makes a Community Sustainable?" (SC 1) and Case Studies (SC 2-5)

Copies of Activity B: "Community Profile and Sustainable Solutions" (SC 6-7)

Procedure

Activity A:

1. *Handout Activity A: "What Makes a Community Sustainable" and Case Studies (SC 1-5) to the class and have them read the introduction and studies in class or for homework.*

2. After students have read the piece facilitate a class discussion highlighting the ways that each case study illustrates "win-win" solutions to various problems.

For example:

In Case 1, the business initiatives being implemented with the help of the ASD address the fundamental economic problem of unemployment by creating new jobs for community members. The environment is protected because the jobs that are being created (organic farming, marketing, sustainable forestry, woodworking and solar drying) are all enterprises that have minimal negative impacts on the environment relative to more traditional income generating enterprises. Social needs are better met because higher quality foods are made available in the local market, personal health is likely to improve with less exposure to hazards in the workplace; and with increased incomes, local communities will have more

revenues to provide for improvements in housing, healthcare, transportation, education, etc.

Activity B:

1. Handout Activity B: "Community Profiles and Sustainable Solutions" (SC 6-7) to the class. Class members may work individually, in teams or collectively as a class on this portion of the unit.

2. In the first part of the activity students are asked to use their own observations and experiences to describe the health of their local community in terms of economic, environmental and social factors. They are to use the table provided to jot down their observations.

3. When each individual or team has had a chance to fill out the table, facilitate a class discussion in which students can share their observations with one another. Is there any general agreement about community strengths and weaknesses? If there is disagreement, explore why this might be.
We all see the world through different eyes: what one person may consider a problem (large impersonal strip malls surrounded by seas of asphalt), others may see as a benefit (lots of exciting shopping opportunities that are easy to access by car). Allow students to maintain these different points of view and explain that this is one of the real challenges that faces communities in seeking sustainable solutions to problems.

4. Next, have individuals or groups use the information generated in the Community Characteristics chart to brainstorm some ideas for possible solutions that represent win-win outcomes for their community.

Have them outline ideas in the Sustainable Solutions worksheet (SC 6-7) on the following page. Students should be given ample time to generate their ideas.

5. When students have completed this portion of the activity, allow them to share their ideas with the class or collect the worksheets and choose a few ideas that seem particularly well thought out for presentation before the class.

Enrichment:

Have students evaluate all of the various ideas presented in Activity B and chose one which might actually be implemented successfully in the community. Have students develop a formal proposal based upon the idea and find a public forum in which to present the proposal. This might be before a local government body, a local civic group or a foundation that gives funds for community projects.

Resources

Bernard, Ted and Jora Young, *The Ecology of Hope: Communities Collaborate for Sustainability* (Canada: New Society Publishers), 1997.

Hawken, P., *et al.*, *Natural Capitalism: Creating the Next Industrial Revolution* (New York: Little Brown & Company), 1999.

Roseland, Mark. *Toward Sustainable Communities Resources for Citizens and their Governments* (Canada: New Society Publishers), 1998.

Alliance for Community Education and Pearson-Glaser Productions with US Environmental Protection Agency, *This Place Called Home: Tools for Sustainable Communities (CD-ROM),* (Washington DC: The Agency), 1998.

Center of Excellence for Sustainable Development
www.sustainable.doe.gov

Center for Livable Communities
www. lgc.org/center

Center for Neighborhood Technology
www.cnt.org

National Center for Appropriate Technology www.ncat.org

Institute for Sustainable Communities
www.iscvt.org

International Council for Local Environmental Initiatives
www.iclei.org

Rocky Mountain Institute www.rmi.org

Sustainable Communities Network
www.sustainable.org

What Makes A Community Sustainable?

Think of a sustainable community as something like a three-legged stool, where each leg represents a different element of community health and vitality. One leg represents a thriving local **economy** that can provide good jobs, wages and high standards of living for residents now and into the future. A second leg represents a healthy **environment** in which air and water are clean, natural habitat and biodiversity are preserved, open-space is protected, waste is minimized and natural resources are managed well and can provide for the needs of humans and other living things for generations to come. The third leg represents a high-quality **social climate** where human needs for health care, safety, transportation, education, recreation, community cohesiveness, beautiful surroundings, access to resources and resident participation in local decision making are all met successfully.

When each of these legs is equally sturdy and strong, the stool functions very well. When even one leg is damaged or broken, the stool will become unbalanced and is likely to fall. In sustainable communities the goal is to keep all three of these "legs" strong and balanced over the long term. When a community concentrates its entire focus on only one of these "legs", problems inevitably arise. A community that sacrifices its environmental health for the sake of economic expansion may seem to benefit in the short run but eventually they may find that pollution, health and perceived quality of life problems begin to make their community an unattractive place to live. Eventually local businesses may have a hard time attracting good employees and may even be forced to relocate, hurting the local economy in the process. The same could be said for a community that has such restrictive environmental regulations that economic growth is suffocated. Poor communities do not have funds to protect or enhance the local environment. Conversely, a community could spend so heavily on the creation of an attractive social climate that they are forced to impose sky-high tax rates on local businesses and residents, giving an incentive to move away.

Smart communities know that keeping a balance between these three key areas is the best way for them to thrive over the long term. The difficult part comes in putting these ideals into practice in a consistent way. The truth is that the process of making communities more sustainable is a difficult one with no clear solution. It is a constantly evolving process. There are a number of examples from Virginia, the nation, and the world of communities making concrete strides towards greater sustainability through development of "win-win" solutions, applying the strategies of cooperative and integrated problem solving. In each of the following examples, think about how the solutions represent win-win outcomes that seek to strengthen more than a single "leg" of the stool.

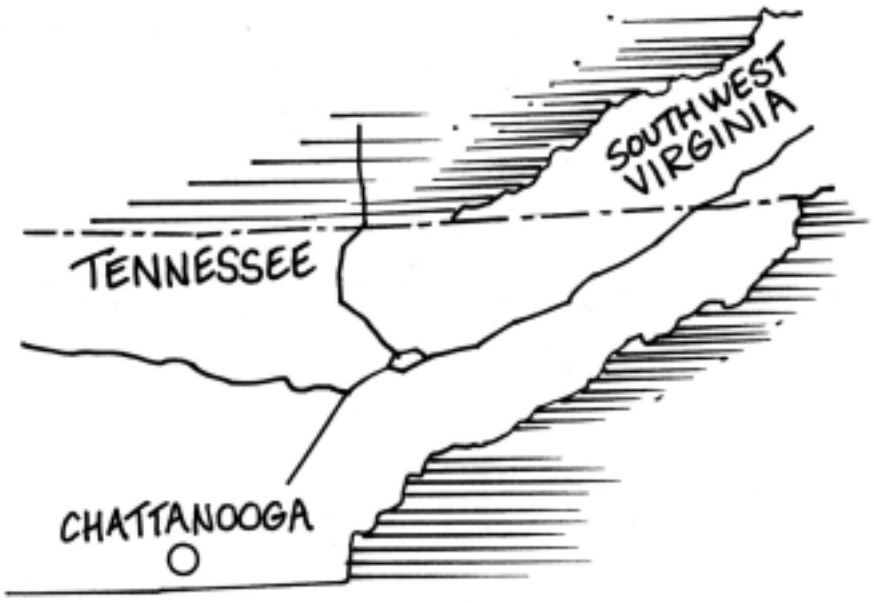
Case Study #1

Southwest Virginia

Growing Sustainable Businesses

Many of the rural Appalachian communities of Southwest Virginia and Northeast Tennessee have traditionally sustained themselves through mining, oil and gas extraction, milling, logging and tobacco production. Yet today extremely high unemployment and poverty rates in the area prevail , with nearly 40% of residents in one county living below the poverty line. These traditional enterprises have created problems of waste disposal, water and soil contamination, land subsidence, soil erosion, industrial emissions and water table declines. The conditions in this area have generated a sense that communities must make a choice: jobs or the environment.

A regional non-profit organization, Appalachian Sustainable Development (ASD), has been working with these communities to present another alternative to solving the "jobs or environment" problem through the creation of locally based, ecologically healthy enterprises. Their goal is to diversify the economic base of the struggling communities and increase their regional self-reliance sustainably. To this end, local Appalachian communities are being supported through the work of the ASD and other organizations through a number of ventures. The list includes: organic farming operations, marketing associations that link sustainable farmers to restaurants, health food stores and a locally owned grocery chain, timber operations and wood manufacturing firms that employ sustainable harvesting practices and create high-value wood products, solar drying kilns for local hardwoods and a series of demonstration farms and ecologically sound timber harvesting sites that function as part of a local education network. The hope is that, over time, such enterprises and value-adding facilities will increase jobs and revenue retained in local communities while reducing destructive influences on local environments.



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Case Study #2

Chattagnooga, Tennessee

From "America's Dirtiest City" to "Best Mid-Size City in America"

In 1969 Chattanooga earned the distinction of being labeled "America's Dirtiest City". Air pollution from TNT factories and steel foundries gave the sky a permanent orange tint, and cars used their headlights in the middle of the day to make their way through the smog. Its residents faced deep problems of job layoffs, a deteriorating city infrastructure, racial tensions and social division. The city faced an identity crisis, and was labeled an "invisible city" with no real image.

This period of crisis motivated residents, community leaders and local government to come together to create the Chattanooga Venture – a nonprofit organization with the goal of cleaning up the city on all fronts: environmental, social and economic. In 1984, a project called "Vision 2000" brought together more than 1700 people to develop a set of 40 goals for the city to achieve by the year 2000. The goals focused on six key areas: future alternatives, places, people, work, play and government. Today, many of the original goals have been realized. These projects are varied in scope but all work to create a more sustainable community as defined by the people who live there.

One of the most successful projects has been Chattanooga's electric bus initiative, which evolved as a way to cut down on traffic congestion, pollution, automobile dependence and the need for expansion of downtown parking facilities. A private company was formed to produce the buses and the system began operation in 1992. The ridership is now up to more than 1 million passengers per year and is credited with contributing to a revitalization of the downtown business and shopping district.

A second project that met with great success was the creation of a Riverwalk along the portion of the Tennessee river that passes through the city. The Riverwalk is a continuous circuit of parks, trails and landmarks that stretches for miles, serving as a catalyst for outdoor activity and a pedestrian link for the citizens of Chattanooga. Gradually, the riverfront is becoming a focal point of the city again, leading to the revitalization of the downtown area and the creation of a Tennessee Aquarium educational center that hosts thousands of visitors a year.

Other successful projects include the Environmental City Project, which works to attract "clean industries" to the area, retain environmentally sound businesses, and increase overall environmental awareness throughout the city.

Another successful operation is the Orange Grove Materials Recovery Facility, a recycling center that employs mentally challenged adults, and handles the recyclable goods of the entire region at approximately one-tenth of the cost of facilities in similarly sized cities.

The Vision 2000 project continues with "Revision 2000," which will develop a new set of goals for the next decade. Chattanooga is now striving to be labeled the "Best Mid-sized City in America" and to act as a working model of a more sustainable community.

Case Study #3

Curitiba, Brazil

Transportation Innovation

Curitiba, Brazil, a city of 1.6 million people, has managed to avoid the traffic congestion and pollution woes of its neighbor to the north, Sao Paulo. Seventy five percent of the city's commuters use public transit and traffic has declined by 30 percent since 1974, even though population has more than doubled.

The key to this success can be traced back to the vision of Jaime Lerner, a former mayor of the city who, in 1971, saw in the future massive traffic congestion if something was not done to stem it. In a response to this threat he implemented land use policies that encouraged growth along five major corridors, which extended out from the city center like bicycle spokes. Using this model, population growth would be concentrated in specific areas rather than spread out haphazardly across the landscape. Residential and commercial density permits and property taxes were adjusted to reward citizens for living and working near the public transit corridors. These strategies led to the development of a comprehensive mass transit system, a hybrid between a bus and subway system. The cost of building this "surface subway" was much less than creating a rail system, and it was designed in such a way that loading and unloading could be done quickly. Buses travel along expressways that keep them from having to compete with other traffic. The system allows workers to travel quickly and cheaply from their homes to their jobs in the city. Per capita fuel consumption in Curitiba is 25 percent lower than elsewhere in the country, and the air is among Brazil's cleanest.

Community Profile & Sustainable Solutions

PART 1: COMMUNITY CHARACTERISTICS

In small groups or as a class use the following guidelines to produce a "snapshot" of your community based upon your own observations and experiences. In some categories you may find both assets and drawbacks, in others you may find only good qualities or only problems.

	ASSETS	DRAWBACKS
ECONOMIC		
Employment and Business		
Costs of Living		
Transportation		
ENVIRONMENTAL		
Environmental quality *Air, water, soil, forests, wild areas etc.*		
Parks, Green-ways, Bikeways		
SOCIAL		
Neighborhoods and Housing		
Social services *Fire, rescue, police, schools, municipal rec. facilities, etc.*		
Recreation opportunities		
Community cohesiveness and tolerance		
Other issues		

Community Profile & Sustainable Solutions

PART 2: OPPORTUNITIES AND SOLUTIONS

Now that you have a better sense of the good qualities and some of the areas in need of improvement in your community, you are ready to apply the knowledge and experience gained in the previous exercises to brainstorm some sustainable solutions.

Chose one identified area of improvement and work individually or with your team to think of some solutions that might represent win-win outcomes, solving that particular problem without sacrificing other important goals.

Chose the idea that you consider most promising and outline it below.
Idea:

How it addresses a problem in the community:

How it represents a Win-Win outcome:

NOTES