

A Vision of Sustainable Communities

What does sustainable really mean? In its broadest context, sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. This was the definition established by the World Commission on Environment and Development (the Brundtland Commission) in 1987. Essentially, sustainability means that decisions made by the present generation will not reduce the options of future generations, but will pass on to them a natural, economic, and social environment that will provide a high quality of life.

The extent to which your community manages to achieve a sustainable future largely depends upon how well you integrate the concepts and principles of sustainable development, including disaster resistance, into your decision-making process. Time and again,

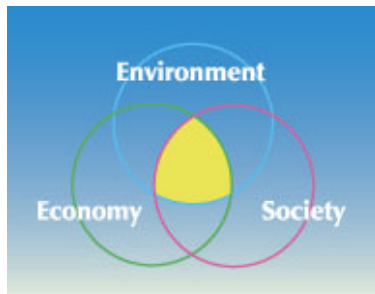
community leaders have indicated that the fundamental component of successful recovery efforts is community participation in the process

having people come together to identify a community's needs and work toward collaborative solutions.

What makes a community sustainable? From experience, we know that sustainable communities make more efficient use of their land. Such land-use decisions tend to emphasize open space planning by promoting greenways, parks, and landscaping. Additionally, the effective use of open space can prevent development from encroaching upon floodplains, active fault zones, and other hazard areas. Sustainable communities also take advantage of underutilized urban areas and encourage infill and brownfield development. Energy and resource conservation are high priorities and a greater emphasis is placed on public transit and creating mixed-use environments that are less dependent on autos.

An essential characteristic of a sustainable community is its resilience to disasters. This fact was recognized and promoted as part of recovery efforts following the 1993 Great Midwest Flood. Under the auspices of the President's Council on Sustainable Development, a working group of Federal agency representatives and environmental, planning, and design professionals actively assisted flood-damaged communities and encouraged them to incorporate

Sustainable Development Goal



Sustainable communities work to maximize the overlap among environmental, economic, and social values.

Soldiers Grove, Wisconsin

Soldiers Grove, a village of about 600 on the Kickapoo River in southwest Wisconsin, is a pioneer of sustainable redevelopment efforts for flood-prone communities. Heavy timber harvesting and increased agricultural use led to repetitive flooding problems. By the 1970s, the village was experiencing an average of one flood per decade and annual damages of \$127,000.

A U.S. Army Corps of Engineers (USACE) levee proposal proved economically infeasible for the small village. Instead, community leaders decided to pursue relocation of the entire community. Funding for relocation became available through a U.S. Department of Housing and Urban Development (HUD) grant after a devastating flood occurred in 1978.

A relocation site close to a major highway was selected so businesses would be more visible to passing traffic. Design guidelines for downtown buildings and landscaping helped block winter winds and channel summer breezes, resulting in lowered energy costs. Since Soldiers Grove has a high percentage of elderly residents, the relocated downtown area was made handicapped accessible and elderly housing was mixed in among retail uses.

The University of Wisconsin, the local utility, and Argonne National Laboratory provided technical assistance and recommended innovative energy systems for the new town. Soldiers Grove wisely rebuilt with a long-term perspective and adopted cost-effective solar energy technology. Stringent energy performance standards were passed and new businesses are required to obtain at least half of their energy needs from solar. The town now keeps most of its energy dollars recycling in a local economy that has grown significantly since relocation.

Numerous town meetings and workshops resulted in a solid community consensus on the overall recovery strategy one that effectively combined flood mitigation and sustainable development objectives to create a more livable community.

sustainable re-development concepts into their reconstruction efforts. The group recommended practices such as siting and design considerations and the use of energy efficient technologies in the reconstruction process (Wingspread Conference, 1998).

Traditional indicators of a sustainable community are environmental, social, and economic health. The degree to which a community achieves sustainability is directly related to the extent to which the values underlying these indicators are satisfied. However, another fundamental component must now be added: disaster resistance. Disaster resistance focuses community attention on issues related to sustainable development and livability because it is an issue that cuts across social, economic, and environmental lines.

In considering social viability, a community has to balance the competing needs of its citizens. Following a disaster, for example, efforts may focus on citizens who are most likely to live in high hazard zones and may be less able to rebuild following a disaster. In other disasters, community efforts may focus on homeowners who have been allowed to build in environmentally sensitive areas that may not be in the public interest. In either case, housing and access to basic public services and facilities are critical social needs in the aftermath of a disaster. Disasters can have other social consequences that may undermine community sustainability, including loss of security, severe stress and anxiety, diminished trust in government, and

disruption of familiar environments and daily routines.

Economic vitality is essential to sustainability. In economic recovery from a disaster, a community has three key objectives: retain existing businesses, promote continued or new economic development, and ensure that businesses are built back safer, smarter, and stronger. Keeping local businesses and economic infrastructure out of high-risk areas, or disaster-proofing them if there is no practicable alternative for their relocation, is an important approach to promoting a more sustainable economy.

Preserving the integrity of biological and physical systems is the most important environmental indicator of sustainability. This involves limiting degradation of the environment and preserving natural systems such as wetlands, floodplains, dunes, and active fault or landslide zones that increase a community's resilience to natural hazards.

The environmental component of sustainability is clearly evident in the recommendations of an Interagency Task Force Congress formed in 1994 to investigate the natural and beneficial functions of floodplains in relation to flood loss reduction. The Task Force's recommendations included the following:

- Encourage a proactive and long-term approach to floodplain management, including the development of pre- and post-disaster plans for flood damage reduction and preservation/restoration of natural and beneficial functions.

- Focus restoration and protection efforts on those floodplains or portions of floodplains identified as having the greatest flood risks and significant natural and beneficial functions.
- Encourage natural, non-structural solutions to reducing flood damages.

This section has provided an overview of the traditional approaches to sustainable development and livability. In addition, it has shown that disaster resistance is also an essential key to sustainability. In the next section, we will take a look at how you can approach disaster prevention to build a more sustainable and livable community.



Sustainable development concepts reflected in illustrative site design for multi-use office park in Crafton, Connecticut. Two and three-story office buildings were sited in a compact, energy-efficient, campus-like setting. Creative recreational uses of the riverfront, such as hiking trails and canoe launches, promote natural greenway buffers and floodplain protection.

Randall Arendt,
Rural by Design