

R. Warren Flint, Ph.D.

Practice of Sustainable Community Development

A Participatory Framework for Change

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R. Warren Flint Ph.D.
Five E's Unlimited
Napa, CA, USA

ISBN 978-1-4614-5099-3 ISBN 978-1-4614-5100-6 (eBook)
DOI 10.1007/978-1-4614-5100-6
Springer New York Heidelberg Dordrecht London

Library of Congress Control Number: 2012943949

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Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

to Nancy

Preface

Many of our most critical global problems are rooted in local, day-to-day problems facing people. Atmospheric and potential climate change, for example, can be altered by individual local citizens and government officials making decisions about local traffic congestion, the cutting down of trees, burning wood in the fireplace, and inefficient land-use patterns. Local decisions about such issues affect all of us globally.

While global change, which is not only about environmental issues but also affected by socioeconomic dynamics, is reaching the point of daily mention on most national and international news broadcasts (related to weather, conflict over resources, social inequities, etc.) there is a wealth of important information, methodologies, and tools that can help us as individuals and communities to set each of our places, and in turn the planet, on a sustainable course. Unfortunately most of this information is not available through the mainstream media. I have endeavored here to integrate in a logical order how the individual and/or group can begin to think about and act on activities and programs that will culminate in sustainable community development outcomes.

It is my hope that as you read through the sequential presentation of processes that can guide the achievement of sustainability actions in your community, or even neighborhood, that you will begin to realize the difference that each individual can make in the improvement of the place they call home. In honor of the expectation that individuals can make a difference, I have chosen to present the lyrics from a song that I heard recently sung at a festival in Napa, CA. Considering the focus of this book as illustrated by the part of the title that emphasizes “A Participatory Framework for Change,” it is my intention to address in the following pages the individual within the community and highlight their importance in taking charge of their own destiny with regard to community development and improvement.

This song is sung by Kellie Fuller who also wrote the lyrics for the song. Besides being a song writer, Kellie is a jazz vocalist. I want to thank Kellie for the honor of using her song to emphasize the “Power of One.” It is my hope, as you read about the different tools and processes to promote sustainable community development in the following text, that you will find inspiration, ideas, and practical ways to begin

or strengthen your own journey toward greater community well-being, long-term prosperity, and sustainability. The following words should set your mood and strengthen your resolve to take the required steps.

One person in a world of billions
How can I do it all alone?
This little corner of my world
Can't build a mountain with just a stone

Every moment you have a decision
Life is a gift and love is the call
This little corner of your world
Can change for the better
When you give it your all

If we have hope than we have the power
Start with a ripple that grows to a wave
Work where you are
Say with conviction
If it's to be
It begins with just me

Chorus:

If we only knew how much we can do
Don't wait for a few
It starts with just you
Begin with a walk that turns to a run
We'll get it done
The power of one

Napa, CA

Kellie Fuller

R. Warren Flint

Acknowledgements

The Author wishes to sincerely thank Chris Maser for his input to the first chapters of this book. Chris set the book's tone for a system's perspective on the subject of sustainability. Furthermore I would like to acknowledge Chris's influence on my own development of understanding and passion for sustainable community development from his books published in the mid-1990s.

Deep respect and thanks are offered to the University of Kansas Community Work Group for Community Health and Development. Their research, design, and publishing of the "Community Tool Box" on the Internet offer (to the best of my knowledge) one of the top sources for description of tools appropriate for the subject of community health and development. The Community Tool Box (<http://ctb.ku.edu>) significantly aided my ability to provide in a systematic and hierarchical approach the discussion of sustainable community development, which in some areas was closely related to the Tool Box's discussion of community health and development. The Community Tool Box provides many ideas, concepts, processes, and other tools that were formative in the development of this book. In numerous instances Tool Box material was used as brief summaries to support the context of narrative content in the book and by which offered expanded, more detailed reference material that could easily be investigated further by the reader on the Internet or in the literature.

I offer genuine thanks to Donald Berk of Yakima, WA (USA), for his tireless editing of the book. With his attention to detail the book is so much better and the reader should find it an easy study.

And I would like to acknowledge the talent and abilities of Kellie Fuller of Napa, CA (USA), who contributed the great song lyrics to the Preface of this book. It was an honor to showcase these words because they had so much meaning toward the book's message.

There are a number of case studies cited in this book that come from my experiences in working with different communities through the years. Thanks to these communities for letting me into their homes and places of business, as well as the efforts they extended in being involved in the projects designed for their

participation and growth as a community. This book is reflective of the real stories regarding the experiences obtained in these communities.

And finally, I would like to thank my wonderful wife of 32 years, Nancy. Her patience with my time devoted to this writing was exceptional. And her support for my progressing with a very difficult and complex topic was at many times the only thing that kept me on track with the writing of this book. Thank you!

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Biography

R. Warren Flint, Ph.D., is Principal of *Five E's Unlimited* (<http://www.eeeee.net>), a sole-proprietorship consulting firm in Napa, CA (USA). He is an internationally recognized sustainability specialist who applies sustainability science, ecology, and human–nature interactions to assist communities wanting to improve or reinvent themselves. His consulting work in sustainable community development, adaptive watershed and coastal zone management, education, and urban revitalization has equipped him with a wealth of experience in collaborative fact-finding programs, providing visionary inspiration and pragmatic, science-based understanding to problem-solving, community development, and strategic planning. Warren assists places in creating authentic choices for community improvement by facilitating effective responses to environmental degradation, economic decline, and community disintegration through scientific inquiry and consensus building. Dr. Flint is able to ground his community facilitation and conflict mediation talent in 33 years of content expertise as an environmental scientist and sustainability specialist. He encourages shared relationships among ecologic, social justice, and economic development interests. Warren has provided international community development leadership in places such as Nigeria, Jamaica, and the United Kingdom, as well as throughout the USA and Canada. His 2007 Dauphin Island (AL, USA) project on sustainable community development was selected as a Finalist in the International Association of Public Participation's (IAP2 - <http://www.iap2.org>) 2009 Project of the Year Award (http://www.eeeee.net/project_of_year.htm).

Dr. Flint held posts at four universities over a 25-year academic career. He taught university courses in environmental science, marine biology, ecology, and business sustainability and conducted research in estuarine ecology, coastal oceanography, freshwater ecosystem science, aquatic resource conservation/restoration, adaptive watershed management, and areas of community-based sustainability. Dr. Flint has provided leadership for many projects (http://www.eeeee.net/flint_projects.htm) focused upon multiple-discipline international inquiries into scientific, technological, and societal problems related to the management and remediation of large ecosystems. Flint has also served on many local, state, federal, and international scientific, technical, and advisory committees, boards, and

taskforces whose mandates were enhanced economic development in line with sound protection and conservation of natural resources and remediation of environmental quality.

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Chapter 1

Introduction

This chapter will shape an initial understanding of sustainable development that will equip the reader to fully absorb the way the remainder of the book builds the framework of an effective, comprehensive practice in sustainable community development.

But before we begin our journey into the practice, let us briefly explore the history, evolution of canon, and contemporary issues surrounding the concept of sustainability today. Parts of this chapter illustrate how we can learn from the evidence of past civilizations. And we shall see how intelligent consideration of interdependent elements and concepts, as illustrated in Fig. 1.1, through their acknowledgment and awareness can guide us toward influencing a better, more sustainable future for generations to come.

Currently, the literature is full of various theories about sustainability. But these must be molded to address the circumstances of one's own community. At a basic level, developers and practitioners must relate the generic ideas to their own core values (not somebody else's) and the issues derived from their own localities. Unfortunately, people often talk about sustainability without knowing how to put the principles into practice in a way that promotes social–environmental responsibility as a shared relationship with a community's core values, its varied membership, and the surrounding landscape for the present and future. In other words, the topic of sustainable development deserves extensive discussion before community members can arrive at what it means for their particular circumstances. The very nature of sustainability is local, and successful initiatives depend upon a consensus understanding of local core values.

Therefore, instead of engaging in an unproductive, circular debate over the meaning of sustainability, which is in effect a tactical response to ever-changing conditions, I most often have offered instead a simple, integrated perspective. I have adopted this approach because I have learned that sustainability is a complex integration of biophysical and social drivers that cannot be forced into a strategic directive. Sustainability exists in an environment fraught with unforeseen events and unexpected outcomes. In my sustainable community development work, I did



Fig. 1.1 Illustration of how the socioeconomic and environmental elements of sustainability are integrated in fact-finding and decision-making

not want to have the process get sidetracked or come to a stop because of disagreement on a definition or technical terms. Instead, I have encouraged talk about core values, how their retention is primary, and how the future could best benefit from persistent conscious awareness of those values.

I also encouraged people to acknowledge that all we ever have is this moment in which to act—here, now. That being the case, the quality of human life in the future is influenced by the choices we make in the present, albeit we are not in control of nature and always subject to unintended consequences of our actions. This is evidenced by biophysical and ecological research that have demonstrated the interdependent, always-changing functions in nature, as well as between nature and humans, and how recognition of these interconnections is important to preventing harm from our actions (Jacobs 2000; Norton 2005). If we are sincerely interested in the social–environmental responsibility of our communities toward enhanced sustainable development, our decisions and actions must be flexible, adaptable, creative, and reactive to the novelty of nature’s interdependent, ever-changing functional dynamics—thus the development of a simple, but integrated perspective regarding how to move forward to a more sustainable future.

Respecting Future Opportunities

A community represents the people and economics represents the energy that flows through the community to maintain its functional integrity for the benefit of people (Fig. 1.2). The environment, where resources are derived and waste becomes food, in turn, can be thought of as the interactive landscape that cradles the community with supplies and other goods and services, as suggested in Fig. 1.2. It is notable that “ecology” and “economy” both have the same Greek root, *oikos*, meaning “house.” Ecology is understanding the natural infrastructure supporting the house—the functional dynamics of nature—and economics is the management of the processes of the house—or more particularly manipulating the flow of energy through the house in order to maintain its functional capacity. However, for interplay of ecology and economics to maintain a sustainable flow of energy, there must exist a bedrock of systematic control; this is known as the triple bottom line: ecological integrity, social equity, and economic stability (Beaton and Maser 2011).

These integrated dynamics include us, the current generation of the world, as interactive partners whose task it is to care for planet Earth as a biological living trust, wherein we are the trustees and the children of all generations are the beneficiaries. This responsibility requires that our decisions and actions do as little harm as possible to the productive capacity of nature, which constitutes our community life-support system (Jacobs 2000; Norton 2005; Maser 2009; Beaton and Maser 2011), now and in the future through the process of sustainable community development.

Sustainable

At present, our human population is so large and our life spans so long that there is less land to produce the necessities of life for each individual. Moreover, today’s quality of life is based on economic opportunities driven by competition for dwindling natural resources, including habitable space, which accelerates the problem of economic disparity between the wealthy industrialized and poor nonindustrialized nations. Add to that an increasingly polluted environment, and we are creating a path to impoverishment for successive generations.

The Brundtland Commission in 1987 effectively reduced most discussions of sustainability to “sustainable development,” the essence of which is that we should be concerned about the “needs of the future” in our daily living (World Commission on Environment and Development (WCED) 1987). We take this statement to mean the basic necessities of life, such as clean air, clean water, viable forests, fertile soil, oceans, and so on. Yet in addition to these known necessities, there are the unforeseeable needs that evolve from changes in the societal values and technological advantages of future generations. And here it is important that we maximize the

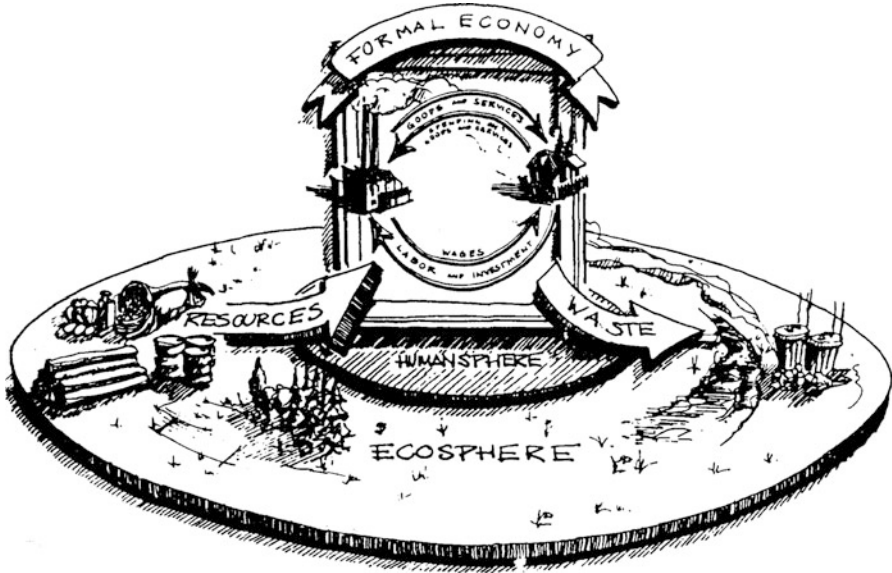


Fig. 1.2 Illustration of how the humansphere and its corresponding formal economy are cradled by the ecosphere. Note how resources and wastes flow between the humansphere and ecosphere (reproduced from the ideas of Rees and Wackernagel 1994)

longevity of our current core values by providing them with sufficient environmental sensitivity to allow future generations to adjust to values that correspond with their time and place in the march of history (Maser 1997; Ukaga and Maser 2004; Norton 2005).

To resist the distortion of human values, the process must engage the results of scientific discovery and its influence on social behavior. Society must use science to connect biophysical principles to social–environmental initiatives intended to fulfill current needs. However, social questions must be answered socially and not inappropriately foisted onto science, which is not designed to deal with them (Maser 1995).

To hold future options open in the context of “sustainable” requires compromise—the complicated and difficult process of a community attempting to conscientiously specify what obligations toward the assumed values of people in other places and the future it accepts, which in turn requires that communities so adapt their lifestyles to execute their acknowledged obligations (Maser 1992). Additionally, these assumed obligations must be commensurate with the known values of people in the present generation (Norton 2005). In other words, people must, to the extent possible, ensure that achieving their own lifestyles—characterized by environmental, social, and economic elements—does not, in any way, constrain opportunities for people living in other places or in the future to do likewise.

In short, sustainability comes down to differentiating between agreed “necessities” and “wants” and confronting the notion of “enoughness.” When,

therefore, a community recognizes the need to craft a shared vision of social–environmental responsibility in the form of a desirable future condition, it is simultaneously practicing preemptive conflict resolution (Maser 1998).

It is expedient at this juncture to briefly examine the meaning of two concepts—“community” and “development”—in the context of sustainable.

Community

The term “community” represents a group of people rooted in a sense of place through which they are in a reciprocal and trusting relationship with one another and their landscape. As such, a community is not simply a static place within a static landscape, but rather a lively, self-reinforcing resonance of ever-changing, interactive, interdependent systems of relationships. Because a community is a self-organizing system within a larger environmental system (e.g., Fig. 1.2), it does not simply incorporate information but changes its environment as well. Thus, as the community in its living alters the landscape, so the landscape in reaction alters the community.

A community also maintains a shared identity grounded in its history, which must be passed from one generation to the next if the community is to know itself throughout the passage of time. History, in turn, is a reflection of how we see ourselves and thus goes to the very root by which we give value to things. Our vision of the past is shaped by and in turn shapes our understanding of the present—those complex and comprehensive mental images by which we decide what is true or false about us.

When the continuity of a community’s relationship to the landscape is disrupted, a trust is violated in some way; the community suffers partial extinction of identity and may begin to view its landscape as a separate commodity to be exploited for immediate financial gain. When this happens, community is destroyed from within because interpersonal trust is withdrawn in deference to growing economic competition. It seems clear, therefore, that true community may be overly vulnerable to disruption and literally cannot extend itself beyond its local place and history (Maser et al. 1998), which the measure of our “ecological footprint” suggests has happened in recent generations (Rees and Wackernagel 1994).

Our task, therefore, is to ask ourselves when enough is enough and thus shape a sustainable future by using resources less intensively, where “resources” include every component of nature’s life-support system. It is also important to acknowledge that although nature produces no waste, our economic productivity creates substances that are deemed “waste” because they have no economic value within the current temporal frame and thus are simply discarded. Therefore, a critical part of sustainability is producing as little “waste” as possible, while absorbing and recycling that which is created.

The bottom line is that communities themselves are responsible for choosing what is important to protect and maintain within their own timescales, not inhibited

by a definition of sustainability established elsewhere. Living sustainably is maintaining the important mix of options and opportunities without creating unnecessary limitations (Flint 2006). Such conscious living guarantees, as much as humanly possible, that our decisions and actions will prevent a resource from falling below the threshold required, perpetuating it through time, and thus not compromising the quality of life for future generations (Gibson 2006).

Development

Of the several facets reflected in the term “development,” we, in USA, have chosen to focus on a very narrow one: development as material growth through centralized industrialization and distributed communication, which we equate with social “progress” and “economic health.” The narrowness of this view is behind the geopolitical notion of “developed” versus “developing” nations (Chris Maser, personal communication, July 2011).

Chris Maser recently shared with me his perspective on true indicators of developed versus developing countries from his international work over the years. “I found Malaysia as great a mixture of cultures, national origins, and religions living in as small a space as I have ever seen. Yet when I asked people what their ethnic background was, their answer—to a person—reflected national unity. They referred to themselves as Malaysian Chinese, Malaysian Indians, Malaysian Sri Lankans, and so on. Were I to ask such a question in the U.S. however, the response would be Afro-American, Chinese-American, Japanese-American, German-American, Italian-American, and so on. While the difference may be subtle, it is profound. The Malaysians focus on their national unity, while we in the USA focus on our sense of separation. Of course there were social problems, but I have never before or since experienced such integration of differences into a sense of national wholeness as I experienced in Malaysia.”

If this national unity is not an important facet of development, what is? But then, it depends on how one defines development. If development is defined as only a certain material standard of living based on the economic consumerism of centralized industrialization, Malaysia is indeed behind the USA. But if development also includes social civility and tolerance, the USA can be thought of as a developing country wherein access to social justice is anything but equal. And what about aboriginal people who not only had civility but also had a long-term sustainable relationship with their environment? Were they not developed?

It is ironic that the very people who consider themselves to be developed and therefore “civilized” are the ones who have, throughout history, so ruthlessly destroyed the cultures of those they unilaterally brand as “undeveloped” and therefore necessarily “uncivilized.” Fortunately, despite the continuing onslaught of “civilized” peoples in such places as the Amazon rainforest (Amazonia), there are a few remaining aboriginal communities, some of whom are found in the deserts of Australia and the jungles of South America, as well as other parts of the world.

I say fortunately, albeit they are severely endangered, because there is much about development and sustainability that we in the industrialized world can relearn from them. After all, our ancestors were also indigenous tribal people at one time. Our problem of late is that we have ignored most, if not all, of the wisdom they once knew. And it is precisely this ignorance of ancient wisdom that is forcing us to focus on a contemporary question: How should we view development if the concept is to be equitable and sustainable?

If a lifestyle promotes sustainability through conscious choice, conscious simplicity, and self-provisioning, and recognizes the relationships between a person's own sustenance and the livelihood of their immediate surroundings (their fidelity to their sense of place) in relationship to the larger world, that life is not necessarily perceived as one of poverty. This leaves the way open to change the indicators of development.

Development must be flexible and open to community definition because the values promoted must always provide for various necessities and not contingencies as they arise. The process of valuation embodied in sustainable development must address social–environmental justice in recognizing the necessity of nondiscriminatory access to resources, including fair distribution of goods and services, while simultaneously protecting the long-term biophysical infrastructure of the system that produces them for all generations (Maser 1997). But when development is coupled with economic growth (as in “we must grow the economy” or “the economy is not growing fast enough”), the political specter of special interests arises in the form of those who choose to equate development with growth, thereby persuading society of the continual need for more consumerism in order to achieve prosperous lifestyles (Daly 1992).

While quantity, which equates to growth, always squanders resources, good quality, which is the purpose of conscious development, always conserves resources (Maser 1997). Sound development can be represented as a mode of improvement that protects the biophysical sources of natural capital from economic abuse (Daly 1996). Put differently, development that is sustainable remains within the long-term biophysical carrying capacity of the systems that support it by recognizing the limits of growth and looking for alternative means of improvement. In this way, people can concentrate on developing their full potential as conscious beings, by being more not needing to have more.

Historic Civilizations and Sustainability

To truly understand sustainability, it is necessary to examine our human roots, see where we came from, and how we changed through the millennia. In the giant process of evolution, relationships among things are in constant flux. The forces that keep evolving systems intact, from a molecule to a human society, weaken as the size of the systems increase, yet the larger the system, the more energy it requires in order to function. Imagine the small-population systems of historic

times versus the very large-population systems of today. Such functional dynamics are characterized by their diversity as well as by the constraints of the overarching natural laws and subordinate principles that govern them.

Such laws include the first law of thermodynamics, the second law of thermodynamics, and the law of maximum entropy production. The *first law of thermodynamics* states that the total amount of material in the universe is constant, although it can be transformed from one state to another. Think of the log that is turned into a fine piece of furniture—only the form has changed, the material has not. The *second law of thermodynamics* states that the amount of energy in forms available to do useful work can only diminish over time. The loss of available energy to perform certain tasks thus represents a diminishing capacity to maintain order at a certain level of manifestation (e.g., a piece of firewood, natural gas, coal, geothermal, electricity) and so increases disorder or entropy. This “disorder” ultimately represents the continuum of change and novelty—the manifestation of a different, simpler configuration of order, such as the remaining ashes from a piece of firewood when it is burned. In turn, the *law of maximum entropy production* says in essence that energy will escape from a system by the fastest means possible (Swenson 1989; Swenson 1991).

In the Beginning

Earth has been exposed for billions of years to a constant flow of energy streaming from the sun and radiating back into space. On Earth, the flow of energy produces a vast variety of living systems. Every biological system must develop the ability during its evolution to constantly balance the energy it uses with the energies available in its environment. Ecosystems and human systems, like organisms, constantly bring in, break down, and use energy not only for repair but also for regeneration and to adapt to changing environmental conditions. In turn, each provides fuel to others but in a simpler form than it initially used (second law of thermodynamics).

As it turns out, the law of maximum entropy production freed early hominids from one of the basic constraints of nature when they adapted the intense entropy of burning wood for their everyday use (Swenson and Turvey 1991). The control of fire gave them the ability to live in habitats that heretofore had been too cold or the seasonal temperature variations had been too great. It also allowed them to cook food, making parts of many plants and animals palatable and digestible when they were baked, roasted, or boiled. As it turns out, the charred remains of flint from prehistoric firesides on the shore of an ancient lake near the river Jordan in Israel indicates that our ancient ancestors had learned how to create fire 790,000 years ago (Haber 2007; Robson 2008).



Fig. 1.3 Modern-day depiction of aboriginal peoples as hunters and gathers

The Hunter–Gatherers

Virtually, all of humanity lived by hunting and gathering before about 12,000 years ago. Hunters and gatherers represent the opposite pole from the densely packed, harried urban life most people of today experience. Yet the assumed lifestyle of those same hunter–gatherers may hold the answer to a central question plaguing humanity as it goes through the twenty-first century: Can people live harmoniously with one another and nature?

Until 1,500 AD, hunter–gatherers occupied fully one-third of the world, including all of Australia, most of North America, and large tracts of land in South America, Africa, and northeast Asia, where they lived in small groups (Fig. 1.3) without the overarching disciplinary umbrella of a state or other centralized authority. They lived without standing armies or bureaucratic systems, and they exchanged goods and services without recourse to economic markets or taxation.

With relatively simple technology, such as wood, bone, stone, fibers, and fire, they were able to meet their material needs with a modest expenditure of energy and have the time to enjoy that which they possessed materially, socially, and spiritually (Diamond 2005). Although their material wants may have been few and finite and their technical skills relatively simple and unchanging, their technology was, on the whole, adequate to fulfill their needs, a circumstance that says the hunting–gathering peoples were the original affluent societies—not part of an ordained tragedy in which they were prisoners at hard labor caught seemingly forever between the perpetual disparity of unlimited wants and insufficient means.

Evidence indicates that these peoples lived surprisingly well together, despite the lack of a rigid social structure, solving their problems among themselves, largely without courts and without a particular propensity for violence. They also demonstrated a remarkable ability to thrive for long periods, sometimes thousands of years, in harmony with their environment. They were environmentally and socially harmonious and thus sustainable because they were egalitarian. They intuitively understood the reciprocal, indissoluble connection between their social life and the sustainability of their environment.

The basic social unit of most hunting–gathering peoples, based on studies of contemporary hunter–gatherer societies, was the band (Fig. 1.3), a small-scale nomadic group of 15–50 people who were related through kinship. These bands were relatively egalitarian in that leadership was rather informal and subject to the constraints of popular opinion. Leadership tended to be by example instead of arbitrary order or decree because a leader could persuade, but not command. This form of leadership allowed for a degree of freedom unknown in more hierarchical societies, but at the same time put hunter–gatherers at a distinct disadvantage when they finally encountered centrally organized colonial authorities.

Hunter–gatherers were by nature and necessity nomadic. Nomadic journeys were a traditional form of wandering as a way of life in that people tended to move their encampment several times a year as they either searched for food or followed the known seasonal order of their food supply. This element of mobility was also an important component of their politics because they “voted with their feet” by moving away from an unpopular leader rather than submitting to that leader’s rule. Further, such mobility was a means of settling conflicts that became more difficult to deal with as people became more sedentary (Lee 1998; Woodburn 1998).

Nomadic people were in many ways more in harmony with the environment than a sedentary culture simply because the rigors and uncertainties of a wandering lifestyle controlled, in part, the size of the overall human population while allowing little technological development. Nomadic peoples, who carried their possessions with them as they moved about, introduced little technology or infrastructure of lasting consequence into the landscape, other than fire and the eventual extinction of some species of prey. Although they may, in the short term, have depleted populations of local game animals or seasonal plants, they gave the land a chance to heal and replenish itself between seasons of use.

The Dawn of Agriculture

With the advent of animal domestication (Copley et al. 2003; Outram et al. 2009), agriculture, and progressive settlement, humanity created the concept of “wilderness,” and so the distinctions between “tame” (meaning *controlled*) and “wild” (meaning *uncontrolled*) plants and animals began to emerge in the human psyche. Along with the notion of tame and wild plants and animals came the perceived need



Fig. 1.4 The permanent settlement of hunters and gatherers ushered in the beginning forms of agriculture to historic landscapes

to not only “control” space but also to “own” it through boundaries in the form of landscape markers, pastures, fields, and villages. In this way, the uncontrolled land or wilderness of the hunter–gatherers came to be viewed in the minds of settled folk either as “free” for the taking or as a threat to their existence.

So it was that the dawn of agriculture, which arose in the “Fertile Crescent” of the Middle East, ushered in a new era of controlling land through often-contested boundaries based on a sense of “personal ownership.” The Fertile Crescent is a crescent-shaped valley stretching from just south of modern-day Jerusalem, northward along the Mediterranean coast to present-day Syria, eastward through present-day Iraq, and then southward along the Tigris and Euphrates Rivers to the Persian Gulf.

Although sparsely inhabited for centuries, it is thought that agriculture originated in this valley around 8,000 BCE. The region was not only greener in those days but also home to a great diversity of annual plants, including grasses with large seeds, such as wild wheat and barley, which grew in abundance (Dillehay et al. 2005). This combination of factors allowed tribes of nomadic hunters, gatherers, and herders to settle along the lush banks of the rivers, where the fertile soil and plentiful water made it possible for them to become the world’s first farmers. The rivers also provided fish that were used both as food and fertilizer, as well as giant reeds and clay for building materials.

One of the most important developments in human history was the successful shift from a subsistence economy to an agrarian economy (Fig. 1.4). Being able to grow one’s own food was a substantial hedge against hunger and thus proved to be the impetus for settlement that, in turn, became the foundation of civilization.

Farming gave rise to social planning as once-nomadic tribes settled down and joined cooperative forces. Irrigation arose in response to the need of supporting growing populations—and so the discipline of agriculture was born (Abrams 1991).

Around 5,000 BCE, the first cities were constructed in the southern part of this long valley (Fertile Crescent), near the Persian Gulf, by an intelligent, resourceful, and energetic people who became known as the Sumerians. The Sumerians gradually extended their civilization northward over the decades to become the first great empire—Mesopotamia, the name given to this geographical area by the ancient Greeks, meaning “land between two rivers” (Haak et al. 2005).

The shift from a hunter-gatherer way of life to one of increased sedentism (the term archaeologists use to describe the process of settling down) required a concomitant to social interaction and the maintenance of permanent agricultural fields and irrigation canals. Evidence indicates that early irrigation farming was accomplished through communally organized labor to construct and maintain the canals, which necessitated the scheduling of daily activities beyond individual households (Dillehay et al. 2005).

To support the inevitable increase in the local population required an economy wherein farming was combined with hunting and gathering. The commitment to agriculture was more than simply the transition to a sedentary life structured around sustainable, small-scale production of food. It was also the commitment to a set of decisions and responses that resulted in fundamental, organizational changes in society, increased risks and uncertainties, and shifts in social roles as a result of the dependence on irrigation technology (Bower 2008).

So the dawn of agriculture, which ultimately gave birth to civilizations, created another powerful, albeit unconscious, bias in the human psyche. For the first time, humans saw themselves as clearly distinct—in their reasoning at least—from and superior to the rest of nature. They therefore began to consider themselves as masters of, rather than members of, nature’s community of life. It seems that farmers had a mind-set of utility that was anti-biodiversity from the beginning—an attitude that prevails among the world’s farmers of today. In fact, wild nature, humankind’s millennial life-support system, suddenly came to be seen as a fierce competitor—a perpetual enemy to be vanquished when possible and subjugated when not (Haber 2007).

Lessons for the Present

There are important lessons in all of this for anyone concerned with development. First, history suggests that a biologically sustainable use of any resource has never been achieved without first overexploiting it, despite historical warnings and contemporary data. If history is correct, resource problems are not environmental problems but rather human ones that we have created many times, in many places, under a wide variety of social, political, and economic systems (Maser 1998).

The first great civilization of the Sumerians experienced natural resource depletion problems caused by humans. And the lessons regarding human impact interactions with nature continued through history. Gretchen Daily's (1999) description of past cultures on Easter Island illustrates historical accounts of how human interaction with nature, and eventually with each other, played out to the disadvantage of civilizations. These accounts of human and nature interactions are further documented by Diamond (2005) in his recording of Pacific Island history as well as that of Greenland civilizations.

We, as individuals, should show concern when we contemplate the failure of so many earlier human societies to recognize their pending environmental problems as well as their failure to resolve them—especially when we see our present local, national, and global society committing the same kinds of mistakes on an even larger scale and faster time track, such as global deforestation.

What is more, the current environmental crisis is much more complex than earlier ones because modern society is qualitatively and quantitatively different than previous kinds of human communities, due in part to the burgeoning human population, the growing reliance on technology, and the withdrawal from and loss of connection to nature due to radical urbanization. Old problems are occurring in new contexts and new problems are being created, both as short-term solutions to old problems and as fundamentally new concepts. Pollution of the world's oceans, depletion of the ozone layer, production of enormous numbers and amounts of untested chemical compounds that find their way into the environment, and the potential human exacerbation of global climate change were not issues in olden times (diZerega 1997). But they are the issues of today.

Two ideas from this history of human cultures stand out as relevant to improving our global circumstances according to Daily (1999). First, scientific understanding of human interactions with the environment is necessary, but insufficient to prevent irreversible destruction of life-support systems. We, presumably like the islanders cutting down the last trees on Easter Island, have more than enough data and ensuing knowledge to recognize trouble and start moving in a wiser direction. But uncertainties are capitalized on by economic interests within our social structure to divert logical actions based upon our current knowledge coupled with that of history. Clearly, required change lies with our social behavior, in response to scientific evidence.

Second, human beings are much more capable of interacting in small regional/local settings. Nevertheless, for the welfare of future generations, today's society must recognize that local population growth and technology amplify and accelerate impacts on environments and peoples around the world. It is taking less and less time for civilizations to collapse. The Sumerians took approximately 4,000 years to self-destruct; the Greeks 1,400 years; and the Romans only 1,100 years. Greenland enjoyed a prosperous history for less than 600 years. Now, the USA, barely 200 years old, is walking the same road, which portends that many of its most important natural resources could be depleted within 50 years at the present rate of consumption.

Humans and the natural world are on a collision course. Evidence is accumulating with respect to depletion and pollution of underground aquifers that supply drinking water, accelerating loss of vital rainforests, the extinction of species and their biophysical functions, ocean acidification and overfishing, rising sea levels caused by melting glaciers due to a warming climate, severe droughts with shortages of freshwater in some areas and increased flooding in others, accelerated soil erosion, decreases in the quality and quantity of water—both potable and for irrigation—growing pollution of air, soil, and water on a global basis. Poverty, hunger, resource depletion, and global warming are not the problems, but they are symptoms of our social malaise—our thinking and subsequent behavior. Fed by the media, our self-destructive siege mentality and its fear of not having enough, fuels the ignorance, greed, and overconsumption that are rampant in the USA today.

What we are experiencing now is the past permeating the present. The last 200 years of the industrial revolution promoted population growth, increased material standards of living for many through more efficient and effective economies, and promoted the products of industry (both goods and services as well as pollution) reaching all corners of the world. Moreover, poverty will likely persist as exponential population growth is exacerbated by environmental degradation, and growing industrial/political power continues to inequitably skew the distribution of income.

Before we continue, it can be helpful in achieving success with our practice of sustainable community development to consider carefully what lessons we, as a society today, can relearn from the people who lived, and the few who still live, a hunter-gatherer way of life. The essence of these lessons is fourfold: (1) to be sustainable, development must emphasize the local conditions of the community; (2) sustainability demands broad-based, participatory, bottom-up dialogue and planning; (3) members of the community must recognize and appreciate that any action planned and executed will affect the whole world because the interactive, interconnected dynamics of nature is based on systems supporting systems ad infinitum in space and time, from the infinitesimal to the global and everywhere in between; and (4) individuals acting in the collective increasingly affect the global environment, like dropping a bigger and bigger pebble in a quiet pool of water. Unlike a pebble dropped into a pool, however, people can alter their errors by changing their thinking and thus their behavior.

It Is about the Economy

In trying to use fewer disappearing resources, which is what sustainable development promotes, the problems societies continue to face almost always come down to issues of economic growth. It is abundantly clear that most regions wanting an improved quality of life are economically driven. But the actual form of that economy has historically changed. The stories of past civilizations mentioned

above briefly referred to each society growing some type of economic system, which eventually collapsed, resulting in the demise of the society.

These collapses of civilizations were most often correlated with societies overexploiting their environment, different societal groups warring with one another, human migrations spreading highly fatal diseases, and the evolution of sedentary societies that advanced ancient forms of technology, centralized political organization, and the dependence upon dense food accumulations from agriculture (Diamond 1999). Our present global society finds itself at the brink again, but for very different reasons.

The Fundamental Problem

Unlike ancient times when people could just get up and move to someplace else if their living conditions declined, today there is no place else to go and no unlimited supply of resources to sustain communities and other large groups of people. The conditions people face in the twenty-first century are primarily affected by significantly increased global population numbers, a subject popular to discuss in the 1960s.

Since that time, the number of people on the planet has nearly doubled, but, oddly, concern over the impact of the ever-increasing human population seems to have faded from the public's attention. The public in general rarely hears important concerns surrounding the continuing increase in our numbers such as whether our resource use will permit the survival of other species, whether essential resources (e.g., clean water) will remain available following the complete anthropogenic alteration of Earth's systems, and how our focus on consumption and economic growth amplifies human impacts above and beyond our simple requirements for survival. Most important, there appears to be a distinct avoidance of identifying the increasing human population as a potential threat to human-related ecosystem stability (Vignieri 2011).

For most societies today, economics becomes the necessary vehicle for change. The roadway upon which we are driving is our economy's ecological base of nature with its resources, and society is the driver (Maser 1997), relying primarily on consumerism as the dominant economic medium. Developed economies are based on discretionary consumption, and furthermore, as developing countries improve their quality of life, they too enter into a consumption economy. All people deserve an equal quality of life, but the truth is that Earth cannot sustain a developed country level of consumption for billions of people. It would take all the resources of 10 Earths to support the current global human population at the consumption level of the USA (Vignieri 2011).

The challenge of how humanity will achieve minimum standard living conditions across the globe for a growing population while still maintaining the ecological systems we depend on is monumental and overwhelming. The daunting nature of the solution may explain why we choose to ignore many of the harshest

truths about the population problem. A fair and just solution is likely to be found only in a complete reorganization of our priorities and societies. Specifically, we must value diversity, human and biological, over economy of scale and human compassion and solidarity over competition. We also must not be afraid to reengage with the population issue and fully recognize that the time for such renewed dialogue is now. The only hope for sustainability then is a shift in societal ethics and culture, which considers global population containment and more responsible consumerism, both of which are the factors most demanding of economic growth and, if left unchecked, can only lead to unsustainable conditions.

Consumerism and Sustainability

The call for sustainability is being fueled, for example, by food strategies, diminishing freshwater, climate change, pollution, and energy demand, which are sparking social tension and global conflict (Brown 1999). The reason for most of these problems is economic demand, which adversely contributes to our global problems, including: (1) environmental degradation and resource depletion; (2) increasing income disparity; and (3) poverty and marginalization (Raskin et al. 1998).

At least 70 % of the U.S. economy is being driven by consumer spending. A popular automaker recently said in a television ad promoting one of its models—“something new to crave.” The suggestion that we need to “fulfill our cravings” during this pivotal period at the beginning of the twenty-first century and spend more rather than become more consumer conscious is a real threat to hopes of future global sustainability and flies in the face of society truly placing value on the future our children and grandchildren will experience. The economy must be viewed as the means to desired ends, rather than an end in itself. Competitive markets can promote production and allocation efficiency. But they must be markets tamed to conform to nonmarket goals.

The values that become most important in a lifestyle of consumerism and individualism undermine support for a politics that prioritizes long-range environmental and social well-being. If the dominant interests of popular constituencies and influential power brokers are short term, politicians will remain focused on the next election, rather than the next generation. It seems that overcoming the discord between rhetoric and action will take fundamental changes in popular values, lifestyles, and political priorities (Raskin et al. 2002).

Conventional economics tends to define economic activity in terms of consumers, producers, and markets, with money being the means of exchange (with a token nod to barter and “traditional” economic systems). A sustainability approach to economics offers people an opportunity to build a foundation of sociologic thinking that is integrated, holistic, and inherently connected to their lives and communities. The approach builds bridges to all backgrounds, invites people to explore real-world issues through an interdisciplinary lens, and equips

citizens with skills to be an effective society. It is time to create an economic system that protects its environmental source, serves our social necessities, and honors a good quality of human life for everyone. To achieve such conditions, *all* people must be allowed and encouraged to participate in guiding the process of sustainable community development.

Systemic Approach Involving All People

How is it that we are continually designing and using systems that do not get us what we want? Most humans desire happiness in their lives. Why do we accept an unsatisfactory situation, where we are continually buying the next gadget because we believe it will make us happier? If we worked together, could we change this for the better? Part of the answer to these questions is that we do not know how. We do not know what the alternatives are, and we do not know how to mobilize people and move forward with a new vision for our local community, our country, or our world. We also do not know how to work together very well—so many community initiatives fall apart because people just cannot seem to set aside differences to achieve a common goal. And if people are not already apathetic going into a dialogue on change, as a rule they become indifferent and bored through the process.

This tells us that we need a new form of public engagement, discourse, and community development. And this development must be holistic in nature, not fragmentary dealing with only people's special interests. There should be a feeling from those that engage in community development processes that we can satisfy our common human needs by building on our strengths, intervening at the system level, and integrating all the different parts of community life into a whole package, rather than trying to tinker with different problems in isolation.

Key to a new development approach is the mobilization of stakeholders and their participation in the process. Plans for community economic renewal can be successfully developed only if community stakeholders are actively involved in building a shared vision of their future. The citizens of a community are its source of empowerment, and increased citizen participation (attracting a critical mass of public engagement) is necessary in decision-making processes to facilitate democratic governance and responsiveness to community needs and interests.

And as the reader will discover in later chapters of this book, a defining aspect of a new development approach is that it is asset-based rather than problem-based. It is important to gain an understanding of the assets a community has for meeting the needs of its citizens that include the different forms of capital in a community, including natural capital. Development processes and the tools that support them will be helpful in providing communities with new ideas and different ways to look at such assets and how to develop them into economic opportunities.

For example, to effectively deal with the nonmarket costing of environmental resource assets (e.g., ecosystem services), physical indicators of the state of

ecosystems need to be integrated into national income and product accounts and made comparable to other measures of income (Kinzig et al. 2011). Progress has been made in developing satellite accounts for environmental flows. Although separate from the national income accounts, these still allow comparison with conventional measures of economic activity and can be reproduced consistently over time. Proposals exist to extend the national income and product accounts to include environmental flows and to develop consistent, comprehensive wealth accounts that include changes in natural capital assets.

Even the seasoned practitioner will find in the following chapters that sustainable economic renewal differs from traditional jobs – bottom – line economic development. Conventional development is often focused only on short-term wealth generation by for-profit businesses. New forms of development discussed later recognize that a whole-system process helps enterprises in both the private and the public sectors meet the full spectrum of human needs throughout the community, today’s and tomorrow’s, through thriving organizations that protect natural resources and ecosystems.

The big picture, systemic approach that distances the community from the faults of traditional development processes, requires focusing on retaining wealth in the community first—reducing economic leakage from the region. There is no sense filling up your gas tank when there are big holes in it. Retaining wealth has two primary components: (1) buying things made locally, so that your money circulates more in the local area; and (2) greater local ownership of businesses, since business profits will be spent more locally than would profits sent to people around the world absent from the community.

Community leaders need to consider that no economy at present is truly operating in a sustainable manner—meaning that it is building natural, human, and other critical forms of capital for the community’s and humanity’s future while meeting today’s needs. In essence, economic performance should be fully compatible to both the natural environment and the well-being of people. It is also a “wake-up call” that the ground rules for community economic development have changed dramatically in the past decade: we are entering the “Necessary Revolution” as Senge et al. (2008) brilliantly articulates—indeed many say the train has left the station and communities not on board will be left behind.

It is professionally naive to perceive any concern for improvement in future conditions in a disconnected, piecemeal approach. For example, water sustainability—the quantity, availability, and quality of water resources—is affected by many different issues including population growth, climate change, land use and energy choices, global poverty, consumer demands, manufacturing growth, and food production. Unless we can systemically overcome and adapt to these multiple driving forces on issues like water, future generations will inherit a legacy of declining and degraded natural resources.

Awareness of the connectedness of human beings to one another, to the wider community of life, and to the future is the conceptual framework for a new development ethic. An interdisciplinary focus on holistic models must now complement the reductionist program. To be trustworthy, knowledge must be rooted in

scientific rigor. To be trusted, it must reflect social understanding in diverse cultures. The peculiar nature of sustainability problems requires that diverse perspectives and goals be brought to the scientific process as the equalizer. This requires the cooperation of scientists and stakeholders, the incorporation of relevant traditional knowledge, and the free diffusion of information (citizen science).

The new development transition is about creating communities that make efficient use of land and infrastructure, and require less material and energy, while providing decent living conditions. The new vision would unify concerns with habitability, efficiency, and environment, concerns that are currently fragmented in different agencies and disciplines. The economic transition in pursuing community development that is comprehensive and integrated means moving toward a system of production, distribution, and decision-making that is harmonized with equity, sustainability, and human fulfillment. It would balance multiple objectives: eradicating human deprivation, reducing inequality, staying within environmental carrying capacity, and maintaining innovation.

A Call for Sustainable Development

We currently have far more knowledge of the world in which we live than did our forbearers. Therefore, people not only have greater opportunities than they did but also are confronted with greater responsibilities than they were because humanity is no longer an isolated continent but part of an interconnected global society, whether or not people fully understand the idea, whether or not people even like the idea.

If humanity is to survive this century and beyond with any semblance of dignity and well-being, we must both understand and accept that we have a single ecosystem composed of three spheres: the atmosphere (air), lithosphere (the Earth's crust of rock and water), and the biosphere (all life, including us, sandwiched in the middle). And because this magnificent living system—planet Earth—simultaneously produces, nourishes, and maintains all life, including us, we would be wise to honor it and care for it. If we do not, if we cause too much damage to any one of the “spheres,” we will be the authors of our own demise—and that of all of the world's children into everlasting (Maser 2009).

So who are we culturally—now, today in all our diversity? This is a difficult but necessary question for people to deal with because a vision is the palpable nexus between a fading memory of the past, partially related to language loss, and the anticipation of an uncertain future. The people of a community must therefore decide, based on how they define their present cultural identity, what kind of vision to create. A people's self-held concept (individual, cultural, and universal) is critical to their cultural future because their personal and cultural self-image will determine what their community will become socially, which in turn will determine what their children will become socially.

Rigid conservatism, which has historically been so prevalent in political discourse, is simply not up to the challenge of our times. Instead, the next stage of

cultural evolution must focus inward, into each person's consciousness, because this is the only realm out of which can grow creative, self-organizing innovations that offer sustainable ways of living.

Of course, the initial multitude who, preferring the devil they know to the devil they do not, steadfastly swear allegiance to the passing era by clinging tenaciously to old views and old ways of doing things. But there is also an expanding group of younger people who find the present ripe with positive possibilities. And it is here, in the present, that small choices and actions can have major, albeit unpredictable, effects in determining what comes next and how it manifests (van Gelder 1997). And somewhere among the millions of choices and thousands of experiments with conscious living is the possibility they will coalesce into a new society founded on the precept of true community, while endowing the human spirit with renewed meaning.

The Purpose of This Book

I possess more than 20 years of dedicated practice to the work of sustainable development. I have assisted communities and bioregions in national and international settings. I have conducted research, engaged in public consultation and strategic planning, aided the implementation of plans, and designed assessment programs to improve socioeconomic viability and environmental protection. In this work, I have regularly encountered people (often relatively new professionals in the development arena) who seem able to express the "rhetoric" of sustainable development, but exhibit relatively little understanding for how to holistically implement actions required for advancing a community's triple bottom line: ecological integrity, social equity, and economic stability. They can discuss ideas of sustainability, but seem unwilling or unable to put the multidisciplinary nature of sustainable strategies into practice.

A simple example involves how practitioners make reference to the concept of "environmental sustainability" or "economic sustainability" in talking with community members or professional peers. Too often, we view health, social equity, economic prosperity, security, environmental preservation, and other major societal issues as separate, competing, hierarchical, or symptomatic when they are really systemic and interdependent. Demonstrating confident implementation of the ideas and attitudes of sustainable development is possible only when practitioners are informed by an awareness of its fundamental components in an interdependent context. Sustainability, therefore, cannot be described by any adjective like "environmental" or "economic" because these are the foundational elements of its meaning and fragment its basis when used as adjectives. In declaring "environmental sustainability," the speaker does not truly illustrate competence at operationalizing the basic framework and interdisciplinary nature of sustainability, which also includes economic and societal well-being.

Clearly, therefore, a different approach to nurturing and sustaining life on this planet is needed, superseding special interests, which protects what it wants through fear-based thinking and decision-making, and which is committed to maintaining the status quo, even as it undermines the vitality of communities it pretends to serve. These conditions tend to beset communities with seemingly insurmountable obstacles, as they struggle to overcome long-standing problems associated with globalization and its impacts on their economic vitality, as well as the unsustainable use of both human and natural resources.

This book will discuss how sustaining the essential fitness, ecosystem services, and beauties of the Earth that support healthy well-being requires stabilizing the climate at safe levels, conserving energy, protecting the quality and availability of resources, reducing toxic emissions, and maintaining the world's ecosystems and habitats. Presently, the regional, national, and international will is not there because there is not the mechanics of consensus upon how to proceed. The following chapters will detail a systemic approach to the practice of sustainable community development that will encourage full participatory involvement and earn confidence for all peoples to embrace.

A grassroots, bottom-up approach to developing solutions embraced in local, community-wide participatory initiatives, as promoted in the coming chapters, holds promise for galvanizing the political will of governmental leaders. In doing so, local initiatives can lead to significantly better outcomes than predicted by our current state of diffused interest. To this end, this book discusses, analyzes, and encourages alternative actions at the local-community level to promote wide-spread change, while fostering local choices that not only lead to more self-sufficiency but also buffer communities from the impacts of business as usual.

My intent is to equip the reader—the student, the practitioner, and hopefully the community leader—with an overall understanding of the multiple paths toward sustainable development, including tools and methodologies that can be used to achieve true community with a prosperous economy in the larger context of a healthy environment. I begin by discussing the often-confusing elements and differences between communities that are merely livable as opposed to sustainable. Thereafter, I identify the most appropriate tools for actually advancing a community's sustainability within the context of nature's inviolable, biophysical principles, which govern the universal flow of energy that constitutes the basis of our economic system.

The time has come for community development professionals to become sufficiently skilled to implement a systemic—rather than symptomatic—way of thinking about a future for our children in which environmental, societal, and economic concerns are considered evenly, and simultaneously, in the pursuit of an improved quality of life for all peoples. The challenge for practitioners is to begin to conceptualize sustainability in the context of interdisciplinary scientific understanding and promote action that reaches across boundaries, disciplines, and cultures, challenging conventional assumptions and practices.

This book represents what I have discovered through my own work as well as what I have learned from the cutting-edge work of others on sustainable community

development—exploring the meaning of sustainability and harnessing its application in a community context. This writing is an effort to synthesize and integrate significant amounts of knowledge spread across the global sustainability picture as it relates to local and regional community development. Although some of the ideas are my own, I have also borrowed extensively from many different persons engaged in sustainable development through teaching, research, and practice. I intend to use the extent of my knowledge and others' in advancing the case for multi-sectoral approaches to the work by calling attention to achievable rewards of interconnected community sustainability goals in the growing global society. I thank and congratulate all of those persons for broadening my thinking about sustainability.

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Chapter 2

Basics of Sustainable Development

Communities face enormous challenges as their social, economic, and environmental resources are damaged or depleted. Because these resources are interconnected, there are no simple solutions to the problems society causes. But be it disease, child abuse, crime, injustice, weakened economies, energy shortages, lack of good jobs, extinction of species, poverty, destruction of forests, pollution, breakdown of families, armed conflict, or nuclear accidents, integrated solutions can resolve these seemingly diverse problems. However, acting on the interdependencies of the economic, environmental, and social justice elements of our world requires new ways of thinking about things and taking action—systemic instead of symptomatic—that will create a future where human society and nature can coexist with mutual benefit and where the suffering caused by poverty and natural resource abuse is eliminated (Gibson 2006).

In the end, a timely reversal of resource depletion and natural Earth cycle disruption trends is contingent on human interventions. But what economic, social, and political choices can we still make so that we do not meet even worse ends than many past civilizations? And equally important, how do we apply these choices across multiple sectors as required by our present complex problems? Consider the common plight of many African countries now that are in continual states of poverty, political upheaval, and warfare. How do we change from concentrating on the diverse symptoms instead of attacking the root causes of problems in these countries? Strategies and tactics based upon the patriarchal standards of excessive consumption and wealth accumulation, excessive concentration of power, and ego gratification only exacerbate present destructive global trends. Only an ethos of compassionate consumption, diplomacy of moderation, and egoless, noncompetitive economic collaboration can reverse these trends.

Many are now compelled to believe that one potential solution to global socio-economic and environmental decline can be found in the practical application of sustainable development. Sustainability is a concept that describes a healthy, dynamic condition of the Earth's biosphere and its various systems, the productive balance of which exists in harmony with human social and economic systems that interact without prejudice to the nonhuman elements of the biosphere, the

environment (Heintz 2004). Sustainable development is a program of action that has emerged from basic human values, from concerns about the consequences of past exploitation, and from scientific demonstration of the long-term harm inflicted on environmental and social capital.

Planting the Seed

To establish a consistency for discussion, I want to make it clear that I consider the word *sustainability* to represent a *goal*. It is the capacity for continuance into the long-term future. *Sustainable development* on the other hand consists of the *process* (and priorities) of moving toward this ideal end-state. Whether you employ the goal or process in your discussion, there is often disagreement on the best way to make progress—or even if we should try.

The concept of sustainable development was first articulated by the World Conservation Strategy of the International Union for Conservation of Nature and Natural Resources (IUCN 1980). Since then, the concept has evolved from a series of international meetings beginning with the United Nations World Commission on Environment and Development (WCED), also known as the Brundtland Commission (WCED 1987a). This discussion highlighted two very important issues that have become the basis of a call to international action: (a) much of the world is stuck in poverty, and development is needed to meet basic human needs, although this development needs to differ from previous strategies; and (b) wealthy nations have to find development strategies that are decoupled from growing natural resource depletion and environmental degradation (Gibson 2002). The irony is that these two issues are directly related to one another: nonintegrated solutions to poverty conditions can easily result in environmental problems because working to solve poverty problems by providing more resources can deplete or in other ways degrade environmental conditions; conversely, degraded environments can contribute to poverty issues.

Discussion by the WCED about these key global problems led to agreement that the concept of “sustainable development” could represent an integrated strategy to address what on the surface appeared to be very different issues. In this respect, *sustainability* suggests working to improve basic human well-being (often equated to economic condition) without damaging or undermining society or the environment—development that provides real improvements in the quality of life and at the same time conserves the vitality and diversity of the Earth’s ecosystems. This discussion led to the now infamous definition of sustainable development set forth by the WCED in 1987. They stated that “sustainable development is improving people’s life-enabling habits to meet our needs in the present without compromising the ability of future generations to meet their needs” (WCED 1987b).

It is important, however, that we do not concentrate on environmental concerns alone in working through the process of sustainable development. It is amazing how

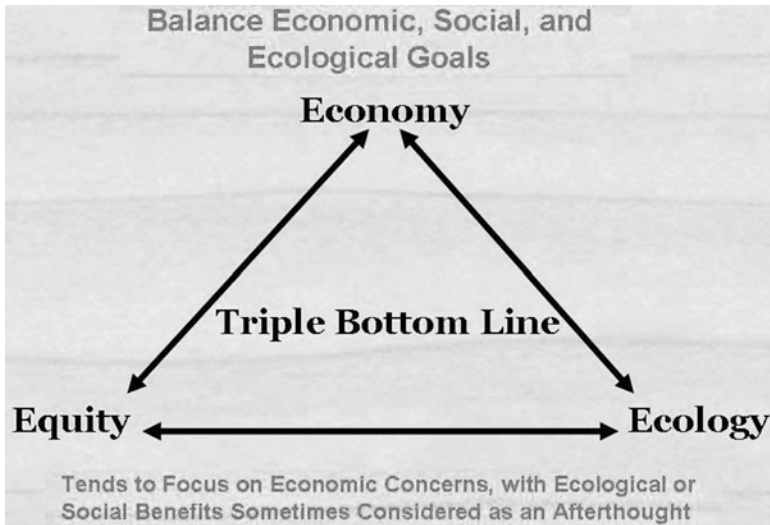


Fig. 2.1 Representation of the triple bottom line (TBL) perspective applied in the business sector to develop solutions that “balance” ecology and social equity where business is done with the all-important aspect of meeting the demands of a viable economy

many projects I have become involved in that focused, sometimes almost exclusively, on environmental issues. Sustainability is as much a construct in the social sciences as the natural sciences. Commitment to human and societal well-being is as vital as ecological commitment to the planet. We must preserve a planet fit to live on and also create stable institutions that sustain the quality of our socioeconomic life. Thus, sustainability is the science of vital balance between humanity and the human habitat.

For example, business and other forms of economic development are about meeting both consumer demand and the company’s financial objectives (Burns 2001). But business’s degradation of the environment, natural resources, or social capacity while serving demand does not improve well-being. Instead, well-being is improved by coupling market demand with the development of business methods to minimize energy, material use, noxious emissions, and social impact per unit of economic activity.

In recognition of this expanded business obligation, triple bottom line (TBL) accounting has become popular in order to provide a broader control system for balancing progress toward economic, social, and ecological goals (Fig. 2.1). But because of the problem of quantification and measurement, TBL accounting tends to focus on economic concerns, with ecological or social benefits often neglected. Typically, meeting the TBL is seen as a political negotiation among power brokers, a series of compromises between competing interests. An effective sustainability model, however, turns the notion of “balance” on its head: the higher vision of sustainability, rather than merely balancing economy, ecology, and equity, as is the

more limited scope of the TBL, can instead employ the energy spent in compromise to generate resiliency and value to programs and projects that have impact across all three elements of the TBL triangle (Fig. 2.1).

But sustainable development is not a “thing we do” or a “program we carry out.” Instead, it is a system of values by which we reason and choose to live, a process that uses common sense and intuition as a baseline. Sustainability should be viewed as a philosophy, or ethic, affording people awareness of the consequences of actions and encouraging them to think broadly across issues, disciplines, and boundaries. The characterization of a sustainable future infers the expression of people’s core values and concerns, communicating their ideas of a good life and their hopes that it will endure for future generations. As a process, sustainable community development obligates citizens to consider the ramifications of their thoughts and actions on others, their local environment, and the surrounding landscape, as well as motivating and organizing people to direct change within the context of a responsible and shared vision for a collective future.

Sustainability calls for improving the quality of life beginning with local communities without increasing the use of our natural resources beyond Earth’s twin carrying capacities for regeneration (e.g., trees and water) and waste absorption (e.g., carbon dioxide and toxic chemicals). The conventional economic imperative to maximize production is accountable to an ecological imperative to protect the life-bearing ecosphere and a social equity imperative to minimize human suffering. In acting sustainably, we also afford people in other places and future generations at least the same benefits and no fewer constraints than they enjoy today (Norton 2005). An action or a policy is not sustainable if it will reduce the ratio of benefits to constraints, in any place or time. This is the essential criterion for sustainability.

By following principles of sustainability, we can minimize the unanticipated consequences of narrowly conceived solutions that deal only with the symptoms of our problems rather than the underlying causes. Sustainable development allows us to think and function outside our own preconceptions and will encourage us to proceed in an integrative, systemic way. It represents the ability to coexist in a way that maintains the natural environment, economic well-being, and an equal opportunity for all people on Earth to benefit from a better quality of life now and in the future. The three are interdependent and together promote the TBL (Fig. 2.1). Nature is our life support; there is simply no way around this reality. Only when we have a healthy natural environment, coupled with healthy social systems, can we truly prosper economically.

For example, absolute poverty and extreme inequality are both moral and practical tragedies. Human well-being is essential because poverty is both a cause and an effect of environmental degradation. But a society locked in social tension seldom has the economic resources or political will to make the environment a priority. Although a piecemeal approach is tempting here, one must resist abandoning the vision of an interdisciplinary perspective to problem solution.

Sustainable development serves as the most effective means of organizing solutions. It represents a process in which policies for economics, finance, trade,

energy, agriculture, industry, community building, and all other industries are implemented in a way to bring about development that is economically, socially, and environmentally viable and healthy. Looking at anyone of these elements in isolation will lead to unanswered questions and unsolved problems. Sustainable development is also about hard work; it is not a “quick fix” or simply jumping on the “band wagon.” It means rolling up our sleeves as a community or organization and saying we are not going to be with this for a year or two, but rather for the next generation and on into the future of a sustainable Earth.

Fundamental Truths Behind Sustainable Development

It is important to distinguish here between the meaning of *truths* and what we will discuss later, *principles*. The statement of a truth represents a reality in our world, a fact that is supported by scientific evidence, as we know it to be now, whether it is natural, social, or economic science. A principle, on the other hand, represents a belief that forms the foundation of a fundamental doctrine (like sustainability) or serves as a rule, law, or assumption about the nature of a policy.

To begin understanding chaotic and complex systems underlying global patterns addressed by sustainable development requires confidence in the tools of systemic analysis (Patterson 2000), which include the basic truths or facts that surround any particular issue. Because of significant causal uncertainty in many instances, however, we can never be sure how systems are going to behave as conditions change. This uncertainty can make a symptomatic approach to problem-solving more appealing, advocating the evaluation of symptoms rather than underlying causes (Marshall and Toffel 2005) even though symptom assessment often leads to failed outcomes. For example, it is tough to convince a Midwest farmer that global warming of the climate is occurring when they are facing record snowfalls.

The possibility that human logic, and thus decision-making, can be affected in this way does not bode well for sustainability advocates to convince the populace at large that our global situation has problems (Ferguson 2005). To overcome public inertia, our conversation on sustainability has to rely on the basic truths that support the argument for a sustainable future—those facts that pull us back to the causal roots of the problem. It is important that the public at large confront the rational truths supporting our understanding of social, economic, and biophysical impacts. And these basic truths must be presented in a calm, peaceful, and reasoned way so that logic can prevail over preconceived opinions and belief systems that defend against change. These truths include the following:

1. *Everything material on Earth has limitations.*

Earth is a closed system with regard to material cycling (Daly 1996) such that there is a thermodynamic irreversibility of natural processes (first law of thermodynamics—nothing is created or destroyed, just transformed). The Earth will not grow and therefore the size of things, such as population, matter. The closed

nature of material cycling implies that there are ecological limits on human activity that dictate we consume less than Earth's natural resources can provide (living within nature's limits) in order to maintain resource continuance (Hawken et al. 1999). Sustainability is about recognizing and working within these limits, not stressing resources by overconsumption beyond irreversible states.

2. *Many components of our global system are interconnected.*

Problems in the economy, environment, and society are interrelated and are subject to becoming global in context (Gibson 2002). Human and ecological well-being is interconnected by the nature of the planet's abiotic and biotic components, which are intimately intertwined and systemic. Sustainability is a systemic means of addressing these complex interconnections and interdependencies, especially in issues that appear to be separate like biodiversity conservation and social inequality. Anticipated change in one aspect of life, such as increased personal income, might affect changes in other aspects, such as the demand for food and other resources, type of housing, types of travel between home and work, and so on. Thus, planning to intervene in the operation of an isolated sector might be effective but cause undesirable results to other sectors. For example, life expectancy is affected by water, sanitation, and health care. But improving sanitation and access to clean water and reducing infant mortality might increase the population of the hungry and discontented unless the ability to provide more food and better housing is increased proportionately. The objective of sustainability should be focused upon specific interventions as the proportional effect among all system elements.

3. *Change is the norm, not the exception.*

If we are to thrive in perpetuity, society and its economic systems must maintain a constant vigilance for change in the harmony of the natural world. Nothing is static. The dynamic, sometimes chaotic pattern of natural processes manifests continually changing states of materials and energy (Maser 1997). In carrying out programs intended to enhance society or protect the environment, because of the complexity and interdependent nature of these systems, we must recognize the possibility of unintended consequences (Jacobs 2000). Mistakes will be made so the adaptability of systems to significant change is extremely important.

4. *All socioeconomic factors are grounded in a healthy environment.*

Environment is the plumbing of the planet. Nature is our life support. There is simply no way around this reality. Without functioning ecosystems nothing else matters. Therefore, sustainability requires working to improve economic conditions without damaging or undermining the environment. Development provides real improvements in the quality of human life and by necessity conserves the vitality and diversity of the Earth.

5. *Diversity within systems (natural or human) will contribute to the system's stability and resiliency (includes ecologic, economic, and sociocultural diversity).*

The multifaceted makeup of society and nature is important to both long-term stability and resilience. Species diversity in ecosystems, with all its varied functions, is one of the more important factors in sustaining the quality of the

natural environment (Rees and Wackernagel 1994) acting to absorb insults to the system and maintain a healthy momentum vital to the community that depends on the environment. In high-biodiversity situations, the failure of one species does not necessarily mean a system's collapse. The same can be said of a particular form of economy or a human civilization in history. A sustainable human community possesses a healthy and diverse economy (variety of businesses, industries, and institutions that are environmentally sound) that adapts to change, provides long-term material security to residents, respects ecological limits, and is redundant in that if one business fails others are able to supply its goods and services (Jacobs 2000). Likewise, a healthy human community is characterized as one that supports people of different cultures and ethnicities to offer a wide variety of social experiences (Bernard and Young 1997). Resilience in human communities as well as natural ecosystems is dictated by the state of *diversity* and *redundancy* represented in different community characteristics or species' functions, in the context of a "complex system."

6. *Equity is the foundation of healthy functioning systems.*

Opportunity for social equity is an important foundation element of sustainable societies, for without the potential for equal access to resources, opportunities, and good environments, envy can generate conflict between those who have and those who have not. Social equity implies that diverse social, cultural, and ecological systems are more easily preserved because tensions are able to be resolved by having access to a means for distributing costs and benefits equitably (Bryant and Mohai 1992), creating a sense of the availability of fairness. Even in nature, there is fairness among species in the form of competition processes that will ultimately lead to "survival of the fittest." With regard to people, as Robert (1991) states, "the bounty of the Earth—food, raw materials, natural systems—must be used equitably, fairly and efficiently so that the basic needs of all humans are met locally and globally." Material and economic disparities and the associated disproportionate impacts they exert on different societies have resulted in the degradation of ecological resources as well as the potential for conflict, often growing into circumstances of war and terrorism (Lash 2001).

7. *Uncertainty and ignorance are often associated with complex systems.*

There should be a general recognition that science and knowledge are intrinsically uncertain, with new information continually altering and improving our perceptions and beliefs. Therefore, decisions based on scientific information must be made in the context of uncertainty (Norton 2005), but with the recognition that further experimentation and monitoring could lead to more certain outcomes through learning-based management (e.g., adaptive management). And of most concern is the fact that lack of public familiarity with scientific methods hinders a ready translation of science into personal choices (Bernard and Young 1997). In order to deal with uncertainty and protect against unintended consequences, we must have appreciation for the precautionary principle (Gibson 2002).

Despite inherent uncertainty, truths from science must underpin public conversation if global solidarity is to be achieved. These seven truths about our world are the reasons sustainability has become a global phenomenon. By focusing on these areas of strong consensus, we can align constituencies with vastly different viewpoints because all the evidence of dysfunction is irrefutable according to scientific understanding (as we know it now) of how nature and society interact. Using these evidence-based truths as a starting point, it becomes much easier to have a dialogue about environmental and socioeconomic issues, especially when the true concerns of society are often controversial and cross traditional boundaries of economic, social, and environmental interests.

Sustainability Triple Threat

We have introduced economics, social equity, and ecology as the basic components of sustainable development, its processes, and effects. Here we explore the means to work across component boundaries as prerequisite to effective development in the human condition.

Sustainable development involves the execution of programs that offer economic benefits in the present without limiting social and environmental choices that may be available to people in the future or in other places. It is development that provides real improvements in the quality of human life and at the same time conserves the vitality and diversity of the Earth's ecosystems. And the chances for successful, long-term development with minimal unintended consequences are improved with a coordinated focus upon economics, society, and environment.

As sustainability concepts begin to show signs of a payoff, the triad of sustainability ethic—economic development, social equity, and environmental protection—which was once considered impractical, has begun to guide both long-term strategy and everyday practice for sustainable development decision-making. Exactly how the components of the triad interrelate is important.

The confusion about sustainable development and our failure in the past to act sustainably is indicative of the lack of a fully inclusive and cohesive model of society and environment. In most cases, a reductionist piecemeal approach is taken to problem-solving where a particular problem is categorized according to one of three major points of view: *economy*, *social well-being*, and *environment* (Flint and Danner 2001) as depicted in Fig. 2.2. These points of view can be distinguished as the triple threat to sustainability when they are dealt with as separate, intact sectors in our world with no apparent relationship to one another. Each corresponds to a set of components that have their own distinct causal dynamics. Separate causality as implied by Fig. 2.2 leads to separate objectives.

- The economy sector is geared mainly toward improving human welfare, primarily through the production and consumption of goods and services.

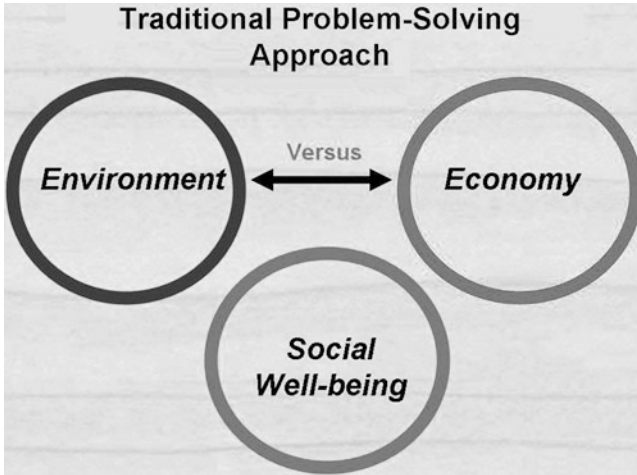


Fig. 2.2 Illustration of the traditional approach to problem-solving where issues of environment or social well-being or economy are solved in an isolated piecemeal approach with no consideration for connection among the sectors in seeking problem solutions

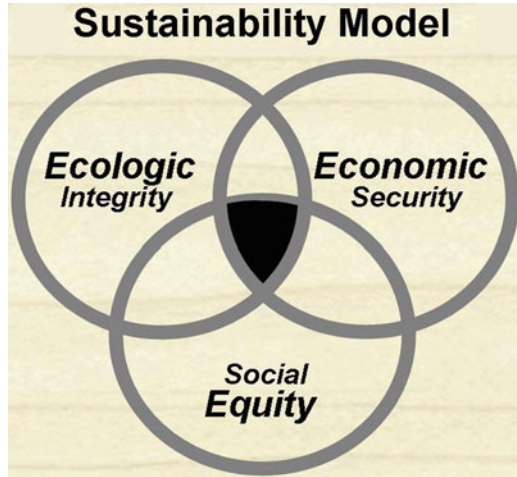
- The social well-being sector emphasizes the enrichment of human relationships and achievement of individual and group ambitions.
- The environment sector focuses on protecting the integrity (reliability) and resilience (flexibility, toughness, ability to recover from change) of ecological systems.

But these sectors cannot be separated in the search for sustainable solutions to global problems, as has been the case in traditional problem-solving (i.e., see Fig. 2.2). And in many instances, as the double-headed arrow in Fig. 2.2 suggests, there are often conflicts between perceived socioeconomic needs and environmental conservation objectives, as suggested in the politically cited conflict of “jobs versus the environment.” The end objective of this traditional piecemeal approach to problem-solving is the “mitigation of adverse effects” (Hodge 2004) rather than an optimal solution.

Integrated Problem-Solving for Sustainability

A new model of problem-solving must consider each point of view systematically and strategically, addressing primary concerns and how these relate to one another in matrix fashion (Flint 2004). In other words, the potential success of any societal activity should be judged in terms of its contribution to human and ecosystem health together (Hodge 2004). Thus, an alternative to the three circles of Fig. 2.2 is the Venn diagram illustrated in Fig. 2.3. Here a conceptual diagram of three

Fig. 2.3 Venn diagram of the three elements of sustainable development shown in their integrative mode of three-overlapping circles to describe a simple, straightforward sustainability model



overlapping circles is used to help visualize the interconnectedness of modern humanity’s economics, social equity, and ecology (Gibson 2002); as movements converge toward sustainability, the black-shaded intersection of the overlapping circles (suggesting integration of the three elements) increases to imply further improvements. In this illustration, “cultural and political” actions are included in the social sector. And the social sector emphasizes “equity,” implying that fairness across the board is an absolute necessity to achieve sustainability.

In the Venn sustainable development model of Fig. 2.3, let us review what each of these three elements represents (Flint 2004):

- *Economic Security (Compatible with Nature)*—development that protects and/or enhances natural resource quantities through improvements in management practices and policies, technology, efficiency, and changes in lifestyle.
- *Social Equity (Balancing the Playing Field)*—guaranteeing equal access to jobs, education, natural resources, and services for all people; total societal welfare; access to fair conflict resolution.
- *Ecologic Integrity (Ecosystem Capacity)*—understanding natural system processes of landscapes, watersheds, and seas to guide design of sound economic development strategies that preserve these natural systems.

By the three-overlapping circles model, we are guided to link economic, social, and environmental parts of the community to strengthen its overall fabric. The three-overlapping circle symbolism reveals how the core of sustainability demands equal consideration of all sectoral issues in a synergy relationship, rather than simply striking the best balance one can achieve among sectors. Each decision toward problem-solving or for improvement has an impact on all three. In contrast, omitting one or two of these concerns can put economy, ecology, and equity at cross-purposes. Fully combined, however, the common roots of economic, social, and environmental problems can be found and the various issues integrated in a

holistic sustainable solution. Once the overlap is identified, acknowledged, and accepted, people can begin working collectively, extending the area of overlap and integration. Although the overlap might be tiny at first, it is a beginning for the unification of traditionally conflicted objectives.

From this perspective, the concept of sustainable development is much more than environmental protection in disguise. Sustainability represents a multidimensional way of thinking about and acting upon the “triple threat” of economic, social, and environmental dynamics in a system context (Fig. 2.3) and acknowledges space–time relationships in decisions that involve a complex, dynamic system (Norton 2005). This perspective distinguishes between environmentalism, which so often focuses only on ecological integrity, and the sustainability movement, which is more holistic (comprehensive and systemic) and inclusive (McDaniel 2002). Seeking sustainable solutions is going to require the consideration of *relationships* among growing income gaps between rich and poor sectors of society and extreme poverty:

1. *Economic concerns*, such as increasing resource needs due to population growth—about 3 billion people, almost half the world’s population, are estimated to earn less than \$2/day.
2. *Social and human health concerns*, such as widespread exposures to trace levels of persistent, bioaccumulating, toxic substances; social disintegration resulting from displacement of traditional lifestyles; the lack of safe drinking water for approximately 1.5 billion people globally; unsanitary urban conditions where as many as 2 billion people lack access to sewers; lack of primary education for approximately 130 million children worldwide; and proliferation of both viral and bacterial infectious diseases.
3. *Environmental concerns*, such as the potential for climate change due to CO₂ and other global warming gases; degradation of air, water, and land in industrialized areas; depletion of natural resources, including freshwater, biomass, and minerals; loss of agricultural land due to desertification and soil erosion; and threatened wildlife habitats, including forests, reefs, and wetlands.

Integrating these concerns through the application of a sustainable development model (Fig. 2.3) calls for both human and ecosystem well-being to be preserved or enhanced. Maintaining one at the expense of the other is not acceptable from a sustainability point of view, because in either circumstance, the foundation of life is undermined (Hodge 2004).

Norton (2005) provides some excellent examples of how considering problems in isolation, usually from an economic standpoint, sooner or later can bring about changes on temporal and spatial scales that were unintended and also found to be undesirable—the “triple threat” to sustainability. For example, successful development of an economic activity may be a sign that the design and planning were good in addressing a particular social need. But as Norton (2005) suggests, it may also be a sign that we have not foreseen the longer-term consequences of the activity. He uses the story of Aldo Leopold to illustrate this point where Leopold suggested in the early 1900s that wolf and mountain lion populations be controlled in the

Southwestern United States in order to provide more deer for hunters, significantly increasing the economic benefits from such activities. Unforeseen for many years, however, were the deteriorating aspects of the slow-changing arid physical systems that supported the deer populations prized by hunters.

The lesson from Leopold's story is that humans have the power and technology to be the dominant force on a landscape and therefore cannot ignore the long-term consequences from trying to gain short-term economic benefits. In Leopold's case, he did not think about the long-term ecological impacts of his actions in wanting to produce large deer herds for hunters. He did not consider the nexus of environmental, social, and economic problems that can translate into a triple threat to sustainability.

As suggested above, success in the short term with regard to economic goals often overshadows triple threat issues that can set in motion both social and ecological processes undermining the foundation of a stable functioning environment. Unfortunate lessons we have learned from not considering or fully understanding the temporal-scale implications of proposed solutions as well as the impacts of a restricted vision of factors include the regrettable outcomes from acid rain, CFCs, dredged and reconstructed waterways, forest harvesting, DDT, oil and gas exploitation, and numerous other activities to enhance our economies.

A triple threat to sustainability also can play itself out on a spatial scale. Mayer et al. (2005) describe geographic situations where the importing of forest harvest products by one country can result in the export of ecological impact to the countries supplying the timber. When a particular country promotes forest biodiversity and conservation while at the same time maintaining a significant demand for wood products, those products must be supplied through trade with others. In these instances, the countries exporting timber products are not always able, or willing because of pressures for short-term economic gain, to promote similar policies of forest habitat conservation and biodiversity. Mayer, et al. (2005) cite the example that increasing demand for both wood products and forest conservation in Asian (e.g., China) and European countries (e.g., Norway) has placed increasing pressure on forests in Russia.

Unfortunately, assistance programs intended to help communities in developing countries today often only worsen circumstances for the poorest of the poor because of their isolated focus on a single element or specific problem, opening the door for unanticipated triple threat outcomes. For example, well-intended projects to help communities in achieving access to clean water, thus alleviating many common diseases and causes of death (e.g., Africa) in and of themselves, *do not* move the community to a better quality of life over the long term. Short-term solutions to public health issues lead to decreased mortality rates, resulting in higher population numbers in many of these rural isolated communities. These increased numbers require more food and other basic utilities such as adequate housing. Solving problems of disease without dealing with added stresses on nutrition and housing will discount the potential positive outcomes of decreases in disease alone (Pimentel and Morse 2003). Is it moral to reduce disease when the environment cannot be developed fast enough to cope with the population growth?

Threats to societal and ecological well-being are woven together in mutually reinforcing ways (Gibson 2002). If we can begin to evaluate proposed actions and policies for their economic contribution, as well as for their ecological and evolutionary effects, we will be adopting a model of sustainability (Fig. 2.3) by incorporating diverse human values (those wanting a strong economy and those valuing the natural environment) into a sustainable solution. Corrective actions must be woven together to have positive outcomes for multiple objectives and informative feedback for needed changes to stay on track, in contrast to the carrying out of policy that is based solely on short-term economic benefits.

To repeat, sustainable development involves the carrying out of activities that offer economic benefits in the present without negatively affecting social and environmental choices that are available to people in the future or in other places. Unsustainable activities are those that ignore the “triple threat” to more slowly evolving system dynamics, such as ecological function, and thus change what today might be viable opportunities into constraints sometime in the future. Impatience for improvement can worsen future conditions.

Challenges to the Idea of Sustainability

There are the many who will openly challenge the ideas supporting sustainable development. But to those fully embracing the concept, sustainability is a vibrant set of actions that enable all people to realize their potential, meet their needs, and improve their quality of life in ways that simultaneously protect and enhance our Earth’s life-support systems. These benefits, however, are the main poles of tension. Social inequity, the material disparity in terms of needs not being met for all people, as well as the question of why consideration for nature should come before the welfare of humans, is at the center of the sustainability debate (Flint and Houser 2001).

The ecological part of sustainability is the simple part of the concept. While there is considerable debate over where exactly the boundaries are, there is general consensus that we must learn to live together within the means of nature. The socioeconomic issues of sustainability, however, are more difficult and contentious. Mainstream economists do not worry about shortages of natural resources to supply our needs and the capacity to receive our wastes because classical economic theory assumes that human resources can compensate for lost natural resources (Flint and Houser 2001). But there is considerable evidence now that the use of natural capital by many parts of our economy has already exceeded the regenerative and absorptive capacity of the environment (Daly 1996). In addition, the question of who gets what (and how) from increasingly limited economic production and a debt-induced recession, especially with China and India now seeking developed world standards of living, raises the specter of potential conflict both within and between nations. The need for shared justice and the associated potential for conflict from social

injustices is the most threatening and politically taxing part of the sustainability question.

In addition, sustainable development is not necessarily popular with the people who can most make a difference by underwriting its concepts. Problems come from two directions. First, it imposes change on individuals craving to preserve the status quo. That is, the meaning is unclear regarding the costs, benefits, and strategies of intergenerational sacrifice and transfers (Daly 1992). Second, the full unfolding of sustainability involves patience with an evolving process. There are often not instantaneous gratifications from actions we might take to fix what is going wrong, thus discouraging further efforts. Immediate solutions are not always apparent for problems people face in dealing with daily struggles. As we get caught up in wanting immediate solutions, we unintentionally end up creating even more problems.

Likewise, numerous practitioners wanting to solve problems more immediately believe that “the big picture view” of sustainability is not specific enough for the problems facing them on a daily basis. They feel activities should be implemented that are more narrowly focused and target-oriented on their particular environmental, economic, or social worry (give me a quick fix!). Causing most concern is the fact that in many situations sustainability is perceived as addressing mainly environmental and conservation issues, focusing only on ecological integrity (Orr 2002). This view completely misses the point that the sustainability movement is more holistic and inclusive, intended to address the integration of environmental, social, and economic dimensions in planning and action.

Another challenge to operationalizing sustainable development comes from its original definition. WCED (1987a) set forth that sustainable development is ensuring our actions today do not limit the range of environmental, social, and economic needs required by future generations. The majority belief is that this statement offers no substance for those really wanting to implement actions that are believed to be sustainable (Marshall and Toffel 2005). It also seriously brings into question what the idea of *needs* really means, as stated by WCED (1987a). How do we distinguish between essential needs today and wants—those that are supplementary or excessive? And likewise, how do we distinguish between the needs of very different cultures or people in the future compared to present-day society when we cannot even predict what kinds of technologies are going to exist to fulfill different needs?

Basic human needs have been defined by Manfred Max-Neef (Lahiti 1998), an economist from Chile. But because we cannot predict the future, our deliberations can only recognize that people do inevitably require what qualifies as the meeting of needs adequate for a respectable life (Gibson 2002), beyond those considered basic human needs. As Norton (2005) states, the identification of needs for future generations (because we cannot actually predict what needs will exist) can realistically only go as far as maximizing their opportunities while minimizing their constraints to achieve their needs by what we do in the present. Therefore, society is charged with using, developing, and protecting resources at a rate and in a manner (based on our state of technology and social organization) that enables all people

to meet their current needs and also provides that future generations are not constrained to also meet their needs (Daly 1996), simultaneously fulfilling environmental, economic, and community requirements. It means keeping the consumption of renewable natural resources within the limits of their replenishment, living on the Earth's income rather than eroding its natural capital (Patterson 2000). And herein lies another problem: how often are we absolutely confident with regard to the limits of a resource?

Those devoted to some form of societal and ecological relief from excessive consumption, for example, chose to emphasize the idea of minimum effects—"sustainability can be achieved by actions that minimize damage to our natural environment" (WCED 1987b). Another possibly less problematic description states that "sustainability can be represented by patterns of production and consumption continued indefinitely without causing irreparable harm to the ecosystem services we rely upon for life" (Bartlett 1998). Actions that will move society toward goals of sustainability, however, must encourage positive steps (Gibson 2002) and therefore the "minimization" of negative effects or avoiding "irreparable harm" is not sufficient. The complexity of natural systems limits our ability to gauge "minimal damage" or "irreparable harm," causing uncertainty in measurement and scientific understanding, which then results in the conservative approach of *precaution* executing policy rather than the desire to "minimize" damage.

This plethora of views and concerns has rigorously challenged the idea of sustainability and in particular situations nearly rendered the term meaningless, severely weakening the argument to address the multidimensional nature of economic, social, and environmental issues (Gibson 2006). For decisions and actions to be sustainable, they must be ever elastic, adaptable, and creative. You can plan and plan, but then also leave yourself open to mystery and discovery! We must always be receptive to the fact that economic development, equal social access and benefits, and environmental health are inextricably linked. Therefore, in recognizing these *connections*, the *choices* we make must simultaneously advance objectives in these different sectors in order to minimize unintended *consequences* (the three Cs of sustainability).

But without acceptance of a common philosophy about what sustainability represents, neither the general public nor scientists with significant expertise can share a universal model for understanding, addressing issues, and most importantly engaging the community. It is this lack of a shared conceptual model that inhibits communication among different sectors of society and encourages disciplinary experts to "talk past" their counterparts from different disciplines (Norton 2005). The absence of a shared understanding sets the stage for ideological thinking to dominate because there is no consensus for testing reality. The inflexibility in discussion of sustainability often allows dogma to dominate the debate and leaves no room for learning from the experience of others or from testing options. Sustainability requires breaking down disciplinary walls, achieving its goals in an integrated, comprehensive way. It is about equal consideration between economic development and environmental quality, between technological innovation and community stability, and between investment in people and investment in infrastructure.

A Mind-Set Inclined Toward Sustainable Development

Ideas of sustainability are not as much about being able to put forth an adequate and acceptable definition as cultivating a mind-set and philosophical point of view that can help dissolve irrational resistance and encourage people to more easily embrace the concept. This is a key dimension of the conversation that exists below the radar. Few are focusing on the psychology of change, which shapes our capacity to understand the world and allows us to take effective action in support of better solutions. Mind-sets, the nature of their development, and the headway gained through the expansion of human consciousness are often overlooked in the larger sustainability discussion.

Mind-set is “the ideas and attitudes with which a person approaches a situation, especially when these are seen as being difficult to alter—an attitude, disposition, mood, or inclination.” A mind-set is a set of assumptions, methods, or notations held by one or more people or groups of people (Dweck 2006), which is so established that it creates a powerful incentive within these people or groups to continue to adopt or accept prior behaviors, choices, or tools (affects a person’s “philosophy of life”). Mind-set is “an established set of attitudes held by someone,” the “cultural touchstones” that shape the minds of people in acting upon their philosophical understandings (Dweck 2006).

Therefore, besides the expression of intent of a community or corporation to become more sustainable, there needs to also be development of a “mind-set” that will really enact the systemic approach that successful outcomes in sustainability plans and actions demand. A mind-set inclined toward sustainable development provides an open door for the person or institution to think about and act upon sustainable issues as a form of habit. This being the case, a formal definition of the phase is not as important as the second nature or philosophical awareness the person has for the subject.

Thus, the Brundtland definition that started it all is not something that people should feel obligated to promote, especially since in some ways it is ambiguous. Instead, common ideas of sustainable development can mutate from the triple threat into a mind-set of interconnectedness, living within nature’s limits, and equal opportunity for all to have a better quality of life.

The vague meaning of the Brundtland definition for sustainable development has proven to be open to a host of interpretations (Parris and Kates 2003). Deeper examination of the phrase shows that *sustainable* means an act is viable and can be continued (Woolf 1975) over the long term without lessening the ability to support life, to comfort, and to nourish. For all of human history, the Earth has sustained human beings by providing food, water, air, and shelter.

Development refers to the way in which the interaction among elements (economy, society, and the environment) progresses and changes toward improving or bringing a situation to a more advanced state (Woolf 1975). An example would be

our efforts to improve local/regional transportation or land-use. Development happens everywhere and affects everyone. The measure of successful development is that it is long-lasting without putting the well-being of nature or humans at risk.

In this precarious landscape of meanings, however, communities and other organizations can avoid the burden of trying to work with a one-size-fits-all sustainable development definition conceived somewhere else. A simple, or as Norton (2005) suggests, “schematic,” definition of sustainability can be refined into specifics by communities of people that add important criteria and indicators based upon their particular mind-sets and core values. So a particular community’s sustainability criterion will have to be tailored by the community itself, in the process of choosing goals, priorities, and indicators in an open, deliberative, and democratic process (Norton 2005).

What would a simple graphic definition of sustainability look like for a community embarking upon this journey? We really have no way of knowing what the “needs of future generations” might be, as they are inadequately described in the Brundtland definition. However, sustainability implies a defined relationship among generations. And the nature of this relationship is such that the actions of the present generation to fulfill their wants and needs do not destroy or close off important and valued *choices* for generations in the future (Norton 2005). Living sustainably is maintaining the important mix of options and opportunities while creating no new and onerous constraints; living unsustainably is losing opportunities, narrowing the range of options that people in other places or subsequent generations can choose among in their attempt to adapt, survive, and prosper.

Instead of attempting to understand the potential needs of the future, present societies should instead be concerned about making sure that the opportunities they have to achieve their own values, the things important to them, do not in any way constrain other places or the future by actions they might take in the present. To hold open options requires the complicated and difficult process of a community attempting to conscientiously specify what obligations toward people in other places and the future it accepts, which of those costs are bearable, and which ideals projected into the future are compatible with present needs (Norton 2005). The communities themselves are responsible for choosing what is important to monitor and what is important to protect, uninhibited by a sustainability definition established somewhere else. For example, if societies fulfill their needs by overconsuming, then they will have degraded the environment that subsequent generations encounter, leaving more constraints and reduced opportunities and making survival more difficult. When we state a set of core values for what we want our community to be like in the future, we identify those options and opportunities that give meaning to life in a specific place (Norton 2005). “Important options” represent a variable to be specified as particular communities articulate their values and decide what is important to save for posterity.

A Shift in Ethics

Sustainability is often viewed as something to avoid because of feared conflict over differing points of view. Uncertainties about the world, as well as the contradictions many of them pose (Norton 2005; Gibson 2006), often reduce debates about sustainable development quickly into disputes about whether or not continued material growth and consumption are feasible at all in what some perceive as a world with limited resources (Flint and Houser 2001). But the actions of sustainable development are necessary because declining global resources and accumulating wastes are real phenomena and can only be corrected with personal, sustained, multidimensional changes in socioeconomic patterns that move us toward long-term solidarity, security, and resilience (Hodge 2004).

The acceptance and application of sustainable development can lead to a radical shift in personal ethics and societal culture that values population stabilization and more responsible consumerism. This shift in attitude and behavior has been shown to improve personal fulfillment and sharing, and to reduce unfulfilling, unnecessary consumption. Once the overlap of sustainable development elements is identified, accepted, and practiced, people can begin working collectively, extending the areas of integration consistently enumerated throughout this book. A key to success of this strategy, however, is that we always maintain standards of dignity, compassion, and equality while we rigorously explore the potential of the progress to be gained from sometimes difficult integration of the complex issues that challenge us.

Members of a sustainable community come to realize that long-term economic security depends upon having a sound functioning ecosystem and a healthy social environment that includes full public participation. To appreciate the multi-sectoral relationships, Fig. 2.4 from Heintz (2004) illustrates that sustainability is a controllable property of the biophysical environment that emerges from interactions between the ecosystem and society. Ecosystems include all living things on Earth and the nonliving systems with which they interact and on which they depend. Society includes all the human elements of the biosphere. Humans are a part of nature, not apart from it. And the economic system is a part of the social system.

Gibson (2006) cautions that although sustainability is characterized as the “intersection of social, economic, and ecological interests and initiatives,” when it comes down to people discussing and developing problem-solving approaches, policies are most often derived by addressing the three sectors separately and in isolation, which can result in unsustainable outcomes. The brilliance of the sustainability movement is its demand for seeing things as interconnected and interdependent—its ability to provide a bridge between disciplines and interests, between the pieces of the whole and the whole itself (Hodge 2004). Traditional problem-solving has always fallen short in this regard. For individuals and societies to act sustainably, they must first be aware of what sustainability is and theoretically understand its intentions with regard to “looking for links and seeking mutually reinforcing gains” in all sectors (Gibson 2006).

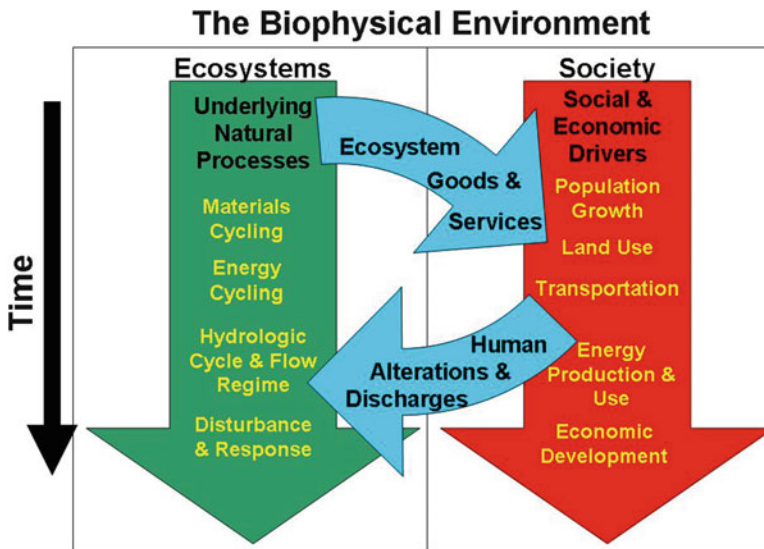


Fig. 2.4 Definition of the biophysical environment where all economic and social systems are dependent upon well-functioning ecosystems and where it is important for people to consider themselves an integral part of ecosystems (reproduced from the ideas of Heintz 2004)

Sustainable Development Principles

Relying upon the underlying basic truths listed earlier coupled with an understanding for how the elements of our world interconnect, sustainable development provides a multidimensional way to achieve recovery and improve the quality of life for everyone. Acting sustainably implies concurrently limiting waste and pollution, improving the opportunities for disadvantaged peoples, conserving natural resources, making valuable connections among groups, promoting cooperation and efficiency, and developing local assets to revitalize economies. Sustainability equals reliable, responsible economic activity that considers tradition, a sense of history, a cyclical view of time that looks backward as well as forward, the significance of place, the benefit of personal relationships, and the importance of natural ecosystems (Flint 2004).

In addition to basic truths, a set of principles can be derived and agreed to in order to establish a framework for systemic development guidance. Unlike basic truths about sustainability, however, a principle represents a belief that forms the brickwork doctrine or serves as a rule, law, or assumption about the nature of a topic like sustainability. By pursuing the integrated application of the principles listed below, plus others that might evolve with further public dialogue, decision-making can better serve the protection and equitable distribution of resources in the interest of human equity, by identifying and prioritizing real needs before wants while leaving options open for future generations.

A number of works over the last three decades have illustrated how principles can assist more sustainable action-taking, including the efforts of the IUCN (1980), Robinson et al. (1990), Straskraba (1994), the International Institute of Sustainable Development (1996) and its Bellagio Principles, Choucri (1997), The Hanover Principles of McDonough and Braungart (1998), Gibson (2002), and Robert (1991). These many contributions have recognized the importance of the following set of principles for use in guiding sustainable development design and decision-making, while at the same time transforming debate into constructive discussion.

1. Ecological Integrity. *Human relationships with the environment must sustain the ecological integrity of natural systems in order to preserve the life-supporting functions upon which socioeconomic fitness depends.* Ecological health is the most important foundation element of sustainability because all economic and social systems are dependent upon well-functioning ecosystems (Fig. 2.4), where humans view themselves as an integral part of the ecosystem.

2. Social Equity. *Development of programs that are intended to be fair must emphasize greater equity within and outside the community, as well as between present and future generations (equity over place and time).* Social equity is the second most important foundation element of sustainable societies, for without equal access to resources, opportunities, and good environments, envy and/or conflict have historically prevailed among those who have and those who have not. Planning and actions should “ensure that choices of adequacy and effectiveness for all are pursued in ways that reduce dangerous gaps in health, access to clean environments and adequate natural resources, economic security, social recognition, and political influence” (Gibson 2002). Part of the opportunity for well-being and equality is dependent on the degree to which people participate directly and creatively in the decision-making processes.

3. Sufficiency and Opportunity. *The idea of “living-off-the-interest” to guarantee a resource will not fall below a threshold required to perpetuate it through time should be a basic premise to insure all people have sufficient resources to achieve a decent life and that everyone has opportunities to seek improvements in ways that do not compromise future generations* (Gibson 2002). Too often, human improvement is encouraged that correspondingly degrades the ecological integrity of those locales where improvement is being sought. This “leaves the community insecure over the long-term and concurrently has impacts well-beyond the boundaries of targeted improvement” (Gibson 2002). Doing better with less is a means of beginning to implement this principle. It involves reducing, reusing, and recycling.

4. Efficiency. *Minimize stresses on socio-ecologic systems by maximizing sustainable use of renewable resources and human capital through reduction in the material and energy use intensity of goods and services.* “Material and energy efficiencies could be increased by a factor of four or even ten, without much strain on existing technological and administrative capacities” (Gibson 2002). Through biomimicry—actions that imitate or copy nature—individuals, companies, product producers, and community builders are now beginning to redefine the economic

equation in our society. For example, ours is the first generation to gain awareness that every community within the larger global landscape has an “ecological footprint.” Understanding the nature and limits of that footprint is to live in a sustainable manner. Industrial ecology is now being seriously considered by many businesses as a holistic and integrative approach to the traditional take–make–waste practices. Instead of cradle-to-grave views, companies are now considering cradle-to-cradle perspectives, where waste from one process is food for another. We can eliminate the production of waste by evaluating and optimizing the full life-cycle analysis of products and processes, to approach the state of natural systems in which there is no waste.

5. Full Cost Accounting. *Move beyond the traditional economic application of market costs by incorporating net environmental gain as an objective of decision-making to guarantee environmental and social benefits.* Poorly conceived discussions of sustainability often attempt to balance conservation and development activities, which suggest sacrifices, perhaps for both human and ecological imperatives (Gibson 2002). But this approach is deceptive because in the absence of “full cost accounting,” decision-making to ensure unavoidable or inevitable projects at a minimum guarantee environmental and social benefits is flawed, not representing the true cost of environmental goods and services. The result is net ecological loss. Market costs rarely reflect the inclusion of environmental or social cost components, such as resource replacement costs or the potential costs associated with cleanup or environmental damage (Daly 1996). Paul Hawken (1993) said that the most damaging aspect of the present economic system is that the expense of destroying the Earth is largely absent from the prices set in the marketplace. Improved valuation, pricing, and incentive mechanisms should become second nature in decision-making in order to make the environment forethought and not an afterthought. A perfect example is when the Exxon Valdez oil tanker ran aground in Prince William Sound, Alaska, in 1990s (Flint and Houser 2001). The millions of gallons of spilled oil killed millions of animals and cost millions of dollars to clean up and made the U.S. GDP go up. If full-cost accounting practices were in effect, the Exxon Valdez oil spill would be viewed in terms of a cost, not as a benefit reflected in the GDP.

6. Citizen Engagement and Democracy. *Develop processes such as informed decision-making that improve society’s capacity to understand and apply sustainability principles through enhanced citizen engagement, transparency, and the taking of responsibility.* Any set of sustainability principles such as those described here, requires socioeconomic and environmental interactions that are outside the range and efficacy of traditional governments and can be addressed only by significant public behavioral and attitudinal changes. The majority of sustainability problems will not be solved through mandate but rather are most tractable by activities in democracy. Long-term change requires a civic critical mass of community participation.

7. Communication and Cooperation. *Society needs systems of accounting and means of communicating to encourage cooperation.* Responsibility for systems that affect the needs of other people and future generations demands accountability and the indicators to tell us we are achieving sustainability (Farrell and Hart 1998; Hart 1999). And we must be able to talk about the state of committed sustainable activities through a common language understood at expert and lay levels. Policy-makers and leaders can raise public confidence by sincere communication. And communication is a catalyst for social learning. Commitment to improved communication will expedite the development and implementation of common procedural frameworks (Bernard and Young 1997).

8. Precautionary. *Respect scientific uncertainty by making decisions that anticipate and prevent surprise, where causality is poorly understood, and there are risks of serious or irreversible damage to the environment (Gibson 2002) as well as future intergenerational equity.* The response of the past—"react and cure"—has proven to be economically, socially, and environmental expensive. As we come to better understand the concept of sustainability, it becomes apparent that we should instead adopt a philosophy that "anticipates and prevents" environmental degradation at the planning stages of development projects and when we make consumption decisions (Maser 1997). The uncertainty surrounding potential threats to the environment, for example, has frequently been used as a reason to avoid pragmatic protective measures. Such uncertainty underpins the arguments both of those exploiting resources, who may manipulatively demand evidence that exploitation causes harm before accepting limitations, and of those who seek to limit exploitation in the absence of clear quantitative indications of sustainability problems. Uncertainty suggests the need for considering the idea of *precaution* in the actions we take, rather than the desire to "minimize" damage, which we may not be able to define. Precaution—the "precautionary principle" or "precautionary approach"—is a response to uncertainty, in the face of risks to health or the environment. This anticipatory and preventative policy approach should err on the side of caution, placing the burden of proof on technological and industrial developments to demonstrate that they are ecologically sustainable.

9. Integrative and Adaptive. *Decision-making that serves the development of a common framework for experiential learning as a basis for sustainability problem-solving should effectively integrate both long-term and short-term economic, environmental, social, and equity considerations.* Assessment of progress toward sustainability requires a methodology for repeated measurement to determine trends, be iterative, adaptive, and responsive to change and uncertainty. It should be able to adjust goals, frameworks, and indicators as new insights are gained, promote development of collective learning and feedback to decision-making, and never be considered absolute (fully definitive) because systems are complex and changing (Gibson 2002). And the procedure should be built upon historic and current conditions to anticipate future conditions—where do we want to go, where could we go. To lessen concerns for acting out of precaution, without always possessing full information, the idea of adaptive management has been advanced.

Adaptive management is a decision-making process that effectively integrates both short-term and long-term economic, environmental, and social concerns. It provides a mechanism to evaluate and fully consider all the other principles discussed above. This strategy is built upon the premise that people learn from their successes, as well as their mistakes. An adaptive learning-based approach to the practice of sustainability implies the constant attention to and evaluation (monitoring) of activities to ensure one's continuous awareness and understanding of changes in circumstances, looking for ways to maintain flexibility by identifying feedback loops, making sure they give timely and relevant information, and then paying attention to them, being prepared to abandon unsuccessful strategies (Ruitenbeck and Cartier 2001).

What Sustainability Is and Is Not!

With the unprecedented attention given sustainability these days, it is imperative to make clear what it is and, as importantly, what it is not. Sustainable development is not walking a tight rope, seeking some mythical balance between economics and environment (Bernard and Young 1997). This has been shown to lead to habitats half protected, economies weakened, and personal principles bargained away. The primary correlations with *unsustainable behavior* include:

- Lack of understanding for human connection with nature;
- Economic deficiency;
- Concentration of money in a few hands and an imbalance of power;
- An economy driven by profit motives, by greed, by consumption;
- Communities competing with one another for jobs;
- Inaccurate perceptions of others;
- Lack of accountability in government, in corporations, and in individual behavior;
- Placing blame “out there” rather than accepting responsibility at home;
- Barriers between work, home, play—e.g., physical separation, sprawl, and isolation;
- Lack of trust in “the other”; and
- Conflicting goals, strategies, and analyses.

To equate sustainable development with environmental conservation leaves out essential elements of sustainability. Protecting or conserving the environment could be regarded as working to make it sustainable, but this narrow focus is not always effective. When sustainability is equated directly with environmentalism, its detractors assert the belief that advocates want to protect the environment at all costs, including people's jobs and general societal well-being. In contrast, advances in our scientific knowledge have led us to understand that environmental, economic, and social issues are more interdependent than we realized. No matter what constitutes demand in our socioeconomic world, it has an origin in environmental



Fig. 2.5 Extraction of tar sands in Alberta Canada as an effort to increase North American production of oil. This is not an efficient production of oil and certainly not sustainable, especially according to The Natural Step conditions

resources. Therefore, the other triple threat areas of our lives and our planet need to be included in the sustainability discussion. If we are acting sustainably from a broader, system-wide perspective, the environment can be preserved.

Achieving sustainability is also not merely about a series of technical fixes, about redesigning humanity, or reengineering nature, in our incessant desire to compete in the global economy. Consider the efforts in the Canadian tar sand fields now to extract oil that might make us more competitive with predominant suppliers to North America (Fig. 2.5). It is thought that this form of extraction of oil requires more energy than it can produce. Even the best technologies, policies, and regulations will not put society on a sustainable course without a fundamental shift in our thinking and actions, along with extensive civil engagement. We can reasonably hope that technology might eventually find a replacement for a disappearing valuable natural resource, but what if that particular natural product soon to be lost to rainforest timber cutting is the only thing that can cure a child's disease?

Likewise, the transference of a problem from one place or media (e.g., air, land, or water) to another is not a sustainable solution. A trendy idea today is the idea

of “carbon trading” (also known as pollution trading) where one industry might be allowed to produce more CO₂ by paying another industry to produce less of this greenhouse gas. Although possibly maintaining status quo, this transference violates a basic premise of most sustainability meanings, that we *lessen* our total impact on global environmental resources. Carbon trading simply moves the impact from one place to another. Pollution trading therefore reduces opportunities available to real sustainable development in our decision-making processes.

We have been less than sustainable to date, and our poor record is cause for concern. The upside is that we have the power to turn things around, to make sure that we do not lose too much more from here on. Ours is a world that does have limitations and what we now have left we really do need. But sustainability is not a trend or phase or even a conditioned pattern. It is not a debate in which a compromise (some win, some lose) can be struck. To be sustainable requires unconditional agreement and solidarity (everybody is a winner). Only partially implementing sustainable development defeats sustainability altogether. Like two sides of a coin, solidarity and sustainability are tightly coupled. There can be no sustainability without a unanimous social order. There can be no uncommitted society seeking sustainability.

Sustainability requires an ecocentric perspective, where ecosystem health is primary, because only with health can we achieve permanent conditions that foster the well-being of our species. People must view themselves as part of the ecosystem. Gaining this perspective is required of people everywhere, and while drawing on science, ecological economics and ecological psychology acknowledge that other points of view are equally valuable (e.g., religious). A common perspective does not exclude different “ways of knowing” in order to unite us in a world view. People relate in their own ways to the world around them, what has meaning for them, and develop their own beliefs about what lies within and beyond their control.

Sustainability involves planning for the well-being of future generations by reflecting on the past. A useful time frame involves planning for the next three generations by reviewing what conditions were like over the previous three and how those people adapted. Society can learn from history by close examination of lessons learned from all the past civilizations that did not succeed, in particular looking at social and technological changes at the global level in the last 200 years.

If we recognize sustainability as the capacity of humans to harmoniously coexist in a manner that maintains wildlife, wildlands, decent environments, social equality, cultural freedom, economic well-being, and national security today and for future generations, then we must acknowledge that sustainable development is not only a scientific and technical challenge: it must also be approached as a moral/ethical responsibility. Sustainability encourages a reconnection with nature and a profound empathy with the concepts of care that underpin long-term stewardship of the places we call home.

KIS—Keep It Simple!

There appears to be a real resistance among people to accept the urgency of creating a more sustainable world. Just how to move forward in light of a continuing increasing global population has been and continues to be a matter of debate more than 30 years after the Brundtland Commission called for sustainable development. Many signs that alarmed the commissioners back in 1987 are still with us, and now other new global concerns have also arisen.

While sustainable development may require different actions in every region of the world, the efforts to build a truly sustainable way of life require commonality in three key areas:

- *Economic Development and Equity*—Today’s interlinked, global economic systems demand an integrated approach in order to foster responsible long-term improvement while ensuring that no nation or community is left behind.
- *Conserving Natural Resources and the Environment*—To conserve our environmental heritage and natural resources for future generations, economically viable solutions must be developed to reduce resource consumption, stop pollution, and conserve natural habitats.
- *Social Development*—Throughout the world, people require jobs, food, shelter, education, energy, health care, water, and sanitation. While addressing these needs, the world community must also ensure that the rich fabric of cultural and social diversity, and the rights of workers, is respected and that all members of society are empowered to play a role in determining their futures.

Very simply, sustainability is about people—how to foster a robust workforce and strong communities. Sustainability addresses innovation—how to spark it, nurture it, and protect it so the idea pipelines do not run dry. Sustainability can be a lens to focus on values—inspired by faith, family, personal commitment—on the built environment and on markets. And, of course, sustainability is also about natural resources—how to use, renew, and account for environmental capital.

Practicing sustainable development is broadly characterized by the integration of information from a number of different disciplines. Thus, developing a comfortable understanding of sustainability can often be messy, especially at the grassroots level where community values do not usually fit nicely into disciplinary boxes. Without commitment to a full understanding for the interdependent nature of most issues of sustainability, one may find themselves adopting the false hope these diverse disciplinary elements will magically come together at some point (Flint 2004). Attention may focus on competing objectives, rather than on needs and opportunities for positive advancement of interrelated human and ecological interests (Gibson 2006).

An alternative is to try to avoid becoming bogged down with a disciplinary approach. Instead begin with a simply stated concept of individual core values that most can agree with. Then establish a community-based set of principles that integrate understandings, relationships, and activities that span the traditional sector

boundaries (Gibson 2002). At this point, although differences may exist in the way sustainability is perceived by various members of the community, a number of basic concepts almost always come to their minds, including:

- Awareness of the multidimensional impacts of any decision (broadly categorized as economic, environmental, and social);
- The need for harmony among sectors, themes, and scales of place and time; and
- Concern for the well-being of future generations.

Dialogue will always bring special interests to the surface. To overcome the uncertainties and opposing views that fuel debate, people need to begin by talking about the simple things they agree upon, to think about and discuss the things that are universally important to their way of life in their communities and that involve their core values: such things as their homes, their children, their jobs, nature, where their water comes from, the air they breathe, the food they eat. These topics are what people think about when wanting to explore the achieving of sustainability.

The essence of the individual and community search for a relevant meaning to sustainability, therefore, is to take the negative features of economy, society, and environment—the uncertainty, the multiple competing values, and the distrust among various interest groups—as given and go on to design a process that centers on incremental improvements toward common goals (Norton 2005). This process should be characterized by features that include: flexibility; diversity and stability (ecological, economic, sociocultural); respect for other people’s dignity; consideration of unintended consequences (change is the norm, not the exception); and notions of enoughness and reversibility. Free from a definition for sustainability that has been derived someplace else and used in the context of “one-size-fits-all,” community deliberations may explore many different concerns, including changes in their own core values that will eventually affect the opportunities of people in other places and future generations. By employing a form of hierarchical analysis, where we

1. Acknowledge the standards and responsibilities established for a sustainable society by the work of the Brundtland Commission,
2. Recognize the shortcomings of and challenges to the WCED (1987) definition for sustainable development,
3. Agree on a set of fundamental truths that encourage us to look for alternative lifestyles,
4. Decide to holistically exploit these irrefutable truths by developing a sustainability “mind-set” that promotes solidarity on the interdependent nature of sustainability and creating images that visually demonstrate these characteristics, and
5. Then formulate a simple, schematic definition for sustainability, with which we can realign our perceptions of socioeconomic and ecologic systems with what we, as society, really think is important.

Finally, we can begin to see how community-based deliberations freed of ideology and preconceived notions can cut through most fact-value dichotomies

(Norton 2005). This can be assisted through the inputs of mission-oriented science where scientists, policy-makers, and the public are all fully engaged in a form a “citizen science” that connects the expert-way-of-knowing with the public-way-of-knowing.

This hierarchical analysis, to firmly establish the values important to a particular community through their own dialogue and struggle for agreement, must be constructed from the bottom-up. In this way, the community can avoid the constraint of trying to work with a one-size-fits-all sustainability definition conceived by others. A hierarchical analysis will build a community’s solidarity around a simple definition of sustainability. This simple, or as Norton (2005) suggests, “schematic” definition of sustainability can be expanded into specifics by communities that choose their own actions and indicators based upon their particular values. So in the process of choosing goals, priorities, and indicators in an open, deliberative, and democratic process (Norton 2005), details of a particular community’s sustainability criterion will have to be filled in by the community itself. No definition derived externally could fit all local values or substitute for the process of creating a schematic.

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Chapter 3

Operationalizing Sustainability in Community Development

Sustainable development is a global phenomenon that has arisen out of global politics. Everyone is now talking about sustainability. But despite its popularity, as I have shown in prior chapters, the term is used with a plethora of intended meanings. Thus, efforts to *operationalize* the concept often are met with confusion and debate around what the idea actually includes. This challenge stands in the way of understanding how the practice of sustainable development, especially in contrast to traditional linear solutions, could be helpful in enacting public policy choices or business decisions. The question is how we move beyond the rhetoric of sustainability?

For progress to happen, community groups, governments, and industries have to begin to make more use of experienced sustainability professionals that have been trained in systemic approaches to local and global problems at every stage in the design and implementation of development projects and programs. These practitioners are able to dispense with the traditional linear approach to problem-solving and address problems and key concerns from a multidimensional perspective.

To most knowing anything about “sustainable development,” it has been about meeting present needs without compromising future generations and also integrating environmental and social aspects into economic development from the beginning of an activity (World Commission on Environment and Development—WCED, 1987). These ideas were agreed to by nearly everyone in the international arena, but the reality was that we did not implement these ideas and did not even know how to begin. In particular, we had no idea how to do sustainable development in cities, which had grown for hundreds of years on the basis of more and more resource consumption. More than anything, this inaction highlighted the need for new thinking that could create a practice around the idea and the complexity of sustainable development.

Only now, well beyond Brundtland, faced with the seemingly insurmountable challenges of a growing society, do we see the beginnings of an emphasis on the *long term*—future generations—but still absent a prioritized plan. Likewise, an

integrated assessment of economic, social, and environmental factors producing an optimized analysis of all the key elements of sustainability is still lacking.

One of the first challenges to operationalizing sustainable community development (SCD) rhetoric is recognizing the distinction between “livable communities” and those communities that by operating under sustainability principles manifest more ecologically healthy, socially equitable, and economically sound conditions. There are many differences between a livable and a sustainable community, and the latter clearly provides higher-quality lives from the preservation and conservation of nature over the long-term rather than short-term actions that do not necessarily consider long-term overuse and destruction.

Community Transitions

Community development does not necessarily begin with an either/or choice: (1) either you have to achieve an immediate, short-term vision with all the required fiscal resources and capacity building activities that go along with that goal or (2) your community rejects any change because of the demands for resources and leadership the community does not possess. In avoiding an either/or choice, the desire to achieve community improvement goals often requires significant changes in behavior and assignment of resources, causing huge challenges that can deflate original good intentions. But as you will learn through the pages ahead, committed citizens can begin a campaign for community change with very few resources by applying the steps suggested in this book.

Early decisions will determine exactly what the community improvement goals are: who is going to set them and what kind of community member input will be sought to define these goals? Clarity of purpose is vital. For example, is the community satisfied with a livable community with limited improvements or are community members willing to advance to sustainability principles? Is the community group familiar with the difference between a livable community and a sustainable community?

An approach to change that can often handle diverse attitudes and behaviors is called “transitional change.” This process of moving from one state of being to another or one material, resource, or practice to a different one, with relatively low negative impact on any resource, can be a useful intermediate step in maintaining progress until sustainability is fully defined. If community members know they want improvement and yet have no clear idea what is best to do next, transitional options can forestall program inertia. Also to encourage participation and to assist in identifying specific goals and defining action strategies in community improvement, including describing transitional steps toward sustainability, practitioners are beginning to rely upon the participatory advantages offered by public engagement strategies and community-engaged planning processes described in the chapters to come. But first, let us examine some of the distinctions between livable

communities, which are very popular in present development processes, and the more holistic approach to SCD.

Principles of Livable Communities

There is increasing interest by small- and medium-sized towns across the country in creating more “livable” communities. In moving beyond the initial rhetoric and fanfare that precede applying the principles of sustainability, it is easy to be misled by a veneer of contentment about how “livable” the community rates itself. Just because a community is satisfied with its way of living or is actually classified as a livable community does not automatically mean it is sustainable; that is, it is not relying upon external resources as part of its footprint and that it is concerned for people in other places or future generations.

Community livability refers to the environmental and social quality of an area as perceived by residents, employees, customers, and visitors. It is the sum of factors that add up to a community’s quality of life—including the built and natural environments. Generally, traditional community development focuses upon strategies to create local economic opportunities that improve quality of life. By using strategies that might have worked someplace else, or employing local resources, community development practitioners capitalize on local opportunities to stimulate economic improvement and employment. The traditional belief is that economic growth alone can “finance” livability. But typically a continuous supply of local resources is insufficient to support that economic growth.

Not seeing the big picture design and implementation of traditional community development in the “livable communities” context is often piecemeal, with projects carried out in isolation from one another. Thus, over the long term what might have seemed a good strategy to achieve a more livable community falls short of its goals because of the confounding effects of one project on another. In addition, public engagement lies at the heart of all viable sustainability activities. Historically, there has not been much public participation in the design and implementation of community development plans. Usually, the public is invited to a public hearing or town hall meetings for the purpose of approving action items or in some cases long-term comprehensive plans for community development. If intended design and implementation actions do in fact happen as planned, a livable community can result, one that has affordable and appropriate housing, supportive community features and services, and adequate mobility options, which together facilitate personal independence and the willing, maximum engagement of residents in civic and social life.

Community consultations by the author in the past have assisted stakeholders in defining their vision and needed actions for a livable community that constructively sustains prosperity, expands economic opportunity, and improves quality of life for all people. Community-identified actions to implement livable status have typically included:

- Revitalizing existing community places
- Expanding economic growth
- Improving the environment, public health, and quality of life
- Providing more transportation alternatives
- Protecting farmland and open space
- Enhancing sustainable economic viability of farming
- Improving roads and wastewater services
- Improving schools and making them the center of communities
- Growing existing regional assets.

What Is a Sustainable Community?

One might judge that the list of livable community characteristics above certainly seems to describe a sustainable community to them! Sustainable communities do not happen by accident, however; they happen by design with a sense of place. It comes down to a conscious commitment by the entire community and how it chooses to tackle problems. A sustainable community is one that moves beyond subsistence, to the capability for making choices that promote resilience and *long-term* benefits. And thinking long term is one of the real distinctions of sustainable communities in contrast to livable communities.

To become sustainable, there are a number of values, principles, and assumptions that are prerequisite for any community to determine prior to putting together a framework to follow in attempting to achieve more sustainable actions. The details of these various sustainable community characteristics were presented in Chap. 2. Values, principles, and assumptions are the basic ingredients that inform a viable strategy for sustainability. Together these are the makings of a sustainable community design that can far exceed the expectations of livable communities.

A sustainable community goes beyond just present livability by considering what will be left for future residents. The premise of sustainable communities is moral concern about their legacies to the future of humanity everywhere. The development of sustainable communities extends deeper than livable communities regarding how core values retain opportunities for future generations. These extensions include:

- *Economic security (measures—disparities, local wealth, mutual assistance).* A sustainable community possesses a healthy and diverse economy that adapts to change, provides long-term security to residents, and recognizes social and ecological limits. A more sustainable community retains residents' money within the community. Sustainable communities concentrate on qualitative development rather than quantitative growth and reduce the use of incentives that reward excessive consumption while failing to reflect losses in natural capital.

- *Societal well-being (measures—respect for self/others, caring, connectedness, meeting basic needs)*. A more sustainable community recognizes and supports people's evolving sense of well-being, which includes a sense of belonging, a sense of place, a sense of self-worth, a sense of safety, a sense of connection with nature, and provision of goods and services that meet their needs, both as they define them and as can be accommodated within the ecological integrity of natural systems. A community that is truly sustainable provides for the health of all community members and considers the needs of future generations. In this regard, social equity implies that diverse social and cultural systems are preserved and that tensions are able to be resolved by distributing costs and benefits equitably.
- *Ecological integrity (measures—functional capacity of natural systems, environmentally sound utilization of natural systems)*. In sustainable communities, both environments and diverse ecological systems are maintained for their own essential natural functions, their beauty, their enjoyment as a landscape (e.g., recreation), and their ability to provide sustainable supplies of natural resources and waste assimilation. A more sustainable community is in harmony with natural systems by reducing and converting waste into non-harmful and beneficial purposes, and by utilizing the natural ability of environmental resources for human needs without undermining their function and longevity.
- *Cultural vitality (measures—existence of cultural values, ability to preserve history and culture for future generations, use of culture and history to advance societal learning)*. The institutions and processes communities build to retain their cultural heritage are significant indicators of a community's sustainability. Sustainable development is not a new phenomenon. It is not widely recognized, but the seeds of our present concern with sustainability were first sowed around the beginning of the twentieth century with the conflicts that erupted in response to the widespread destruction of natural resources during the settlement of the United States. There is much to be learned from researching past civilizations, their cultural evolution, and the way our ancestors went about living, playing, working, and growing.
- *Citizen engagement and responsibility (measures—reaching out, equal/fair playing field, civic capacity, accountability)*. A more sustainable community empowers people to take responsibility for outcomes based on a shared vision, equal opportunity, and ability to access expertise and knowledge for their own needs. Public engagement blends the concepts of good governance, participation, consensus building, the taking of civic responsibilities, and participatory strategic planning, all of which implies cooperative problem-solving and the willingness of citizens to accept joint responsibility for actions that are sustainable.
- *Institutional effectiveness (measures—effectiveness of governance, activities of nonprofit organizations, influence of special interest groups)*. One of our biggest challenges is raising the level of understanding public officials and citizens have for the principles and practices of sustainability. If decision-makers are expected

to embrace sustainable economic development and promote this philosophy as a long-term policy in support of activities such as tourism that rely on quality natural environments, these officials must have a set of guiding principles upon which they rely in making decisions and implementing sustainability policy. Community proponents can help by making citizens' voices heard in governance to achieve greater transparency in government through all-inclusive, transparent public participation.

The development of sustainable communities mandates working to improve well-being (often equated to economic condition) without damaging or undermining society or the environment. Livable communities have been called egocentric while sustainable communities are eco-centric. Commitment to human and societal well-being in livable community egocentric circumstances is as important as sustainable community ecological commitment to the planet in eco-centric situations because we must preserve a planet fit to live on.

SCD is the key to successfully achieving natural resource protection and biodiversity conservation, as well as economic health, societal well-being, and national security in a community development context. Members of a sustainable community take a system's approach to understanding and decision-making. Acting sustainably implies concurrently limiting waste and pollution, improving the status of disadvantaged peoples, conserving natural resources, making valuable connections among people, promoting cooperation and efficiency, and developing local assets to revitalize economies. The attraction of a "big box" store or major corporation, which is often the focus of livable community discussions, is not (in and of itself) going to advance a sustainable community. Likewise, SCD equals reliable, responsible economic activity that considers tradition, a sense of history, a cyclical view of time, the significance of place, the benefit of personal relationships, and the importance of natural ecosystems, using its resources to meet current needs while ensuring that adequate resources are available for future generations.

A sustainable community is analogous to a living system in which human, natural, and economic elements are interdependent and draw strength from each other. Decision-making stems from a rich civic life and a shared information web among community members. Potentially significant employment opportunities exist that are consistent with more sustainable patterns of development. Redesigned and improved infrastructure, knowledge-based services, environmental technologies, improved management and use of natural resources, and tourism are all rich areas for development and supportive government policies. Some of the most promising community sustainability opportunities include:

- Upgrading the efficiency of energy use in buildings, products, and transportation systems
- Adopting and implementing sustainable forestry, fisheries, soil, and watershed management practices
- Expanded information technologies
- Tourism focused on environmental, cultural, and historic significance

- Recycling and remanufacturing of solid and hazardous waste into marketable products
- Development of marine and freshwater aquaculture
- Added value to fish, agricultural, and forest products
- Reduction of environmental burdens
- Energy-efficient and friendly neighborhoods.

The synergy of a sustainable community reduces our dependence on economic growth and shifts interest to the quality of economic goods. Examples include car cooperatives to reduce the per capita cost of car ownership (Vancouver, British Columbia); sustainable employment plans to create jobs, spur private spending, and reduce pollution through public investment in energy conservation and audits (San Jose, CA); new product development to encourage manufacturers to develop environmentally friendly products through municipal R&D assistance (Gothenburg, Sweden); increasing affordable housing supply through zoning codes that promote a variety of housing types, including smaller and multifamily homes (Portland, OR); experimenting with local self-reliance by establishing closed-loop, self-sustaining economic networks (St. Paul, MN); community-supported agriculture to preserve farmland and help farmers while making fresh fruits and vegetables available in city neighborhoods (Vancouver; London, Ontario; New York City); local currencies such as Local Employment and Trading Systems (Toronto); a local ownership development project with a revolving loan fund to encourage employee-owned businesses, considered more stable over the long term and more likely to hire, train, and promote local residents (Burlington, Vermont); and a community beverage container recycling depot that employs street people—“dumpster divers”—and provides them with skills, training, and the opportunity to increase self-esteem (Vancouver).

In summary, the concept of a “sustainable community” does not describe just one type of neighborhood, town, city, or region. Activities that the environment can sustain and that citizens want and can afford may be quite different from community to community. A sustainable community is continually adjusting to meet the social and economic needs of its residents. Because of this inherent adaptability, sustainability has emerged as a compelling alternative to more rigid reengineered “livable” communities. Sustainable development is a participatory, holistic, and inclusive process that helps communities move beyond livable status to resilient, self sufficient and long-lasting improvement.

The Key: Everything Is Connected!

We are learning how all life is interconnected. As the Academy Award nominated actress, Marsha Mason, stated, “life on our planet depends on an interpenetrating web of natural systems; no part of the natural world is independent of the others” (Mason 2006).



Fig. 3.1 A tree represents an effective systems map for visualizing sustainability interconnections. The leaves and the trunk and branches are in structural alignment for a functioning whole. Without the trunk and branches, the leaves have nothing to hang on—the detailed solutions must connect with the basic principles

All that we do and expect in our world is predicated on the fact that everything is interconnected—the solar system, the Earth, wind, water, seeds, insects, rocks, and all creatures of the Earth including human beings. Thus, in planning for a sustainable world, the following basic assumptions are paramount: (1) everything is interconnected, interdependent, and interactive; (2) the whole is greater than the sum of its parts; and (3) nature determines the limitations of human endeavors.

Mapping the interconnectedness of things is the key in successful sustainable development. A tree structure is an effective systems map (Fig. 3.1) for visualizing sustainability interconnections. The basic principles are represented by the trunk and branches. The leaves symbolize hierarchical dependencies—value judgments, priorities, design solutions, or behavioral changes all seeking to align with the basic principles. The leaves and the trunk and branches are in structural alignment for a functioning whole. Without the trunk and branches, the leaves have nothing to hang on—in other words, the detailed solutions must connect with the basic principles.

Achieving a sustainable world depends on a full understanding of the connections between ecosystems and human well-being, as well as the drivers and responders to change (Carpenter et al. 2006). For example, Darwin was a student of nature who asked lots of questions and looked intently at the ecosystems around him. Long ago he hypothesized that English cat lovers might unwittingly be setting off an ecological domino chain effect that led to prettier gardens. Cats eat mice that normally pillage the nests of bumblebees, so Darwin reasoned that more cats would mean more bees—and more of the red clover and purple-and-gold pansies that bees pollinate—thus, the more cats, the prettier the gardens in a district.



Fig. 3.2 Killer whale in the Pacific northwest waters of Alaska

Global climate change should remind us that people, the economy, and the environment are causally and complexly linked. A common human notion, however, is that nature is assembled like a machine, acts like a machine, and thus can be treated like a machine, made up of parts not necessarily related or interconnected (Maser 1997). The end result of a mechanistic model invariably results in environmental damage. Here are some other examples of Earthly interconnections.

Kelp Forests, Sea Lions, and Killer Whales

Consider the intriguing, complex story of declining kelp forests that in one way or other feed a range of species from barnacles to bald eagles and provide habitat in the Alaskan coastal Pacific Ocean (Estes et al. 1998). The disappearance of massive kelp beds caused governments and conservationists to hypothesize that pollution and other man-made disturbances were culprits. It turned out not to be that simple. In recent years, diminishing food supply has caused Pacific sea lion and seal populations to decline. They are a preferred prey of killer whales (Fig. 3.2), but as their numbers decreased, whales began preying on sea otters that live in the giant kelp forests along the Pacific coast. The sea otters prey on sea urchins, which in turn are a major consumer of kelp. As a consequence of the whales switching to sea otters for food, otter populations decreased and their feeding was no longer able to keep the urchin population in check. Now the kelp has been overgrazed by the urchins to the degree that the massive underwater forests are disappearing.



Fig. 3.3 Deer grazing in northeastern home's backyard

Acorns, Mice, and Gypsy Moths

A team of researchers studied connections among white-footed mice, ticks, gypsy moths, deer, and Lyme disease (Jones et al. 1998). They found that in upstate New York forests in years when there was an overabundance of acorns, there were also booms in the mice population because they eat acorns. Mice also eat the gypsy moth larvae found in tree nests. When acorns were abundant, the mice were abundant and kept the gypsy moth populations in check, eliminating their threat to eastern U.S. forests. But white-footed mice carry in their blood the Lyme disease spirochete, which they transmit to tick larvae from the forest floor. When there is an overabundance of acorn production, tick-bearing deer are also attracted (Fig. 3.3). The adult ticks on the deer that gather in larger than usual numbers spawn more larval offspring, which infest more mice, and thus more ticks pick up the Lyme disease vector. So while the damage of the gypsy moth is being kept in check by one series of ecological mechanisms (mice feeding), the dreaded Lyme disease has the potential to proliferate.

Shearwaters, Climate Change, and Overfishing

Scientists have labored to untangle the web of life in the Bering Sea, a major marine system providing food for many humans. Some unexpected complexity have them wondering just what the web ought to look like (Saar 2000). A seabird, the short-tailed shearwater (Fig. 3.4), migrates every year from Australia to the Bering Sea, its prime feeding grounds. In recent years, shearwaters by the hundreds of



Fig. 3.4 Short-tailed shearwater flying over the Bering Sea in the spring looking for food

thousands have been found dead. The link between climate change and the Bering Sea ecosystem is especially strong. Ice limits the growth of small aquatic plants that feed the rest of the food web, and changes in wind dynamics have altered the patterns of ice cover and rate of ice melting in the spring. Nutrients from deep water nourish the aquatic plants and allow them to produce enough food for all their consumers, such as small shrimp-like animals, but when the ice melts in spring and winds are not sufficient to mix deeper, nutrient rich waters with surface waters, the plants do not become abundant enough to feed the small shrimp-like animals. The food web shifts as the shrimp disappear. The shrimp happen to be the preferred food of the shearwater, and what at first looked like a toxin or predator problem now is revealed to be a far more complex food supply problem. The highly productive fishery area of the Bering Sea, which supports many international economies, is being assaulted from both top and bottom. Fishing and hunting are taking out marine predators, while climate changes are reshaping the community of tiny marine plants and animals that sustain life forms higher in the food chain.

The examples of interconnections are ubiquitous. Nature and people are inescapably influenced by one another through connecting relationships. Discovering and working within the framework of these interconnections are the core of sustainability. Establishing limits based upon awareness of interconnections and understanding the effectiveness of these limits constitute the true practice of a sustainable lifestyle.

The most important edict in this regard is that “one can never do just one thing” as every action has side effects. It is these side effects that engineering tries very hard to eliminate by establishing feedback mechanisms. However, what happens is that side effects are not eliminated but merely delayed and even amplified. For instance, exhaust fumes must be evacuated from the cylinder of an engine. This is done by an exhaust pipe. If the exhaust pipe ends inside the factory, everybody will soon suffocate. However, by extending the pipe far above the factory, the

immediate problem is solved and secondary problems like acid rain and global warming do not develop until decades later. An immediate corollary or second edict is that “one should always do several things” when designing policy, education, and technology. This means that any solution should aim to solve at least two and better three problems at the same time.

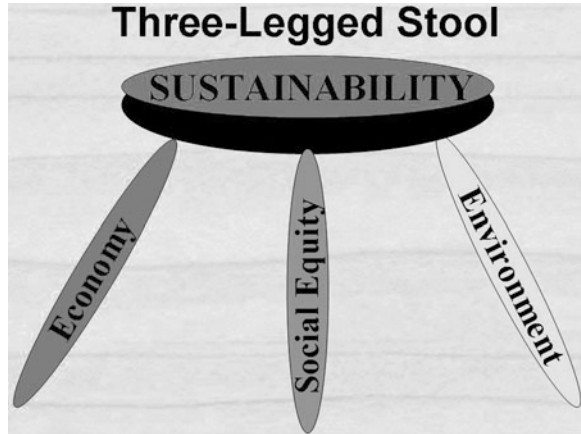
The removal of feedback loops due to process linearization poses an additional problem in that it increases efficiency. Ordinarily, an increase in efficiency would not be considered a problem but rather a tangible benefit as fewer inputs, in the form of resources, would be needed. However, society has chosen to leverage this efficiency to produce more rather than use less, and this choice has created a problem—e.g., as automobiles become more efficient, lowering the use of gas and thus its cost, we can drive more miles and use more cars, eliminating gains in energy and ecological systems. By leveraging efficiency, the side effects, which were otherwise negligible in the second and higher orders, start having an impact on the system. The outcomes are unintended, unpredictable, and chaotic. A way of remembering this problem is to think of the three Cs of sustainability in one’s work. It is important to consider all the *connections* you can in your efforts to make *choices* about what actions to take so that you do not encounter unintended *consequences*. This problem was most recently observed in the crisis of the global financial systems.

The implosion of the financial system in 2008 and beyond, which is a subset of the economic system, which again is a subset of the ecological system, should be considered an early warning or a symptom that our underlying “science” approach to many of our most pressing issues is problematic. The financial system, which limits itself to what can be understood in a reductionist and quantitative manner—in short what can be measured in a laboratory—and the underlying “engineering” approach, which focuses on reducing degrees of freedom and increasing leverage and efficiency, is fundamentally flawed when the system is close to the ecological limits. It worked fine when the system was far from these limits, which has been the case until the last few decades. Current efforts toward solving the financial crises and preventing it from turning into an economic crisis, that is, a depression, have amounted to creating more liquidity. This approach too has worked fine in the past; yet in the present, this amounts to effectively increasing the energy of the financial system making the next crisis even bigger. This leads to the third edict, which is that “one cannot solve a problem with the same method that created the problem in the first place.” This premise is repeatedly broken when trying to solve problems using ever larger and more complicated pieces of technology.

Operationalizing the Concept of Sustainability

Critics believe that present perspectives on sustainable development offer no substance for those really wanting to operationalize or implement actions that are believed to be sustainable (Parris and Kates 2003). For example, the meaning is

Fig. 3.5 The three-legged stool of sustainability. Intended to represent the idea that if one leg is removed, the stool will fall over—all three legs are required for sustainability to be successful



unclear regarding the costs, benefits, and strategies of intergenerational sacrifice and transfers (Kates et al. 2005).

It is widely accepted that we must fully appreciate and relate to the environment's connection to our economic and social systems. Economic activity can promote a healthy environment and healthy ecosystems can enrich their inhabitants. These facts are easy to talk about, but as Gibson (2006) notes, it is extremely difficult to comprehend the complexity of the topic and take action when problems often do not fit nicely into our traditional perspective of the world. Thus, the power of conceptualizing (to visualize via diagrammatic illustrations) can clarify the theoretical underpinnings (as in Fig. 3.5 and the stretch of economic factors) of sustainability as a foundation for consensus agreement of stakeholders.

Sustainable development indeed requires the participation of stakeholders with their diverse perspectives, reconciling different and sometimes opposing values and goals, leading to a new synthesis and subsequent coordination of action to achieve multiple goals simultaneously and even synergistically (WCED 1987). A cross-sectoral intent, however, does not necessarily guarantee achievement of those goals. Rhetoric alone does not result in a mind-set that will regularly embrace and promote the systemic approach that successful outcomes in sustainability plans and actions demand.

Despite an explosion of interest and research, disagreement persists about what is truly meant by the process of sustainable development. Unfortunately, the plethora of views and contradictions has nearly rendered the term meaningless and has diluted efforts to address the multidimensional nature of economic, social, and environmental issues in our world today (Senge et al. 2008). Planners, policy-makers, managers, scientists, and even the average consumer need more than technical competency: they need to take a more holistic approach to problem-solving, create new systems, inspire others to change, and communicate better among themselves and with the public in general. Integrative thinking can break down the notion of silos on the landscape, generate new solutions, and promote greater ownership of the challenges. This shift in perspective can be the difference

between a system in which you add a device to lessen the pollution emission at the end of a pipe and one in which you eliminate the need for the pollution abatement device altogether.

So how do we overcome traditional fragmented approaches to promoting sustainability that will reach beyond the obstacles related to the capacity of the human mind to “see” more than one subject at a time and our abilities to overcome our preconceived notions regarding certain subjects? Is it possible that a picture is truly worth a thousand words? Can an image provide us with more guidance than a set of words about how to carry out tasks of decision-making and problem-solving? There is now considerable evidence to suggest that making ideas visible and tangible (through drawing, diagrams, collage, or other techniques) is a powerful way to enable individuals or groups to engage with and explore abstract concepts (Visual Learning—<http://www.brighton.ac.uk/visualllearning>).

A diagrammatic model or picture that illustrates the concept of sustainability can offer a means for people to more easily acquire a way of understanding the process of sustainable development naturally, automatically, or without conscious thought through constant reference that will promote a second nature to the way we think about and do things. The idea of second nature refers to an acquired behavior or trait that is so long practiced as to seem instinctive—habits, characteristics, etc., acquired and fixed so deeply as to seem part of a person’s nature—something that comes naturally, automatically, or without conscious thought (Woolf 1975). For example, after enough practice, driving a car becomes second nature. The acceptance and continual use of a visual tool, a conceptual framework, symbols describing what we are trying to consider, as a constant reminder can help us apply subconscious, systemic thinking and action throughout the analysis of problems and solutions toward sustainable development design.

To help with converging on a description of sustainability in Fig. 3.5, we observe the idea that sustainability is like a three-legged stool; in order for the stool to remain standing, all three legs of the stool must be involved in supporting its seat. All three sectors need to be considered in sustainability discussions: to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development—economic development, social development, and environmental protection. Focus on only two does not get the job done—the stool falls over!

Likewise, the foundation of sustainable development, as represented by the triangle in Fig. 3.6 characterizing the Triple Bottom Line or TBL, is represented by the three Ps. The three sectors imply interaction with each other so seamlessly that we cannot make decisions, make policy, manufacture, consume, or act in any way without considering the effects and costs upon all three simultaneously. The concurrent mind-set promoted by these images helps to overcome a bias toward economic concerns, with ecological or social benefits an afterthought. Instead, concurrently addressing issues of sustainability is a balanced process to the advantage of all sectors.

Even greater information through an image can be offered by the idea of the three-overlapping circles (from Fig. 2.3 of the last chapter) overlain by the triangle signifying the triple bottom line (TBL) in Fig. 3.7. In considering the overlapping

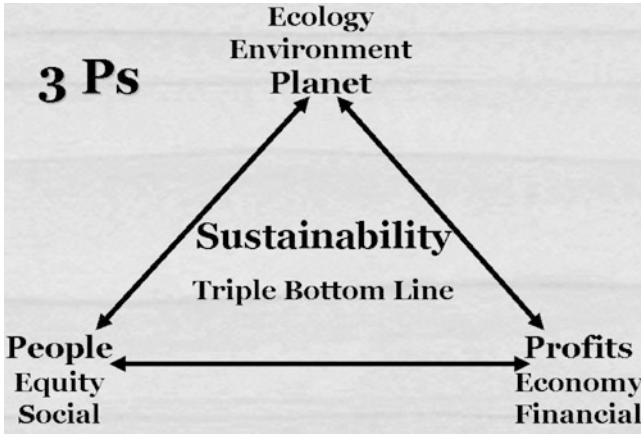


Fig. 3.6 The triple bottom line triangle that is used in a business setting to suggest that the three components of sustainability—people, place, profit—are being considered in all decisions regarding the conduct of business

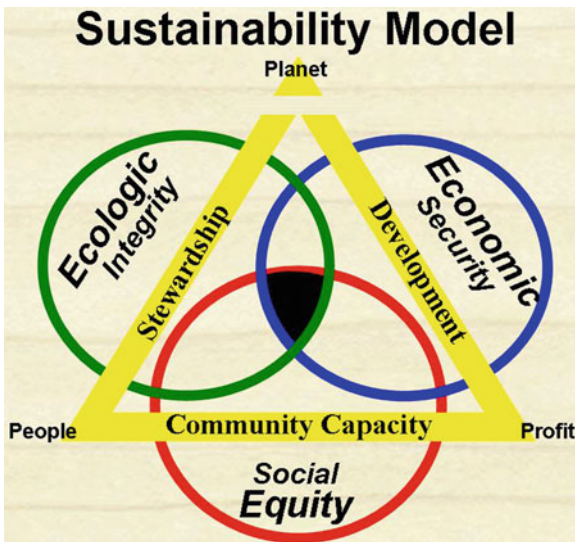


Fig. 3.7 Image of the three-overlapping circles (Fig. 2.3) overlain by the triple bottom line triangle to integrate ideas of development, stewardship, and community capacity in order to further inform what the circles are saying about sustainable planning and action

circle conceptual framework, and its implied meanings for sustainability thinking and acting, the conceptual framework of the three Ps triangle signifying the TBL, which for sake of description we will refer to as the community triangle here, can further inform what the circles are saying about sustainable planning and action.

The *development* of economic security for a place requires consideration of equal opportunities for all (the rising tide), diversity of economic structure, and environmentally sound production design to minimize economic leakage through the advancement of value-added processes and promotion of local consumption. The triangle states the idea of *stewardship* to suggest enhancement of a locale's ecology, natural resources, ecosystem services, and people. Furthermore, in order to achieve sound support mechanisms between development and stewardship, there must be a healthy foundation of *community capacity* as is also listed on the triangle, upon which to enact identified actions, which includes strong leadership, full public involvement, collaborative decision-making and action.

When trying to build community capacity, we need to address things in common. Everyone is needed and everyone has a contribution to make, irrespective of one's background, age, gender, or economic status. By becoming involved, citizens can help shape the future of their community in positive ways. This requires attainment of a civic critical mass (maximum community member participation), with which to enact sustainable actions. A subcritical mass of the potential total participants from a community will not get the job of sustainable development done. Without the base of community capacity in Fig. 3.7, the sides of the triangle will fall down! Achieving sustainability involves developing community capacity that is strongly focused upon social equity for connecting the sides of the triangle (Flint and Houser 2001).

These portrayals of the sustainability circles imply areas, especially in their overlap, where damage must always be avoided and improvements always sought (Gibson 2002). Thus, to repeat, any strategy for sustainability will seek positive effects on ecological, social, and economic conditions over the long-term preserving opportunities for and minimizing constraints on future generations (Norton 2005). "Persistent negative effects in any one area mean that the potential for sustainability is being compromised" (Gibson 2002).

Although it is true that all life depends upon natural resources (Wackernagel and Rees 1996) and that society is unavoidably dependent upon environmental conditions minimally adverse to human life (Gibson 2002), economy and society are no less important to humanity than ecology. As we learned from the work of the Brundtland Commission (WCED 1987), there is no serious strategy for preserving and enhancing ecological integrity that does not also involve improving human well-being, both its social and economic elements. It would be absurd to somehow care for the human habitat and not care for human beings. This overall relationship is most accurately depicted as a "directionality" of dependence (Flint 2004), where economic and cultural activities are integrated into natural processes in a cyclic fashion (Fig. 3.8) illustrating that one does not want to degrade the environment upon which economic prosperity and social stability rest. This causal relationship between human cultures and the ecosphere can be depicted by a series of concentric circles—with the circle of economy inside the circle of society, which is in turn inside the circle of environment (Fig. 3.8). As Gibson (2002) states, "this is not the dominant way of seeing the world in cultures where the economy appears to rule. But it is, arguably, the way things really are. The implication is that anything in the

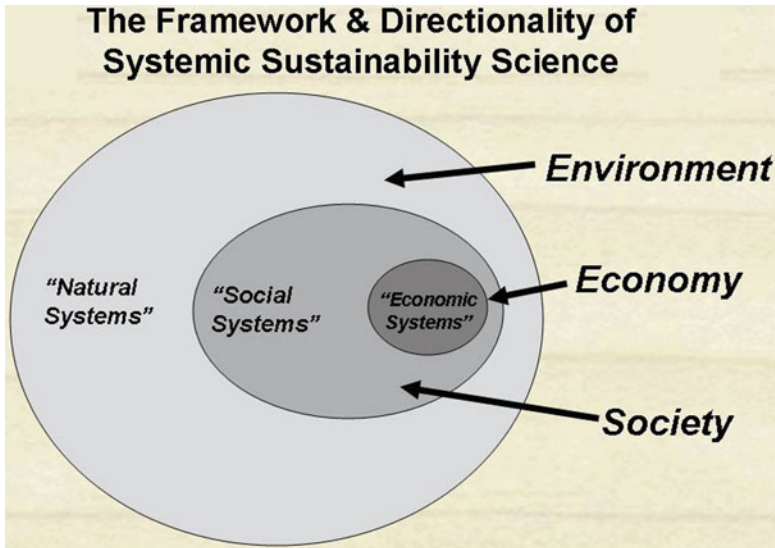


Fig. 3.8 The directionality of sustainability as depicted by a series of concentric circles—with the circle of economy inside the circle of society, which is in turn inside the circle of environment. This image implies that there is no economy outside of society and no known socioeconomic activity that is distinct from the surrounding environment

smaller circles that undermines the larger is weakening its own foundation.” As suggested by this diagram, the socioeconomic spheres are inside of the eco-sphere, which implies that there is no economy outside of society and no known socioeconomic activity that is distinct from the surrounding environment.

The totality of the human economy is measured by the total number of people multiplied by their resource consumption and waste. Thus, there is consistently a dependence of economic activity on human and natural resources (Daly 1996). Think about it—we are the only inhabitants of the planet who have strained its resources so critically. Most species of plants and animals have built-in controls. They do not truly have an economy that they must continually grow. Their supply of food and habitat conditions limits their expansion, and if these become overburdened, their numbers suffer. Since most life forms are somewhere on the food chain, they often are rescued by predators that help to regulate their population (Jacobs 2000).

Not so with humans! Human populations through history always tended to outgrow subsistence, so disease and famine in the past would even things out (Diamond 2005). Technology, medicine, and the growth of cities, however, have thwarted this balance. Ultimately, our present population could become stable by increasing the death rate beyond the human birth rate. This seems, to most people, however, to be an untenable solution! Instead, we must begin assuming the stance that humans will always affect and be affected by their surrounding environment (Fig. 3.8), natural or artificial. Thus, to act sustainably, we must always consider

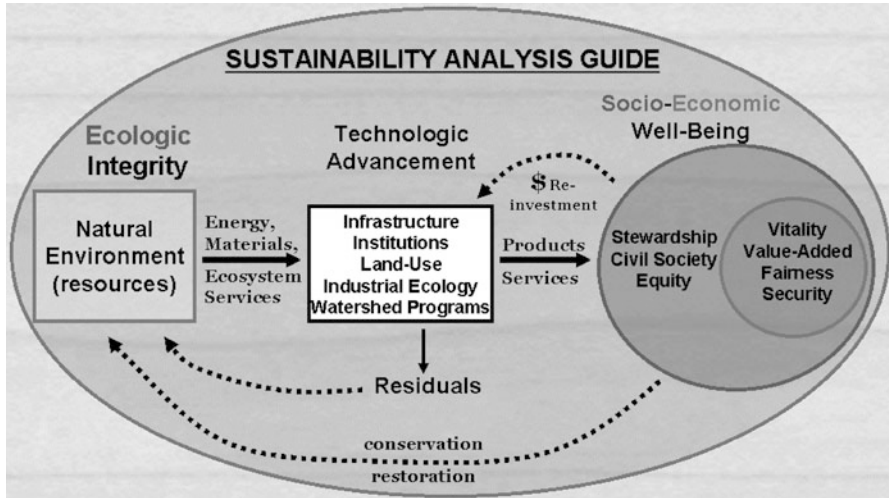


Fig. 3.9 The consideration of technological advancement in the context of the three hierarchical circles showing directionality in sustainable development

environmental change, because in the coevolution of human and natural systems, humans are directly related to and affected by the environment around them. Once we can internalize the “algebra” of directionality of the three circles, the philosophy of sustainability will formalize out discussion of problems and design of solutions. In evaluating the value of the circle hierarchy in Fig. 3.8, consider the following scenario from Senge et al. (2008) to illustrate the idea of directionality in sustainable development:

- The industrial/product manufacturing system—our economy—what we make, buy, and use (from cars and TVs to buildings and power plants)—sits within the larger systems of environment—nature.
- This larger natural world includes living, regenerative resources, such as forests, croplands, and fisheries, and other resources that, from a human time perspective, do not regenerate, such as oil and minerals.
- The regenerative resources can sustain human activities indefinitely, so long as we do not “harvest” them more rapidly than they replenish themselves.
- The non-regenerative resources can only be depleted or “extracted.” That is why mining, oil production, and other similar industries are called “extractive industries.” Unsurprisingly, since they cannot be replenished, sooner or later—as is happening right now—many start to run out.
- In the process of extracting and harvesting resources in order to produce and use goods, our economy (industrial system) also generates waste—waste from extracting and harvesting resources and from how we produce, use, and eventually discard goods. This waste damages the ability of nature to replenish resources.

- The economy and our industrial system also sit within a larger social system of communities, families, schools, and culture. Just as overproduction and waste damage natural systems, they also cause anxiety, inequity, and stresses in our societies.

The above hierarchical circle diagram (Fig. 3.8) uses set theory concepts to display the overall relationships among the three major systems encompassed by the idea of sustainability. Economics is controlled by social forces, which in turn are constrained by the ecosystem, which is bounded by physical parameters. The biosphere includes all living things on the Earth and the nonliving systems with which they interact and on which they depend. The social system is within the biosphere and includes all the human elements of the biosphere. “Natural systems” are thus the nonhuman elements of the biosphere. The inner systems do influence the outer systems, but the controls are greater going inward. In addition, human society is part of the ecosystem and is not something that exists outside of its boundaries (humans are a part of nature, not apart from nature).

Consider the production of electricity in the context of the concentric hierarchy of circles above. In order to have a prosperous economy, society demands a continuously expanding supply of electricity. Society must therefore develop the appropriate technologies as well as plan its demand for this electricity. Electricity requires sources of cooling water in nuclear power production plants and also requires the continuous supply of flowing water through hydropower dams. Thus, the directionality of this scenario is that our economic ventures cannot be driven by electricity if society does not provide the antecedent human capital resources and adequate supplies of freshwater. Furthermore, the use of water as a natural resource input for creating electricity requires that it does not impair other uses for that water, by polluting or degrading the water before discharge from the process.

The image presented in Fig. 3.9 attempts to again conceptualize a number of different thought processes that should be embraced when acting in a sustainable way. This visualization adds the idea of technological advancement to the concept of the three hierarchical circles of sustainability (Fig. 3.8) and allows the observer to picture, in the form of symbols, a process of full sustainability analysis in the evaluation of issues and problems. It now includes the central idea of technology as a vital ally in moving toward future conditions because technologies will continue to change and improve. These changes must be considered in the sustainability evaluation.

This image shows a conceptual representation of how technology serves a central influence on our consideration of the three Es (ecology, social equity, and economy). But even the best technologies will not put society on a sustainable course without a fundamental shift in our understanding of how these technologies and their intended outcomes are related to the three sustainability sectors and how decision-making guided by sound inquiry in the socioeconomic well-being circles can control the use of this technology toward a more resilient future.

As sustainability concepts begin to take hold, the triad of principles—economic development, social equity, and environmental protection—which were once

considered an impractical blue-sky ethic have begun to define both long-term strategy and everyday practice for sustainable development decision-making. Symbolism can be effective in weaning people from their traditional dependence on economic priority in favor of a new emphasis on people and planet. Image symbolism can reinforce the transformation from a consumer society to a conserver society, from mere product greening to actual downshifting, from always more to enough. A holistic approach, better informed by the sustainability symbolism described here, is crucial to developing new methods of analysis and decision-making.

Analysis in Sustainable Development

Sustainable development requires an empirical means for understanding its complex relationships. Such devices as symbolism help create a certain mind-set appropriate for sustainable development problem-solving. But sustainable development also requires systemic methodologies to assessment and analysis. Critical thinking and creative action implementation are two such methodologies that are invaluable to the seasoned practitioner.

Critical thinking is the self-guided, self-disciplined thinking, which attempts to reason at the highest level of quality and objectivity in a fair-minded way—people who think critically consistently attempt to live rationally and empathically. Critical thinking in the context of sustainable development has been described as the artful questioning of the assumptions we make about community. In a much more comprehensive sense, this concept has been characterized as the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action (Gibson 2006).

Critical thinkers are keenly aware of the inherent tendency of human thinking toward bias when left unchecked. They strive to diminish the influence of their egocentric and socio-centric tendencies. They use the intellectual tools that critical thinking offers—concepts and principles that enable them to analyze, assess, and reduce bias. They work diligently to develop the rational virtues of intellectual integrity, humility, civility, empathy, sense of justice, and confidence in reason. They realize that no matter how skilled they are as thinkers, they can always improve their reasoning abilities and that they, like all of us, are prone to mistakes in reasoning, human irrationality, prejudices, biases, distortions, uncritically accepted social rules and taboos, self-interest, and vested interest.

In the context of sustainable development, the application of critical thinking allows us to better assess factual information about how the natural world functions and better visualize the relative position of humans in this more objective perception of the natural world. With this more realistic perspective, critical thinkers strive to improve the world with more efficient strategies and contribute to a more

rational, civilized society. At the same time, they recognize the not insignificant complexities in doing so. They avoid thinking simplistically about complicated issues and strive to consider the rights and needs of others. They recognize the hard work in developing as thinkers and commit themselves to life-long practice toward self-improvement.

Critical thinking commits the practitioner of sustainable development to perfecting the skills to help analyze and evaluate the validity of information and ideas from both experts and community stakeholders. Importantly, critical thinking allows one to distinguish between facts and opinions—detecting baloney! Critical thinking expects the practitioner to:

- Be open-minded and flexible
- Try to identify and assess the assumptions and beliefs of those presenting evidence and drawing conclusions
- Expect and tolerate uncertainty
- Develop principles or rules for evaluating evidence
- Recognize that there might be trade-offs involved in making and implementing multi-sectoral decisions.

Prior to initiating sustainability actions, conclusions must be based on sound science, and genuine empathy should be reached only through critical thinking to evaluate different ideas and to fully understand the trade-offs involved.

In a systemic approach to SCD, the active and democratic participation of community members should be promoted in a willingness to imagine or remain open to considering alternative perspectives of the public. More times than not, community consultation proves that the public-way-of-knowing is as important to progress as the expert-way-of-knowing and often reveals overlooked critical information. In applying critical thinking to consultation, the practitioner naturally shows more willingness to integrate new or revised perspectives based on a group's ways of thinking and acting. This leaves the door open for creative action that leapfrogs the often unsuccessful traditional approaches to development and provides the opportunity for increased community buy-in to the decisions made.

Parallel to the idea of critical thinking is the act of *synthetic thinking*. Synthetic thinking stresses the importance of a systems approach to multi-sector elements of sustainability and fits nicely within the context of critical thinking by stressing integration of different sectoral characteristics to aid the critical and creative processes. Synthetic thinking promotes the ability to recognize relationships among environmental, social, and economic problems and advances the ability to integrate these different sectoral issues in problem-solving. Synthetic thinking will also help you to apply your knowledge to dealing with new and different problems, by being able to think outside the box.

The Help of a Framework

Today's communities are facing concerns about climate change, environmental degradation, human health, loss of biodiversity, poverty, global working conditions, and the impact of multinationals on local communities. In response, they are gradually shifting their thinking to favor environmentally and socially responsible actions.

Sustainability is one of the key platforms for value creation in the future community environment. Community groups taking the lead in proactively developing more sustainable strategies, technologies, products, and relationships are positioning themselves to survive and thrive in the changing world. Further, they are stepping up to the leadership challenge of the twenty-first century, using sustainable development in community advancement to address their most pressing problems. In order to accomplish this daunting task, guidance from some type of framework is required to guide decision-making and strategic action as well as to keep everyone on the same page in advancing resiliency and improvement of communities.

Carrying out the complicated design and implementation of an SCD strategy is helped immensely by reference to and guidance from a framework. One or more (a combination) frameworks can serve as a lighthouse or GPS to direct stakeholders in the community to continually move forward, addressing specific questions to keep them on track and possessing indicators telling them they have arrived at a certain sustainability goal.

Sustainable development frameworks are underlying templates consisting of guidelines and policies used to support a wide variety of actions. These frameworks are important factors in promoting change because they offer strategic direction and guidance. They provide known "conditions" and "issues" that need to be addressed systemically and concurrently. A framework will provide rules governing our interaction with natural systems and identify specific tools and organizing characteristics to help us take actions. A framework offers a practical structure for a group considering SCD. The guidance from frameworks can be the difference between failure and success. One of the early steps a practitioner should encourage of a client community is their selection of a framework to employ in providing them guidance.

Frameworks can include the simple three-overlapping circle sustainability model discussed earlier, the TBL, the natural step (TNS), specific climate change agenda, or the community capitals concept, to name a few.

The Framework of Project Mapping

The three-overlapping circle model offers a framework that simply looks at the positive and negative effects and interactions among the three different elements of

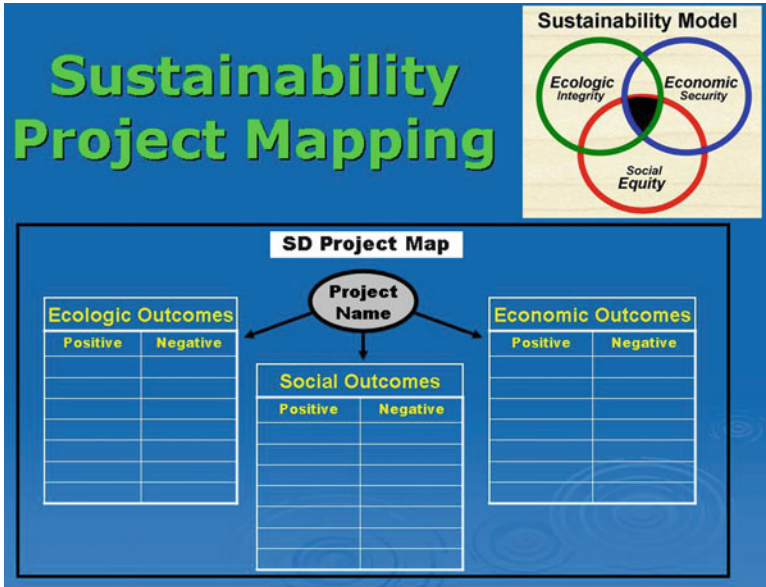


Fig. 3.10 The three-overlapping circle project mapping framework to guide the development of sustainability projects and programs. Environmental, social, and economic benefits are looked for in a project to judge its sustainability and the interconnectedness of its elements

sustainability—ecologic, social, and economic outcomes. This framework (Fig. 3.10) helps users to understand the different interconnected relationships of a specific issue, decision, and/or potential action by expanding the Venn diagram into a “Project Map.” Development of this map acknowledges that there are ecologic (environmental), social, and economic objectives that only collectively advance sustainability. When we avoid simply examining “types of undertaking” without attention to their interconnected ecological and socioeconomic contexts, we end up examining singular types of activities which neglect the potential amplified collective significance of undertakings that by themselves are individually inconsequential (Gibson 2002).

There are sector objectives in acting sustainably. We should be able to map the potential positive and negative impacts of a project across these different sectors. This process can provide reasonable awareness of the relevant conditions and influences of the project on sustainability criteria. For example, pattern mapping, which will be described in a later chapter, provides a conceptual, diagrammatic method of group brainstorming to systemically identify the “drivers and influences” that impact a particular project, as well as the outcomes of acting on that project. Analysis can also be guided by application of life cycle analysis (LCA) and/or ecological footprint evaluations. For example, the systems approach of LCA can quantify the level of materials and resources used, wastes produced, and socioeconomic issues influencing objectives at every stage of a project, identifying environmental and socioeconomic effects before they happen.

The result of this impact mapping process (Fig. 3.10) will identify the potential positive and negative effects of the proposed effort on the ecologic, social, and economic sectors if the project is implemented in its present design. In other words, project mapping should provide an in-depth understanding of what the project is all about. With this greater awareness of the potential project outcomes, its design can be reevaluated to explore alternatives in design that will eliminate negative impacts.

Project mapping essentially summarizes the sustainability scope for any project or program by asking:

- Does this activity provide environmental benefits? What are they?
- Does this activity offer equal benefits to all elements of society? What are some?
- Does this activity provide economic benefits? What are they?
- Was this activity agreed to through the participation of all people (stakeholders) impacted by the activity?

If the answer to anyone of these questions is *NO*, then the project or program should be redesigned to address the unsustainable components.

Sustainability Framework Questionnaire

Another form of framework delineates a proposed project's impacts on each sector to develop a better understanding for the connections or relationships intrinsic to the planned operation. Gibson (2002) provides a set of questions (which are repeated below) as an example of sustainability-based criteria for evaluating a project's potential effects:

1. Could the effects add to stresses that might undermine ecological integrity at any scale, in ways or to an extent that could damage important life support functions?
2. Could the effects contribute substantially to ecological rehabilitation and/or reduce stresses that might otherwise undermine ecological integrity at any scale?
3. Could the effects provide more economic opportunities for human well-being while reducing material and energy demands and other stresses on socio-ecological systems?
4. Could the effects reduce economic opportunities for human well-being and/or increase material and energy demands and other stresses on socio-ecological systems?
5. Could the effects increase equity in the provision of material security and effective choices, including future as well as present generations?
6. Could the effects reduce equity in the provision of material security and effective choices, including future as well as present generations?
7. Could the effects build government, corporate and public incentives and capacities to apply sustainability principles?

8. Could the effects undermine government, corporate or public incentives and capacities to apply sustainability principles?
9. Could the effects contribute to serious or irreversible damage to any of the foundations for sustainability?
10. Are the relevant aspects of the undertaking designed for adaptation (e.g. through replacement) if unanticipated adverse effects emerge?
11. Could the effects contribute positively to several or all elements of sustainability in a mutually supportive way?
12. Could the effects on any element of sustainability have consequences that might undermine prospects for improvement in another?

The Natural Step

Another relatively simple framework for evaluating the level of project sustainability is The Natural Step (TNS). The project mapping process from above can be used in conjunction with TNS to keep a systems view in mind so that the causal factors of problems are fully explored before solutions are proposed. TNS encourages a systems view and looks for those key triggers that are at the root of biophysical degradation. TNS offers tangible action targets by establishing four conditions that must be met in order to achieve sustainability (Robert et al. 1997; James and Lahiti 2004). The conditions relate to what we take, what we make, what we maintain, and whether we are fair (Nattrass and Altomare 2002). Solutions should be sensitive to the system parts and their interconnections (e.g., environmental, social, and economic), the complexities of a problem, and the cumulative consequences of making a change within the system (meeting the sustainability principles described previously). Using the following four natural step system conditions as a framework can provide a compass to guide organizations, communities, and individuals toward sustainable practices. As devised by Robert (1991), these are as follows:

1. *How can we reduce our dependence on underground resources from mining and fossil fuels?* In a sustainable society, nature's functions and diversity are not systematically subject to increasing concentrations of substances extracted from the Earth's crust. There are thresholds beyond which living organisms and ecosystems are adversely affected by these increases.
2. *How can we reduce our dependence on persistent, non-biodegradable, unnatural substances?* In a sustainable society, nature's functions and diversity are not systematically subject to increasing concentrations of substances produced by the society. Synthetic organic compounds such as DDT and PCBs, plastics, ozone-depleting chemicals, waste materials, etc., can remain in the environment for many years. These materials must not be produced at a faster rate than they can be broken down in nature.
3. *How can we reduce our dependence on nature-consuming activities that destroy or degrade natural ecosystems?* In a sustainable society, nature's functions and

diversity are not systematically impoverished by physical displacement, over-harvesting, or other forms of ecosystem manipulation. Humans should avoid taking more from the biosphere than can be replenished by natural systems or systematically encroaching upon nature by destroying the habitat of other species. We must critically examine how we harvest renewable resources and adjust our consumption and land-use practices to fall well within the regenerative capacities of ecosystems.

4. *How can we increase the efficiency of our resource use and do more with less to meet needs worldwide?* In a sustainable society, resources are used fairly and efficiently in order to meet basic human needs globally. Humans need to be efficient and fair with regard to resource use and waste generation in order to be sustainable. Achieving greater fairness is essential for social stability and the cooperation needed for making large-scale changes within the framework laid out by the first three conditions.

The four system conditions can serve as a framework by identifying criteria having certain thresholds that should not be exceeded. Like the other frameworks, TNS offers alternatives to the traditional way of doing business by integrating sustainability principles into core strategies, decisions, operations, and the bottom line. The conditions of TNS have been used over the last decade by a number of corporations and communities to evaluate outcomes that will achieve greater sustainability.

Triple Bottom Line

For an organization or a community to be sustainable (a long-run perspective), it must be financially secure (as evidenced through such measures as profitability); it must minimize (or ideally eliminate) its negative environmental impacts; and it must act in conformity with societal expectations. These three requirements are obviously highly interrelated as demonstrated by Fig. 3.6. Advocates of the “TBL” framework believe that organizations pursuing sustainability ought to make decisions based not only on economic returns but also on environmental protection and social justice (Norman and MacDonald 2004). For example, the three elements of the TBL—environmental, social, and economic—can be combined: eco-efficiency refers to optimizing economic and environmental goals; fair trade refers to economic activities conducted with particular attention to social consequences; and environmental justice refers to social equity with respect to environmental protection. Because these objectives are important to society, advocates argue that companies should consider them in daily decisions. In support of achieving goals embodied in TBL, companies will often consider the following two strategies:

- *Corporate social responsibility* is a set of sustainability strategies that range from ensuring a corporation’s services meet changing customer and community needs, to the health and safety conditions available to its workforce, to what it

can contribute to the community through fund-raising, volunteering, partnerships, and specific arrangements that can be put in place (i.e., social tendering). Better World Books is one of many companies now embracing the concepts of corporate social responsibility to be classified as a TBL company.

- *Socially responsible investing* is the practice of public and private investing of financial capital in businesses that are sensitive to the protection of the environment and needs of society as demonstrated by the way they conduct business and the way they influence their demand and supply chain partners to practice business. Green Soul Shoes not only demonstrates corporate social responsibility in its business but also pursues strategies of social responsible investing, making it another of the growing number of companies considering themselves to follow the TBL of business conduct.

Fractal Triangle Systemic Approach

A noteworthy extension of the TBL concept comes from Bill McDonough (http://www.mcdonough.com/writings/design_for_triple.htm) in a deeper-level inquiry applying the fractal triangle framework. The fractal triangle (Fig. 3.11) shows how ecology, economy, and equity anchor a spectrum of value, and how, at any level of scrutiny, each decision toward problem-solving or for improvement has an impact on all three. The application of this framework can become a process of making the invisible visible or finding order in perceived disorder. In developing the fractal approach, one is metaphorically taking a pattern and breaking it into pieces over and over again. Through this endless repetition (burrowing deeper), self-similarities continue to be observed and more information/knowledge is gained.

As we plan a project or program within the larger context of the system in which it resides, we move around the triangle inquiring how a new kind of action can generate value in each category. Again, the goal is not to balance competing perspectives but to optimize and maximize value or improvement in all areas of the triangle.

For example, start in Economy–Economy, where much of current human activity resides, especially for those interested solely in economic development (extremely pure capitalism). The questions would certainly include, Can I make a profit? If the answer is *no*, you probably do not do the program. The goal of an effective company is to stay in business as it transforms, providing shareholder value as it discovers ways to generate positive social and environmental effects.

Moving to the economy/equity sector, we consider questions of profitability and fairness. Are the employees producing a promising product earning a living wage? As we continue on to equity/economy, our focus shifts more toward fairness—we begin to see economy through the lens of equity. Here we might ask, are we finding new ways to honor everyone involved, regardless of race, sex, nationality, or

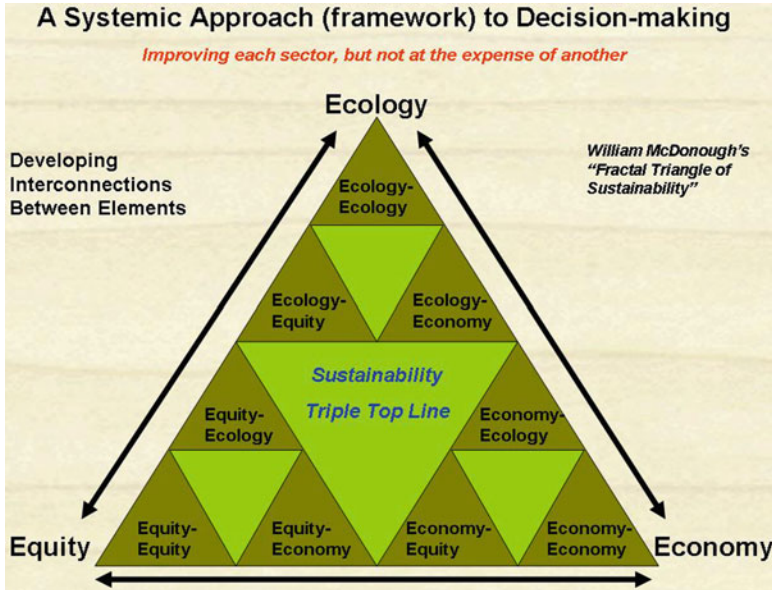


Fig. 3.11 The fractal triangle applied as a sustainability framework. See the chapter narrative for explanation of its use. Reproduced from the ideas of McDonough and Braungart (1998) and McDonough (http://www.mcdonough.com/writings/design_for_triple.htm)

religion? In the extreme equity corner, the questions are purely social: Will the project or program improve the quality of life of all stakeholders?

In the ecology corner of the equity sector, the emphasis shifts again; equity is still in the foreground, but ecology has entered the picture. The questions arising at this intersection of values might explore the ways in which a product, such as an ecologically sound upholstery fabric, could enhance the health of employees and customers. Continuing to ecology/equity, we consider questions of safety or fairness in relation to the entire ecosystem: Will our product contribute to the health of the watershed?

In the pure ecology sector, are we obeying nature's laws? Creating habitat? In this realm, we try to imagine how humans can be "tools for nature." Shifting to ecology/economy, commerce reenters the picture: Is our ecological strategy economically viable? Will it enable us to use resources effectively? Finally, we come to economy/ecology, where we encounter many questions that relate to the TBL. Here the inquiry tends to focus on efficiency: Will our production process use resources efficiently? Will it reduce waste?

Each of the questions presents an opportunity for creating sustainable value. Together, they signal the possibility of acting with positive intentions across the full spectrum of sustainability concerns. Such intentions foster a new deeper inquiry into the sustainability of intended actions and strategies toward improvement. Triple top line thinkers, freed from trying to limit the influence of one or the

other of these value sectors, discover opportunities in honoring the needs of all three. In an infinitely interconnected world, sustainable thinking illustrates rich and synergistic relationships rather than inherent conflicts, much the way an ecologist sees infinitely complex and productive natural communities where others less aware see “nature, tooth and claw.”

Climate Action Frameworks

Climate action plans are another kind of framework, which have become popular with many communities to help guide their movements toward sustainability using climate mitigation strategies as a guide.

For example, the ICLEI—Local Governments for Sustainability instituted a Five Milestone process (<http://www.iclei.org/index.php?id=810>), which provides cities around the world with a framework to begin following with regard to climate action policies. These milestone steps included:

1. *Conduct a baseline emissions inventory and forecast.* Based on energy consumption and waste generation, the community calculates greenhouse gas emissions for a base year (e.g., 2000) and for a forecast year (e.g., 2015). The inventory and forecast provide a benchmark against which the jurisdiction can measure progress.
2. *Adopt an emissions reduction target for the forecast year.* The community establishes an emission reduction target. The target both fosters political will and creates a framework to guide the planning and implementation of measures.
3. *Develop a Local Action Plan.* Through a multi-stakeholder process, the community develops a local action plan that describes the policies and measures that the local government will take to reduce greenhouse gas emissions and achieve its emissions reduction target. Most plans include a timeline, a description of financing mechanisms, and an assignment of responsibility to departments and staff. In addition to direct greenhouse gas reduction measures, most plans also incorporate public awareness and education efforts.
4. *Implement policies and measures.* The community implements the policies and measures contained in their local action plan. Typical policies and measures implemented by the cities climate plan participants include energy efficiency improvements to municipal buildings and water treatment facilities, streetlight retrofits, public transit improvements, installation of renewable energy applications, and methane recovery from waste management.
5. *Monitor and verify results.* Monitoring and verifying progress on the implementation of measures to reduce or avoid greenhouse gas emissions is an ongoing process. Monitoring begins once measures are implemented and continues for the life of the measures, providing important feedback that can be used to improve the measures over time.

The five milestones provide a flexible framework, able to focus on many different climate-related issues that could accommodate varying levels of analysis, effort, and availability of data. These elements make the cities climate plan both unique and innovative, by increasing its transferability among local governments. It was the breadth of this program that enabled it to cross north/south, developed/developing, and metropolitan/town boundaries and that made it successful worldwide.

Another climate action framework is the Climate Principles of the Climate Group (http://www.theclimategroup.org/about/corporate_leadership/climate_principles), which in 2008 provided a voluntary framework to guide the finance sector in tackling the challenge of climate change. The Climate Principles address the management of operational greenhouse gas (GHG) emissions. More importantly, they provide strategic direction on managing climate change across the full range of financial products and services, including research activities; asset management; retail banking; insurance and reinsurance; corporate banking; investment banking and markets; and project finance. These principles that form a framework for the financial sector of any organization or community include the following. Adopting organizations commit to:

- Minimize their operational carbon footprint
- Make business decisions that will reduce climate change risks and allow the development of climate change-related opportunities
- Develop products and services that enable customers to manage their climate change-related risks and business opportunities
- Engage with their customers, suppliers, and wider society to seek opportunities for a low-carbon economy
- Support the development of sound energy and climate change policy
- Disclose progress against their commitment

Another climate action framework is advanced by the Ahwahnee Local Government Commission (LGC) (http://www.lgc.org/ahwahnee/climate_change_principles.html). It notes that concentrations of human-induced GHGs in the atmosphere have already reached unprecedented levels and are causing well-documented adverse changes to our planet's physical and biological systems. The LGC firmly believes that we must act decisively to reverse this trend and lessen the potentially devastating environmental, economic, and social impacts that could result. At the same time, they feel we must predict and prepare for, and adapt to, the unavoidable climatic changes that will likely occur due to the high concentration of GHG pollutants that are already in the atmosphere. Proactively, they present the following as a climate framework to influence change:

1. Climate action plans for mitigating GHG emissions should be put in place by local governments; these will include inventories, targets for reduction, implementing strategies, timelines, and a system for reporting annual progress. Plans should be incorporated into general plans either as a separate element that has influence over a broad range of activities or by incorporation into each of the traditional general plan elements.

2. Emissions related to personal auto use are often the largest single source of GHG pollution; therefore, addressing this source should be central to a climate action plan and a priority for early implementation. One means of addressing auto GHG emissions is by recognizing that infill development should be the primary location of new construction; however, all new development, wherever it may occur, should be guided by a compact mixed-use pattern that supports walking, biking, and transit, and protects open space and agricultural land. This kind of development can reduce vehicle miles traveled and CO₂ emissions by 20–40 % per capita (personal communication, Growing Cooler Program, Urban Land Institute, 2008).
3. The electricity and commercial/residential sector is likely the second largest source of community GHG emissions and an important target for reduction. Thus, energy conservation programs, energy efficiency, and the use of a diverse array of clean alternative energy sources should also be central to the community climate action plan and a priority for timely adoption. Applied to new and existing development, green building ordinances, energy conservation retrofit measures, energy efficiency standards for new buildings, and incentives/disincentives to reduce average square feet of new houses are among the measures that can be adopted (http://www.energy.ca.gov/energy_aware_guide).
4. Because of the nexus (relationship) between water and energy, climate action plans should also include strong water efficiency standards, increased water conservation, and water recycling strategies guided by the Ahwahnee Water Principles.
5. A climate action plan should include measures that will help the community to adapt to the unavoidable impacts of climate change. This will involve planning for rising sea levels, shrinking water supplies, rising temperatures, food shortages, and other challenges predicted to occur in the region.
6. Local governments should lead by example in reducing their own carbon footprint by enacting and implementing policies to reduce GHG emissions from their municipal operations while preparing for unavoidable climate change impacts.
7. Climate action plans should be developed through an open process that includes diverse members of the community and public health professionals. The process should include public outreach strategies and assure that the positive and negative impacts of reducing emissions are borne equally by all.

It should be noted that the practitioner is not limited to the practice of only one of the above cited sustainability framework designs. For the truly innovative practitioner, there might be an opportunity with a particular community's issues to combine several of the frameworks together, using the best of each to meet your needs of community design guidance for sustainability. You might note that essentially that is what the McDonough fractal triangle (Fig. 3.11) does above by taking the basic concept of the TBL model and burrowing deeper into the different aspects of that basic model through its fractal process to obtain a deeper level of understanding and guidance.

The Community Capitals Framework

Two distinct approaches to economic development in rural communities have evolved over recent times in the United States: *industrial recruitment* and *self-development* (Flora 2004a). The traditional approach to community reinvention or improvement has been industrial recruitment. This form of economic development still has a large following among local and state economic developers, despite studies that show that governments seldom gain back their investments in terms of public revenue generated (Summers and Branch 1984).

But self-development, including supporting local entrepreneurship, is a community economic development (CED) strategy of increasing interest to a variety of technical assistance providers and rural communities (Blakely and Bradshaw 2002). This approach embraces participatory approaches that focus on civic engagement to first identify and then mobilize multiple resources (forms of capital) for widespread social and economic benefits—an asset-based improvement approach with a focus on local capacity building.

Assuming that the assessment of community capacity in different sustainability sectors can provide some understanding toward the development of communities, there needs to be a means of evaluating that capacity in each and all the environmental, social, and economic systems and their assets, which form the foundation of communities. The currency of such a methodology can be derived from the amalgam of community capital. Capital is a property that results from the characteristics of systems and their interactions (Heintz 2004). Capital refers to the condition and capacity of any stock, inventory, or accumulation of materials or resources found in economic, environmental, or social systems yielding a flow of goods and services that possess a value directly or may be devoted to the production of other goods (Daly and Cobb 1994; Wackernagel and Rees 1996). This is one way to operationalize the general concept of sustainability from the Brundtland Commission, “meeting current needs without compromising the opportunities to meet the needs of future generations” (WCED 1987). Capital is an economic term that has been extended by some into the natural and social realms to refer to usable inventories like resources, capacities, conditions, stocks, assets, or endowments. When we say capital in this context, we mean to include all of these.

Capital is a measure of the resources invested to create new resources over a long-time horizon, the capacity to produce a flow of value over an extended time, and thus expands the traditional definition of return on investment based on money alone. Capital is an appropriate measure because environmental, social, and economic systems all contain stored value and produce flows (or in other words a currency) of services, experiences, or goods over time. Self-development toward a goal of sustainability can be effectively assessed using a framework of criteria and indicators of environmental, social, and economic capital (Flora 2003).

Flora and Flora (2008) define seven forms of capital in the development of capacity building strategies that form the community capitals framework. These include:

- *Natural Capital* (Jansson et al. 1994)—Provides possibilities and limits to human activities: influences and is influenced by human actions (e.g., air quality, wind and sun, water—quantity and quality, soil and minerals, biodiversity—wildlife and plants, landscape).
- *Cultural Capital* (Bourdieu 1986)—Determines how we see the world, what we take for granted, what we value, and what things we think possible to change (e.g., spirituality, sense of place, ways of knowing, language-history, ways of acting, definition of what is problematic).
- *Human Capital* (Becker 1975)—Characteristics and potential of individuals that are determined by the intersection of nature (genetics) and nurture (social interactions and the environment; e.g., education, skills, health, self-esteem, self-efficacy).
- *Social Capital* (Coleman 1988)—Interactions among individuals that occur with a degree of frequency and comfort (e.g., mutual trust, reciprocity, collective identity, sense of shared future, working together).
- *Political Capital* (Turner 1999)—The ability of a group to influence standards, regulations, and enforcement of those regulations that determine the distribution of resources and the ways they are used: increased voice and influence of people (e.g., organization, connections, voice, power).
- *Financial Capital* (Eisinger 1988)—Financial capital is often dominant because it is easy to measure, and there is a tendency to put other capitals into financial capital terms: can result in an appropriately diverse and healthy economy if distributed fairly (e.g., savings, debt capital, investment capital, subsidies, tax revenue, tax abatements, grants, philanthropy).
- *Built Capital* (Chicoine 1986)—Human-constructed infrastructure used as tools for production of other capitals (e.g., sewers and water systems, plants, machinery, transportation, electronic communication, soccer fields, housing).

The community capitals framework can be employed to understand how a community functions with regard to environmentally sound economic development. This framework is explained in a number of publications addressing rural development (e.g., Emery and Flora 2006; Flora 2004b, 2008). Sustainable CED must recognize the need for public engagement and pay attention to the seven types of capital because livelihood improvement is not limited to improving employment, but rather to the ways people live in all their expression (Aigner et al. 1999).

Importantly, the practitioner should make sure that the community's use of the community capitals model also engages interaction among these seven capitals and how they build upon one another as conceptualized in Fig. 3.12. Multiple capitals are the accumulated wealth of communities, the sum of invested natural resources, plus invested energy from which they create the ways and means to satisfy their fundamental needs (Reid and Flora 2004). Using the community capitals framework, the community can trace how an investment in human capital, for example leadership training, might impact financial capital as leaders use their skills to acquire new funds and better manage existing funds (Flora et al. 2007). Social capital may then be augmented as members of the leadership program develop new bonds among themselves and new bridges among the groups with whom they interact.

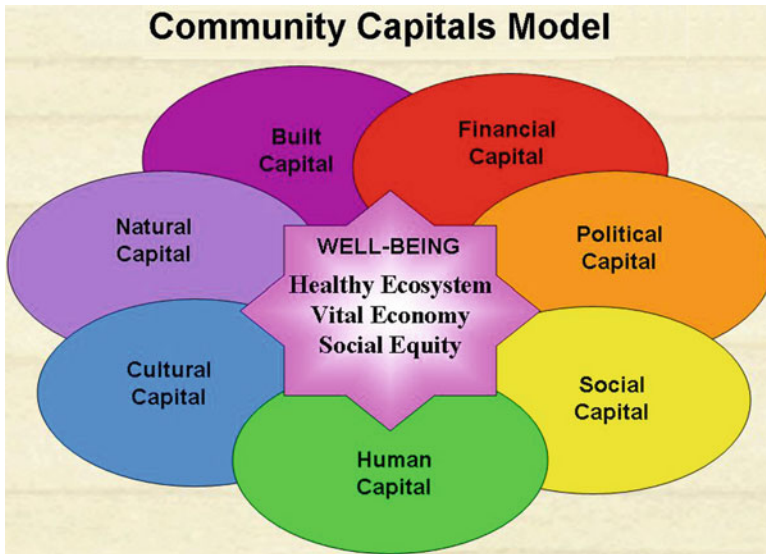


Fig. 3.12 Illustrated interaction among the seven capitals defined by Flora. Multiple capitals are the accumulated wealth of communities, the sum of invested natural resources, plus invested energy from which they create the ways and means to satisfy their fundamental needs (Flora 2004a). Permission from Cornelia Flora of the North Central Regional Center for Rural Development for reprint

By measuring investment in the different capitals and the changes resulting from that investment, the community capitals framework provides a means by which the community can begin to understand the impact of sustainably designed CED on communities or regions, for example, the impact on reducing poverty, creating wealth, supporting family self-sufficiency, and expanding local leadership (Flora and Flora 2008). The community capitals model is an especially valuable framework to employ with community stakeholders because it allows citizens to evaluate all their assets across seven different components of the community, comprising every part of the public's lifestyle and then to establish objectives for improvement that will guide an SCD program. The capitals framework also better enables community members to more fully understand the dynamics of their community and experience the many different connections that exist among community elements (sectors).

Sustainability as a format for Communication

Depending on whom you talk to, sustainability can be defined and acted upon differently. However, most people agree that sustainable living requires some form of the three-overlapping circles: a combined recognition of economic, social, and

environmental factors. For instance, the TBL is a business model for sustainable growth that recognizes the importance of three factors: people, planet, and profit.

Communication, whether it takes place among business leaders, consumers, or government agencies, plays the binding role in integrating these factors toward planning and action, and thus maintaining sustainability. It is the control of communication that can filter information, sway opinions, and influence political and social movements. Discussion about sustainability is an open conversation in which everyone must be involved, not only leaders.

Supporting value of enhanced and open communication is the fact that today's society is more interconnected and global than any other time in our history. We communicate faster than the speed of sound using technologies that allow us to have information at the tips of our fingers. Consider the many ways in which communication can be used to impact a community's sustainability.

I have already pointed out how all communities are responsible for choosing what is important to improve and what is important to protect, not to be inhibited by a sustainability definition established somewhere else. Because they are not necessarily beginning from some preconceived notion of sustainable development, a format for local communication must originate with the people discussing the formulation of a strategy. People in a group that has come together to talk about community change must agree on a means to engage in communication to discuss acting sustainably. For example, only through communication can a community group agree that a resource will not be allowed to fall below a certain threshold. In this way, frameworks may provide the conduit for communication.

Additionally, sustainable development has different meanings and represents different values to different people. The pervasiveness of sustainability in our society, as used in wide-ranging contexts, professions, and scientific disciplines, has led to a disparity in definitions and concepts. Communication with constituencies varies with their interests, and no common or unifying language has been established, thus hampering unified efforts and goals.

But because there are so many differences and disagreements, sustainable development could be a ripe topic for stimulating discussion and communication among very different groups of people. The basic elements of a framework for sustainable development, as described by the various truths discussed earlier, can serve as points of common agreement because they are irrefutable in terms of their scientific foundation. Accepting this point could allow discussion to move on to other points for seeking common ground.

Thus, the essence of sustainability concept and theory can provide rallying points around which to have a wider and more meaningful form of communication or discussion. In short, a common lexicon for sustainability could be utilized as a tool for communicating in the sciences and be applied with other metrics. And these rallying points can be as simple as the core values the community group can agree to that represent what they wish their community to look like now and in the future. Once these core values are identified, they can be mutually discussed and universally shared as a means of local as well as regional communication. Communicating the community group's ideas of sustainability can be very powerful here. Having to

talk with someone who is truly trying to understand what others are expressing about their sustainability ambitions can cause real human interactions to occur. And with these interactions can come clarity in the communication of sustainable development ideas, which is at the very heart of sustainability itself (Alda 2012).

Sustainable development serves as a valuable tool in support of communication in the many different fields in which the concept is discussed. Communication is a powerful instrument that can be used to relay information, sway opinions, and impact political and social movements of nations. The ideas of sustainability can be viewed as a general outline around which to carry on communication within a community group or among different kinds of professionals.

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Chapter 4

System's Thinking in Community Development

At smaller scales, sustainable community development (SCD) practitioners will constantly find themselves in a “push and pull” situation with the community members they are working with. On one hand, community members always find it easiest to push or promote their specific issues of concern in isolation from one another (“The streets are always littered; we need more businesses downtown; there is too much fast moving traffic on the streets; the drinking water does not taste good”). On the other hand, the practitioner accomplished in system's thinking should be able to pull the isolated opinions and concerns of community members toward a more systemic, integrated viewpoint of the real issues and how they are interconnected.

However, planning for community development at a too large a scale, such as the national level, may face intractable problems with public participation and where the number of diverse concerns is to be “pulled.” Scale is important. For example, as a consequence of the large geographical area and nature of problems at the national level, planning frequently fails to effectively link land-use activities with their spatial and temporal dislocation of impacts. This has implications for social equity, with citizens being disadvantaged by the activities and decisions of more distant disengaged stakeholders. This is a key reason why throughout most of this book, I focus upon the SCD of local areas, like the communities in towns, villages, neighborhoods, and small cities.

But communities cannot be totally isolated from the larger region in which they inhabit. They will always be affected to some degree by decisions and actions taken in the larger geographical context of their place, for example, issues of climate change or water supply. Therefore, although the intent of a practitioner should be to primarily focus upon problems and solutions that are local, the practitioner cannot let community members forget that they are part of a bigger regional, national, and global context and therefore must be aware of how their local concerns are influenced by and affect the bigger geographical landscape. Not to say communities have to worry about solving problems in a larger context, but the understanding of this larger perspective will often lead them, guided by a skilled practitioner, to more

promising local solutions with positive external effects and even contribute to the solution of problems at the national or global scale (e.g., greenhouse gas emissions).

Certainly some problems can have decisions made on a much larger level than local. But a more holistic approach can help offset some of the big picture issues communities do not necessarily have control over. Knowing holistic strategies makes it easier to integrate their own problem-solving efforts into the larger scheme. Through the assistance of a practitioner knowledgeable in bioregionalism perspectives, community resiliency processes, and industrial ecology strategies, communities are able to better position themselves on a larger geographical stage. Here they can take advantage of system's thinking, to better understand some of the influences on their lives beyond their direct control and even to offer examples of best practices to others struggling with similar problems.

System's Thinking

Systems' thinking integrates all the causal factors within an environment. This means that previously fragmented groups must work together from individuals to nations and from the elite to the man on the street. The era of the specialist is over and the era of the generalist has begun. In particular, it means that no group as small as a community or as large as a nation or sector can pursue a problem unilaterally, because what might be optimal for one community or country could be very damaging to the global community as a whole.

Similarly, what may solve a problem in the mind of some specialists may easily turn out to make things worse unless the entire system is considered. The methods of yesterday's solutions are what caused the problems of today. We must make sure that they do not cause the problems of tomorrow as well. A holistic approach that considers the many connections of individual elements in taking on a particular problem is crucial to developing new solutions.

With the foregoing in mind, one of the central challenges of the twenty-first century is how to achieve a more sustainable relationship between people and the environment in community settings. To accomplish this objective means training professionals working with communities to think systemically so that they can assist those communities to view, understand, anticipate, prevent, and correct the causes of social-environmental degradation instead of insisting on the limitations of symptomatic thinking and short-term action.

A system is made up of many different parts, all working together and all sharing a similar design criterion. System's thinking is a holistic approach to analysis that focuses on the way that a system's constituent parts interrelate and how elements work over time and within the context of larger systems. A system is a whole, which consists of interdependent and interacting parts with a common purpose. The contribution of a system is greater than the contribution of the sum of its parts. More exactly, a system is not the sum of its contributing parts—it is the product of their interactions. This implies that the performance of the system depends on how

well the parts fit together, not how well they perform individually. Thus, the best parts do not necessarily make the best whole; they have to fit together (e.g., the best players or smartest people brought together to form a team).

This recognition contrasts with traditional analysis, which studies systems by breaking them down into their separate elements and usually examining them in isolation from one another. The conventional study of systems has been characterized by rational–positivistic thinking; it has been mechanistic where man is thought to dominate nature, assessment is performed through the five senses, there is a seemingly random evolution of events, and the system itself is characterized by parts to whole. In contrast, the new approach to systems is distinguished by quantum holistic thinking where humans are thought to coexist with nature, system evaluation is done with the use of expanded senses such as fields and intuition, there is a conscious evolution (by choice), and the system is considered first as the whole before the parts. System's thinking is a way of understanding reality that emphasizes the relationships among a system's parts, rather than the parts themselves.

Why is system's thinking valuable? Because it can help you design smart, enduring solutions to problems. In its simplest sense, system's thinking gives you a more accurate picture of reality, so that you can work with a system's natural forces in order to achieve the results you desire. It also encourages you to think about problems and solutions with an eye toward the long view—for example, how might a particular solution you are considering play out over the long run? And what unintended consequences might it have? Finally, system's thinking is founded on some basic, universal principles that you will begin to detect in all arenas of life once you learn to recognize them.

Systems thinking is a set of tools that helps us make sense of chronic, complex problems, including a better understanding of not only *what* is happening but also *why*. Bringing a systems thinking lens to your community change effort can increase its impact because:

- Individuals become more aware of how they contribute to their problems and are thus more motivated to change.
- Diverse stakeholders recognize their interdependence, increasing their desire to collaborate.
- People learn to focus limited resources on identified high-leverage interventions.
- It fosters a learning environment.

One of the advantages of system's thinking is to better identify real leverage points that can effectively lead to the solution of problems. Leverage points are where small changes can produce big results—places within a complex system (corporation, economy, a living body, a city, an ecosystem) where a small shift in one thing can produce big changes in everything—but the areas of highest leverage are often the least obvious.

For example, consider a lake or reservoir that contains a certain amount of water. The inflows are the amount of water coming into the lake from rivers, rainfall, drainage, and wastewater from a local industrial plant. The outflows might be the

amount of water used up for irrigation of a nearby cornfield, water taken by the local plant, and water evaporating into the atmosphere. Locals complain about the water level getting low and pollution getting higher. This is the difference between the perceived state (pollution or low water level) and the goal (a nonpolluted full-bodied lake). So where do we intervene to most effectively leverage change?

Improvement of the upper river stream to canalize incoming water will not necessarily solve the issue of low water levels over the long-term (treating symptoms, not causes). The leverage point might be to better understand the system limitations and bottlenecks and to work on fluctuations. In a similar way, consider, for example, the situation regarding the baby boom swell in the US population, which first caused pressure on the elementary school system, then high schools, and then colleges, then jobs and housing, and now retirement support. The system structure, in this instance (institutions of the US society), was not designed to handle flow and fluctuations in flow.

As for the pollution levels of the lake, one way to avoid the lake getting more and more polluted might be through the setting up of an additional tax, relative to the amount and degree of the water released by the industrial plant that might lead industry to reduce releases. A strengthening of the law related to chemical release limits or an increase in the tax amount of any water containing a given pollutant, will have a very strong effect on the lake water quality. And consider the action of a monthly public report of water pollution level, especially near the industrial plant release. This could have a lot of effect on people's opinions regarding the industry and lead to changes in the wastewater level of pollution. These are certainly leverage points for problem-solving that might not normally occur to people and yet become possible because of the system's thinking approach to the problem-solving.

System's thinking is not a new idea because our ancestors understood it very well. In the story of "Salmon Nation" first written about by the organization EcoTrust (Portland, OR), we learn that many different species of salmon are extremely important to the native cultures and economies of communities from California to Alaska and all the way around the Pacific to Japan. The native population's translated song for the salmon suggests that salmon feed the streams, the streams feed the land, the land feeds the plants and animals, the plants and animals feed humans, and humans have the greatest impact on salmon. Things come full circle around. The foundation of this place, the glue that holds it together, is its salmon. Not only do they feed us and support a centuries-old commercial fishery, but they feed the land as well. Trees in the forest depend on the nitrogen that salmon carry back to land from their ocean journey to upland streams for spawning. Animals benefit, too: scientists have found that at least 137 species rely on salmon as part of their diet. Beyond that, salmon are a symbol of what it means to live in this corner of the world.

Declines in Pacific salmon populations throughout the twentieth century have resulted in less salmon for fisheries and potential shifts in terrestrial ecosystem processes. Strong salmon populations provide benefits for bears and other predators, and there are indications that salmon nutrients can affect riparian

production (Hocking and Reynolds 2011). And without a system's thinking approach to this situation, a community would never know the "rest of the story" in order to conduct sound decision-making.

In order to function effectively, a system's parts must all be present for optimal performance. The parts must be arranged in a certain fashion to carry out the system's purpose. Systems have specific purposes within the larger systems, and they maintain their stability through fluctuations and adjustments. That is, systems have feedbacks. To better understand these characteristics, the field of system's thinking has generated a broad array of tools that let you (1) graphically depict your understanding of a particular system's structure and behavior, (2) communicate with others about your understandings, and (3) design high-leverage interventions for problematic system behavior. These tools include causal loops, behavior over time graphs, stock and flow diagrams, systems archetypes, and pattern (conceptual) mapping—all of which let you depict your understanding of a system—to computer simulation models and management "flight simulators," which help you to test the potential impact of your interventions.

Bioregionalism

What Is a Bioregion?

A bioregion is like a life region: a geographical area described in terms of its unique combination of flora, fauna, geology, climate, and water features—the whole of which distinguishes it from other bioregions. Thus, natural forms and living communities, including humans, become the descriptive features of each bioregion—instead of the politically drawn lines used to define county, state, and nation. Watersheds, being an important physical feature of bioregions, are often used to define their boundaries.

And because bioregions are usually bounded by geographical and landscape characteristics that define a unique countryside or setting the parts of this specifically defined place, all contribute to the whole in terms of the way the bioregion functions and provides the means to carry on a lifestyle that is important to many people. Thus, the defined bioregion represents an element that is well suited to apply the idea of system's thinking in order to understand the many connected parts and use this understanding in problem-solving and decision-making to formulate more effective policy for the region as a whole.

A bioregion refers both to geographical terrain and also to a terrain of consciousness—to a place and the ideas that have developed about how to live in that place. A bioregion can be determined initially by use of climatology, physiography, animal and plant geography, natural history, and other descriptive qualities among living things and the factors that influence them, which occurs specifically

within each separate part of the planet. Discovering and describing that resonance is a way to describe a bioregion.

The essence of bioregionalism has been reality and common sense for native people living close to the land for thousands of years and remains so for human beings today. At the same time, bioregional concepts are rigorously defensible in terms of science, technology, economics, politics, and other fields of “civilized” human endeavor. Bioregionalists are lifelong students of how to live in balance with our eco-communities. They recognize that we all are part of the web of the life and that all justice, freedom, and peace must be grounded in this recognition. So the bottom line is that what is good for a community is also good for its larger bioregion!

Bioregionalism acknowledges that we not only live in cities, towns, villages, and countrysides but also live in watersheds, ecosystems, and eco-regions. The awareness of those connections to the planet is vital to our own health and the health of the planet. By discovering our connections to the planet, we find a context for our lives to grow in. This context allows us to find ways to live sustainably in our individual communities while at the same time provides us ways to nurture and restore the more-than-human community that surrounds us and that we are dependent on in so many ways.

Distinguishing a Bioregion

The bioregion, a unique area defined by natural boundaries and interrelated environs supporting distinct living communities, is emerging as a meaningful geographical framework for understanding place and designing long-term sustainable communities. Lewis (1996) described how understanding the patterns, colors, and textures of the landscape gives a logical order to a system, where bioregional patterns suggest limitations and unique solutions. Bioregionalism identifies areas similar in transport trade, communication networks, natural resource reliance, cultures, recreational desires, natural ecosystems, governance, and public concerns. Once identified, the scientific understanding gained from these ecological patterns and spatial resources are logical form determinants—they suggest the spatial form to guide policies toward sustainability for a region.

For example, Lewis discovered patterns by studying composite night images of the USA and imagining the concentration of lights around cities to be *regional constellations*. He saw what he believed to be 26 clusters of lights from the mainland of the USA through his “constellating” observations (Fig. 4.1). These clusters represented one or more cities that were connected together by their sprawl of night-lights. He further postulated that these urban clusters were biologically and geographically defined by patterns of “limitations and unique solutions” because of their defined clustering. Lewis suggests that one can discern patterns that diminish the quality of life, sense of place, and sustainability, as well as patterns that enhance these features by adopting this constellation or bioregional view. Furthermore,



Fig. 4.1 Human settlements suggested by nighttime lights observed across the U.S. from satellite images. Obtained from the Defense Meteorological Satellite Program (DMSP) Data Archive and Research Products (<http://www.ngdc.noaa.gov/dmsp/>)

Lewis tells us that identifying bio-cultural regional patterns provides solutions for where to build and where not to build, where the place not to build is the “hole in the doughnut,” areas important for a region’s natural resources and recreational areas, among others.

The act of “constellating” directs attention on the ever-shifting collection of biophysical and human systems that interact to configure the bioregional experience. Constellating is intentionally open-ended and requires the practitioner’s thoughtful interpretation. As a design activity, constellating focuses on assembling the array of physical forms, infrastructural interconnections, development models, and social agents needed to create new forms of public engagement and interaction. This perspective can help decision-makers set goals that are within the capacities of the natural systems and, at the same time, more likely to meet social values for a specific area of concern.

Application of Science in the Bioregional Context

People wanting to achieve a sustainable lifestyle must rely on the most informed understanding possible of the environment around them, commitment and love of home place, and the identification of long-term economic interests—needs, not wants—for establishing workable limits within nature’s way. Establishing limits based upon awareness for interconnections and appreciating the effectiveness of

these limits constitute the true practice of a sustainable lifestyle supported by our understanding of science.

A regional, and more specifically bioregional, approach to environmental and socioeconomic problem-solving is beginning to gain support in the application of science toward problem-solving. Although the reductionist approaches that dominate current science have significant analytical power, they tend to break environmental and cultural components apart. Integration implies combining not only the two formerly separate objects of study (humans and nature), but also the subjects (the public and the scientist). There is a growing set of scholars who will attest that a holistic framework for understanding and enhancing places as a community–environment dynamic is crucial to both spiritual and ecological health. And this is much more easily understood at a bioregional scale than in the extreme local setting of communities.

In general, regional planning defined by the biology, geography, and human dynamics of a place as yet has few established paradigms or methods, but the theory and practice are beginning to coalesce around bioregional patterns that emphasize system's thinking approaches. This suggests that for every bioregion, there is a unique set of practices of scientific investigation that can support planning, design, and management and that will result in a bioregionally unique set of landscape–human patterns. Awareness and care for one's bioregional territory and its patterns are a first step to community-based stewardship, to the better understanding of cultural and ecological sustainability at the community level, strongly influenced by factors at the larger geographical scale of the region.

Simultaneous to the bioregional emphasis of problem-solving, a new field is beginning to emerge that the SCD practitioner should be able to function within: the science and technology for sustainability—or sustainability science—which integrates the physical, biological, and social sciences as well as medicine and engineering. A practitioner's experience in this realm will assist their efforts at directing a community within the framework of science-based decision-making rather than simply anecdotal information as guidance for change (Kates and Clark 1996). Central questions to consider in the evolution of this science from a bioregional approach include:

- How can the dynamic interactions between nature and society be better incorporated in emerging models and conceptualizations that integrate the earth system, human development, and sustainability?
- How are long-term trends in environment and development reshaping nature–society interactions in ways relevant to sustainability?
- What determines the vulnerability or resilience of the nature–society system in particular kinds of places and for particular types of ecosystems and human livelihoods?
- Can scientifically meaningful “limits” or “boundaries” be defined that would provide effective warning of conditions beyond which the nature–society systems incur a significantly increased risk of serious degradation?

- How can today's relatively independent activities of research planning, observation, assessment, and decision support be better integrated into systems for adaptive management and societal learning?

As scientific progress proceeds to build a greater capacity in sustainability science, the question of how better to integrate this progress with actual decision-making by practitioners remains paramount. Improve our understanding of the impediments to increased integration between science and assessment, on one hand, and policy and practice on the other, and available means to enhance their integration will surface. Case studies can examine successes and failures in past and ongoing efforts to guide more effective interaction between the worlds of science and practice in a bioregional context.

Case History of a Bioregion

It has always been more a state of mind than a tangible place on a map, yet the empire of Cascadia (Fig. 4.2), what some dreamers have long believed the westernmost states and provinces of North America might one day be called if they ever banded together, may not be quite the fantasy it once seemed. Cascadia will never involve the absurd idea of provinces or states splitting off from their countries, as some western separatists once hoped. There will not ever be a seat for Cascadians at the United Nations. Cascadia will not be on a map anytime soon.

Where you will find Cascadia, though, is in the mind-set of the millions of people who live on the North American continent's western edge. For them, it is a concept, an increasingly real regional abstraction—one backed by some rich and influential people, including Microsoft billionaire Bill Gates, who has supported a think tank that tries to breathe life into an idea that goes back from the time Europeans explored the continent's western wilderness.

Cascadia's guiding principle today is not nationhood but what might be best called region-hood—the sense that Alaska, the Yukon, British Columbia, Alberta, and the states of Washington, Oregon, Montana, Idaho, and even northern California—often share similar regional goals and ambitions. Cascadians may be in separate countries, states, and provinces. They often have different national agendas. But the thinking goes, in an age when centralized governments are often devolving their powers, that they often share similar agendas. In Cascadia, these range from environmental issues, a heightened sense that their collective futures are tied to the Asia-Pacific and a desire for more autonomy from federal governments that are thousands of miles (kilometers) to the east, in Ottawa and Washington, D.C., and often out of touch with the big questions to the west.

In fact, when taken as a whole, Cascadia has evolved into a powerful economic entity with clout its members alone can never hope to wield. If you add up the

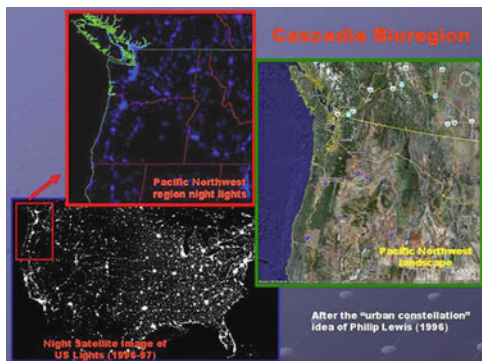


Fig. 4.2 Collage of images that demonstrate the regional geography of the bioregion referred to as Cascadia. Left two images illustrate satellite nighttime light patterns that suggest a clustering of people in the Pacific northwest region of north America from the Defense Meteorological Satellite Program (DMSP) Data Archive and Research Products (<http://www.ngdc.noaa.gov/dmsp/>). Right side picture shows a Google Maps illustration of the Cascadia bioregion

states' and provinces' individual GDPs and populations, Cascadia is a significant geographical area and market: It comprises a market of more than 20 million people and what would be the world's eighth richest nation, with a GDP of about US\$848 billion, according to the Pacific Northwest Economic Region in 2007, the entity that was formed in 1991 by the legislators of Cascadia's provinces and states.

For more detail on the idea of Cascadia as a bioregion in North America go to Miro Cernetig, April 14, 2007, in the *Vancouver Sun*, Page B1 (http://www.pinfomart.ca/news/ar_results.php?q=3254779&sort=pubd&spell=1).

Community Resiliency

Because this chapter emphasizes “system's thinking,” it might be helpful for the practitioner to review and be able to share with client communities, at appropriate times, the idea of community resiliency as a sustainability objective. Once communities begin on a path of designing and implementing SCD projects, they want to maintain a systemic capacity of those projects taken together to improve the overall resiliency of the community.

The imperative for communities to take action toward resiliency is also tied to uncertain conditions represented by global climate change, sea-level rise, the end of the era of cheap energy, natural disasters, and resource depletion. The need for adaptation, as well as prevention of further degradation, is clear and is moving many communities to begin looking at strategic planning activities in new ways,

offering opportunities for development that will promote resiliency. No one wants to have to start again from scratch after a setback.

Key to Resiliency

The goal of SCD is to create and maintain thriving social, economic, and ecological systems that are intimately linked: humanity depends on services of ecosystems for its wealth and security. Moreover, humans can transform ecosystems into more or less desirable conditions (Gibson et al. 2005). Humanity receives many ecosystem services (i.e., clean water and air, food production, fuel, and others). Yet human action can render ecosystems unable to provide these services, with consequences for human livelihoods, vulnerability, and security (Folke et al. 2002). Such declines in ecosystem services can thus negatively impact the resiliency of a community. While evidence suggests the essential role of resilience for prosperous development of communities (Kates and Clark 1996), studies have also revealed the tight connection between resilience, diversity, and sustainability of social–ecological systems.

The idea of resilience was introduced by Holling (1973) as “a measure of the ability of systems to absorb change. . . and still persist.” In an ecological context, resilience is generally described as the long-term capacity of an ecosystem to cope with and adapt to change and perturbation, such as storms, fire, and pollution. In the societal structure of communities, resilience is the capacity of a system to deal with change and continue to develop (Walker and Salt 2006); it is both about withstanding shocks or disturbances and about regaining functions afterward. In a human context, this is closely linked to the ability to adapt to changing conditions through learning and innovation or even transformation. Hence, it is both the capacity to withstand pressures and to rebuild and renew itself if degraded.

Few community development programs have addressed the various interlinked and interdependent components of community resilience. As suggested by Pearson (2008) and others, development of human management strategies to promote community sustainability requires direct consideration of both resilience and risk factors. And since these are indirectly related to the uncertainty of environment and natural resources, in order to operationalize sustainable, healthy ecosystems with multiple societal benefits, the SCD practitioner needs to recognize three major sets of community characteristics:

- Human communities are able to plan and act in concert with natural systems
- Ecosystems are used for multiple community benefits
- Those with ideas on differing uses of the ecosystems seek common ground

One necessity for successful sustainable community improvement is that communities should be seeking to develop methods of local resilience management. Methods for local resilience management emphasizing social–ecological resilience can increase the robustness of a town, city, or community to a range of

shocks, crises, and disasters (Walker and Salt 2006). For example, loss of ecological resilience tends to lead to more vulnerable systems, and possible system shifts to undesired states (Walker and Salt 2006) that provide fewer goods (e.g., fish and crops) and services (e.g., flood control and water purification). An erosion of resilience is often caused by gradual loss of diversity, making the system progressively more susceptible to disturbances like hurricanes or pollution.

Understanding the concepts of resiliency requires the combined consideration of the following (Pearson 2008):

1. *Persistence*: the capacity of a natural or human system to maintain structure and function when faced with shocks and change (e.g., for a forest to withstand a storm);
2. *Adaptability*: the collective capacity of people to learn and adapt to changing conditions in order to stay within a desired state (e.g., ability to safeguard water supplies under climate change); and
3. *Transformability*: the capacity of people to innovate and transform in periods of crisis in order to create a new system when ecological, social, or economic conditions make the existing system untenable (e.g., turning the current global financial crisis into an opportunity to transform the local economy).

Management can destroy or build resilience, depending on how the social–ecological system organizes itself according to the above principles (Folke et al. 2002). As noted above, resilience is often associated with diversity—of species, of human opportunity, and of economic options—that maintains and encourages both adaptation and learning. For example, Walker and Salt (2006) note that resilience derives from slowly restored controlling variables, such as reservoirs of soil nutrients, heterogeneity of ecosystems on a landscape, multiplicity of businesses types, or variety of genotypes and species.

Social–ecological systems are constantly changing and difficult to control or channel. Additionally, one often assumes that ecosystems respond to gradual change in a smooth way, but sometimes there are drastic shifts, such as weather-related disasters (Folke et al. 2002). Paradoxically, management that uses rigid control mechanisms to harden the condition of social–ecological systems can only erode resilience and promote collapse. In contrast, management that builds resilience can sustain social–ecological systems in the face of surprise, unpredictability, and complexity. It conserves and nurtures the diverse elements that are necessary to reorganize and adapt to novel, unexpected, and transformative circumstances (Pearson 2008). Thus, it increases the range of shocks with which a socioeconomic system can cope.

The outdated perception of humanity as decoupled from, and in control of, nature is an underlying cause of society's vulnerability. Technological developments and economic activities based on this perception further contribute to the erosion of resilience. These vulnerabilities can be counteracted by communities understanding the complex connections between people and nature, which create opportunity for technological innovations and economic policies aimed at building resilience. Two useful tools for resilience building in

social–ecological systems are structured scenarios and active adaptive management (Folke et al. 2002). Stakeholders can engage in scenarios to envision alternative futures and the pathways by which they might be reached. By envisioning multiple alternative futures and actions that might attain or avoid particular outcomes, they can identify and choose resilience-building policy alternatives.

Producing Resiliency in Community Capital

Application of the community capitals framework first described in Chap. 3 is an excellent tool to evaluate the role of resiliency in developing more sustainable communities. Genuinely involving the public, a community can employ the community capitals framework of Flora and Flora (2008a) to their strategic planning process in order to develop a path of action that can prove resilient and sustainable. Determination to employ the community capitals framework in promoting community resiliency requires the practitioner to encourage exploration of areas the community could feel dedicated to for its future development. These might include the following:

1. Stakeholders should be committed to partnering for the community’s success, creating a shared vision, strategizing to achieve that vision, and assuming full community responsibility.
2. They must firmly believe in protecting their future through community-based conservation development and environmentally sound infrastructure expansion.
3. They should believe that in order to build a vibrant community, they would have to develop a “sense of community,” preserve their cultural integrity, and consider how best to meet the needs of a local workforce with strategies for affordability and adequate access to health care and education.
4. The public should identify means they could pursue to enrich the community experience through conservation-based economic systems, sound land-use and urban design, and appropriate access to extensive transportation mobility that would be sensitive to their natural environment.

The community capitals framework is important to community development resiliency because it demonstrates how to place many different kinds of community concerns on par with each other and therefore avoid weak links in the network of community resources while strengthening the buffer against “black swan” events. With this understanding, an SCD practitioner can find it much easier to encourage discussions among stakeholders about issues that cross boundaries of politics, culture, environment, and economy. And eventually, community stakeholders, often with very different ideas and views, can begin to acknowledge that resiliency depends on improvements in all forms of capital, which are truly interconnected and require both internal investment as well as strategic investment in built capital and human capital from the outside.



Fig. 4.3 Illustration of Dauphin Island community decline over time using the Asset Spiraling Down Model of Flora and Flora (2008b)

Community Resiliency Assessment Example: Dauphin Island (AL)

To demonstrate how the evaluation of efforts at achieving community resiliency can be carried out in SCD work, I present results of the work I did with the Dauphin Island (AL) community in 2007 (Flint 2010). The public consultation process included stakeholders engaging in the community capitals framework (Flora and Thiboumerly 2006) and its “spiraling capital assets” model (Flora and Flora 2008b) to guide how the community could trace its points of decline and plot its strategic improvement milestones to reach a more sustainable and resilient future. The community capitals framework directed deliberations by stakeholders on how they could best work with the different kinds of assets the community possessed. Pattern mapping (described in Chap. 6) facilitated discussion and brainstorming by stakeholders on what caused community decline over time (spiraling down—see Fig. 4.3) and then what needed to be considered in the use of available assets to lead the community toward improvement (spiraling up) that was resilient and sustainable.

Shoreline Changes to Dauphin Island—As Fig. 4.3 suggests, earliest perceived long-standing cause of potential decline of Dauphin Island was believed to be related to dredging of the Mobile Bay Channel that connected Mobile Bay to the Gulf of Mexico (Flint 2010). Over time, longshore sand movement was disrupted because of the deep Mobile Channel. This has been pointed to as a factor in the change and erosion of the Dauphin Island shoreline because the channel interrupted

the continuous sand supply to the Island beaches that would be normal in unrestricted, typical beach dynamics along marine coastlines (Kelley et al. 2004). The beach depth/reach pattern of the island appeared to be a response to changes in the position of the Mobile Channel and related ephemeral islands immediately offshore (Work et al. 2004) as well as modification of the natural coastal processes of the littoral system that include coastal structures at the east end of the island and the removal of sand from the littoral system by dredging (Houston 1995).

The Dauphin Island public consultation process in 2007 indicated that many participants believed that the channel dredging of Mobile Bay had a significant impact on the changing island shoreline and the continual decline in both beach area and dune development. Sand dunes are an important obstacle to continued beach erosion. The Federal Emergency Management Agency built an engineered sand berm on the Dauphin Island beaches in 2007 in an effort to lessen risks to beach structures. This was completely destroyed by the fall of 2008, after two more hurricanes in the Gulf of Mexico (personal communication, Katherine Sayre, Staff Reporter, Mobile Press-Register, December 4, 2008). The combination of lack of sand supply and storm events has left the island at risk to further development or improvements to existing infrastructure because of erosion and sea-level rise.

Hurricane Fredric and the New Bridge—In 1979, Hurricane Frederic destroyed the only bridge from Dauphin Island to the mainland of Alabama (Fig. 4.3). A new much improved bridge was rebuilt from the mainland and opened in 1982. With this new state–federal-funded bridge, recreational opportunities and natural amenities of the island attracted many new visitors and residents wanting to take advantage of their tax dollars spent on building the bridge. Dauphin Island was then much more accessible to the City of Mobile as its backyard playground. The result, as suggested in Fig. 4.3, was that many new expensive homes were built on the west-end beaches, owned by wealthy, mostly part-time residents. The building of these expensive homes and, for many, their part-time use as rental property significantly increased the town’s annual revenue through the collection of ad valorem property taxes and a lodging tax. Over time, this income became a sizeable financial base, reducing revenue diversity that can offer long-term stability to small towns.

The new base of residents in the 1980s and 1990s, attracted by the more expensive real estate, caused a decline in local businesses because of the transient nature of these part-time residents. They chose to shop on the mainland rather than to support local island businesses. In addition, the increased wealth of the part-time residents was affecting issues of diversity and equity in the local population. In particular, people were concerned about retaining the cultural heritage of a small fishing village with an active waterfront, which is what Dauphin Island had historically been. With the closing of local businesses and concern over loss of the island culture, economic benefits from tourism also became a major concern. Business decline and increased cost of living forced many long-time residents of the island to leave, causing a decrease in population even with the increases in wealthier transient residents.

These fluctuations in population and significantly enhanced lifestyles also placed additional pressure on the island's natural resources. For example, Dauphin Island is served for its only source of freshwater by a "sole source aquifer" (SSA), which limits the water supply to the community. An SSA is an underground water supply designated by the Environmental Protection Agency (EPA) as the "sole or principal" source of drinking water for an area (U.S. EPA 2008). New population growth with very different lifestyles was believed by long-standing residents to put this supply of freshwater at risk without sufficient consideration for conservation-based development strategies.

Hurricanes Ivan and Katrina—The impact of Hurricane Ivan in the summer of 2004 and Hurricane Katrina in the summer of 2005 caused significant infrastructural damage (built capital) to Dauphin Island, whose economy was already at risk due to its lack of diversity from some of the social, political, human, and financial capital impacts discussed above. For example, there was major decline in town revenue from the destruction of many expensive rental properties, closure of some of the remaining businesses in the community, damage to island services infrastructure, and an overall decline in the economy of the town (Fig. 4.3). Diminished community hope and pride was also suggested as a major issue in the spiraling down of the community's assets. The destruction of resources, including a break in the west-end of the island that created a channel between the Gulf and inside bay, represented the prime stimulus for the community to decide that it needed to reinvent itself in order to survive.

Plotting strategic improvement milestones—Through the clearly articulated points of decline in the Dauphin Island community revealed by the capital's framework process, it was then possible for stakeholders to begin to plot benchmarks for improving the island and the town. The community capitals framework then was used to illustrate through the spiraling capital assets model (Fig. 4.4) how stakeholders could target those community assets they would include in the design of strategies that would prove to be sustainable.

Networking Internal and External Social Capacities—Stakeholders concluded that there needed to be a connection to outside expertise on strategic sustainable development for small communities that could be integrated with the internal wisdom of the community in order to build upon successes of the past and maintain the town's cultural integrity. As Flora et al. (2007) articulated in their analysis of the effects of internal and external capital investments on community development outcomes, when there is a balance of investments from the inside and the outside, community actors engage in progressive participation, allowing different points of view to be heard and enhancing the chances of success. Proper balance is necessary to mobilizing internal and external investments in support of multiple community capital improvements. The decision to invite external expertise by the Dauphin Island community proved effective in contrast to other potential strategies that Flora had predicted including individualism, the development of strong boundaries among town sectors, or clientelism where decisions and actions are made based upon what outsiders promote.



Fig. 4.4 Prediction of potential role for Dauphin Island community improvement using the Asset Spiraling Up Model of Flora and Flora (2008b)

Identifying Community Core Values—The consultation process proceeded to identify the core values the community deemed nonnegotiable (Fig. 4.4). They then came to agreement on what issues were most important from a cultural perspective for moving forward with their process of reinvention. The delineation by rank of these values and issues provided the opportunity for stakeholders to agree upon a shared community vision for their future, what goals they wanted to achieve as part of this vision (Flint 2010), and led to a deeper understanding of the problems that stood in as the gap between what is and what should be.

Recognizing Need for Environmental Responsibility—Dauphin Island stakeholders acknowledged that many of their goals for improvement were dependent upon protecting their environment and natural resources in order to sustain their eventual revitalized, transformed economy. The community explored ways in which it could capitalize on the region’s ecological infrastructure, complementing conventional approaches to such issues as flood control, stormwater management, drinking water supply, wastewater treatment, residential development, public parks, and other recreational activities, protecting the services provided by a healthy natural ecosystem. They identified areas for further consideration that through forms of low-impact development (LID) would sustain their natural environment and protect their future.

Promoting New Forms of Sustainable Development—After discussions and assessment of alternatives to previous development strategies, stakeholders began to seriously evaluate the local assets they possessed in terms of environmental sensitivity (detail around some of these assets can be found in the Dauphin

Island Strategic Planning Final Report http://www.eeeee.net/dauphin_island/di_final_report10-07.pdf).

For example, stakeholders

- Investigated opportunities for fishery harvest businesses that could be used as an anchor and magnet for rebuilding their local waterfront
- Researched many different transportation systems in order to identify alternatives to automobile access to the entire island that would offer added protection to their pristine environments
- Studied different examples from other places that provided means of establishing living family wage strategies for the advantages of residents and the local economy (e.g., <http://www.smartcommunities.ncat.org/greendev/codes.shtml>)
- Leaned about case histories from other places regarding efforts to leverage local assets and value-added options for decreasing economic leakage from the community
- Evaluated alternative development options for the island's west-end area, targeting the recreational, beach-going attractiveness, which had historically been a place of high-valued private residential real estate at high risk to storms and sea-level rise
- Assessed a number of different LID strategies such as increased green space, recycling wastewaters, and less impervious surfaces to hold freshwater on the island (e.g., <http://www.smartcommunities.ncat.org/greendev/codes.shtml>)
- Examined status of environmental protection and land-use risk for existing bird habitats on the island in order to maintain and enhance the value of these places to support ecotourism business activities

The 2007 public consultation processes resulted in stakeholder appreciation for the need to attract new developers and investors to the community. The major economic problem facing Dauphin Island was the typical rural economic leakage that occurs in small towns across America (Flint 2010). To reverse this potential for continued economic decline, it was believed that opportunities should be discovered to add value to assets Dauphin Island possesses, to keep more money in the local economy and less flowing out to the larger regional economy. Stakeholders suggested that economic activity be diversified, that the degree of local ownership balances outside interests, and that the town has the capacity to change with a changing marketplace by expanding to new markets and/or adding value to existing assets in order to achieve more economic security. Likewise, they stated that policies be developed to promote fair and affordable access to housing and cooperatively (internal and external) developed programs put in place to promote the affordability of goods and services to residents and employees (even in contrast to tourists) in order to keep money circulating in the community as a further guard against economic leakage, as well as to enhance social equity.

Action on this diverse array of objectives for multiple capital improvements could be significantly enhanced by recognizing and exploring the implementation of new ideas in systemic community development. These ideas include the copying

of nature in socioeconomic system development through biomimicry and the advantages that ecological economics can provide, along with a focus upon the whole concept of industrial symbiosis.

Industrial Ecology

Having reached the limits of nature's tolerance, we are finally shopping for answers to the question: "How can we live on this home planet without destroying it?" Just as we are beginning to recognize all there is to learn from the natural world, our models are starting to blink out—not just a few scattered organisms, but entire ecosystems. A new survey by the National Biological Service found that one-half of all native ecosystems in the United States is degraded to the point of endangerment. That makes biomimicry more than just a new way of viewing and valuing nature. It is also a race to the rescue.

What Is Biomimicry?

Biomimicry (from bios, meaning life, and mimesis, meaning to imitate) is an evolving discipline that studies nature's "best ideas" and then imitates these designs and processes to solve human problems. Studying a leaf to invent a better solar cell is an example. The author thinks of it as "innovation inspired by nature." The goal is to create products, processes, and policies—new ways of living—that are well adapted to life on earth over the long haul.

The core idea is that nature, "imaginative" by necessity, has already solved many of the problems we are grappling with. Animals, plants, and microbes are the consummate engineers. By natural selection, they have found what works, what is appropriate, and most important, what lasts here on the earth. Like the viceroy butterfly imitating the monarch, we humans are imitating the best adapted organisms in our habitat. We are learning, for instance, how to harness energy like a leaf, grow food like a prairie, build ceramics like an abalone, self-medicate like a chimp, create color like a peacock, compute like a cell, and run a business like a hickory forest. The conscious emulation of life's genius is a survival strategy for the human race, a path to a sustainable future. The more our world functions like the natural world, the more likely we are to endure on this home that is ours, but not ours alone. This approach introduces an entirely new realm for entrepreneurship that can not only contribute innovative designs and solutions to our problems but also awaken people to the importance of conserving the biodiversity on the earth that has so much yet to teach us.

If we want to consciously emulate nature's genius, we need to look at the natural world differently. In biomimicry, we look at nature as model, measure, and mentor.

1. *Nature as model*: Biomimicry is a new science that studies nature's models and then emulates these forms, process, systems, and strategies to solve human problems—such as achieving sustainability. The Biomimicry Guild and its collaborators have developed a practical design tool, called the Biomimicry Design Spiral (<http://www.biomimicryinstitute.org/about-us/biomimicry-a-tool-for-innovation.html>), for using nature as model.
2. *Nature as measure*: Biomimicry uses an ecological standard to judge the sustainability of our innovations. After 3.8 billion years of evolution, nature has learned what works and what lasts. Nature as measure is captured in Life's Principles and is embedded in the evaluate step of the Biomimicry Design Spiral.
3. *Nature as mentor*: Biomimicry is a new way of viewing and valuing nature. It introduces an era based not on what we can extract from the natural world, but what we can learn from it.

Businesses, communities, and organizations that are at the cutting edge of the new economy are finding new ways to make old products more efficiently, with less energy and fewer nonrenewable resource inputs. They are also using lessons from nature to develop new products that are more resilient and successful than those that corrupt and exploit the natural world. These new products and services are more competitive because they are using increasingly costly resources more efficiently. That saves money, which can in turn go to higher salaries, enhanced community services, better working conditions, and all the things that make companies and organizations places where people like to work (Benyus 1997).

An intriguing thought involves trying to learn a new economics from the way nature functions. Instead of our traditional approaches to advancing technologies, we could consider the idea of biomimicry, imitating the chemistry and biology dynamics of nature to produce materials and products by methods that are non-harmful and produce wastes at the end of their lives that can be benignly returned to nature for degrading/decomposing.

In this sense, biomimicry is a form of economic development. Nature affords the foundations for economies and sets their possibilities and limits. All kinds of people are now coming to understand that their success depends on working knowledgeably with natural processes and principles. According to the Biomimicry Guild (http://www.biomimicryguild.com/guild_about_us.html), biomimicry innovations can help businesses in communities to create products and processes that:

- *Are sustainable*: biomimicry follows Life's Principles, which instruct us to build from the bottom up, self-assemble, optimize rather than maximize, use free energy, cross-pollinate, embrace diversity, adapt and evolve, use life-friendly materials and processes, engage in symbiotic relationships, and enhance the biosphere.
- *Perform well*: In nature, if a design strategy is not effective, its carrier dies. Nature has been vetting strategies for 3.8 billion years. Biomimicry helps you study the successful strategies of the survivors, so you can thrive in your marketplace, just as these strategies have thrived in their habitat.

- *Save energy*: Energy in the natural world is even more “expensive” than in the human world. Plants have to trap and convert it from sunlight, and predators have to hunt and catch it. As a result of the scarcity of energy, life tends to organize extremely energy-efficient designs and systems, optimizing energy use at every turn. Emulating these efficiency strategies can dramatically reduce energy use.
- *Cut material costs*: Nature builds to shape, because shape is cheap and material is expensive. By studying the shapes of nature’s strategies and how they are built, biomimicry can help you minimize the amount spent on materials while maximizing the effectiveness of products, patterns, and forms to achieve their desired functions.
- *Redefine and eliminate “waste”*: By mimicking how nature transitions materials and nutrients within a habitat, a business or community can set up its various units and systems to optimally use resources and eliminate unnecessary redundancies. Organizing habitat flows more similarly to nature’s will drive profitability through cost savings and/or the creation of new profit centers focused on selling waste to companies who desire waste as a feedstock (“waste to food”).
- *Drive revenue*: Biomimicry can help create whole new growth areas, reignite stale product categories, and attract customers who care about both innovation and sustainability.
- *Build your brand*: Creating biomimetic products and processes will help your community or business become known as both innovative and proactive about the environment.

Ecological Economics

Resources are considered a free gift of nature, but some free gifts are easier to unwrap than others and earn a rent determined by their relative ease of unwrapping (extraction), as measured by labor and capital costs saved. But labor and capital remain the source of all value, nothing is attributed to nature. Supplies of natural resources are our ultimate means without which we cannot satisfy any of our ends, including that of staying alive. We cannot produce natural resources in net terms, but only use them up as they are supplied by nature. They are scarce and becoming more so. To omit this necessary contribution of nature (its tangible value or costs), both from our theory of production and from our accounting of value, is a monumental error.

“Economic growth” is simply the expansion of what we call “the economy,” i.e., production and consumption of goods and services. The economy is basically the human niche within the ecosystem, what we have called its scale. It is measured either by the stock of people and their artifacts, or by the flow of resources necessary to maintain and add to this stock. That, in physical terms, is the economy.

When it gets bigger in scale, we have growth of the economy and refer to it in quite normal English usage as “economic growth.”

“Economic development” is any change in the economy for which extra benefits are greater than extra costs. Benefits and costs are not physical concepts, but refer to psychic experiences of increased or decreased welfare or enjoyment of life. The changes in the economy that cause changes in costs and benefits may themselves be either physical or nonphysical. Whatever profits us, whatever yields net benefits, is “economic growth.”

In public discourse, we shift easily from one meaning of “economic growth” to the other and thereby introduce a lot of confusion. Quantitative increase in size (growth) and qualitative improvement in well-being (development) are very different things and should not be lumped together, as done in calculating GNP.

There are *three* economic problems (allocation, distribution, and scale) associated with the flow of materials and energy in the economy. Economic growth as physical expansion of the economy clearly refers to the third problem of scale. Economic growth occurs when the economy gets physically larger, as measured in either its stock or its flow dimensions. For example, we must grow the economy (more businesses and products) so that there will be more jobs available to provide more income so that people will spend more money. To keep this cycle going, we need to continually grow more businesses and products because more than 70 % of the U.S. economy is based upon consumerism. Since the economy grows into the rest of the finite ecosystem, not into an infinite void, the economy becomes larger not only absolutely but also relative to its enveloping ecosystem. That is what is meant by scale increase, the first of the two common senses of “economic growth.” The second sense of “economic growth”—an increase in net benefit—may or may not result from growth in the first sense.

Net benefit can result from an improvement in allocation efficiency—redirecting the same scale of resource use from low-value uses to high-value uses—this is economic development. Ecological economists have no problem with this kind of growth. But GNP does *not* distinguish growth based on greater allocation efficiency from growth based on larger scale.

Produce more with less, minimize waste, reduce, and similar dictates advance the notion of a world of limits—one whose carrying capacity is strained by burgeoning populations and exploding production and consumption. Eco-efficiency tells us to restrict industry and curtail growth—to try to limit the creativity and productiveness of humankind. But the idea that the natural world is inevitably destroyed by human industry, or that excessive demand for goods and services causes environmental ills, is a simplification. Nature—highly industrious, astonishingly productive and creative, even wasteful—is not efficient but *effective*.

Consider the cherry tree. It makes thousands of blossoms just so that another tree might germinate, take root, and grow. Who would notice piles of cherry blossoms littering the ground in the spring and think how inefficient and wasteful? But in reality, the tree's abundance is useful and safe. After falling to the ground, the blossoms return to the soil and become nutrients for the surrounding environment. Every last particle contributes in some way to the health of a thriving ecosystem.

“Waste equals food”—the first principle of the Next Industrial Revolution (McDonough and Braungart 1998).

The cherry tree is just one example of nature’s industry, which operates according to cycles of nutrients and metabolisms. This cyclical system is powered by the sun and constantly adapts to local circumstances. Waste that stays waste does not exist. Human industry, on the other hand, is severely limited. It follows a one-way, linear, cradle-to-grave manufacturing line in which things are created and eventually discarded, usually in an incinerator or a landfill. Unlike the waste from nature’s work, the waste from human industry is not food at all—in fact, it is often poison. Thus the two conflicting systems: a pile of cherry blossoms and a heap of toxic junk in a landfill.

But there is an alternative—one that will allow both business and nature to be fecund and productive. This alternative is what McDonough and Braungart (1998) call “eco-effectiveness.” The concept of eco-effectiveness leads to human industry that is regenerative rather than depletive. It involves the design of things that celebrate interdependence with other living systems. From an industrial-design perspective, it means products that work within cradle-to-cradle life cycles rather than cradle-to-grave phases.

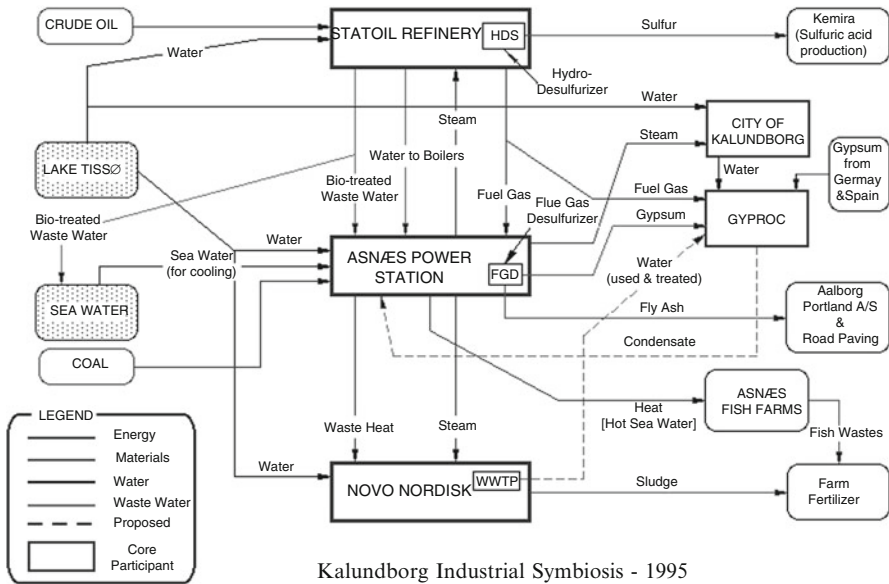
In recognition of the idea of eco-effectiveness, McDonough and colleagues developed what they call the “Hanover Principles,” which state the following:

- Insist on health and equal rights for all
- Recognize interdependence
- Respect relationships between spirit and matter
- Accept responsibility for the consequences of design
- Create safe objects of long-term value
- Eliminate the concept of waste
- Rely on natural energy flows
- Understand the limitations of design (nature as a mentor and model... biomimicry)
- Seek constant improvements by the sharing of knowledge

Industrial Symbiosis

The term “symbiosis” builds on the notion of mutualism in biological communities where at least two otherwise unrelated species exchange materials or energy in a mutually beneficial manner. So, too, industrial symbiosis consists of place-based exchanges among different entities that yield a collective benefit greater than the sum of individual benefits that could be achieved by acting alone. Such collaboration can also increase social capital among the participants.

Industrial symbiosis focuses on flows of materials, energy, and information through networks of businesses and community organizations in local and regional economies as a means of approaching ecologically responsible industrial



Kalundborg Industrial Symbiosis - 1995

Fig. 4.5 Sketch of the layout of industries and their connections, comprising the “industrial symbiosis” complex in Kalundborg, Denmark

development. Industrial symbiosis engages traditionally separate industries in a collective approach to competitive advantage involving physical exchange of materials, energy, water, and/or by-products. The keys to industrial symbiosis are collaboration and the synergistic possibilities offered by geographical proximity.

At the same time that interest began to develop in industrial symbiosis programs, a number of other parallel tracks advanced that might be construed, broadly, as sustainable development. These included residential, commercial, and industrial concepts as captured in terms such as sustainable architecture, green buildings, sustainable communities, and smart growth. Industrial ecology or sustainable industrial development narrows down the possibilities to refer predominantly to industrial and commercial activities and, increasingly, agriculture. Cooperating businesses that include a materials/water/energy exchange or sharing component qualify the activities as industrial symbiosis, falling under the larger community development umbrella of industrial ecology.

The model of most influence for industrial symbiosis was first fully realized in the industrial district in Kalundborg, Denmark, a small harbor town dating back to the twelfth century. Kalundborg is located off the west coast of the Zealand Island in Denmark about 75 miles west of Copenhagen, and as of 2005, it had a population of approximately 20,000. Although it is continually evolving, there are currently some 20 exchanges occurring among the symbiosis participants in Kalundborg involving water, energy, and a wide variety of residue materials that become feedstocks in other processes (Fig. 4.5).

Figure 4.5 demonstrates the industrial symbiosis scheme at Kalundborg. It shows the interrelationships of the symbiosis participants. Each exchange was developed as an economically attractive business arrangement between participating firms through bilateral contracts. It is significant to mention that this symbiosis was not based on a planning process and that it continually evolves. Regulation has played an indirect role over the years; for example, the national ban in Denmark on placing organic waste streams into landfills caused the pharmaceutical company to seek arrangements to apply its sludges on agricultural lands. Social cohesion is regularly cited as a key element of success in the Kalundborg symbiosis.

Rather than a static system of locked-in firms and technologies as was feared by some skeptics of industrial symbiosis, individual participants in the symbiosis have changed significantly over time, and the ecosystem as a whole has adapted. Over the past several years, Kalundborg's Statoil Refinery doubled its capacity based on North Sea claims, the Asnæs Power Station switched from coal to orimulsion to comply with mandated carbon dioxide (CO₂) reduction and later switched back to coal. The pharmaceutical plant split into two ventures, eliminated some product lines (including penicillin), and increased others. Rather than tie themselves to a single supplier, the symbiosis participants try to insulate themselves from supplier interruptions by diversifying sources to reduce business risk, just as in traditional supplier–customer relationships. Although each individual business change alters the makeup of the industrial ecosystem, the changes collectively have not diminished the overall nature of the symbiosis. For the complete story of the Kalundborg case history, go to <http://www.indigodev.com/Kal.html>.

Analysis of Kalundborg as a self-organizing spontaneous system contrasts with the attempt to build new eco-industrial parks from scratch. Recent research highlights the desirability of working from an established past, particularly where private companies began exchanges on their own for business reasons; these “kernels” of symbiosis coordination can lead to gradual growth interactions. In contrast with planned eco-industrial parks, the spontaneous ones are proving to be more robust and resilient to market dynamics (Chertow and Lifset 2008).

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Chapter 5

Evaluating Community Knowledge Assets and Resources

To help everyone in “getting on the same page” the first four chapters of this book provided a broad, all-inclusive, and integrated primer of the process of sustainable development. I hoped to equip the student, the practitioner, and anyone from a community with the understanding and the tools they will need in developing a second nature in the practice of sustainable development. A significant change in mindset is necessary so that the actual operation and practice of sustainable development will become part of the subconscious, always present when thinking and acting in the context of community development. The concepts, theories, and practices presented in preceding chapters provide the foundation upon which everything else in this book is talked about—the pedestal upon which community development is supported and the glue which cements the different pieces communities need in order to provide solid, long-lasting solutions to problems they want to eliminate in their improvement efforts.

Assets Improve Community Life

Resources, or assets, are those things that can be used to improve the quality of life in a community setting. They can be anything from people to places to organizations to material goods (e.g., librarian, the Nature Conservancy, wildlife, forests, rivers, etc.) and services (e.g., auto repair, ecosystem services). These resources and assets can be “captured” by individuals and organizations in order to improve the community. In applying asset and resource assessment tools, the sustainable community development (SCD) practitioner will be able to assist the community stakeholders in matching up needs and problems with locally available assets and resources that will further inform the planning and design process as the community development project unfolds. Ultimately these assets and resources may play a significant role in the implementation of the strategic sustainability plan developed by the community.

Examining a community's resources and assets says another important thing about your approach to community development. Not everyone has the same view of what community development means. Some believe it refers to "development **IN** the community," while others view it as "development **OF** the community." Believe it or not, there is a big difference between the words "IN" and "OF" when speaking of community development.

Development "IN" the community suggests the major interest is on attracting new businesses, new facilities, or new services to the community. It represents efforts to do all that can be done to add to the physical, service and economic infrastructure of a community. This is sometimes referred to as the "bricks and mortar" approach to community development.

Development "OF" the community, however, does not have the physical, service, and economic infrastructure as its major focus, at least not at first. Rather, it seeks to uncover and expand the knowledge and skills of people in the community. The belief is that community-wide improvements (be they physical, service, or economic infrastructure) cannot be fully realized unless people representing all parts of the community are involved in deciding their own future. So, the emphasis is on finding the talents that exist in the community and locating people with the potential for leadership (Summers 1986). Building on the skills that people already have has proven the best foundation for dealing with the variety of community concerns. As such, asset mapping is an essential step in the development "OF" the community.

Community Self-Sufficiency

Society faces some difficult challenges from resource consumption patterns. Large gaps are evident between those who are wealthy and the 1 in 6 people globally that live in poverty today. And the poverty is worsened by the fact that every day 24,000 people die of malnutrition—half of them children (Flint and Houser 2001). Communities whether they are far away from where we live or right next door are disproportionately using up resources faster than they can be replaced. Simultaneously, other large population sections of the globe (e.g., Somalia) do not have enough resources available even to meet people's basic needs of food and shelter. As long as more prosperous communities continue to live beyond their local availability of sustainable resources, the situation of widening gaps between the rich and poor will continue to grow.

The response from many international development entities to the developing world is to offer short-term economic programs that might alleviate some of the poverty. But at what cost environmentally? Too often human improvement is encouraged that correspondingly degrades the ecological integrity of those locales where improvement is being sought. This "leaves the community insecure over the long-term and concurrently has impacts well-beyond the boundaries of targeted improvement" (Gibson 2002). For example, consider rainforest regions around the

world at risk due to short-term development programs in farming and ranching. These encourage economic improvement that over time not only destroy the forest ecosystems but also impact global conditions from loss of biodiversity and large-scale effects on global climate change.

Communities must place their core values first (Norton, 2005). In many instances it comes down to differentiating “needs” from “wants.” Biophysical research and ecosystem science have contributed immensely to our understanding of the interdependent functions of nature and how recognition of interconnections is important to preventing unintended consequences from our actions (Jacobs 2000; Norton 2005). These efforts have led to the idea of conservation-based development. Similarly notable programs have focused upon helping communities examine their own assets as a means of achieving self-sufficient and sustainable livelihoods through such economic activities as “adding value.” And the principle of identifying criteria and indicators of human and ecological well-being that will usually include valuable assets and resources possessed by the community has gained wide attention around the world as a way of designing for and adapting to continuing uncertainties toward improving situations of resiliency (Flint 2004).

SCD can succeed in the mainstream of community improvement provided that stakeholders encourage equitable distribution of resources. All peoples today should have access to sufficient resources (human, financial, environmental) to meet their needs, provided in a way that does not interfere with the ecological integrity of natural systems, so that similar options will be open to future generations. And these options will always depend upon having locally healthy environments and productive natural resources if community self-sufficiency (an element of sustainability) is a goal.

The Ecological Footprint

The Ecological Footprint depicts a community’s situation of consumerism, resource use, and reliance upon outside assets to support their standard of living (Rees and Wackernagel 1994). As an analytical tool the Ecological Footprint compares the environmental impact of specific actions to the limitations of the Earth’s natural resources and ecosystem functionality (Wackernagel and Rees 1996). The tool looks at what people consume and calculates how many resources and how far a reach (footprint) the consumption requires to gain those resources beyond the local community or region. It can calculate a ratio of “how many Earths” would be required to provide enough biologically productive land area to maintain the flows of resources and wastes, if everyone lived like a specific person or group of people.

The Ecological Footprint has been implemented across a wide range of units of analysis, including a consumer product (e.g., a personal computer, washing detergent); an individual company; an economic sector; specific regions and nations; and the whole Earth. For example, urban economists have used the Ecological Footprint

to evaluate the environmental impacts of commuting in Barcelona, Spain, as a function of transportation technology and residents' locations. Output serves well to highlight global inequity in resource consumption as well as the areas that will require major changes in consumption to enable the community to become more self-sufficient. If you consider for example water, the lower the footprint of a community can be measured, the more self-sufficient that community would be considered for its use of water resources, obtaining less water from other places outside its own watershed. There are numerous Web-based tools available for a community or individual to calculate its footprint on a variety of different items. These links include: <http://www.footprintnetwork.org/en/index.php/GFN/page/calculators>; <http://www.myfootprint.org/>; or http://www.ecologyfund.com/ecology/res_bestfoot.html.

Sufficiency of anything serves as a standard of organized sharing, requiring basic floors and definite ceilings for judging equitable or "fair" consumption. Sufficiency assures a resource will not fall below a threshold required to perpetuate it through time ensuring that people have sufficient resources to achieve a decent life and that everyone has opportunities to seek improvements in ways that do not compromise future generations (Gibson 2002). True self-sufficiency refers to the state of not requiring any outside aid, support, or interaction, for survival; it is therefore a type of personal or collective autonomy. On a large scale, a totally self-sufficient economy that does not trade with the outside world is called an autarky, which characterizes an entity like a community or region that can survive or continue its activities without external assistance. Autarky is not necessarily only economic. For example, a military autarky would be a state that could defend itself without help from another country. Autarky can be said to be the policy of a state or community when it seeks to be self-sufficient as a whole, but also can be limited to a narrow field such as possession of a key raw material.

There is nothing really new in the search for self-sufficiency. The pioneers who first colonized the New World, Australia, and parts of Africa were self-sufficient because they had to be. Total self-sufficiency means nothing is consumed outside of what is produced by the self-sufficient entity. In evaluating community desires to become more self-sufficient, consideration needs to be given to the emphasis that occurs on local production systems (e.g., foods, service industry, energy providers, etc.), the plugging of economic leaks from the community, and its overall security. Living as sustainably and self-sufficiently as possible suggests for example that the individual explores options for reducing food dependency on distant corporations. It also examines methods by which the locale can take its household's electrical supplies "off the grid" as much as possible—if not entirely. Practices that enable or aid self-sufficiency include autonomous building, permaculture, sustainable agriculture, renewable energy, growing one's own food, or becoming economically independent of state subsidies

At the community level, becoming self-sufficient entails reverting back to a more traditional way of life which includes weaning ourselves from our complete dependence on resources far removed from the places we call home for what we need for survival and economic activity. For almost all of history—with the

anomalous exception of the last 100 years or so—smaller communities were capable of producing the basic necessities of survival, especially if called upon to do so by external events. In most cases, they could grow their own food and maintain a certain level of economic activity to ensure their member’s survival. Over the last century we have lost this ability. The reinvention of efforts toward becoming more self-sufficient in most communities starts with an assessment and better understanding of the assets and resources the community possesses to support self-sufficient activities over the long term.

With the preceding four chapters of background on the principles and thinking that support the idea of sustainable development we are now ready to enter the real world of the SCD practitioner. The practitioner and student, soon to be practitioner, will find that the majority of their work in SCD will be through their solicitation of projects under the competitive bidding rules of most jurisdictions. The following gives you a taste of that world.

First Community Contact: The Consultant Solicitation

Imagine that you have just received a notice from a particular community or organization about their Request for Proposals (RFP) or Request for Qualifications (RFQ). This Request is for an expert or team of experts to assist the community in developing action strategies requiring improvement and in generally solving problems leaders have identified as barriers to becoming a more “functional” community.

Proposal Preparation

One of the first issues consultants must consider in choosing to apply for an SCD project is whether the scope of work is something interesting and challenging and that their experience meets the level of expertise suggested by the scope of work as well as those areas of expertise listed by the community’s request. You decide that you may want to bid for a contract to assist this community and therefore begin to gather more information about the community involved as well as match your skills and experience in sustainable community development (SCD) against what is required by the RFP and/or RFQ.

In evaluating the scope of an RFP it is important to assess the many different kinds of consultant background and experiences a community might be looking for because often what the community identifies as consultant qualifications often cannot be met totally by one person. If the RFP allows more than one consultant evaluating the practitioner experience listed in the solicitation will help you determine what kind of team you might need to assemble in order to respond.

Some examples of experience base often listed in an RFP and RFQ can include the following:

- Experience in collaborative processes and meeting management.
- Demonstrate excellent organizational abilities.
- Excellent written and verbal communication skills; effective at public outreach; ability to communicate and interact positively.
- Knowledge of the principles, practices, and techniques in conflict resolution and management.
- Demonstrate experience and expertise in designing, conducting, and communicating neutral assessments, process design, and facilitated working sessions that foster dialogue and conversation regarding highly controversial and technically complex issues.
- Demonstrate knowledge, experience, and expertise in natural resource and land use/management issues.
- Demonstrate knowledge, experience, and expertise in tribal issues and cross-cultural communication.
- Demonstrate ability to foster and encourage public participation in strategic planning processes, including innovative activities that generate involvement.
- Application of data collection and simulation methods that utilizes GIS, photographic, and computer visualization to model future development scenarios and community hazards.
- Depth and range of experience in similar projects including a list of those completed by the lead consultant that have generated tangible, effective results.
- Possess a demonstrated ability and familiarity with sustainability practices and the concepts associated with a sustainability strategic plan.
- Demonstrate quality experience with projects related to sustainability planning with strong client references.
- Demonstrate the ability to work in a collaborative team environment that supports the integration of various user groups.
- Demonstrate computer self-sufficiency with various software application programs including Microsoft Office.
- Local and/or regional familiarity of the community and its inhabitants.
- Clearly demonstrate an understanding of the scope of project and provide quality solutions to the described needs.

The community group soliciting proposals for an SCD project will usually provide a small amount of background about the community and sometimes information about its identified problems. But this information can be supplemented in a proposal by the responding professional, dependent upon other information that may be available, discovered through a research effort. The size of the jurisdiction soliciting proposals will often dictate exactly how much information is available from different sources a professional would often consult for background on the target community. The potential responder can seek general information on the community and issues raised in its solicitation from many other sources including the Internet, reports generated by the community, planning documents

from the community, and even peer-reviewed journal references if actual natural, social, or economic science research might have been conducted. It is also to the responder's benefit to search for other communities that might have similar problems to the community soliciting proposals where these other regions might have developed sustainable solutions and decision models that could serve as guiding examples for the soliciting community.

Often there are circumstances that will make the obtaining of background information relatively easy long before actual engagement with the community, its leaders, residents, and businesses. The community may be close enough so that the potential responder can visit the area as needed to talk with people and assess the community's overall situation. In one instance I competed for a project solicited by the Resort Municipality of Whistler (BC, Canada—2002). Whistler actually provided a small grant to several qualified, screened teams of SCD consultants in order for them to visit Whistler, collect background data, and engage with community members for the purpose of preparing a better, sounder proposal package. Then each team verbally presented their proposal package to the community for the Municipality to select the winning team that would conduct the project.

It is important to do your homework when planning to respond to a request for consultant services in SCD. On average, solicitations I have seen through the last decade usually draw around 8–10 respondents. There are many things that can and should be accomplished in preparing the right proposal for selection by the client community. Background research will be most important in convincing the potential client community that you fully “understand the project.” The most important point in the process of research and proposal preparation is to be as competitive and creative as you can be both fiscally and in any new or unique approaches your consultant team might propose to the soliciting community. And the practitioner is advised to provide in the proposal exactly what is being asked for in accordance to format (order of proposal topics) in the RFP or RFQ. Not doing so can cause your proposal to be disqualified early in the evaluation process. The reviewers of proposals usually follow the format of the solicitation in their review process so that their evaluation is consistent and comparable across all proposals received. If a responder digresses significantly from the called-for format, it can make a difference on how the reviewer perceives that particular proposal.

Project Initiation

Congratulations, your proposal has just been chosen for the SCD project. In most instances, the community that prepared the RFP or RFQ will have assembled an Oversight/Steering Committee prior to seeking consultant solicitations. But if this happens to not be the case, then at the onset of the project the consultant team should assist the community leaders in bringing together an “Oversight Committee.”

In many cases, the jurisdiction's governing entity, such as the Town Council or County Board of Supervisors, will adopt resolutions endorsing SCD in the community, as was the case with La Crosse, WI. This is a significant step for any jurisdiction because it puts all residents and businesses on notice of the intent to develop a sustainability plan and to implement actions toward community improvement. The La Crosse resolution included the following:

- “Endorse the principles of sustainable community development and the use of those principles whenever possible in long-range planning, policy-making, and daily operations;”
- “Instruct staff to develop a ‘Strategic Plan for Sustainability’ to be brought back to the County Board and Common Council for review and approval;” and
- “Create an ad-hoc committee, known as the Oversight Committee on Sustainability, to oversee the development of the ‘Strategic Plan for Sustainability’ and arrange for related sustainability consultant opportunities.”

This kind of resolution is not absolutely necessary to the work of SCD in a community, but it certainly puts the community membership on notice regarding the commitment to sustainable development by the governing entity and puts the governance of the community on record as supporting this approach to community development.

The Oversight Committee is usually comprised of community leaders as well as representatives from the different sectors in the community. These can include non-profit, community-based organizations, active church groups, chamber of commerce spokespersons, economic development organizations, governmental representatives, regional environmental groups, etc. The responsibilities of this Oversight Committee are usually to guide and provide advice on the conduct of an SCD project, decision-making on community-wide issues requiring resolution, promoting appropriate policies and regulations to assist with the implementation of sustainability actions, and insuring that the entire community is constantly informed of activities and progress regarding an SCD planning project. I strongly advise any practitioner that engages with a client community to encourage an Oversight Committee or Steering Committee be established. It will make the practitioners' work much easier over the long-run.

One of the first tasks of the consultant team selected for the project should be to meet with the community Oversight Committee in what is often referred to as the “Project Design Meeting.” This design process could have several phases to it depending on what has already been established regarding the project by the community prior to consultant engagement and what the expectations of the Oversight Committee are. This first meeting would include discussion of sustainability concepts and philosophies as they apply to the project scope of work and the experiences of the members of the Oversight Committee. These discussions could serve as an awareness and learning opportunity for the Committee. The dialogue would also inform the consultant team of the depth of knowledge that exists in the community, thus gauging for the consultant team the intensity of discussions on sustainability required in future community-wide meetings.

Besides verification of the consultant team's understanding for the scope of work defined by the community in the solicitation, this first design meeting with the Oversight Committee would also address the general topic of "Community Development"—what it is, what it requires, and what makes it sustainable. And the consultant team would confirm the issues of concern listed in the solicitation are consistent with the Oversight Committee's perspective and seek from the Committee permission to confer with other people about perceived community issues.

The consultant team should also share with the Oversight Committee at the first meeting ideas about community survey designs and other means of collecting information about assets, resources, problems, and issues from the diverse community membership, especially in areas where the Oversight Committee may be able to assist. And finally, the consultant team and Oversight Committee should jointly review the project scope of work as defined in the original consultant proposal for any changes that should be made based upon their joint discussions and any other changes since the original proposal, in order to develop a final, agreed to Scope of Work for the overall project. Additionally, if the project is progressing and there is a need to change the scope of work because something is not working, the practitioner should discuss this with the Oversight Committee and seek their approval.

Identifying Community Assets to Encourage Self-Sufficiency

Early-on in an SCD initiative it is important and proactive for the practitioner to help the community to better understand what assets and resources it possesses and reduce reliance on outside sources. In this way communities can better plan ways to become more independent and secure—secure in the sense that a community can protect itself to some degree from global patterns that might affect basic supplies of water, food, clean air, etc. In meeting its needs more locally the community can avoid relying on the transport of goods from hundreds, and in some cases thousands, of miles away. That way the consumer can be better informed about consumable goods (are they safe to eat or contaminated) and able to better understand how supply and demand affect overall pricing.

For example, in Napa, CA, where I live, there is presently a sustainability initiative being promoted by a local Food Advisory Council. The grape-growing and wine-making industry represents approximately 96 % of all agricultural production presently in the Napa Valley region. If grape growers could be convinced to employ their existing farming infrastructure and significant amounts of available land alongside the vineyards in the integrated growing of traditional crops as well grapes, with an effective distribution system the Napa Valley could develop a local, sustainable food system that would support all residents of the Valley. This strategy would provide much more independence from distant-hauling truck activity and associated green-house-gas (GHG) emissions as well as the variability in food costs, energy, labor, and climate conditions elsewhere.

Is it really economic to transport food like lettuce grown 1,200 miles away to your dinner table? And with all the risks from bacteria and other toxins found in food how do we know our food is safe in coming from such distances? Basically our “wants” in local communities have dominated our “needs” to the extent that seasonality has been removed from the food supply which in turn has had negative effects on real needs such as food security and environmental protection. Do people in Wisconsin really need to eat fresh strawberries in January?

Establishing a local food security system would simultaneously improve many other local food supply factors while meeting the needs of all members of the community, whether they were directly involved in the food system or not. This would be possible by better understanding the many resources within the Napa Valley, for example, creating cooperation between the grape growers and local people desiring to farm, modifying attitudes toward local food growing and encouraging consumer preferences more in line with seasonality. Asset mapping around the issue of a local secure food system would provide necessary information on resources that could inform decisions to the self-sufficient benefit of the entire community.

As discussed, asset mapping is a community development tool that is driven by the community itself rather than a process that is imposed by outside experts. Whereas traditional development processes might begin with an assessment of what is lacking in a community, asset mapping flips this around to identify and capitalize on the tangible and intangible strengths that already exist. This process, often referred to as asset-based community development or ABCD, is described by three central characteristics (Berkowitz and Wadud 2011). The first is that it is asset-based, or in other words, the focus is on identifying the positive attributes and capacities of a community. The process is also characterized by an internal focus where development is defined by local residents and the control of that process resides with them. Finally, ABCD is driven primarily by relationships as linkages are identified and capitalized on.

In contrast, traditional community planning characterized by the service delivery/institutional model often fails in identifying and integrating local assets into the community development process. This happens for a number of reasons including that the asset identifying process—in which external, often government funding meant government agenda setting and less local control. Attempts to involve agencies/professionals is met with resistance (due to the government funding) because discouragement on the part of marginalized and powerless groups often prevents identification of resources and assets inside the community that could serve the SCD initiative.

In comparison to more traditional approaches to community development, recent empirical studies have identified ways to discover and mobilize community assets and build community from the inside out through asset mapping initiatives that fully involve local community members in design and implementation (Kerka 2003). Community development efforts begin by developing an understanding of what exists in the community right now—the capabilities of local residents,

associations, and institutions. It does not begin by focusing on what is wrong with the community or what may be missing. Once we know the full breadth and depth of people, organizational, and institutional resources that exist in a community, we can then undertake a needs assessment to identify what resources and/or assets from outside the community can be reduced. In other words, the resource and asset assessment is completed to identify people and institutions within the community that are able to help satisfy the community's needs. The identified needs and assets in the community can then be separated and prioritized from those needs that have no apparent resource help from inside the community.

Using asset mapping as a technique is most likely to be successful if the individuals, organizations, and communities using this procedure truly believe that every community—no matter how small or how poor—has a rich pool of assets. Inventorying the individual assets of a community involves the use of a tool called the Capacity Inventory of Individuals (Capacity Inventory). The Capacity Inventory consists of four important parts (Berkowitz and Wadud 2011):

- Specific Skills Information
- Community Building Skills
- Enterprising Interests and Experience
- Personal Information

The Capacity Inventory represents an effective strategy for uncovering the variety of talents in the community. And it is essential this valuable pool of information be extracted, organized, and used.

It is critical for the community to understand the potential of their assets before they begin their extensive process of action planning toward the development and implementation of a strategic sustainability plan. Toward this end one of the goals of a SCD practitioner will be to explore opportunities with community stakeholders for adding value to resources that a community possesses—thus, the significance of the community understanding what resources and assets they possess. Adding value to a resource a community has is preferable to losing money by sending it someplace else where the receiving community is able to capture this added value. This is a key strategy to keep more money and other resources in the local economy and less flowing out to a larger economy—in other words, optimizing the quantity of the inflow versus outflow dollars.

For example, consider the situation of many forest-based communities that are dependent on the harvest of lumber for their economic security. Instead of exporting the cut raw lumber elsewhere for further processing (i.e., cutting into building lumber or furniture manufacture), if people in the community are able to find ways of adding value to the logs they cut, such as by building a cutting mill or a furniture manufacturing business, then they are able to benefit from the added value to the product instead of someone outside the community.

A Plan for Assessing Local Assets and Resources

A starting point for local economic renewal efforts is to take an inventory of the community assets and resources, which are defined as those systems, programs, and institutions that meet our human needs. When you want to understand community issues for your SCD project, you require detailed information about the needs of individuals and the organizations that serve them, as well as the resources that your community has available to meet those needs. To get that information, you'll need a plan and method, for example using the Capacity Inventory.

Needs can be defined as the gap between what is and what should be. An obvious example might be the need for public transportation in a community where older adults have no means of getting around town. More important to these same adults, however, might be a need to be valued for their knowledge and experience. Examining situations closely in terms of positive attributes they add to the community helps uncover what is truly needed, and leads toward future improvement. But although it is important to identify the community needs, there is a time for doing that which is after you have defined the community's assets and resources. In this way you begin searching for positive aspects of the community—assets and resources—before discussing things that are wrong and represent issues of concern needing attention and work.

Resources, or assets, can include individuals, organizations and institutions, buildings, landscapes, equipment—anything that can be used to improve the quality of life for people in the community. The mother in Chicago who volunteers to organize games and sports for neighborhood children after school, the Kenyan farmers' cooperative that makes it possible for farmers to buy seed and fertilizer cheaply and to send their produce directly to market without a middle man, the library that provides books and Internet access to everyone, the bike and walking path where city residents can exercise—all represent assets or resources that enhance community life. Every individual is a potential community asset, and everyone has resources that can be used for community building (Berkowitz and Wadud 2011).

Each community has its own needs and assets, as well as its own culture and social structure—a unique web of relationships, history, strengths, and conflicts that defines it (Beaulieu 1995). A community assessment helps to uncover not only assets and resources, but the underlying culture and social structure. Likewise an assessment will encourage community members to consider the community's assets and how to use them. An assessment will help you make decisions about priorities for program or system improvement. It would obviously be foolhardy to try to address community issues without fully understanding what they are and how they arose. By the same token, failing to take advantage of community resources not only represents taking on a problem without using all the tools at your disposal to solve it, but misses an opportunity to increase the community's capacity for solving its own problems and creating its own change (Beaulieu 1998). An assessment is prerequisite to an optimum solution.

Acknowledging that an assessment may be essential to the community development work, what are the particular advantages in designing a plan for that assessment? It allows you to involve community members from the very beginning of the process. This encourages both trust in the process and community buy-in and support, not only of the assessment, but of whatever actions are taken as a result of it. Full community participation in planning and carrying out an assessment also promotes leadership from within the community and gives voice to those who may feel they have none. An assessment is a great opportunity to use community-based participatory research, further involving community members and increasing community capacity. A good plan will provide an easy-to-follow road map for conducting an accurate assessment. A planning process will give community members the opportunity to voice their opinions, hopes, and fears about the community (Kerka 2003).

Although essential at the beginning of processes to better understand a community, having identified assets and resources can be helpful to the community at almost any point in an SCD initiative. If your group has a specific goal, such as reducing local water pollution, identifying local resources related to the issue can help you craft a workable, effective goal. On the other hand, if the community is initially seeing things as more broad-based—if you're dedicated to helping the employment needs of under-served people in the client city, for example—identifying assets and resources can help you decide which aspect of the problem to tackle first. The assessment of assets and resources should be an on-going effort of the SCD work because things are always changing, new people might be moving into the community, or a new organization might take shape with expertise in your area of focus.

The best way to assess needs and assets is by using as many of the available sources of information as possible. "Possible" here depends on how easy the information is to find and collect, and what your budget—mostly of people, money, and time—will support. Developing a plan will allow you to take these considerations into account and use the results to determine goals, devise methods, and create a structure for a community assessment that will give you the information you need to conduct a successful effort.

An actual planning process for collecting information on assets could consist of a number of steps. First you would want to recruit a planning group that represents all stakeholders and mirrors the diversity of the community. This most important step of involving community members will gain the cooperation of the community as the assessment progresses and needs are identified and lead to improved participation downstream. Decide why you want to conduct the assessment. Determine what data is already available. The chances are that a good deal of information about the community already exists. Figure out what other information you might need on assets and resources and decide what methods you'll use for gathering information. Settle on who will collect data from the community and how you will reach your informants. Decide who will analyze the data collected, how you'll record the results of the assessment, and present them to the community. Create a plan timeline, present the plan to the community and in particular the SCD Oversight Committee, get feedback, and adjust it to make it more workable.

Community Knowledge Asset Mapping

In many communities across the country, it is not uncommon for local leaders and citizens to assemble together to try to make their community a better place in which to live. Traditionally people involved in community development activities felt that one of the critical and logical first steps was to state all problems or concerns.

Unfortunately, the beginning point for these discussions usually was to debate what a problem was and was not, as well as to argue for special interests and their “pet” issues. And since communities have finite resources—be they human, physical, or financial—hopes of addressing community needs and problems usually would soon become overwhelmed by the despair of finding resources to remedy these problems. In the end, what was produced was only a laundry list of all the problems being experienced by residents of the community. No matter what the community, how big or small in terms of population, community groups that begin by first documenting all of its needs, are already starting things off on the wrong foot.

However, when applied diplomatically, needs assessment can be effective for identifying local needs, placing needs in order of priority, and targeting resources to help resolve local problems deemed to be of critical importance to the welfare of the community. Best used insensitively, one of the unfortunate by-products of starting a community development initiative with a needs assessment tool is the implication that their community has many shortcomings. This should not be surprising in light of how needs are defined. The commonly accepted definition of a need is that it represents a gap or discrepancy between an existing state of affairs (the what is) and a desired or preferred result (the what should be) (Beaulieu 1995). That is why community development should begin with a systematic assessment of the assets that exist in the community.

So, the most effective beginning point involves mapping the assets of the community. Collectively, these resources offer the wherewithal to address the host of important need issues that will be subsequently identified.

A related concept is whole-community organizing. This is a new approach to community change that is supported by theories of social relations and interaction (Heaven 2009). Empirical studies have identified ways to mobilize community assets and build community from the inside out by employing an asset-based approach to development. Principles to guide community asset-building efforts include strengths versus risks or deficits, relationships versus programs, engagement versus services, and long-term versus quick fix. Communities can organize their asset-building efforts by taking a bubble-up approach, linking existing efforts, creating community-wide coalitions, and engaging partners.

Asset mapping involves documenting the tangible and intangible resources of an asset-based approach to community, viewing it as a place with assets to be preserved and enhanced, not deficits to be remedied. Asset mapping is most useful when a better understanding is required of community strengths and possible connections between these assets. The strength of asset mapping comes from

discovering local assets; connecting these assets to work together; and creating opportunities for these assets to be productive and powerful together (Kerka 2003). For uncovering community assets, asset mapping can be used to identify residents, formal institutions, and informal organizations located within the community.

The SCD practitioner recognizes that the long-term development of a community rests on its ability to uncover and build on the strengths and assets of its people, institutions, and informal organizations. For the practitioner to be truly effective, any design for asset mapping must take the essential step of linking the various talents and resources together. In isolation, they are likely to realize (at best) only modest advancements in the well-being of local people and their communities. Integration of these assets, however, provides the foundation for genuine improvements in the welfare of these people and their localities.

The processes of asset mapping outlines three different approaches (Berkowitz and Wadud 2011), any of which might be employed depending on the particular need for information: (1) the Whole Assets Approach, which takes into account all the assets that are part of resident's view of their immediate community; (2) the Storytelling Approach, which produces pieces of social history that reveal hidden or dormant assets; and (3) the Heritage Approach, which produces a picture of those physical features, natural or built, that make the community a special place.

In justifying an asset mapping strategy, an SCD practitioner should explain how a target community using an asset-based approach considering human, physical, social, financial, and environmental capital is better able to meet community needs than governmental programs or market strategies. Many communities are now finding that exploring their past history can be very informative in terms of problems experienced before by the community and how solutions were developed during those points in history. Therefore, the storytelling and heritage approaches to developing better community information can usually inform present-day problem-solving, in conjunction with a whole assets approach.

A community asset or resource is anything that can be used to improve the quality of community life. And this means:

- It can be a person—the master mechanic down the street who can fix any car ever made. The stay-at-home mom or dad who organizes a playgroup. The church member who starts a discussion group on spirituality. Or a star high school athlete, a coach, a cheerleader, or a fan in the stands. These are all community assets.
- It can be a physical structure or place—a school, hospital, church, library, recreation center, social club. It could be a town landmark or symbol. It might also be an unused building that could house a community hospice, or a second floor room ideal for community meetings. Or it might be a public place such as a community park, a wetland, or other open space.
- It can be a business that provides jobs and supports the local economy.
- And actually, in a true sense of the word, everyone living in the community is a community asset—at least potentially so, and probably really so. This is good news, because it suggests that everyone in the community can be a force for community improvement if only we know what their assets are, and can put them to use.

Community assets are the foundation for community improvement when one is able to match particular assets or resources with a community-defined need. External resources (e.g., federal and state money) often just are not available, or if available, can be squandered if a sustainability plan is lacking. Therefore, the resources for change must come from within each community. Identifying and mobilizing community assets enables community residents to begin taking charge of their own destinies. People can become active shapers of their own lives, instead of passive clients receiving services from a variety of agencies. And community buy-in looms so important in so many of the community-based activities that are designed to engage residents. In general, improvement efforts are more effective, and longer-lasting, when community members dedicate their time, talents, and treasure to changes they desire and want to support.

The techniques for identifying community assets aren't very hard. You don't need a lot of special training or expertise to do the job well. Before you begin, though, you do need to answer some important questions. (1) What is the size of the target community? It could be an entire town (or even larger), or a smaller village. It could be a part of a town. Obviously, the bigger the size, the more work is involved; and probably different study methods, too. (2) What people are available to do the work; a small group of people or a larger organization? Of course, you can also reach out to others, get them excited about the project, and recruit them to work with the consultant team. You should also be able to get town government backing for a project like this, for knowing the community's assets is surely in the town's interest. (3) How much time do you have for the task or how much time can you allow? The more time you have, the more assets you will be able to uncover. But unlimited time is not required, nor even desired. This task is time-limited. (4) Lastly, a big question, perhaps the most important of all: What do you want to do with the results? Do you just want to keep these assets on file? Or share them with others? Or use them for action? If so, what action, and how? This is a very basic question, too often neglected. If you can't answer this question clearly before you begin, then perhaps you're not ready to begin.

There are different approaches to identifying community assets as described above. Each can be valid and useful. This kind of work is also something that you can directly engage parts of the community with instead of relying solely on the consultant team. Students also often make a good team to explore assets in the community. Below are two basic approaches you could use in the SCD project community. They complement each other. One of them focuses on the assets of groups—specifically, associations, organizations, and institutions. The other focuses on individual people. Take an inventory of all the groups that exist in the community. Are there a group of people in the community that would be willing to carry-out this kind of project? Using a community group will save time for the consultant team and also serve as an excellent means of getting community stakeholders directly involved in the overall project.

Use as many diverse sources of information as you can think of to develop the group asset list. These can include: the yellow pages which are a free, comprehensive, and often an excellent source; town directories, published for the target

community alone; lists of businesses, probably available from the chamber of commerce; lists of organizations, which may have already been published—check your library or town hall; lists of organizations, which are not generally published—for example, your local newspaper may have its own unpublished list that it could make available to you; the local newspaper itself, perhaps the single best current source in print; plus other print sources such as newsletters, regional papers, whatever you can get your hands on; bulletin boards for sure and also community-calendar type listings that might be found on local cable television; and contacts you have already made in the community who may know about other lists available. And even if they don't, they may know of group, organization, and community assets that are not on anybody else's lists. When you finish, you may have quite a long list. That is a good sign—it means that there are a lot of assets in the target community. You now have an inventory of groups and group assets for the target community—the associations, organizations, and institutions that are a fundamental part of community life and that can be used for community improvement.

In identifying community assets, compiling a list of key groups is one major approach. Another approach is to compile the assets of individuals. This can be challenging, especially if your target community is large. Short of developing a new survey to collect this information on individuals, you might want to design a few questions that will address the skills and expertise of the community members who complete the community assessment survey described in the next chapter. The exact amount of effort that a practitioner should devote to collecting this kind of information on the target community really comes down to the benefits to be derived. If the costs of collecting individual asset information are more than the benefits obtained from using this data then it is probably not the best use of the consultant team's time. Actually, knowledge about individuals in the community and their special skills and talents can often be identified by many of the activities stakeholders participate in as part of the action plan process (described later) the SCD practitioner designs and implements to develop a strategic sustainability plan.

Once you have collected asset information, it's often helpful to put it on a map (Beaulieu 1998). Maps are good visual aids: when you can see the data right in front of you, understanding and insight often increases. There are several ways to go about this: One mapping method is to find a large street map of the community, with few other markings. Then just mark with a dot, or tag, or push-pin (maybe color-coded by type) the geographic location of the groups and organizations you have found. The patterns that emerge may surprise you. You may see, for example, that certain locations have different numbers or types of associations. Those areas where few associations exist may be good targets for extra forms of community outreach to make sure as many stakeholders as possible become involved in the SCD initiative. Mapping can also be done by computer. Software programs are available to help in mapping and these programs are more flexible and sophisticated than paper-and-pushpin mapping, for with them you can create "overlays," visually placing one category of map over another, and changing these visual patterns with the push of a button. It's also possible to diagram your resources on a non-literal map, but one which can more clearly show the linkages among different categories of assets.

But whether or not the plan is to map the community assets, the next and most important step is to make sure the assets that have been identified get used. The identification of group and individual assets is a real achievement, because not every community has come so far. And yes, there is value just in expanding personal stakeholder awareness of what exists in the target community; and by sharing these results, you can also expand the awareness of others. But the real value and payoff of identifying assets is in actions that will improve the community and the knowledge of people who can support those actions. You want to encourage the Oversight Committee and other community leaders to put the assets to work for addressing the priority needs of the community. For example, if you have personal assets, such as savings, you probably don't want to hide them under a mattress. The same applies to the assets in the community. How can the community maximize their return?

Asset mapping serves as an effective tool for understanding the wealth of talent and resources that exists in each community—even those with small populations or suffering from poverty and economic distress. The long-term development of a community rests on its ability to uncover and build on the strengths and assets of its people, institutions, and informal organizations. Through this process will come creative strategies to identify and tap the wealth of leadership potential available in every community.

Recapitulating earlier points, to be truly effective, asset mapping must take the essential step of linking these various talents and resources together. In isolation, assets are likely to realize (at best) only modest advancements in the well-being of local people and their communities. Integration of these assets, however, provides the foundation for genuine improvements in the welfare of these people and their localities. In many respects, it truly reflects a commitment to make development “OF” the community a centerpiece of local community improvement activities—one in which local talents and skills are unleashed, treasured, and nurtured over time. This perspective is unlike development “IN” the community which emphasizes bringing economic development or other resources to the community from the outside before determining the actual assets and resources that are possessed by the SCD target community.

For more information regarding Asset Mapping you can go to the Asset-Based Community Development Institute (<http://www.abcdinstitute.org/>) at Northwestern University. More detail on Asset Mapping can also be found at Community Building Resources (http://www.cbr-aimhigh.com/main/ccbam_model_summary.htm).

Community Mapping Tool: Geographic Information Systems

The application of specific mapping technology known as Geographic Information Systems (GIS) can be a very valuable exercise for communities that are attempting to obtain a better visual evaluation of their resources and assets, especially as they

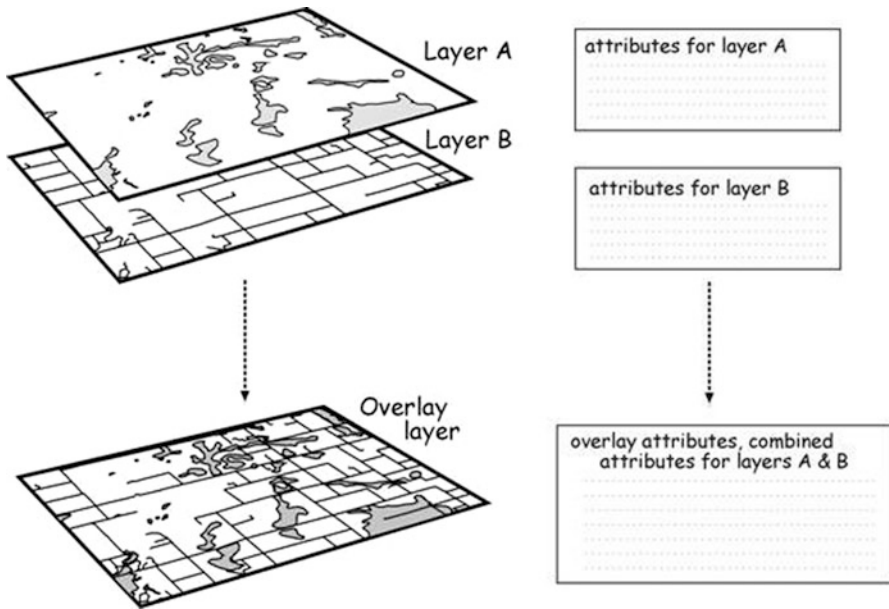


Fig. 5.1 Illustration of how different “layers” of information can be combined in an overlay fashion to examine integrated information from the distinct layers

relate to one another (Rabinowitz 2011). GIS is a method of digital (i.e., computerized) mapping that can show you where particular people, events, things, or conditions are, and give you other information about them as well (Fig. 5.1). It links data to its geographic location.

In addition, the development of landscape ecology techniques, using GIS and other mapping tools, is an extremely effective visual means of helping to illustrate the full ecological affects of various land-use patterns and other development strategies for practitioners and community stakeholders alike. These tools support the formulation of ecologically grounded plans for community growth and improvement that offer alternative solutions for transportation, resource use, agriculture, and environmental management strategies. A GIS integrates data management, spatial analysis, and map display techniques to address complex geographic problems, e.g., water resources management in relation to land use development. Businesses like McDonalds and Barnes & Noble employ GIS technology to evaluate their customer base in deciding where to locate a new store.

If not already familiar with the use of and power of GIS, the practitioner can benefit from the following brief, simple example. The planner started with a GIS computer program that creates maps from data that’s fed into it. It displays “layers” of geographic information, usually starting with a map of the geographic area you’re interested in—in this case, a street map of Somewhere in the US. The locations of all accidents in the past 6 months, for instance, would be another layer; the locations of accidents that resulted in hospitalizations during that same

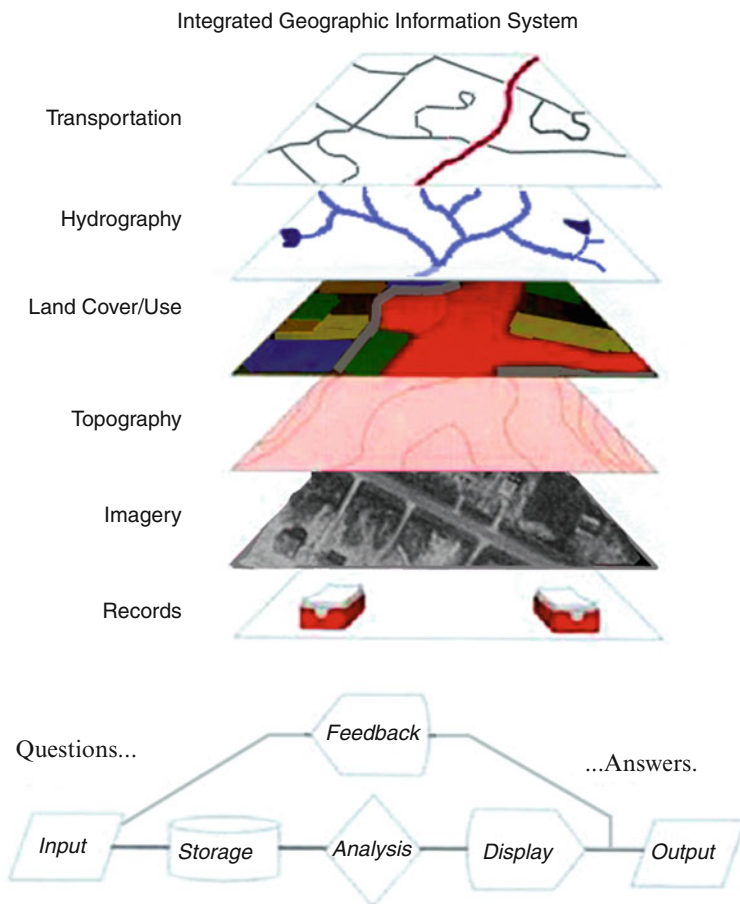


Fig. 5.2 Several layers representing different variables on an overall landscape are placed together (integrated) to visualize relationships between the variables of study. This is a simplified example of a Geographic Information System (GIS)

period might be a third; the locations of traffic controls (warning or stop signs, flashing lights, etc.) could constitute a fourth.

Imagine that the street map is drawn on paper, and the other layers are drawn on transparent plastic to exactly the same scale. You could place one or more of the layers over the street map and immediately see where accidents happened, where they were clustered, where the serious accidents were most likely to occur, what effects traffic controls seem to have, etc (e.g., Fig. 5.2). That's exactly what is done with GIS, but far more quickly and more accurately than a hand-drawn map would.

GIS capability can change the way you and community members look at the SCD work that is being planned and carried out. GIS can help to see spatial information more clearly, to compare various factors, and to understand relationships among them and can lead to new insights about an issue or place (Fig. 5.2).

Dauphin Island: East end wetlands and built properties



Fig. 5.3 GIS map of Dauphin Island, AL to help in understanding the relationship among residential areas, business sectors, and open-space wetland regions on the Island

It can be helpful in understanding causes, in detecting potential problems, and in predicting scenarios, among other uses. Members of a community, with the assistance of a qualified practitioner, are most likely to put GIS to use in community assessment, strategic and action planning, evaluation, and advocacy or other efforts to influence policy.

I employed GIS mapping in my Dauphin Island (AL) SCD project (2007) to evaluate the relationship among residential areas, business sectors, and open-space wetland regions on the Island (Fig. 5.3). These analyses were conducted to better understand the amount of land available for further development in relation to the amount of land that was needed to recharge the Island's only supply of freshwater—the groundwater sources under the Island.

GIS shows you visual relationships in an instant that might not be apparent from a table of figures holding the same information. For that reason, it's a powerful method of presentation, especially for policy purposes. The effectiveness and power of a GIS system depends on the nature of the hardware and software being used, the reliability and scale of the data fed into it, and the expertise of the people who run it and interpret its results. The advent of GIS has made it possible literally to look at the community in new ways, to be able to ask different kinds of questions regarding your SCD project initiative, and to use that to guide your work.

Qualitative Methods to Assess the Community

There are two major scientific ways of gathering information: quantitative methods and qualitative methods. Quantitative methods are those that express their results in numbers. They tend to answer questions like “How many?” or “How much?” or “How often?” When they’re used to compare things—the results of community programs, the effects of an economic development effort, or attitudes about a community issue—they do it by subjecting all of the things or people they’re comparing to exactly the same tests or to the same questions whose answers can be translated into numbers. That way, they can compare apples to apples—everything or everyone is measured by the same standard.

Qualitative methods of assessment are ways of gathering information that yield results that can’t easily be measured by or translated into numbers. They are often used when you need the subtleties behind the numbers—the feelings, small actions, or pieces of community history that affect the current situation. They acknowledge the fact that experience is subjective—that it is filtered through the perceptions and world views of the people undergoing it—and that it’s important to understand those perceptions and world views.

Qualitative methods don’t yield numerical results in themselves. They may involve asking people for “essay” answers about often-complex issues, or observing interactions in complex situations. When you ask a lot of people for their reactions to or explanations of a community issue, you’re likely to get a lot of different answers. When you observe a complex situation, you may see a number of different aspects of it, and a number of ways in which it could be interpreted. You’re not only not comparing apples to oranges, you may be comparing apples to bulldozers or waterfalls. As a result, researchers and policymakers sometimes see qualitative methods as less accurate and less legitimate than quantitative ones. That can be true, but if qualitative methods are used with care, they can also yield reliable and useful information.

There are a number of qualitative methods that can be used in assessment of issues or community needs. They might include individual interviews, group interviews, observation of people in action, study of a large community meeting or other event, and examination of transcripts and records.

The basic reason to use qualitative methods is that there are some kinds of questions and some dimensions of community assessment that can be better addressed by them than by quantitative methods. The methods you use should be determined by the questions you’re asking. Since it may be hard to convince policymakers and others that qualitative methods are useful, however, why bother to use them at all? Some of the major reasons include:

1. They answer some questions that quantitative measures can’t.
2. They connect directly with the population and the community with which you’re concerned.
3. They can get at certain underlying realities of the situation.

4. They can involve the population of interest, or the community at large, in helping to assess the issues and needs of the community.
5. They often allow for a deeper and richer examination of the situation or the community than quantitative methods do.
6. They allow for the human factor.

Qualitative methods can get at the things that numbers don't, such as the reasons for people's actions, or community history. They can help to identify community issues and needs, and provide a basis for planning community efforts that lead to long-term change. In essence, this kind of information although not meeting most scientific standards, can often inform the project consultant team in a foundational way about aspects of the community that though not scientifically defensible may be a more clear description of community character than any quantitative measures could ever provide. It basically comes down to what qualitative measures can do for "gut feeling" and "insight" within the consultant team in guiding and understanding the SCD process for the target community.

Asset Evaluation Empowers the Community

Asset mapping begins with the philosophy that all local residents, regardless of age, gender, race, ethnic background, place of residence, or other characteristics can play an effective role in addressing important local matters. Local people and organizations are encouraged to explore how needs, and thus problems, might be interrelated, and to respond to these issues in a coordinated, collaborative fashion to better inform next steps in the SCD action plan effort. Furthermore, they are asked to give of their time, talents, and treasures in implementing the strategies they have had a voice in devising. Through it all, local people and groups can feel a sense of empowerment because they have been part of the process. And during this entire period of asset mapping and needs assessment, the practitioner will want to be on the look-out for one or more local "sustainability champions" that will continually rally the process toward a successful completion.

In summary, once the SCD project consultant team knows the full breadth of people, organizational, and institutional resources that exist in a community, from community assessment mapping discussed above, we can then move in the direction of undertaking a needs assessment. Thus, as priority needs are uncovered, we have excellent information about the rich pool of people and groups who have the type of skills and interests needed to tackle these difficult issues from the SCD project's asset assessment process.

The collection of needs information concurrent with or following community asset evaluation will then allow for an integrated, more complete picture of the target community. This picture includes the data on assets and resources and community problems and needs from the Community Assessment process. Then comparisons can be made between the community's needs and available assets and resources for addressing those needs, as well as a more in-depth evaluation and

prioritization—usually by number of times reported—of problems listed by the community. The listing of needs can better inform those identified problems and may provide further insight that could help to prioritize the problems the community faces. Further information on Asset Mapping and Needs Assessment processes can be found at The Community Tool Box (http://ctb.ku.edu/en/tablecontents/chapter_1003.aspx) of the Work Group for Community Health and Development at the University of Kansas (Berkowitz and Nagy 2011).

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Chapter 6

Understanding the Community Context

Economic globalization has tended to strip out local cultural differences and nuances as if hierarchical uniformity were an end in itself. The practitioner must therefore contend with certain despair in many communities that have given in to lockstep dependency on “the system.” Restoring a sense of identity to the community may be an unexpected but necessary adjunct to a sustainable community development (SCD) project. A community’s identity may have been lost over some time as knowledge of, kinship with, and pride in its particular assets have atrophied. So perceived problems need to be looked at seriously, in the context of who the community is, to truly assess which problems the community should really spend its time on.

What Is Community Development?

For those of us in community development, it is important to understand the specific nature of the communities we work in. Community does not fit into a nice neat package—every community is a little different. But for purposes of community development, it is important to learn exactly what it is—and what are we trying to develop.

A “community” is a construct, a model. We cannot see a whole community, we cannot touch it, and we cannot directly experience it. More importantly, a community is not just the people who are currently in it. A community probably already existed when all of its current residents were not yet born, and it will likely continue to exist when all of the people in it have left.

Anything we do in a community requires us to be familiar with its people, its issues or problems, and its history. While we traditionally think of a community as the people in a given geographic location, the word can really refer to any group sharing something in common. This may refer to smaller geographic areas—a neighborhood, a housing project or development, a rural area—or to a number of other possible communities within a larger, geographically defined community.

Carrying out an intervention or building a coalition is far more likely to be successful if we are informed by the culture of the community and possess an understanding of the relationships among individuals and groups within it. These are often defined by race or ethnicity, professional or economic ties, religion, culture, or shared background or interest.

And what is a community stakeholder? A stakeholder is a person, group, or organization that has direct or indirect investment and interest in an organization because the stakeholder can affect or be affected by the organization's actions, objectives, and policies. In short, a stakeholder is one who is involved in or affected by a course of action. Although stakeholding is usually self-legitimizing (those who judge themselves to be stakeholders are stakeholders), all stakeholders are not always considered equal. In effective community development, this situation must be corrected so that all stakeholders are considered and feel themselves as equal.

Beyond simply being able to identify particular community members and understand why certain issues are thought of as problems, it is very valuable to learn as much as possible about the community. Flourishing communities are the foundation of a healthy society. City blocks, neighborhoods, towns, townships, and cities are of a size where individual efforts at community improvement can effect visible change. In local communities, all of our nation's complex issues present themselves—housing, jobs, business development, crime, public participation, personal and community values, and the natural environment. But how does one choose which efforts will reap the richest and most long-lasting rewards for the interested stakeholders?

Traditional Planning

Historically, the first organized community planning process was, and still is in many places, traditional comprehensive planning. This methodology is used in the United States by land use planners to describe a process that determined community goals and aspirations only through the stakeholder and governmental planner's identification of problems and issues. The outcome of that mode of planning is the comprehensive plan, which dictates public policy in terms of individual, often isolated topics of transportation, utilities, land use, recreation, and housing within a geographic region.

Comprehensive plans typically encompass large geographic areas and a broad range of topics and cover a long-term time horizon. Often, a comprehensive planning process carries an undertone of economic development. In most planning decision-making economy is the bottom line, either in the form of improving the community's economic prosperity or more often in debating over "how much will the planning initiative cost?" In many instances, comprehensive planning has lacked significant public input and transparency on the part of the responsible jurisdiction. Instead, planning was routinely performed by the town planner and

decisions and executions carried out by the community legislators and/or the different governmental agencies—usually in isolation.

The follow-on from the comprehensive planning process is the strategic planning exercises encompassed in community economic development (CED). CED is action by people within a specific geographic community or group of communities to create local economic opportunities and improve quality of life. These kinds of activities often include the recruitment of a big box store or some manufacturing business that will presumably bring many new jobs and other economic spin-offs. CED recognizes that local challenges and opportunities are as varied as the individual communities themselves. By using knowledge and resources existent in the community, CED identifies and capitalizes on local opportunities to stimulate economic growth and employment. This can include developing entirely new businesses or industries, adding value to existing sectors, strengthening capacity, and improving local infrastructure to help communities achieve their full economic potential. In most instances, as with comprehensive planning, CED is most often done in isolation from other factors connected to the realities of economic development such as the social–environmental criteria needed for sound economic activities.

Sustainable Community Development (SCD)

Questions that come to mind when focusing on community in the activities of planning and development include the following: Can this community survive? Are systems and practices viable for the long-term? Of course, changes will be made over time, but we should ask whether some of today’s practices are eliminating choices that we will wish we had tomorrow. While these questions may seem very distant or abstract to some, they are issues we all must face.

Community development is not some distant abstract goal—it is today’s imperative and reality; but haphazardly emphasizing one element of improvement over another puts us on uneven ground. We can begin choosing options that do not sacrifice one for another through the application of SCD. And they are best addressed in a community setting rather than a regional or national setting where the political will in today’s world seems unable to raise to the task of agreement on what is good for all.

Therefore, in the improvement of a community, it is also very important to consider how changes will contribute to a sense of community among neighbors and then promote the key relationships that make a community strong—among its residents, businesses, government, and institutions. Whatever the discussion points become, there are a number of attributes that the process of SCD strongly encourages among all stakeholders.

- *Civic engagement*: Encourages the participation of all affected people in decision-making and supports the civic values of trust and cooperation.

- *Use of local resources*: Respects and uses local people and their knowledge, and local energy and materials.
- *Accessibility*: Allows for transportation and information access within and outside the community while fostering alternatives to single-occupancy car use.
- *Quality of life*: Improves individual opportunity for a sense of fulfillment in life and brings beauty into physical designs.
- *Public safety*: Improves the community's sense of security.
- *Education*: Supports learning and skill development for people of all ages.
- *Community history*: Respects the values, traditions, and historical elements of the geographic area.
- *Community identity*: Helps citizens feel a sense of belonging to the community and foster commitment to the geographic locale.
- *Neighborliness*: Supports good human interactions and relationships among diverse people within the community.

SCD has emerged as a compelling alternative to conventional approaches to planning and development, a participatory, holistic, and inclusive process that leads to positive, concrete changes in communities by creating employment, reducing poverty, restoring the health of the natural environment, stabilizing local economies, and increasing community control. Therefore, community development that is sustainable significantly advances the concept of traditional comprehensive planning most notably because it *is* sustainable, which means that it is carried out in a democratic, all-inclusive, transparent, integrated means with an emphasis upon stakeholder communication.

SCD can cultivate innovation and economic diversity by creating a climate that nurtures entrepreneurs, building economic resilience through diversity, plugging the leaks in the local economy, and fostering information networks that speed the transfer and use of ideas and innovation. Strength through SCD can be realized in catalyzing community partnerships by the cooperation within and across regions to address common challenges and opportunities and the creation of a culture of collaborative problem-solving to speed progress toward shared community objectives.

In a successful community, development strategies will be able to be tested using what-if and futuring scenarios, testing, for example, alternative choices in land use, transportation, water quality, waste management, economic direction (e.g., ecotourism versus small-scale industrial development), where the community will be able to develop consensus on a course of action most appropriate and resilient, as perceived by the majority of stakeholders.

Rather than being a fixed thing, a sustainable community is continually adjusting to meet the social and economic needs of its residents while preserving the environment's ability to support them. SCD uses its resources to meet current needs while ensuring that adequate resources are available for future generations. It seeks a better quality of life for all its residents while maintaining nature's ability to function over time by minimizing waste, preventing pollution, promoting efficiency, and developing local resources to revitalize the local economy. The sense of

vitality on the streets is a fact of SCD. Decision-making in SCD stems from a rich civic life and shared information among community members. A sustainable community resembles a living system in which human, natural, and economic elements are interdependent and draw strength from each other.

Understanding and Describing the Community

Taking the time and effort to understand your client community well before embarking on a community-wide SCD effort will pay off in the long-term. A good way to accomplish this is to create a community description—a record of your exploration and findings. It is a good way to gain a comprehensive overview of the community—what it is now, what it has been in the past, and what it could be in the future. Here, I will discuss how you might approach examining the community in some detail and setting down your findings in a community description. And then you can add the important information from the community assets analysis in the last chapter.

A community description is simply a written account and analysis that describes a community. It usually includes information about the geography, demographics, and history, as well as the value of its people. It also usually includes an overview of important community issues, interviews with key people, and other information that can help guide you and others when starting work in a community (Hampton and Heaven 2011).

Understanding the community entails perceiving it in a number of ways. Whether or not the community is defined geographically, it still has a geographic context—a setting that it exists in. Getting a clear sense of this setting may be key to a fuller understanding of it. At the same time, it is important to comprehend the specific community you are concerned with. You have to get to know its people—their culture, their concerns, skills, and relationships—and to develop your own relationships with them as well (Fawcett 2011).

In building a relationship between yourself and the community, it is often wise to bring community members together in groups such as blockhouse meetings, town hall gatherings, organization (e.g., Rotary, VFW, etc.) meetings, or Sunday after church social gatherings to introduce the present SCD project, to discuss different aspects of the process of sustainable development, to share the prospects for outcomes to strategic planning that can be characterized by sustainability, and most importantly to obtain the input of the people you are addressing. These discussions can be built around the information in the first four chapters of this book and presented in a format that is comfortable for the average community member in providing understanding and awareness for sustainability that would pay off in later community contributions to the strategic planning process.

If a community can be defined by its population, then its physical properties are also defined by the population: where they live, where they gather, and the places that are important to them. The characteristics of those places can tell you a great

deal about the people who make up the community. It can also give you an idea of where to find people of different characteristics in the community when it comes time to actually interact with them in groups or one-on-one. Their self-image, many of their attitudes, and their aspirations are often reflected in the places where they choose—or are forced by circumstance or discrimination—to live, work, gather, and play. Other ways of characterizing the community include the following (Fawcett 2011):

- *Physical aspects:* Every community has a physical presence of some sort, even if only one building. Most have a geographic area or areas they are either defined by or attached to. It is important to know the community's size and the look and feel of its buildings, its topography (the lay of the land—the hills, valleys, rivers, roads, and other features you would find on a map), and each of its neighborhoods. Also important are how various areas of the community differ from one another and whether your impression is one of clean, well-maintained houses and streets, or one of shabbiness, dirt, and neglect.
- *Infrastructure:* Roads, bridges, transportation (local public transportation, airports, and train lines), electricity, landline and mobile telephone service, broadband service, and similar “basics” make up the infrastructure of the community, without which it could not function.
- *Patterns of settlement, commerce, and industry:* Where are those physical spaces? Communities reveal their character by where and how they create living and working spaces. Where there are true slums—substandard housing in areas with few or no services that are the only options for low-income people—the value the larger community places on those residents seems clear. Are heavy industries located next to residential neighborhoods? If so, who lives in those neighborhoods? Are some parts of the community dangerous, either because of high crime and violence or because of unsafe conditions in the built or natural environment?
- *Demographics:* It is vital to understand who makes up the community. Age, gender, race, and ethnicity, marital status, education, number of people in household, first language—these and other statistics make up the demographic profile of the population. When you put them together (e.g., the education level of black women ages 18–24), it gives you a clear picture of who community residents are.
- *History.* The long-term history of the community can tell you about community traditions, what the community is, or has been, proud of, and what residents would prefer not to talk about. Recent history can afford valuable information about conflicts and factions within the community, important issues, and past and current relationships among key people and groups—many of the factors that can trip up any effort before it starts if the practitioner does not know about and address them.
- *Community leaders, formal and informal:* Some community leaders are elected or appointed—mayors, city councilors, directors of public works. Others are considered leaders because of their activities or their positions in the

community—community activists, corporate CEOs, college presidents, doctors, clergy. Still others are recognized as leaders because they are trusted for their proven integrity, courage, and/or care for others and the good of the community.

- *Community culture, formal and informal*: This covers the spoken and unspoken rules and traditions by which the community lives. It can include everything from community events and slogans—the blessing of the fishing fleet, the “Artichoke Capital of the World”—to norms of behavior—turning a blind eye to alcohol abuse or domestic violence—to patterns of discrimination and exercise of power. Understanding the culture and how it developed can be crucial, especially if that is what you are attempting to change.
- *Existing groups*: Most communities have an array of groups and organizations of different kinds—service clubs (rotary, etc.), faith groups, youth organizations, sports teams and clubs, groups formed around shared interests, the boards of community-wide organizations (the YMCA, the symphony, United Way), as well as groups devoted to self-help, advocacy, and activism. Knowledge of the existence and importance of each of these groups can pave the way for alliances or for understanding opposition.
- *Existing institutions*: Every community has institutions that are important to it and that have more or less credibility with residents. Colleges and universities, libraries, religious institutions, hospitals—all of these and many others can occupy important places in the community. It is important to know what they are, who represents them, and what influence they wield.
- *Economics*: Who are the major employers in the community? What, if any, business or industry is the community’s base? Who, if anyone, exercises economic power? How is wealth distributed? Would you characterize the community as poor, working class, middle class, or affluent? What are the economic prospects of the population in general and/or the population you are concerned with?
- *Government/Politics*: Understanding the structure of community government is obviously important. Some communities may have strong mayors and weak city councils, others the opposite. Still other communities may have no mayor at all, but only a town manager or may have a different form of government entirely. Whatever the government structure, where does political power lie? Understanding where the real power is can be the difference between a successful effort and a futile one.
- *Social structure*: Many aspects of social structure are integrated into other areas—relationships, politics, economics—but there are also the questions of how people in the community relate to one another on a daily basis, how problems are (or are not) resolved, who socializes or does business with whom, etc. This area also includes perceptions and symbols of status and respect, and whether status carries entitlement or responsibility (or both).
- *Attitudes and values*: Again, much of this area may be covered by investigation into others, particularly culture. What does the community care about, and what does it ignore? What are residents’ assumptions about the proper way to behave, to dress, to do business, to treat others? Is there widely accepted discrimination

against one or more groups by the majority or by those in power? What are the norms for interaction among those with different opinions or different backgrounds?

Please note that for obtaining information on some of the more physical features of the above list, in projects that I do, I will often employ a helicopter or small plane flyover of the target area to obtain a community- or region-wide view (“big picture”) of the circumstances.

You may at this point be thinking, “Can’t I work effectively within this community without gathering all this information?” Perhaps, if it is a community you are already familiar with and really know it well. If you are new to the community, or an outsider, however, it is a different story. Not having the proper background information on your target community may not seem like a big deal until you unintentionally find yourself on one side of a bitter divide or get involved in an issue without knowing about its long and tangled history. Some advantages to taking the time to understand the community and create a community description include:

- Gaining a general idea, even before an assessment, of the community’s strengths and the challenges it faces.
- Capturing unspoken, influential rules and norms. For example, if people are divided and angry about a particular issue, your information might show you an event in the community’s history that explains their strong emotions on that subject.
- Getting a feel for the attitudes and opinions of the community when you are starting work on an initiative.
- Ensuring the security of your organization’s staff and participants. There may be neighborhoods where staff members or participants should be accompanied by others in order to be safe, at least at night.
- Having enough familiarity with the community to allow you to converse intelligently with residents about community issues, personalities, and geography. Knowing that you have taken the time and effort to get to know them and their environment can help you to establish trust with community members. Being able to sit down in the local coffee shop and begin a discussion with other people sitting there can be very powerful and informative.
- Being able to talk convincingly with the media about the community.
- Being able to share information with other organizations or coalitions that work in the community so that you can collaborate or so that everyone’s work can benefit.
- Knowing the context of the community so that you can tailor interventions and programs to its norms and culture, and increase your chances of success.

When should you make the effort to understand and describe the community? The best time is when you are about to launch a community assessment that will then lead to community consultation on SCD improvements or other kinds of planning for development. The first step in any kind of community assessments, before starting an actual community planning initiative, is to get a clear sense of the

community and lay the groundwork for more specifically addressing the area(s) you are convinced are important—the community’s perceived needs and problems. If you have just started working in a community—even if its work you have been doing for years—you will probably find that taking the time to develop a community description enriches your work.

The best places to obtain your information for understanding and describing the community are obviously from the community itself. Much of your best and most interesting information may come from community members with no particular credentials except that they are part of the community. It is especially important to get the perspective of those who often do not have a voice in community decisions and politics—low-income people, immigrants, and others who are often kept out of the community discussion or the mainstream of community happenings.

And how do you obtain information from these people? I have found that attending church socials, organizational meetings in the community, and sitting in the local café are some of the best ways to find these people. For example, walking the streets of the different towns on the north coast of Jamaica, as I did in 2010, was a great way to encounter and talk to the average community member and obtain a personal but clear idea of what community means to them. Likewise, in my Dauphin Island (AL) SCD work (2007), I walked the beaches on weekends to talk with individuals and small groups about the community.

When talking to people where they live, work, play, or pray and asking questions of them about their situations, you can begin to understand the feelings, attitudes, and values people have toward each other and why. All of these different pieces of data and more, based upon the points listed above, can provide the foundation for a description of the community. And incorporating what you learn into an accurate description of the community you are working with will continually be referenced throughout the conduct of any community improvement effort, which is very important to the stakeholders when they see their own ideas being highlighted as part of the overall community effort.

In addition, there are some specific people that it might be important to talk to. They are the individuals in key positions or those who are trusted by a large part of the community or by a particular population. In a typical community, these might include: elected officials; community planners and development officers; chiefs of police; school superintendents, principals, and teachers; directors or staff of health and human service organizations; health professionals; clergy; community activists; presidents or chairs of civic or service clubs; people without titles, but identified by others as “community leaders;” and owners or CEOs of large businesses.

Be prepared to continually network with others while conducting an assessment of what the community you are going to work with really looks like. Every contact you make in the community has the potential to lead you to more contacts. Whether you are talking to official or unofficial community leaders or to people you just met on the street, always ask who else they would recommend that you talk to and whether you can use their names when you contact those people. Establishing relationships with a variety of community members is probably the most important

thing you can do to ensure that you will be able to get the information you need, and that you will have support for working in the community when you finish your community description and begin your SCD project initiative.

To find out about various aspects of the community, you will need a number of different methods of gathering information. These would include searching public records and archives, conducting individual and group interviews, surveys, and capturing direct or meeting participant observations. Observation can take many forms. In addition to simply going to a place and taking notes on what you see, you might use other techniques—photo-voice, video, audio, simple photographs, drawings, etc. Do not limit the ways in which you can record your observations and impressions.

Outreach to the average community member in order to obtain information might consist of posters in businesses, notes on the Internet, newsletters, community focus groups, after Sunday service church group gatherings, or editorials in the local newspaper. A somewhat unique information collection methodology I used with the Dauphin Island (AL) community was to establish a web page entitled “Favorite Places.” This Web site was linked to a geographic information system that calculated the location of those places that Web site visitors from the community indicated were their favorite places on a map of Dauphin Island (Fig. 6.1). This collection of information was very effective coupled with other demographic information from community members in providing us an understanding for the patterns of movement and places of visitation island community members carried on. These web-based data ultimately informed us about transportation issues and infrastructure support at many different community activity sites in the town.

Understanding a community is crucial to being able to work in it. Failing to understand it will deny you credibility and make it difficult for you both to connect with community members and to negotiate the twists and turns of starting and implementing a community initiative or intervention. Understanding a community’s description will help the practitioner in becoming a “thread in the fabric” of the community they intend to assist in development toward sustainability. Traditionally, practitioners and consultants have offered questionnaires or conducted town hall meetings to obtain information from the people in a community in order to better understand the group they are working with and what their problems and needs might be. To collect better information and a more real picture of the community, today the practitioner must go far beyond the range of these traditional approaches, trying to reach people where they live, work, play, and pray.

Always start an assessment by finding out as much about the community as you can. Begin as soon as possible after the practitioner’s project design meeting with the Oversight Committee and continue as a living and evolving process throughout the project. The first step in any evaluation is the assessment of community knowledge assets described in the previous chapter. Recording your findings and your analysis in a community description that you can refer to and update as needed will keep your understanding fresh and help others in your organization or with those whom you collaborate. More detail on tools for assessing a community can be

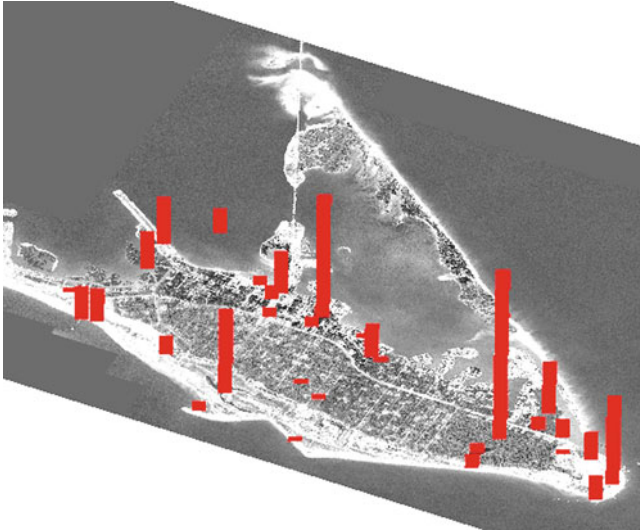


Fig. 6.1 Map of Dauphin Island (AL) with bar graphs showing the favorite places to visit on the island that survey respondents indicated as important to them

found in *The Community Tool Box* (http://ctb.ku.edu/en/tablecontents/chapter_1003.aspx) of the Work Group for Community Health and Development at the University of Kansas. For more detail, you can also consult Hallsmith et al. (2006).

Writing Community Descriptions

Once you have gathered the information you need for characterizing the community under study, the next step is describing this community, usually in some form of written format. This is not really separate from understanding the community; but in the process of organizing and writing down your information, you will be able to see better how it fits together, offering greater understanding, as well as better information to guide next steps like a needs assessment.

There are many ways you can create a description of the community. The most obvious is simply to organize, record, and comment on your information by category: physical description, government, institutions, etc. You can comment about what has changed in the community over time, what has stayed the same, and where you think the community might be going. You might also include an analysis of how the various categories interact, and how that all come together to form the community that exists. That will give you and anyone else interested a reasonably clear and objective description of the community, as well as a sense of how you see it.

For a fuller picture, you could add photographs of some of the locations, people, conditions, or interactions you describe, as well as charts or graphs of demographic or statistical information. For even more detail, you might compose a portrait in words of the community, using quotes from interviews and stories of community history to bring the description to life.

Given the availability of technology, you do not have to limit yourself to any specific format. Computers allow you to easily combine various media—photos, graphics, animation, text, and audio, for example. The description could add in or take the form of a video that includes a tour of the community, statements from and/or interviews with various community members (with their permission, of course), an audio voice-over, maps, etc. A video or a more text-based description—or both—could then be posted to a Web site where it would be available to anyone interested.

Once you have a description put together, you might want to show it to some of the community members you talked to and developed an exceptional degree of respect for in the course of exploring the community. They can suggest other things you might include, correct errors of fact, and react to what they consider the accuracy or inaccuracy of your portrait and analysis of their community. With this feedback, you can then create a final version, which at this stage would also be appropriate to share with the project Oversight Committee. This Committee could serve as an excellent and final “sounding board” for review of the written community description you might produce. The point is to get as informative and accurate a picture of the community as possible that will serve as a basis for community assessment and any effort that grows out of it.

The last word here is that this should not be the last community description you will ever do. Communities reinvent themselves constantly, as new buildings and developments are put up and old ones torn down, as businesses move in and out, as populations shift—both within the community and as people and groups move in and out—and as economic, social, and political conditions change. You have to keep up with those changes, and that means updating your community description regularly, or the community doing it if you have finished your work with the community. The work of understanding and describing the community is ongoing, for as long as you remain committed to the community itself.

Community Assessment Surveys

It is most important to get input from as many members of the community as possible when you are working on plans to address perceived needs, issues of concern, or roadblocks to a better lifestyle. Input solely from government officials, community leaders, or other spokespersons will only bias the view and definitely restrict opportunities to achieve public buy-in for the process.

Actively soliciting the commitment of community members to the process as it begins and continuing to approach them for their input will help them become more

interested in your work and more likely to become actively involved. Recruiting people for your cause can also give you valuable insight into what is really going on in the target community. One effective method for getting information on problems and needs is to conduct an issues or concerns survey.

Focusing on Community Needs

A needs assessment is a way of surfacing the most important needs of group or community members (Berkowitz and Nagy 2011). The results of the survey then can guide future action. Generally, the needs that are rated most important are the ones that get addressed. In most needs assessment surveys, a need means something that specifically relates to a particular group or community. It is not usually a universal need, such as the need for food or affection. But it is more than an individual need, as in, “I need a new washing machine” or “I really need to get away from the kids for a weekend.” Those may truly be needs, but they are not generally thought of as the types of needs that are assessed in the stereotypical SCD needs assessment process.

Instead, such an assessment usually asks about needs that concern your particular community or group. This could include hundreds of possibilities, ranging from better trash pickup to ways of discouraging vandalism, or from the recruitment of new stores downtown to better methods to solve ethnic or racial conflict. These are examples of needs that might be perceived by individual members as a group or community issue or concern.

You might ask at this point, what is the difference between a community need and a community problem. In many cases, community needs eventually translate into community problems and the needs assessment actually helps to (1) understand the community problem a bit better as well as (2) link community assets and resources talked about above to the addressing of a specific need and therefore problem. The most important difference between community problems and needs, however, is that a problem most often immediately emphasizes a negative aspect of the community. In interactions among community members, it is best to try and keep the dialogue positive because once negative aspects of the community surface, it always seems that everyone has something to contribute and conversations almost always deteriorate. When addressing needs, however, it seems as though there is always a more positive attitude to the discussion. And just because of their implied meanings, it is much easier to relate particular assets a community might possess to ideas of needs than it is to relate assets to problems.

Assessing community needs also helps the practitioner learn more about what the priority of community needs is. A good assessment can supplement your own sharp-eyed observations and experiences. It can give you detailed information from a larger and more representative group of people than you could get from observation alone. A needs assessment will give a more honest and objective description of needs than people might tell you publicly. The assessment will also help you

become aware of possible needs that you never saw as particularly important or that you never even knew existed. Carrying out a needs assessment will help the consultant team make sure any actions that are eventually defined by the community are in line with needs that are expressed by the community.

Maybe one of the most important reasons to assess what the community believes is its needs is because a lot of the time the needs are not quite so clear. You (and everyone else) have opinions and biases, but does everyone feel the same way? Would not it be worth checking what other people think, just to clarify whether others share a particular point of view? Some members of the community might or might not revise their opinions a little, but it is worth it to find out.

Despite their importance, needs are just part of the picture. Having a listing of community needs will support the work of problem identification and visioning that are steps in the action plan for strategic sustainability planning. The other reason for having a listing of community needs, at least a basic record, is so that community assets—the skills, interests, capacities, and other resources that can be found in any community—can be matched up to community needs in order to make it possible for these needs to be addressed by the resources and assets inside the community.

Survey Design and Circulation

Community concerns surveys are a form of community assessment in which community members (including leaders) are asked to help identify what they see as the most important issues facing their community. The following discussion of survey processes is meant to be universal in that you can never be sure when you will employ survey tools during a project—maybe just at the beginning to obtain community background information or at several times during the course of the SCD initiative to seek different kinds of community input.

Besides providing community members the big picture regarding how the rest of the community feels about certain issues, the results of survey applications can be used to help form strategies to deal with the community's problems and to maintain the things that are working well. You can also use the results to rally the community around your cause. It is a great tool for building consensus in the community. For example, if you have done a concerns survey and concluded that 85 % of the citizens in your town think there are not enough services for senior citizens, you can then go public with this statistic to drum up support, increase community awareness, and get people involved in planning for increased services for senior citizens. The ultimate value of a concerns survey is that the results can help set the agenda for community work that reflects all polled people's concerns.

You should almost always start off with people's concerns in designing and conducting an SCD project and there are many reasons for conducting a concerns survey in your community:

- It involves community members in the decision-making process early on, which increases their likelihood of getting actively involved and staying involved. Helping community members start thinking about community development problems motivates them to get involved. These are their issues!
- It asks community members to define what they see as most important. This is the kind of information that you will not get from outside professionals.
- It can be a reliable, systematic, and easy-to-use way to tap into information about the community.
- It helps citizens realize exactly how they view their community—the good, the bad, and the ugly—as well as how their anonymous neighbors and fellow-residents view the community.
- It provides a useful source of information and direction for initiatives, funders, and participants.
- It is easy to do.
- It helps set the agenda for community work.
- It builds consensus.

As soon after the project begins, and after review by the Oversight Committee to assist the survey process, in conjunction with or soon after the community asset evaluations are initiated (described in the last chapter), the community assessment survey should be circulated in the community. The survey should be given out to as many local people as possible. In the Dauphin Island (AL) SCD project I facilitated several years ago (2007), the consultant team and community Oversight Committee made sure that surveys were available at all places people go in the community. A concerns survey form was even available on the Internet for completion and return by the Web site visitor. In some instances, the consultant team took surveys to community meetings and asked that they be filled out during the meeting. At the entry to the community, there was a billboard that promoted the concern survey, encouraging people to submit one, and it illustrated a thermometer to indicate how many in the community had already completed their survey form. This led to a competition among residents, which was assisted by the fact that surveys could be found almost anywhere. More than 60 % of the community responded to the survey process in Dauphin Island, which is a much higher return rate than one would normally expect. These data, when they were graphed in terms of demographics and major problems of concern, were very useful throughout the SCD project to keep people on target with regard to their discussion of issues.

Since your intent is a community-wide survey, it is important to be sure that you have help from community members in deciding what issues are most important to ask about on the survey. What kinds of information should be collected? I suggest you select 8–12 representatives from the community. Once you have selected working group members, hold a meeting with them to brainstorm about items to include in the survey. You may wish to send them the list of possible categories of questions in advance so that they can think about it ahead of time.

Decide what type of demographic information (age, sex, race, number of children, income, level of education, type of job, etc.) is important to include in

your survey. In designing the survey questions, there should be two types of questions for every selected issue: how important the issue is to citizens and how much satisfaction citizens have with the community's efforts on the issue. Items should be written as statements, not questions—for example, “Drug use is a problem in our schools” rather than “Do you feel drug use is a problem in our schools?” These statements should then be followed by a scale (1–5) for each indicating the degree of “importance” and “satisfaction” the responder possesses regarding the two statements (importance and satisfaction) about issues of concern (Hampton 2011).

There are many examples of community assessment surveys that can be used for the particular community you might be working with. You can go to The Community Tool Box (http://ctb.ku.edu/en/tablecontents/chapter_1003.aspx), of the Work Group for Community Health and Development at the University of Kansas to review survey form design. You can also go to the Local Action for Sustainable Economic Renewal Work Book (LASER—<http://www.global-laser.org/cgi/laser/workbook.html?id=deqrP79t>) for other examples of survey forms. An example of my 2007 Dauphin Island Concerns Survey form can be viewed at http://eeeeee.net/dauphin_island/di_stakeholder_survey_form.pdf.

Survey Results Dissemination

After the consultant team has tallied the survey results, you must determine what the numbers mean. You will need to look at the overall survey to see how each percentage for each of the problem statements rated relative to the others. Generally, you will want to rank items according to the ones that have the highest percentages of importance. Then, for each of those, look at how high the percentage of satisfaction with community efforts in those areas was ranked. Strengths are items that have high ratings in both importance and satisfaction, while problems are rated high in importance but low in terms of satisfaction. An example of the kind of data that can be produced from a concerns survey is illustrated in Fig. 6.2.

The next step is to write up a brief report—one page is sufficient—summarizing the strengths and problems as well as an overall approval rating for the community based on the average satisfaction score for all items. In your report, identify 5–10 strengths and 5–10 problems in terms of economics, societal well-being, and environmental health in the community. Look for any patterns—do people in a particular part of town feel more negatively about economic services than those in other areas?

Reporting the outcomes of the community concerns survey should be done through a community assessment workshop, which may be the first formal meeting you have with the community at large. This public workshop should certainly occur within the first quarter of the overall SCD project period. Workshop is preferred here as the meeting description because this gathering will be longer than a typical

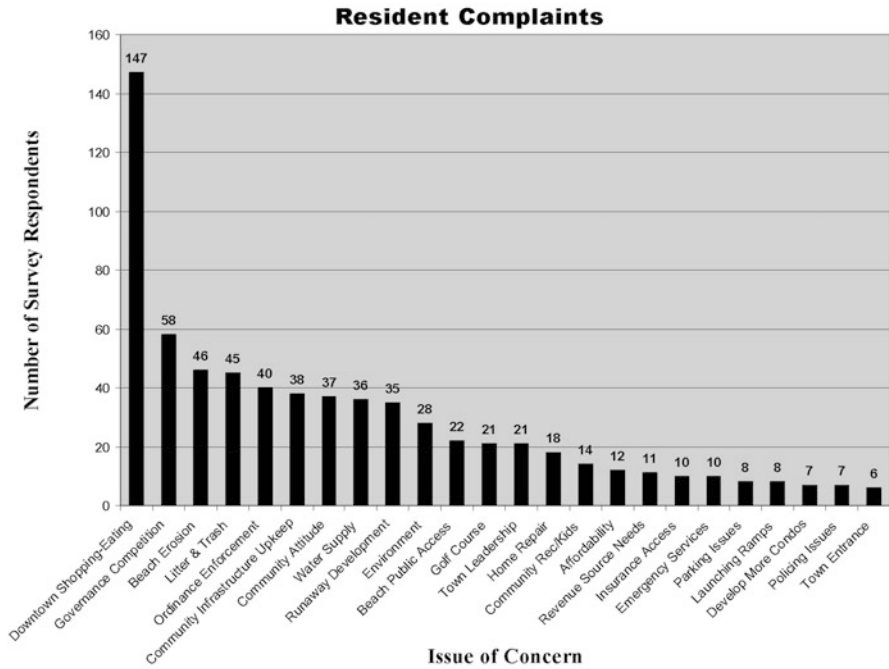


Fig. 6.2 Graph of the “issues of concern” provided in a survey of Dauphin Island (AL) residents in 2007. Data on issues of concern is from highest concern to least

public meeting and the design of the gathering will be for attendees to conduct work during the meeting time.

The agenda of this meeting must include at least five topics:

1. A formal introduction of the project and the consultant team so that everyone understands what the objectives of the project are and what the plan looks like for completing the different tasks of strategic planning for SCD.
2. An informal discussion of what sustainability means to the members of the target community, using some of the information in Chaps. 1–4 of this book in the format of PowerPoint presentations—hopefully this will better inform community members on the concepts of sustainability so that they will better understand the application of sustainable development tools later in the SCD project during the conduct of dialogue for solutions.
3. Share with workshop participants the findings on the community resource and asset evaluation conducted early on to determine people, organizations, and institutions in the community that could assist in the SCD process with their time, talent, and treasure (Chap. 5).
4. Review main strengths and problems that were compiled from the concerns survey—discuss these in the context of sustainability as talked about above and try to achieve agreement on the ranking of key problems listed.

5. Have the participants at the workshop participate in a Community Sustainability Assessment (CSA) described in the next section—this CSA will provide a score for each person that takes it indicating how sustainable the person believes their community is at present, relative to the scores of other community members taking the CSA; the CSA also provides an excellent educational/awareness tool for community members about issues of concern they possess regarding how sustainable the elements of their community are and what that can mean community-wide.

Community Sustainability Assessment

The CSA is a special form of survey that differs from those survey assessment tools described above. It was developed to assist communities in evaluating their accomplishments and charting directions toward ever-increasing sustainability (<http://gen.ecovillage.org/>). Like the three-legged stool concept (Fig. 3.6), overall sustainability of a community (the seat) is upheld when each of the three legs is strong and balanced. In the CSA, the three legs, each as important as the other, are the environmental (ecological), social, and economic aspects of community. The CSA has been developed as a comprehensive survey to evaluate the sustainability elements of the community in a scorecard format. And since many communities, especially tribal communities, believe that the spiritual aspects of the community are as important as the ecological, social, and economic elements, the CSA has been adapted to go beyond the three E's and include spiritual assessment questions in its design. Communities placing importance on the spiritual aspects firmly believe that these elements are often influential regarding the discussions that occur around economics, the ecology, and social well-being of their particular community.

The CSA is a comprehensive checklist that anyone can complete to get a basic idea of how sustainable their community is. It is an effective scorecard for promoting an understanding and measuring of sustainability in communities and is applicable to any community, unlike many of the surveys discussed above that are created specifically for the target community by community members and usually focus exclusively on issues of concern for that community. While it requires good knowledge of the lifestyles, practices, and features of the community, the CSA does not require research, calculation, and detailed quantification. Review a sample of the CSA scorecard by going to this link: <http://www.eeeee.net/csa.htm>.

The CSA is a subjective tool. To get the most out of the exercise of completing a CSA, community members may meet as a group and work through the CSA together. Or as suggested above, the CSA might serve as one component of an initial workshop hosted by the consultant team to initiate the SCD project in the community. Unlike a specifically designed survey, the CSA offers a meaningful review of the community's accomplishments and areas for improvement. Low-scoring items may be selected for community focus and action to improve sustainability, providing direction for the community's future and further

supporting the identification of problems and needs as described above through community surveys. It is expected that communities actively planning and pursuing sustainability will score high; however, there is always room for improvement—from a high to a perfect score.

The CSA was designed to be universal and as useful as possible to a wide variety of communities. Results as well as learning that occur from community members taking the CSA assist in their better understanding of how to integrate ecological integrity, social cohesion, and relevant economic opportunities into project design and problem-solving. Overall, scores should offer an informative picture of the community's sustainability and provide an enhanced awareness to the participants for what SCD is about. Another unique aspect of the community participating in the CSA scorecard survey is that once completed, the community has a record (score) of how members judged the different elements of the community at a specific point in time. When an SCD initiative has been completed, the CSA process can be repeated to inform the community of quantifiable changes that might have happened because of the initiative in comparing the second scores against the first, earlier scoring for the community.

One of the unanticipated benefits of people completing the CSA, especially in groups of mixed background, is the learning about sustainability that can come from the exercise. In groups, people will discuss the different survey questions and in doing so will become more aware of different kinds of sustainability issues. This kind of self-learning can be very valuable as the project moves into the public participatory phases and people have the opportunity to talk about what they care about in a more sustainably aware perspective.

The kinds of issues of community life that are covered by the CSA are illustrated by the examples listed in the following link: <http://www.eeeee.net/csa.htm>.

Identify the Target Community

Having developed a relatively good understanding of community issues from the different assessment surveys, one chooses to use in characterizing a community you are still faced with the initial and primary question of whom do I involve in the strategies to address the problems—what is the target community? How do I successfully facilitate a group of diverse representatives from the community to reach consensus about a common vision and the actions that will turn ideas into results? And most importantly, how do I focus my attention on the individual stakeholders in the community so the process I eventually direct will be from the bottom-up? In other words, how will I engage the grassroots of the community population as well as the traditional leaders and their representatives? You might assume that the target community includes those that attended the first workshop held by the consultant team that reported on the survey outcomes discussed above. There is always the chance this workshop did not attract a large number of

community members, so how do those become involved that were not in attendance at the workshop?

The answers to these questions evolve from the development of a plan for community engagement that will guide you through the remainder of the project you have committed to. Assistance in developing this plan should come from the Oversight Committee or other body that has been established by the community to oversee the project and the work of the consultant team. The Oversight Committee in particular can be most important to tap into with regard to the different community sectors that should be targeted for involvement in the SCD initiative.

First, it is extremely important and obvious that you fully delineate the needs and problems in the community before developing the actual action plan to proceed. When you go looking for reasons and underlying causes for significant problems, you are likely to find more than one and many maybe unlike what you have experienced before. While some issues or concerns may be universal, each community sector will have different barriers to and assets for improving conditions for its residents. Therefore, each community's intervention strategy for establishing programs, policies, and practices will be unique. One of the first requirements will be to make sure you fully understand the boundaries of the target community as well as the different sectors involved (e.g., fisherman, real estate rental, tourism, part-time residents, etc.). That way, you are not caught up dealing with problem analysis with members of another bordering community.

In addition, several different opinions on any issue may be coming from different community member's point of view. They may be influencing your perspective of the problem, in different amounts, all at the same time. It may not be an easy task to untangle all the community members involved and the relative strengths of their opinions. Yet you want to untangle them as best as you can so that you are relatively sure you have precisely defined the target community for the project.

In solving real community problems, it is also very important that you have inclusively defined the target community for those problems so that you do not have something "coming at you out of left field." Much of what we discussed in the section above—"Understanding and Describing the Community"—will provide you with the appropriate means to identify the target community you will be working with in both analyzing community problems and also carrying out the action plan for setting community goals and strategic actions.

In talking with community participants, it is important to encourage a positive focus on problems rather than to just allow them to complain about all the things that are wrong with their community. In this way, you can draw out the tangible issues and concerns—emphasizing what the community is truly experiencing rather than what an individual may just perceive. A positive attitude is most likely to reveal community assets and strengths that can be used to meet related problem solution needs; in being positive, they are definitely on the path to an improved community life.

Action Planning Using a Logic Model Framework

Proper planning of any initiative is critical for yielding the best results or outcomes possible. An action plan, while requiring a significant investment of time and energy, can be an effective tool that grounds all collaborators with a common purpose. Developing an action plan is a critical step toward ensuring SCD project success (Milstein and Chapel 2011). Overall, action planning is important because it provides a reference point with a detailed timeline and assignment of accountability for accomplishing tasks along the path to achieving change.

It should be noted at this point that “action plan” in the context of this book is used differently than “strategic sustainability plan.” An action plan is just what it implies, actions that the targeted community will have facilitated by you the practitioner, as an SCD consultant, to carry on the processes of community assessment, visioning, setting of goals and objectives, and defining strategic actions that can be pursued by the community over the short and long-term to achieve the goal of sustainability. The Strategic Sustainability Plan is what results as the defined way ahead for the target community based upon the data collection and assessment from the community action planning process. The Strategic Sustainability Plan defines the activities to implement in order to achieve goals and objectives in becoming a more resilient and sustainable community and is the outcome from carrying out the action plan.

And what stands behind a well-developed action plan is a logic model, which can be useful for both new and existing programs and initiatives. When your action planning effort is being defined, a logic model can help get it off to a good start. A logic model presents a picture of how your effort or initiative is supposed to work. It explains why your strategy is a good solution to the perceived community problems that will be identified. Effective logic models make an explicit, often visual, statement of the activities that will bring about change and the results you expect to see for the community and its people. A logic model keeps participants in the effort moving in the same direction by providing a common language and point of reference. More than an observer’s tool, logic models become part of the work itself. They energize and rally support for an initiative by declaring precisely what you are trying to accomplish and how. The term logic model is used as a generic label for the many ways of displaying how change unfolds. Some other names include:

- Road map, conceptual map, or pathways map
- Mental model
- Blueprint for change
- Framework for action or program framework
- Program theory or program hypothesis
- Theoretical underpinning or rationale
- Causal chain or chain of causation
- Theory of change or model of change

By whatever name you call it, a logic model supports the work of SCD by charting the course of community transformation as it evolves in a holistic, integrated way from the engagement of all community members.

The word “logic” has many definitions. There is, however, one meaning that lies closer to the heart of sustainable community change: the logic of how things work. Consider, for example, the logic to the motion of rush-hour traffic. No one plans it. No one controls it. Yet through experience and awareness of recurrent patterns, we comprehend it and, in many cases, can successfully avoid its problems (by carpooling, taking alternative routes, etc.). Logic in this sense refers to “the relationship between elements and between an element and the whole.” All of us have a great capacity to see patterns in complex phenomena. We see systems at work and find within them an inner logic, a set of rules or relationships that govern behavior. Working alone, we can usually discern the logic of a simple system. And by working in teams, persistently over time if necessary, there is hardly any system past or present whose logic we cannot decipher.

A logic model also expresses the thinking behind an initiative’s plan. It explains why the program ought to work and why it can succeed where other attempts have failed. This is the “program theory” or “rationale” aspect of a logic model. In designing the Strategic Sustainability Plan as the final outcome of an action planning process, as described here, the target community will find itself answering a number of questions in their public participatory work that will build a hierarchy of information that logically fits together to ultimately build the framework of the Strategic Sustainability Plan. For example, early on the community will find itself asking, “Where do we really want to go?”—What is our vision for the future? This question will likely be followed by the issues of what means do we want to use to try and move in the direction of our vision? What key objectives do we want to achieve in addressing the goals of our vision? And how do we know when we have arrived at the points where we can really define strategic actions?

In using a logic model, a series of steps—a framework—can be designed that helps guide the process of community action and change within the context of a community’s unique needs toward achieving sustainability (Milstein and Chapel 2011). The overall goal of action planning, guided by some sense of a logic model, is to increase the community’s ability to work together to affect conditions and outcomes that matter to its residents—and to do so both over time and across issues of concern.

Community member representatives are invited from the different sectors of the community and brought together to form a community coalition. No willing participant is left out of the process because the goal of the community consultation defined by the action plan is to seek a democratic critical mass of community participation—which is certainly more than the normal we observe in many initiatives. The community coalition can strive to influence system’s changes—programs, policies, and practices that can enhance the community’s capacity to be healthy and resilient. A community coalition initiates its work by generating the action plan.

This action plan should be reviewed and accepted by the Oversight Committee to ensure complete community buy-in. This can usually be done by conducting a second “Project Design Meeting” with the Oversight Committee. In this Design Meeting, the consultant team verifies with the committee that there is complete understanding among all parties on the design and conduct of the project’s action plan. At this meeting, all parties will also develop and agree to a means of occasional check-in between the consultant team and the committee to guarantee things are always on track or sharing the reasons why they are not. A listing of the kind of action plan I have employed in my own past SCD work is illustrated below.

- Community knowledge asset mapping
- Community assessment surveys
- CSA
- Community discussion of what sustainability means
- Core value identification
- Visioning
- Community resource asset identification and goals setting (elements of the vision)
- Problem definition
- SWOT—strengths, weaknesses, opportunities, threats (identify issues of importance that call for action about a particular solution proposition or planned activity)
- Top-ranked objective analysis
- Analysis of alternative strategies for change and enhanced sustainability
- Evaluation of alternative strategies through futuring design processes
- Design of an indicator program to monitor change in important community-identified parameters and project progress on specific objectives
- Development of an adaptive management approach and strategic sustainability plan for the community—both short and long-term for solving problems and improving the community
 - Timeline
 - Costs
 - Responsible parties

An action plan outlines what should happen toward addressing the community’s needs in ultimately achieving the vision for a healthy, sustainable community. Desirable changes and proposed activities (action steps), timelines, and assignment of accountability provide a detailed road map for community leaders (collaborators) to follow. An action plan helps a community’s sectors and citizens within those sectors work together to achieve a common definition and characterization of the different problems facing the community.

The action plan will address each item in the process of SCD and provide guidance for the work that lies ahead. Regardless of the complexity of the problems at hand within your target community, action planning helps you (1) understand the community’s perception of both the issue at hand and its potential solutions,

(2) assure inclusive and integrated participation across community sectors in the planning process, (3) build consensus on what can and should be done based on the community's unique assets and needs, and (4) specify concrete ways in which members of the community coalition can take action.

In designing and laying out your own "action plan" strategy for a client community, there are a few things to keep in mind. First, the plan is meant to be fluid and interactive. For example, an understanding of the community context and planning should guide community action, which should affect community and system change, and so on. Second, if the action plan gets stuck on identifying, for example, the top priority objectives of the eventual strategic sustainability plan for the community, then more time should be devoted and ad hoc subcommittees should maybe be delegated with working out the differences. Third, the final outcome of this action plan, the strategic sustainability plan that promotes an adaptive management approach (defined in Chap. 2), is meant to be a continuous cycle. For example, improvement in more distant outcomes, such as reduced rates of pollution, should lead to a renewed cycle of planning and action for these or other issues that matter to members of the community so that renewed reductions of pollutants will continue to happen until the community reaches what they believe is acceptable or "zero" discharge.

In summary, the above framework for planning involves what I refer to as "communities of change," a theory of action that has evolved from experiences of working in SCD through the last couple of decades. This process employs archetypal practices for establishing community wisdom and capacity, and the process of evolutionary sustainability for enhancing community change (Milstein and Chapel 2011).

This chapter has attempted to summarize a great deal of information contained in three very good references on how one can go about understanding the community context and how communities work. These references include The Community Tool Box (http://ctb.ku.edu/en/tablecontents/chapter_1003.aspx) of the Work Group for Community Health and Development at the University of Kansas, the Local Action for Sustainable Economic Renewal Work Book (LASER—(<http://www.global-laser.org/cgi/laser/workbook.html?id=deqrP79t>)) and my own story of the Dauphin Island (AL) SCD process at http://eeeeee.net/dauphin_island/dauphinisland.htm.

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Chapter 7

Promoting Stakeholder Interest and Involvement

As a sustainable community development (SCD) practitioner, one of the most humbling and frustrating experiences you can have is to call a meeting of community members for a town of 55,000–60,000 population and 30–40 people show up for the meeting. We have learned through the years that in order to influence real change in a community there needs to be engagement by a critical mass of the community's residents and 30–40 people does not come close to a critical mass. A good turnout of community would be closer to 60 % of the population. Lack of participation may be a matter of community member apathy or the feeling by individual community members that one person is not going to be able to make a difference. But a necessity for success is getting a large number of the population from the target community to engage and participate in the community improvement planning and action implementation. What is the best way to accomplish that?

Today's practitioner must be able to draw people in and assist them in taking charge of their own destiny and achieving sustainability goals that they themselves identify. Efforts must be focused upon how best to engage people and use their knowledge most effectively to develop action strategies specifically directed toward community resilience and sustainability. Implementation of appropriate action strategies should be founded upon plans initiated, driven, and completed by the target community.

In order to meet the needs of this kind of practice in a reluctant but diverse and well-informed community, the practitioner must be especially skilled at noticing and acting upon the sensitive elements of that community and be able to use these sensitivities as leverage that will persuade significant public engagement. Belief in the importance of full public participation in any planning process should be second nature. In this regard forms of communicating (both the message and the process) should definitively encourage collaboration among ecological, social justice, and economic development advocates and assist people in thinking broadly across disciplines and other boundaries so that everyone can find a reason to engage.

To build broad community involvement, you need to make creative use of a variety of resources, including mainstream and community media, public service publicity events, and visuals. This public participation campaign will establish the

spirit of genuine two-way communication, if you can create a buzz and find new ways to listen to people at the same time. The main message about engaging all sorts of different groups that can be considered “the public” is to go to them and meet them on their terms, rather than having them come to you. Go to them on their own doorstep. Ask to be put on the agenda for their regular meetings; attend the festivals and functions; get invited to speak at their clubs, churches, synagogues, mosques, and community suppers—all of these are as important as holding meetings at city hall.

Engaging the Public for Addressing Development Issues

So you are planning a party and you just expect people to show up. Well you know that is not the way it works. You must send invitations out and it is best to ask people to RSVP so you know how many invitees to plan on in case you are serving food. And then you can still count on a number of people to not show up.

Likewise as an SCD practitioner, don't just show up in the community, call your first community meeting demonstrating your valiant commitment to public consultation and think that you are going to have a large turn-out of community members. In most cases it does not work that way—not unless there is some real curiosity about what you are doing and that is not usually the case. But there is always the chance that some of your community liaison people, like those on the Oversight Committee, might pave the way for your meeting and go the “extra yard” to make sure that community members attend your first event.

Project Stakeholder Recruitment

Many designs of project stakeholder recruitment and public consultation still fall short in achieving their most important goals. Most often this is directly related to how the public is drawn to these processes and engaged in the work. Public support for sustainability issues is more than simply public knowledge of those issues. Rather, it implies that most people “internalize” them as needing to be dealt with as quickly as possible for the good of the community. Public support is crucial, because it lends credibility to your project initiative, helps you gain further support, provides strength for action or political pressure, blocks passive sabotage and creates community ownership of and responsibility for measures to deal with the issues of concern.

In order to build that public support, you need support first from key individuals and groups in the community—trusted figures from various walks of life to whom people listen, or whose credibility is high because of their involvement in the issue. Building public support is an ongoing process—indeed, it should never stop—but can be especially effective when the issue is highlighted by a crisis, or by particular

events or situations. New information or publications that draw attention to the issue can also be used to advantage, as can political opportunity. Any time the issue is before the public is a good time to try to enlist community support for addressing it. Actually obtaining community support requires attention to several concerns (Kramer 2011):

- *Define the issue:* This includes framing it properly, recruiting the right people as representatives and spokespersons, making common cause with other organizations, and becoming recognized as the authority on the subject.
- *Communicate with community members:* Use every possible opportunity—both those that present themselves by circumstance, and those that you create—and every possible avenue—the media, the Internet, person-to-person communication—to build public engagement.
- *Ask people to do something* that will help them feel they’re having an effect on the issue and encourage them to take ownership of finding and executing a resolution to it.
- *Advertise your support and your accomplishments:* Stage activities and events, give awards, celebrate your successes, issue bulletins on the extent of your support. Let the community know that you’re a public movement, with a broad community foundation.
- *Give over control of the effort to the community,* if that’s possible, thereby further establishing your grassroots credentials.
- *Follow up and maintain your support indefinitely.*

It’s almost impossible to address community development issues effectively without broad-based community support. If you can use the strategies suggested here to gain that support, you’re well on your way to meeting the improvement needs of your target community.

Every project a practitioner engages in to assist community groups or other kinds of organizations in developing a strategic plan toward sustainable development will most likely be different from the last project they might have worked on. Although there might be similarities in project objectives and community demographics, most likely each community will be different in its make-up, cultural heritage, and global understanding of the issues. Therefore, each project should be initiated with a detailed “Design Meeting” (as initially discussed in Chap. 5) that allows the practitioner and the community leadership (e.g., Oversight Committee) to discuss the uniqueness of the specific community of focus and thus develop communication methods and consultation strategies that will most effectively encourage members of this community to become engaged. An understanding for the demographic characteristics of the target community (as described in previous chapters) will be essential for the practitioner in developing the approach to an initial design meeting with community leadership, as well as in further development of different communication methods and messages that will best reach the community of concern. First reference and description to such a Design Meeting was made in Chap. 5 and the means of recruiting community member engagement was mentioned as one of the agenda items for this meeting with the community Oversight Committee.

Attracting a critical community mass—which is usually at least 60 % of members in a community—to an informational meeting about the project, is one of the most important early tasks an SCD practitioner should accomplish in their community initiative. This includes promoting active and representative participation toward encouraging all community members to meaningfully influence the decisions that affect their lives. In addition, the priority should be to engage community members in learning about and understanding community issues, and the economic, social, environmental, political, psychological, and other impacts associated with alternative courses of action for the concerns they have in attending the meeting in the first place. Only through all-inclusive community member involvement can change in situations really take place that are fully supported by all (Kramer 2011).

Developing a plan for engaging community members will make your life much easier. And including the community project Oversight Committee in the development of the plan will give you a greater number of people to draw into the challenge of how to accomplish more successful public engagement than can just the consultant team, who probably does not know the community as well anyway.

Developing a plan for gaining public support and involvement in the SCD project initiative will cause you to ask yourself some very important questions. These questions are basic to just about any public recruitment effort. And your answers to these questions will be the building blocks for your own recruitment plan.

- Why do you want or need the public—community members?
- How many members do you need—what’s the minimum you should expect to work with?
- What kind of members do you need?
- Who is going to find and get the new members?
- How should you approach potential members?
- What happens if you get a yes, a maybe, or a no?
- What are some obstacles you may encounter? And how do you get around them?

Regardless of whether you are trying to recruit members who speak for themselves, or members who speak for entire organizations, it will help you to make a plan, to find people and bring them together. Answering the questions above will save you time in the long run, and increase the chances of accomplishing whatever goals might be set for public engagement.

Community organizers generally have more success recruiting potential members when they plan what they are going to do to achieve their goals, rather than just jumping right in. A planned effort will almost always be superior to an unplanned, disorganized attempt (Rabinowitz 2011a). A plan is important because it focuses on the set of steps you will need to go through to achieve your ultimate goal of engaging a larger number of community members in the SCD project. The planning stage is the time to decide what actions the project consultant will take to achieve goals. Writing things down is very important to the planning process

because you don't want to waste time going over questions you have already answered.

One of the first things any good SCD practitioner will involve themselves in if they want to attract community member engagement is to become a legitimate part of the community. The consultant team should go to where people in the community work, live, play, and pray. I can distinctly remember walking the beautiful beaches of Dauphin Island (AL) during an SCD project in 2007 to inquire what people (residents and visitors) felt about this particular aquatic resource in the community. And in the process I just happen to invite them to engage in a community meeting that would discuss this issue in more detail.

But it is not enough to decide that you just want a good turnout for your initial SCD project introduction meeting. The practitioner must have a good meeting designed in order to amplify the interest of the public in attending future meetings. Secondly, practitioners must have an idea of how they are going to engage the people who do attend in a meaningful way so that they begin to feel part of the process. You can probably do the project planning work with ten dedicated community members but when it comes to implementation of the results of an SCD project initiative you need the whole community to buy-in. So why not try to engage them at the beginning?

A well rounded public engagement plan will also consider representation from the local government, the local school systems, religious organizations, youth organizations, businesses, other human service organizations, senior citizens, the police, parent groups, colleges and universities, etc. Public engagement in the project should also be sought from stakeholders who can enlist the efforts of the organizations they represent to achieve SCD goals, as well as those of the organizations they might represent (Rabinowitz 2011a).

It's not usually a good idea to put people into categories, but in order to guarantee that all important sectors of the community are represented in the SCD project initiative and in particular its first meeting, the community assessment information collected at the on-set of the project (Chaps. 5 and 6), along with the guidance of the Oversight Committee should be helpful in covering all sectors of the community for engagement.

Because the task of a stakeholder group in the typical SCD project initiative is to develop a vision and a plan that includes all the different community perspectives, these perspectives should be reflected in its stakeholder group membership. You will have the need for access to many different kinds of community members. It can, however, be a challenge to ensure that the stakeholder group is broadly representative of the community as a whole. But this should be a practitioner's objective because it is very important that the project participants not be perceived as belonging entirely to a particular political party, or ethnic group, or socio-economic class.

Working with the public can often be a challenge. One of the things to keep in mind that will lessen the frustration of working with the public at large includes recognizing that members of communities function at different levels. Some show up more frequently than others; some are more committed than others; and some

have other things going on in their lives that will take priority over the community work of the SCD project now and again. However, a practitioner can use all these types of community members, as well as members with many different types of skills. Members who speak for whole groups of people are especially helpful because through their membership the project will gain access to people who may help out at different levels.

You also may need specific skills to advance community engagement in the project. You and the consultant team will often be looking to recruit community members with varied skills. If there is a specific skill being sought for help to achieve public engagement goals, you may wish to recruit members who speak for organizations with some skill in these areas. The identity of these skills will be assisted by the community knowledge assessment results described in Chap. 5.

When it comes down to “making the ask” of community involvement in the SCD project initiative, remember that nobody knows the community like its membership. Rely upon members of the community to take on the activity of inviting their neighbors, friends, business associates, family, and church acquaintances to participate in the initial meeting of the SCD project. Likewise, rely upon the Oversight Committee to recruit members from different organizations in the community. Don’t be shy about delegating authority.

And the approach: although the consulting team and maybe certain citizens feel very strongly about a particular project (for example, cleaning up a messy neighborhood area), it may not sound as appealing to others as it does to the team (Kramer 2011). Getting new people involved with the project or group sounds about as easy as, say, meeting a life-long partner at a bar. So it’s important to design an approach carefully. Look at this example: “Hey, do you want to come out Sunday to pick up trash and scrub graffiti off walls with some people you barely know?” Not likely to get a very favorable response is it? Maybe this one is a little better: “Hello, you live in our neighborhood too, don’t you? I’ve seen you around a bit. Well you know the messy area around the old Spooky House that makes our neighborhood look like a parking lot after a flea market? A group of us are going to get together Sunday to clean it up, and then we’re having a potluck at Shawn Barge’s house.”

When you are trying to convince people to help out they need to feel that they are going to get something out of it—satisfaction, new skills, personal fulfillment, etc. You want to make community members feel as though a change in attitude toward cleaning up the yard will benefit them because they live in that neighborhood too.

One technique that has proven very effective for stakeholder recruitment is the Concentric Circle process. This is a participatory recruitment process, rather than relying on the knowledge and contacts of a few key community leaders (Rabinowitz 2011a). The Oversight Committee can begin the process by recruiting individuals who have a high level of credibility in each of the different groups that must be represented, including ethnic, racial, and religious groups, businesses, political parties, youth, elderly, public employees, and civil society organizations. Each of these people in turn will ask one or two people to attend a meeting where the SCD project process is described and people make commitments to participate further—reaching out, level to level, in a concentric circle format.

At this first meeting, the people in attendance are asked who, from their perspective, is missing from the group. A list is compiled, and the participants are then encouraged to call the people they know who they feel should be participating. A second meeting is convened, and the process is repeated. This can be done as many times as is necessary to ensure that everyone who needs to have a voice in the process is involved. The more that a given community has been torn apart by division and conflict, the more meetings may be needed. Don't worry too much if it seems the overall number of people is getting unwieldy; in practice, it is a lot less difficult to facilitate a large group of people than it would be to carry out a community process which is perceived as not legitimate because it is controlled by a small group of "the usual suspects."

Methods of Contacting Potential Participants

Now you should be able to take all the names you have patiently and systematically accumulated from the different sectors of the community and start making some actual public participant contacts.

It's important to contact new community members to become involved simply because they are usually not going to walk through the door, or show up uninvited, though that can happen. Normally, they're not going to come to you. You'll have to go to them. To put it plainly, most stakeholders you want to engage for the SCD initiative will need to be recruited (Hampton 2011a). The main question in this section is "How should I engage them?" Actually, there are two separate questions here. One deals with the method of your contact. That is, what form, or approach, should you use to contact and involve new members? And the other deals with the content of your contact. That is, what points should your message or invitation convey?

When you contact community members, there are at least three basic methods to choose from: meet them face-to-face; call them on the phone; or write them a letter. There are other methods, too—you could send a fax, or an e-mail message (Kramer 2011). You could send a fact sheet, flyer, or brochure. But for now, we'll focus on the three main methods above. How should you make your choice?

My experience is that personal contact works best. Research findings back this up; the more personal the contact, the greater your likelihood for success. A face-to-face meeting is more likely to be successful than a phone call, and a phone call is more likely to be productive than a letter. But the downsides of personal contact are that it takes time and you may not always be able to contact the person, especially in a resort community.

The telephone is quick and easy. You (and your prospective target community participant) don't have to travel—you can sit right where you are. You can engage in two-way dialogue, just as in a face-to-face meeting. You can listen and respond to emotional tone, not just verbal content, by sensing changes in voice pitch and inflection. And you can get your business done promptly. But again there are several downsides. The person may not pay as much attention on the telephone

when they are not being seen, such as in a face-to-face meeting. In today's world of advanced technology it is often much harder to get hold of a person by telephone, and it is more difficult to build as strong a personal connection with a person on the telephone as in a face-to-face meeting.

Letter and print contacts, on the other hand, have distinct advantages. While a good public engagement invitation letter takes time to write, it can sometimes express what you want to say better than speech (because you have taken the time to write it). And once the letter is written, the basic content can be used again and again. You can generate a lot of letters in little time. And from the recipient's point of view, the letter can be read at leisure, and kept on file for future reference. On the other hand, even the best letters are not as personal as a meeting or telephone call, there is no real opportunity for two-way dialogue, and there's less opportunity to respond to individual concerns, and to develop a relationship.

There is no perfect choice for public contact here. But the main point is that it's possible and often desirable to combine different methods when you are asking the public to engage in the SCD initiative. Each method can support and build upon the strengths of the other. In many situations, using a well-thought-out combination of methods may be worth your time and trouble (Hampton 2011a).

Involving Key Influential People in the Initiative

So much of what we do in community development work involves attempts to influence people to improve conditions and behaviors, to volunteer their time or make a financial donation, to attend our events and fundraisers, etc. When someone has influence, they have some level of ability to sway or induce people into doing what is perceived as right. Influence is something we're always trying to gain. Luckily, we can often find people who already have this strange and wonderful quality and use their influence to promote what they believe in. Every community, no matter what size it is or how long it's been around, has its influential people—elected officials, business people, religious leaders, or just ordinary citizens—who have a lot of influence when it comes to what decisions get made and how things happen (Berkowitz and Schultz 2011).

There are people in the SCD project community you are working with whose opinions are respected, whose insights are valued, and whose support is almost always needed to make any big changes. Generally, they're regarded as having a finger on the pulse of the community, able to express the point of view of the public (or some significant portion of the public) and usually have some influence over community opinion.

As you might imagine, there are many benefits from having people like these supporting your SCD initiative. Influential people may be able to (1) let you know what concerns are held by community stakeholders, (2) let you know how the community will react to your initiative, (3) have access to community history you're unaware of that might affect the course of your initiative, (4) garner

participation in and acceptance and support for your initiative in the community, (5) lend some credibility to your cause by being associated with you and your group, (6) help you work out specific problems you're having in the community, (7) convince people who might otherwise be against your SCD project to support it, and (8) have access to resources like people, space, equipment, etc. that you might otherwise have difficulty getting (Berkowitz and Schultz 2011).

Once you've begun to identify key individuals, how do you meet them? Often, community contacts are the answer. "So-and-so suggested that you were particularly important for me to talk to," is generally enough to get someone to meet with you. The best way to meet influential community leaders—ministers, activists, "natural leaders"—is through other people or through direct recruitment. People tend to trust those they meet through their friends (another reason why your consultant team being active in the community and meeting as many people as possible is important), and they are almost always flattered to be told that their support will be particularly helpful. In the final analysis, meeting and involving influential people depends on personal contact and on convincing them to buy into your initiative.

Influential people can provide an immense boost to the work any public group does in improving their communities through an SCD project. The simple fact is: to make real changes, we need to involve the people with power. By understanding who they are and how to include them in the project activities, we greatly improve the chance that our work will succeed. And that puts the project team on the road to becoming more respected and influential—the kind of people stakeholders come to when they want to get things done.

Involving People Most Affected By the Problem

Social or community problems are problems that by their very definition concern a large number of people. Unfortunately, those who are socially and economically powerful, such as government officials, interest groups, or community leaders often define these problems—and their solutions. While everyone is indirectly affected by social problems, those who are directly experiencing the problem are often left out of the processes of identifying what the problem really is (Hampton and Wadud 2011).

Imagine that you live along the Mississippi River, somewhere between Baton Rouge and New Orleans, LA. The environment along this section of the Mississippi is severely polluted with chemicals extremely dangerous to human health. These toxic chemicals coming from a number of industrial plants located on the River have been observed through scientific study to cause cancer and a number of other diseases to people living in this region. Even today after decades of knowledge of the poisons along this part of the Mississippi River people in these communities still do not have the empowerment to do something about the place they live. Only they can really know what it is like to live in what today is referred to as "Cancer Alley" (Fig. 7.1) and yet they have little political influence on those who govern this situation and are suppose to keep these communities safe.



Fig. 7.1 A cemetery located right next to a chemical plant along the Mississippi River in what is known as “cancer alley”

Politicians cannot truly claim to have the same understanding of these toxic chemical exposures because they are not experiencing the situation the way the people are who live in these Mississippi River communities. No one other than the people who live in “Cancer Alley” can know exactly how that feels. Others may have read about the situation or even seen the sickness that often occurs in these communities from chemical exposures. However, the community residents are truly the experts on this particular situation because they are experiencing it. The same concept applies to social and economic problems. People who directly experience a problem have a much different outlook on their needs than does a politician who has only read about the problem in the newspaper or a helping professional who once wrote a college paper on the problem.

There are two important ways to involve people affected by a problem in helping to solve the problem. First, you can listen to them so that you have a better understanding of the causes of the problem, the barriers they have to managing or preventing the problem, and their ideas for solving the problem. Second, they can become empowered through participation in the initiative or program that is being developed to tackle the problems they confront. It’s always better for people to participate, but if those affected by the problem don’t wish to, listening to them is a good way to start building rapport.

Those affected by the problem or issue may vary greatly in social class, gender, race, ethnicity, sexual orientation, age, religion, or culture. It's important to be inclusive. Some of the most important participants are likely to be people affected by the problem. Take special care to reach out to populations who are generally overlooked, discriminated against, and excluded. This includes reaching out to minority populations and people who are economically disadvantaged. It may not be easy to get some of those who are affected by the problem to participate, especially if the problem is stigmatized or illegal. Sometimes the problem itself is a barrier to effective participation.

It is easy to blame low levels of participation on apathy and lack of motivation, especially if you're getting frustrated in your efforts to encourage participation. You may find yourself getting so discouraged that you start to think that parents don't care about their family's health, or that community members are more enticed by the small benefits the community may derive from a chemical plant being located in their town than the health risks that plant represents to their family.

In reality, however, there are often things that prevent their involvement, such as lack of transportation or child care. Some of the people you're hoping to involve may need to learn some basics about doing this kind of work. They may need to learn to attend to what goes on, to take notes so they'll remember what was discussed, to understand and resolve conflicts (rather than either trying to ignore them, or taking them personally), to make themselves heard without sidetracking the meeting, etc. Some of us have learned these skills through training or work and take them for granted, but a lot of folks may not have had that sort of training and they can easily become frustrated and disappear from your project. Some ways of helping them move past this are to hook them up with mentors in the group; to have some sort of training dealing with those issues (ideally for everyone, not just them); or to try to find a role for them that they understand is important, and that they can fulfill well while learning the other skills they need.

It is rare that community consultants will take the time to acknowledge and try to address the many kinds of issues that can keep community members from participating in SCD project activities. These might include preconceptions and attitudes about consultants coming from someplace else to "help" the community, inadequate community communication and notification of project events, limited experience regarding community member involvement in strategic empowerment campaigns, history of being ignored, resistant leaders, sense of powerlessness, lack of time, lack of transportation, lack of child care, overcommitted community leaders and residents, poor organization of existing action groups, and unproductive past meetings. This list represents a significant number of obstacles to overcome by a project team in wanting to gain a critical mass of engagement by community stakeholders. As an SCD practitioner you will find it necessary and also extremely fulfilling in terms of the insights to be gained by reaching out to all these different kinds of people in the community and insuring through the attention that you show them that their contributions will be extremely helpful to the project's outcomes.

Attracting people who are directly affected by the community issues is in many ways, like attracting anyone else to the SCD initiative, although it may be a bit more

difficult and take more effort on your part. Still, having people on board who are directly experiencing whatever it is the project is focused upon is worthwhile. These are the people who know the problems most intimately, who deal with them day to day, and who will be able to make a more in-depth, meaningful, and personal contribution to the SCD initiative's discussions and planning. Do whatever you can to get these people involved and you'll be glad you did.

Promoting Participation among Diverse Groups

Throughout this chapter we have consistently made reference to obtaining a critical mass of public engagement in an SCD project. And in places we have mentioned that 60 % of a community population would be a good number to use as a minimum or target for public interest and involvement. In some cases this amount of public participation may not always be possible because of logistics, available meeting space, or other problems. At the same time, it's a good idea to keep your eyes open to all parts of the community for potential members.

So why bother to identify potential participants among diverse groups (Berkowitz 2011a)?

1. Because if you can bring those different types of members into the project process, it will be more representative of the full community.
2. Because with a multi-sector participant engagement, more different opinions will probably be expressed and discussed; that means better decisions may get made.
3. Because a diverse, multi-sector public involvement is usually also a larger involvement—you will then have more talent, and also more varied kinds of talent.
4. Because the contacts and connections made in a diverse, multi-sector group lead to new community relationships, sparking the possibility of new community initiatives that might never have otherwise existed.

Identifying community members in these diverse groups within the community can be accomplished through the demographic information that you will have collected in the form of community assessment surveys discussed earlier.

There is an assumption here, though—namely, that after you have located your potential community members representing the many diverse sectors of the community, you will go after them, and work to engage them in the SCD initiative. To identify such members, and then stop there, is of little value; you need to bring them on board. Identifying your members is just part of the process. The strategies and techniques of reaching out to these potential members, once you have found them, are identical to those we discussed above, such as face-to-face meetings, letter writing, etc. These methods will surely go a long way in attracting the highest number and diversity that you would want to better insure the success of your project as measured by community outreach and buy-in.

Developing a Plan for Communication

If people don't participate an initiative will not have the legs to get beyond first base. Thus, consideration to how a practitioner reaches the target community and entices them to become involved is crucial to the remainder of any community project, program, or campaign. Through attention to detail in developing a plan for communicating with community members about the launching of an initiative many of the communication problems typically encountered can be avoided. In working through these problem areas and designing a plan to avoid them the practitioner will discover how they actually need to become a "thread in the fabric" of the community they are working with.

The Importance and Process of Communicating Project Facts

The most important fundamental element of the sustainable community development process is communication. Without it everything in a project aimed at improving a community and meeting its member's needs is futile. Without the ability to communicate there is no dialogue among community stakeholders and their leaders, no means of talking and listening with regards to concerns and solutions to problems, and certainly no way of letting people in general know what is happening with the SCD initiative. It is extremely important to evaluate and implement forms of communication that will be most effective at promoting the greatest amount of public participation possible.

Much of this chapter so far has focused upon how the practitioner can decide upon and conduct an outreach campaign that will promote the interest and involvement of target community members. In order to do this effectively and timely a communication plan should be developed that guides the consultant team during the conduct of the overall SCD project. Communication, in the context described here, is the process of transmitting ideas and information about your project throughout the community. This doesn't mean merely advertising or promoting your program, but communicating the true nature of your project and the issues it deals with. If your consultant team wants to achieve its goals as defined by the engagement agreement, you have to get your message out to your target population and beyond. You may have several additional reasons for wanting to do this, depending on the character of your effort. Take a hard look at your work. You may be doing a great job, but does the community know about it? To raise the level of awareness about your initiative, you will need to communicate what you're all about.

Communication of this type can take many typical forms. Discourse with the public can include the use of tools such as news stories, press releases, paid public announcements, word of mouth throughout the community, posters and brochures, e-mail, a Web site, newsletters, and public presentations. You're probably unlikely to use all of these methods at once, although you might use most of them over time.

This is by no means a complete list, either. To communicate effectively, it helps to plan out what you want from your communication, and what you need to do to get it. To develop a plan for communication of any sort, you have to consider some basic questions:

- Why do you want to communicate with the community? What's your purpose?
- Whom do you want to communicate with? Who's your audience?
- What do you want to communicate? What's your message?
- How do you want to communicate it? What communication channels will you use?
- Whom should you contact and what should you do in order to use those channels? How do you actually distribute your message?

The answers to these questions constitute your action plan, what you need to do in order to communicate successfully with your audience. The remainder of your communication plan involves three steps: implement your action plan—design your message and distribute it to your intended audience; evaluate your communication efforts, adjusting your plan accordingly; and keep at the communication as long as you're doing this work.

Communication is an ongoing, core activity for any organization that serves, depends upon, or is in any way connected with the community. The purpose, audience, message, and channels may keep changing, but the need to maintain relationships with the media and with key people in the community remain. As a result, an important part of any communication plan is to continue using and revising your plan, based on your experience, for the life of your project. If you simply throw information out haphazardly, however, without thinking carefully about what exactly you want to say and why, who needs to hear it, and how to reach them, the chances are you'll miss the mark, and be left wondering why no one seems to know you exist or shows up at public meetings.

You must remember, however, that communicating your initiative's goals will not necessarily solve all of your problems. Getting the word out will help you attract people, but you have to give them a reason to keep coming back. Planning out this aspect of the communication strategy will be most important for the continuation and conclusion of the SCD project. A plan will make it possible to target your communication accurately. It gives you a structure to determine whom you need to reach and how.

A plan can be long-term, helping you map out how to raise your profile and refine your image in the community over time. Each piece of your effort fits with every other piece, your message remains consistent, and you continue to reach the audience that you're concerned with. In general, the development of a plan makes everything easier. If you spend some time planning at the beginning of an effort, you can save a great deal of time later on, because you know exactly what you should be doing at any point in the process.

Successful communication is an ongoing process, not a one-time event. You should start publicizing your SCD initiative as soon as you're ready to start activities, even if the activities are only initial outreach. The more people know

about you, the sooner you'll find volunteers and participants knocking at your door. If you are planning a kick-off event, it is important that you start publicizing your initiative and event as soon as possible. You want people to show up!

The steps to a successful communication campaign include the following:

- *Identify your purpose:* What you might want to say depends on what you're trying to accomplish with your communication strategy. You might, at any particular time, be concerned with one or a combination of the following:
 - Becoming known, or better known, in the community.
 - Educating the public about the issues your project addresses.
 - Recruiting program participants or beneficiaries—folks who can benefit from services you provide.
 - Engaging community members to help with your work.
 - Announcing events or schedules.
 - Celebrating honors or victories.
 - Raising money to fund the SCD project work.
 - Cementing your project's image in the community.
- *Identify your audience:* Who are the folks you're trying to reach? The answer to that question can come from your purpose. You'll need different messages for different groups and you'll need different channels and methods to reach each of those groups.
- *The message:* Your message may be one of inspiration, pure information, education, persuasion, request, explanation—the list goes on and on. It can vary in content, in mood, in language, and in design. Planning the content of your message is necessary to making it effective.
- *Resources.* The first of these to consider is money, but it's not the only one. The first question is what you have the money to do. The next is whether you have the people to make it possible. Your planning should include careful determinations of how much you can spend and how much staff and volunteer time it's reasonable to use.
- *Anticipate obstacles and emergencies.* It's important to try to anticipate problems, and to create a plan to deal with them. Crisis planning should be part of any communication plan, so you'll know exactly what to do when a problem or crisis occurs.
- *Strategize how you'll connect with the media and others to spread your message:* Developing ways of contacting and establishing relationships with individual media representatives and media outlets is an important part of a communication plan, as is finding ways to do the same with influential individuals and institutions in the community and/or the population you're trying to reach. Develop a "media list" early in the SCD project initiative.

Now the task is to put it all together for the specific communication objective you have before you put it into a plan that you can act on. And this is the kind of process that should occur each time the SCD project needs to conduct communication with some aspect of the project benefactors. By the time you reach this point,

your plan will already be essentially done. Now it's just a matter of putting the details together—actually composing and designing your message (perhaps more than one, in order to use lots of channels), making contact with the people who can help you get your message out, and getting everything in place to start your communication effort. Oh, yes—one more thing—there's evaluating your effort so you can continue to make it better. Set some milestones to achieve in your communication effort and check that you are reaching those milestones at intervals during the effort.

It is important to keep in mind that in communication with potential stakeholders dialogue is most important. Dialogue emphasizes a two-way process of communicating—talking and listening. Therefore, a practitioner can accomplish as much from talking about the focus as they can in listening to others talk about what is being communicated to them. More about developing a plan for stakeholder communication can be found at the Community Tool Box of the Work Group for Community Health and Development at the University of Kansas (http://ctb.ku.edu/en/tablecontents/chapter_1005.aspx).

The Best Use of Principles of Persuasion

Social scientists estimate that each of us is exposed to hundreds, if not thousands, of persuasive messages per day. Media messages play a large part, but aren't the whole story. The messages of daily interaction are equally important. Every day we encounter small-scale, usually low-stakes persuasive messages, designed to influence our attitudes and behaviors, even though we don't always label them as such. Some of those messages we deflect or ignore. Others get through and are successful, sometimes despite our own best intentions. Your success as an SCD practitioner, leader, or as a community builder, is directly related to the appropriateness and the effectiveness of the persuasive messages you send out. If all this is true, if persuasion is a natural and inevitable part of the communication process, we might choose to learn how to get better at it.

Exactly how does a practitioner apply principles of persuasion in an SCD project? Try visualizing a bridge on which your target person or audience stands. The left side of the bridge represents no knowledge of or interest in your issue; the right side represents the desired action—that is, your goal. Some intermediate markers along the bridge are attention, understanding, and intent. Your target person may be anywhere on the bridge. Your task as persuader is to move that person along the bridge toward your goal—gradually if needed, but no slower than necessary. You may want to move them from no knowledge to attention or from attention to understanding or from understanding to intent, or from intent to action; whatever the case may be. Using principles of persuasion effectively and with integrity can accomplish your goals to create and maintain healthy sustainable communities.

There are numerous different kinds of principles of persuasion and the personality of a practitioner using these principles will certainly influence how and which

may be employed under certain circumstances (Berkowitz 2011b). The particular persuasion principles you should use will be determined by the nature of your particular circumstances. More specifically, they will be determined by your particular goal, by your particular audience, and by the persuasive resources you have at your disposal. For example, if you want someone to sign a petition, that may call for one type of persuasive approach, but, if you want the same person to volunteer for your cause, or to write a big check, that may require something else. Similarly, it will make a difference if you want to convince one sympathetic person instead of one hundred indifferent ones; or if your campaign budget is five figures, compared to two figures, or no figures at all. Since each persuasion situation is truly different, it makes sense to understand each situation well and to analyze it carefully before you plunge in. Then you can plan your effort in advance; that is immeasurably important.

While your specific persuasive tactics will almost always vary from occasion to occasion, there are, nevertheless, general guidelines that will apply to a very large number of persuasion situations, both written and oral. Below are some of them. Not everyone will apply to your setting, nor is it necessary to use every one that does, but, more often than not, when these guidelines are used thoughtfully, your persuasive attempt is more likely to be successful:

- Know your facts.
- Know your audience.
- Express the similarities between you and your audience.
- Utilize opinion leaders.
- Make a strong opening.
- Get to the point.
- Offer a benefit supporting your position.
- Inoculate your audience against counter-arguments they may hear from the other side or create for themselves.
- Ask for an action step.
- Make the action step clear.
- Make the action step simple.
- Have a variety of action steps available.
- Obtain a commitment to take the action step.
- Thank the target person or audience.
- Follow-up.

It pays off to learn more about persuasion because it will help you become more successful at achieving your goals. It's no more complicated than that. There's also an unstated assumption behind this reasoning: there are tested principles of persuasion that can be both learned and put to good use. It's surely true that all of us already know something about persuasion and how to persuade others; some of us are already quite talented at it. In fact, it would be hard to become a fully functioning adult without knowing how to persuade others at least some of the time. Persuading and being persuaded is part of being a member of society. But, persuasion is also a learned skill. And, like any skill, one can improve with instruction and practice.

Communicating through a Web Site

Almost every major corporation, nonprofit organization, and educational institution uses the World Wide Web to distribute information, and private citizens have jumped on board with personal sites, Facebook, Twitter, etc. showing off anything from family photo albums to joke lists to celebrity fan sites. Most local and regional organizations and initiatives have Web sites, and these vary widely in terms of how elaborate they are, how nicely they are designed, and how much information they contain. There are all sorts of ways of putting information out on the Web.

Today the World Wide Web has become larger than its inventors ever dreamed possible. About three in four people in the United States and Canada are active online, and the figure of people online worldwide is estimated to be 1.5 billion as of 2008. Because of the speed and ease with which one can find information on the Web, those who use it regularly often turn to it first to find out whatever it is they're interested in. For that reason alone, an SCD practitioner and their consultant team might want to consider creating and using a Web site for a client community's initiative (Hampton 2011b). In my 2007 Dauphin Island (AL) project the team created a Web site that continually kept the community informed of our work and their contributions to the planning effort. This Web site can be reviewed at http://eeeeee.net/dauphin_island/dauphinisland.htm. This proved to be a wise decision because the Web presence for the Dauphin Island SCD project was instrumental in continuous communication threads with the entire community and was probably a major reason why we had such a large public engagement (greater than 60% of the community) in various different elements of the overall project.

When thinking about using a Web site to enhance the SCD project initiative your consultant team is working on, it is not absolutely necessary to go through the usual process of identifying an Internet service provider, finding and paying for a domain name to identify the site, and worrying about the other issues of maintaining a functional Web presence for the project. In many cases, because the SCD project planning toward a strategic sustainability plan will be short lived—usually less than a year—you can consider using an existing Web site for the project and simply assigning a certain part of this borrowed Web site to the pages devoted to the SCD project information.

How to Best Facilitate Stakeholder Discussion

Sometimes it seems as though we are always in meetings. Meetings take up so much of our time because they're the way we make our decisions, plan our actions, and move the work we are doing along. Well, while there's no magic wand to make meetings more effective, meetings can really help in decision making and planning. They don't have to be painful. They can even be fun. And you can learn how to

make your meetings both useful and enjoyable for everyone in attendance. Effective meetings help your group reach its goals.

Conducting Effective Meetings

Did you know that how you manage and run your meetings is one of the biggest “risk factors” for public participation and community member investment in an SCD project initiative? All of the parts of a meeting are important—planning (especially thinking through agendas and goals); logistics; and meeting directing skills and principles. All of these parts impact on member participation and involvement. Each “phase” needs to be paid attention to and taken seriously because good meeting management is critically linked to community participation. It is through meetings that the group is or is not able to get things done, solve problems, manage itself in a way that promotes inclusion and safety, and create a strong sense of community. And it is through well-designed meetings that keep people coming back!

Running meetings is a SKILL, not something you are born knowing how to do. Just as with any skill, you will get better with practice—and more confident, too! When someone says, “Nice job, that was a good meeting,” what do they really mean? A truly good meeting happens when attention is paid to the four phases of meeting management:

1. Planning for the meeting (Agenda and goals)
2. Setting up the meeting (Logistics)
3. Running the meeting (Chairing/Facilitating)
4. Following up (After the meeting ends. . .)

All of these phases are extremely important but the process of facilitating and assisting others with their engagement in the meeting agenda and goals is by-far the most important aspect to the overall success of an SCD project that relies upon many public meetings to achieve its goals in strategic sustainability planning (Axner 2011).

Leading Group Discussions

Group discussions are common in our society, and have a variety of purposes, from planning an intervention or initiative to mutual support to problem-solving to addressing an issue of local concern. An effective discussion group depends on a leader or facilitator who can guide it through an open process. The group chooses what it’s discussing, if not already determined, discusses it with no expectation of particular conclusions, encourages civil disagreement and debate, and makes sure that every member is included and that no one dominates. It helps greatly if the

leader comes to the task with a democratic or, especially, a collaborative style, and with an understanding of how a group functions. Group discussion is the mainstay of any effective SCD project because it truly encourages public participation, leading to empowerment and the ability for community members to take charge of their own destiny (Rabinowitz 2011b).

A good group discussion leader has to pay attention to the process and content of the discussion as well as to the people who make up the group. The practitioner has to prepare the space and the setting to the extent possible; help the group establish ground rules that will keep it moving civilly and comfortably; provide whatever materials are necessary; familiarize themselves with the topic; and make sure that any pre-discussion readings or assignments get to participants in plenty of time.

Then the leader or facilitator has to guide the discussion, being careful to promote an open process; involve everyone; attend to the personal issues and needs of individual group members when they affect the group; summarize or clarify when appropriate; ask questions to keep the discussion moving, and put aside their own agenda, ego, and biases. It's not an easy task, but it can be extremely rewarding. An effective group discussion can lay the groundwork for action in a sustainable community development project that can promote real community change.

A group discussion is a type of meeting, but it differs from the formal meetings discussed above in a number of ways: It may not have a specific goal—many group discussions are just that: a group kicking around or brainstorming ideas on a particular topic. That may lead to a goal ultimately—but it may not. It's less formal, and may have no time constraints, or structured order, or agenda. Its leadership is usually less directive than that of a meeting, encouraging much more dialogue and participant engagement than the typical meeting. The group discussion emphasizes process (the consideration of ideas) over product (specific tasks to be accomplished) within the confines of the meeting itself. In leading a discussion group the practitioner acts much more like a facilitator (Rabinowitz 2011b) in making sure that the following elements of the participant gathering are met:

- All members of the group have a chance to speak, expressing their own ideas and feelings freely, and to pursue and finish out their thoughts.
- All members of the group can hear others' ideas and feelings stated openly.
- Group members can safely test out ideas that are not yet fully formed.
- Group members can receive and respond to respectful but honest and constructive feedback. Feedback could be positive, negative, or merely clarifying or correcting factual questions or errors, but is in all cases delivered respectfully.
- A variety of points of view are put forward and discussed.
- The discussion is not dominated by any one person.
- Arguments, while they may be spirited, are based on the content of ideas and opinions, not on personalities.
- Even in disagreement, there's an understanding that the group is working together to resolve a dispute, solve a problem, create a plan, make a decision, find principles all can agree on, or come to a conclusion from which it can move on to further discussion.

Ultimately, an effective group discussion is one in which many different ideas and viewpoints are heard and considered. This allows the group to accomplish its purpose if it has one, or to establish a basis either for ongoing discussion or for further contact and collaboration among its members.

Developing Facilitation Skills

Facilitation skills are one of the most important abilities for practitioners in SCD because of the leadership they provide in engaging large numbers of community stakeholders in planning processes (Axner 2011). These are the “process” skills the practitioner uses to guide and direct key parts of project organizing work with groups of people such as meetings, planning sessions, and training of community members and leaders when required as part of the overall SCD initiative. Meetings and workshops are one of the main ways that SCD initiative stakeholders identify issues and solve problems.

These group dialogue activities require strong facilitation by a practitioner to stay on mark and have outcomes that are successful. So, whether it’s a meeting (big or small) or a working session, someone has to shape and guide discussion so that participants meet their goals and accomplish what they have set out to do. While a group of people might set the agenda and goals, one person needs to concentrate on how to move through that agenda and meet those goals effectively (Axner 2011). This is the person we call the “facilitator.”

A facilitator is a guide to help people move through a process together, not the seat of wisdom and knowledge. That means a facilitator isn’t there to give opinions, but to draw out opinions and ideas of the group participants. Facilitation focuses on HOW people participate in the process of learning or planning, not just on WHAT gets achieved. A facilitator is neutral and never takes sides. From the facilitator’s point of view, the most important thing is what the participants in the meeting have to say. So, they focus on how the meeting is structured and run to make sure that everyone can participate.

If you want to do good planning, keep community members involved, create real leadership opportunities in the SCD initiative and skills in your participants, you must as a practitioner also possess good facilitator skills. The more you know about how to shape and run a good learning and planning process, the more your members will feel empowered about their own ideas and participation, stay invested in the project, take on responsibility and ownership, and the better your overall initiative will be.

A good facilitator is concerned with the outcome of the meeting or planning session, with how the people in the meeting participate and interact, and with the process itself (Axner 2011). While achieving the goals and outcomes that everyone wants are of course important, a facilitator also wants to make sure that the public participation process is sound, that everyone is engaged, and that the experience is the best it can be for the participants. The practitioner is referred to the International

Association of Public Participation's (IAP2) Core Values for the Practice of Public Participation (<http://www.iap2.org/associations/4748/files/CoreValues.pdf>) as a set of guiding principles to help in facilitating the work of a community by means of all-inclusive public participation.

The SCD practitioner should be knowledgeable about many different kinds of facilitation techniques and processes so that they can choose the right tool to meet the particular need of any meeting that might be required. The design and facilitation of both small and large meetings includes methods such as Technology of Participation (ToP), Pattern Mapping, Collaborative Community Problem-Solving, Asset Mapping, Appreciative Inquiry (AI), Open Space Technology (OST), and the World Café.

By itself ToP provides a good tool for the facilitator in promoting the structure and proficiencies of many other techniques. ToP uses as its framework the ORID (Objective, Reflective, Interpretive, Decisional) method as a form of structured conversation led by a facilitator. This structure can be beneficial as a foundation for many other group facilitation techniques. The ORID process can assist in pursuing a set of questions that can lead to an ultimate decision based upon the form of the question and the sequence the ORID process presents for the group to follow. The method was developed by the Institute for Cultural Affairs (<http://www.ica-usa.org>) as a means to analyze facts and feelings, to ask about implications and to make decisions intelligently. It is a means of escaping the morass of maniacal meetings. When done by a facilitator with some experience in the use of the method, participants are often unaware that they are taking part in a structured conversation. It is as if someone has sat down with the group and started an informal discussion. More detail on the ORID process can be found at <http://www.masterfacilitatorjournal.com/archives/skill124.html> and <http://topfacilitation.net/Docs/ORIDING.cfm>. For more information on facilitation in general, go to The Community Tool Box (http://ctb.ku.edu/en/tablecontents/chapter_1016.aspx), of the Work Group for Community Health and Development at the University of Kansas and the Local Action for Sustainable Economic Renewal Work Book (LASER—<http://www.global-laser.org/cgi/laser/workbook.html?id=deqrP79t>).

Transformative Facilitation

All of the techniques listed above are supported by the creative, participant-friendly practice of the *transformative facilitation* approach (Flint 2010), which is personal, non-judgmental, and non-coercive in nature. With collective understanding and action obtained from the transformative facilitation approach people can successfully resolve their issues as well as organize and implement change. This form of facilitation assumes that participant attitudinal change is key to achieving results from the exploration of opinions and options in an environment where a right versus wrong answer view is discouraged and the showing of dignity and respect is practiced by all. The emphasis of this process is that dialogue is 2-way—listening

and speaking—while controversy is approached by further questioning through appreciative inquiry. Consultation processes are designed as transparent, consensual, and inclusive, by creating fulfilling experiences for participants through mutual efforts to resolve shared problems according to the group’s self-defined values.

Transformative facilitation is an intentional participatory process, involving all stakeholders that can lay the groundwork for a shift from conventional jurisdictional management to adaptive, learning-based co-management. Transformative facilitation promotes a sense of accomplishment, ownership, and belonging through shared learning and dialogue in a process of growing self-realization, self-definition, and self-determination by participants listening to one another’s ideas, not as points of debate but as different and valid experiences, significantly broadening each other’s understanding. It is one approach that works well because it allows people to increase their ability to control their own lives (Flint 2010).

With collective understanding and action obtained from the transformative facilitation approach people can successfully resolve their issues as well as organize and implement change. Transformative facilitation promotes a sense of accomplishment, ownership, and belonging through shared learning and dialogue. Then participants can fully take part in a search for common ground and better policy can be produced through a process of triangulation in which a problem is analyzed from a number of different perspectives, instead of from a single approach which can be dangerously incomplete. Through appropriately facilitated communication the many individual perceptions are then coordinated and integrated into a collective vision of reality by the participants.

Dramatic, fundamental change is necessary if we are really concerned with bettering a perceived situation—which often leads to conflict. Transformative facilitation has the potential to engender moral growth in people by helping them—in the very midst of conflict—to wrestle with difficult inner and outer circumstances and bridge human differences. The best approach to building consensus is thus intuitively transformative because it employs methodologies such as Alternative Dispute Resolution (ADR). The power of a consensus-building process comes from its flexible, inclusive, voluntary, and participant-driven nature. The suggestion of ADR is made here because it involves collaborative problem solving through neutral facilitation that provides disputants a “safe-place” and greater ability for control and buy-in. ADR techniques are very effective in transforming much of the combative conversation into dialogues toward collective understanding and agreement on findings.

Appreciative Inquiry

Most development projects are designed and delivered using a combination of public participatory techniques. These approaches encourage participation,

emphasize the importance of local knowledge and address real problems, but they often fail to sustain community participation after the consultant team leaves.

A more universal facilitation technique in this regard, however, is the Appreciative Inquiry process or tool. Appreciative inquiry (AI) offers a number of foundational elements in facilitation that support other practiced techniques. AI encourages a shift away from the problem-oriented methods toward processes that build on community achievements, existing strengths and local skills. An SCD practitioner needs better methods such as AI for engaging local people, so that they can help communities create a shared vision of an equitable and sustainable future and then move toward it through locally initiated and managed project activities.

Appreciative inquiry turns the traditional problem-solving approach on its head. It focuses on a community's achievements rather than its problems, and seeks to go beyond participation to foster inspiration at the grass-roots level, always expressing forms of appreciation for the community member's point of view and vision. Purposeful change that identifies the best of what is in a community context involves inquiry that is appreciative so that stakeholders can dream about possibilities of "what could be." The process is viewed as appreciative by the community participant which then encourages a cooperative search for the strengths, passions and life-giving forces that are found within every system, those factors that hold the potential for inspired, positive change. The appreciative approach involves collaborative inquiry, based on interviews and affirmative questioning, to collect and celebrate the good news stories of a community, those stories that enhance cultural identity, spirit and vision.

Appreciative inquiry is a way of seeing that is selectively attentive to and affirming of the best and highest qualities in a system, a situation or another human being. Local people can use their understanding of "the best of what is" to construct a vision of what their community might be if they identify their strengths, then improve or intensify them. They achieve this goal by creating provocative propositions that challenge them to move ahead by understanding and building on their current achievements. Provocative propositions are realistic dreams: they empower a community to reach for something better, but base that empowerment on an understanding of what gives them life now.

Along with being a facilitative process in itself, the basics of AI form the basis for many other kinds of community stakeholder assistance regarding group dialogue, decision-making, problem-solving, and strategic sustainability planning. Practitioners of AI believe this approach is true to human nature because it integrates different ways of knowing. Appreciative inquiry allows room for emotional response as well as intellectual analysis, room for imagination as well as rational thought. To be effective as sustainable community development practitioners, one must be adept in the art of understanding, reading and analyzing communities as living, human constructions. The questions that we ask set the stage for discovering stories from which a new future can be conceived and constructed.

More about the process and techniques of Appreciative Inquiry can be found at <http://www.iisd.org/ai/default.htm> as well as the Corporation for Positive Change (<http://www.positivechange.org/about-us/appreciative-inquiry>).

Open Space Technology

Open Space Technology (OST) is a workshop design tool to use when situations include a diverse group of people who must deal with complex and potentially conflicting material in innovative and productive ways. With Open Space, people tend to be creative, synergistic and self-motivated. It is a facilitation method in which people can identify specific issues on a given topic, self-select into discussion groups, and work on the issue with people also concerned with that issue.

OST is a tested approach to the enhancement of group effectiveness (Owen 2005). It can be used with groups of 5–500. It is particularly effective when a number of people must address complex and/or conflicted issues in a short period of time, with high levels of innovation, ownership, and synergy. The circular chair arrangement of the facilitation process signifies that all are equal here—both as knowers and learners. Participants are all facing each other equally, with the opportunity to work together to discuss and resolve issues, if they so choose. Open Space runs on two principles: passion and responsibility. Without passion, nobody is interested. Without responsibility, nothing will get done. Obviously, different people feel passionately about different things and it is also obvious that people will not take responsibility for something they are not passionate about. In OST, people come together around topics they care about. Voluntary self-selection is the absolute essential for participation in the event.

In summary OST enables people to experience a very different quality of organization in which self-managed work groups are the norm, leadership a constantly shared phenomenon, diversity becomes a resource to be used instead of a problem to be overcome, and personal empowerment is a shared experience. It is also fun. In a word, the conditions are set for fundamental organizational change. By the end, groups face an interesting choice. They can do it again, they can do it better, or they can go back to their prior mode of behavior. Open Space is appropriate in situations where a major issue must be resolved, characterized by high levels of complexity, high levels of diversity (in terms of the people involved), the presence of potential or actual conflict, and with a decision time of yesterday (Owen 2005). More information on the process of OST can be found at http://www.openspaceworld.com/brief_history.htm.

World Café

Drawing on seven integrated design principles, the World Café methodology is a simple, effective, and flexible format for promoting large group dialogue. The seven World Café design principles (Brown and Isaacs 2005) are an integrated set of ideas and practices that form the basis of the pattern embodied in the World Café process. They include:

1. Set the context
2. Create hospitable space

3. Explore questions that matter
4. Encourage everyone's contribution
5. Connect diverse perspectives
6. Listen together for patterns and insights
7. Share collective discoveries

The World Café is based on a few simple ideas, but those ideas are situated in a complex nexus that includes elements of process itself, philosophical thinking both historic and recent, a lexicon of new language, emergent social behaviors, and many other groups and methods that are exploring similar territory. World Café can be modified to meet a wide variety of needs. Specifics of context, numbers, purpose, location, and other circumstances are factored into each event's unique invitation, design, and question choice.

Since our earliest ancestors gathered in circles around the warmth of a fire, talking together has been our primary means for discovering common interests, sharing knowledge, imagining the future, and cooperating to survive and thrive. The natural cross-pollination of relationships, ideas, and meaning as people move from one conversation to others, as the World Café model promotes, enables us to learn, explore possibilities, and co-create together. From this perspective, conversations are action—the very heartbeat and lifeblood of social systems like organizations, communities, and cultures. A deeper understanding of the World Café offers a view that goes beyond a method, no matter how skillfully utilized, to the recognition of conversation as a core meaning-making process (Brown and Isaacs 2005). For more detail on the World Café processes go to <http://www.theworldcafe.com/about.html>.

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Chapter 8

Building Capacity for Community Change

Community development practitioners often find themselves engaged in relatively short-term work, focused on particular issues such as improving housing conditions, advancing road safety at school crossings, or protecting aspects of the environment such as campaigns around river, air pollution, or greenhouse gas inventories. Community groups that form around these kinds of issues may be quite ephemeral and fade away again after a campaign has been successful. These constitute communities of interest or issue-based communities, which are usually focused upon a particular issue and look for a particular kind of expert practitioner to resolve the issue of concern.

These kinds of community development activities are not usually designed to engage a large number of community members—the stakeholders for the particular concern are generally small in number compared to the size of the entire community—and there is not much thought given to the development of community capacity at the conclusion of the particular project. Thus, if another similar problem is encountered by the community down the road, the process of expert consultant involvement is repeated and the project design turns out to be about the same as before.

But people live in communities; the real importance of “living in community” is that people—and groups of people—develop the ways and means to care for each other, to nurture the talents and leadership that enhance the quality of community life, and to tackle the problems that challenge the community and the opportunities that can help it. A healthy community is a form of living democracy: people working together to address what matters to them. Citizens have a duty to shape the basic conditions that affect their lives with others (Trent and Chavis 2007). They are guided by shared values and principles that bind people in a common purpose. Building healthier communities blends the local and the universal, the particular and broader contexts. Such efforts are grounded locally: the family, the neighborhood, and other familiar communities.

When people do these things, communities become healthy; when they do not, communities often remain in status quo or decline in overall condition. Communities that have the ways and means to undertake challenges demonstrate “capacity.” Without capacity, communities are merely collections of individuals.

Communities without capacity really are not healthy in any meaningful sense, but have more often than not given way to negative conditions like apathy, poverty, or ineptitude.

Affecting Community Change

From the day they begin a project initiative with the client community, the practitioner of sustainable community development (SCD) must always have the subject and general means of improving community capacity for change in their sights. Most SCD practitioners are committed to “bringing the community along with them” in the design and development of their work. This naturally implies that the practitioner is responsible for ensuring that community members participating actively in the project will develop a variety of leadership skills and learn the importance of forming collaborative partnerships with other individuals and institutions.

As discussed earlier, an essential ingredient in the sustainable development of communities is the intensive engagement of all stakeholders, community members, and/or those invested in the outcome. Community change strategies are best initiated, driven, and completed by the community. The priority should be to engage community members in learning about and understanding community issues and the economic, social, environmental, political, psychological, and other impacts associated with alternative courses of action.

Capacity building encourages all stakeholders to become the best they can be—as individuals and communities. Building community capacity encompasses human, scientific, technological, organizational, institutional, and resource capabilities. Implementing change in communities also requires that they possess the capability to accomplish strategic activities. A fundamental goal of community capacity building is to increase the ability of individuals to make policy choices and select modes of implementation among development options, based on an understanding of environment potentials and limits and of perceived needs.

Only through all-inclusive community member involvement can lasting change really take place. And this change is informed by the values, principles, and assumptions that the practitioner encourages the community to focus upon in their deliberations for improvement. But the terms values, principles, and assumptions are sometimes used as if they all mean the same thing—the underlying truths on which we base our dealings with the world. In fact, although they are all “truths” to some extent, they are different in meaning and substance, especially in the context of sustainable community development (Rabinowitz 2011a).

Values are our inner guidelines for living and behavior. Each of us has a set of deeply held beliefs about how the world *should be*—but sometimes these beliefs are not always right. *Principles* are the fundamental scientific, logical, or moral, and ethical “truths,” arising from experience, knowledge, and (often) values, on which we base our actions and thinking. In the case of the community progress, they are

the underpinning of our understanding of community health and development, the truths that shape both our reasons for doing the work and the work itself. *Assumptions* are the next level of truths, the ones we feel we can take for granted, given the principles we have accepted. If we accept, for instance, that life is an “unalienable right”—a right of every human being that cannot be taken away—then we will usually assume that killing another person is wrong, or at least that we do not have the right to do it. Values, principles, and assumptions are the basic ingredients of creating a probable and strategic course of action that any community should consider, share, and understand in their quest for informed ways of achieving change.

Values are a reflection of what we deeply believe and feel; principles are a reflection of what we think. Assumptions are not the same as values, because they often stem from logical—or what we believe is logical—reasoning, rather than from deeply held beliefs. They differ from principles in that they do not usually form the basis of our thinking and action, but guide how we respond to our principles. Values, principles, and assumptions of community change and capacity building have to do largely with the fundamental dignity and worth of all people; the ability of—and necessity for—communities to solve their own problems and produce their own leaders; the ethical and practical necessities of health and community work; and the need for positive social change.

Learning from the Process of Community Change

When we talk about building healthier communities, we mean the process of people working together on what matters to them—whether that is reducing greenhouse gas emissions, revitalizing an urban neighborhood, or promoting child health. Civic engagement is promoted among the members of the community either on their own or with the assistance of an expert SCD practitioner. By community, we mean people who share a commonplace, such as a rural community or urban neighborhood, or common experience, including being an adolescent or a member of an ethnic minority group.

Through committed civic engagement, the practitioner can help to change the conditions the community experiences, leading to behavioral change and long-term improvement. For example, a community organization might make it more difficult for teens to buy cigarettes, with the objective that this change will result in fewer teens smoking and fewer related deaths.

In many areas of life, we use a cycle of steps. To grow crops, there are the seasons of plowing, fertilizing, planting, and weeding, before the harvest. To graduate from school, there is a routine of classes and evaluation. Extensive evaluation of community development projects indicates a frequent failure: communities and governments often just keep starting over, without ever completing a full cycle of action—much like a farmer who never goes beyond plowing and planting or a child who keeps

repeating the same class in school. In this regard, often one can hear reference made to the “development of another report that will just collect dust on the bookshelf.”

The process of community change can begin by focusing on any given need. The initial goal may be a health clinic, a conservation effort, a jobs program, a road. The first activity matters far less than how community choices are made and the cooperation that follows. What is crucial is that community action starts a process that builds enough momentum to complete a cycle, where one success adds to the next. It is imperative to complete an annual cycle. Passing laws then not implementing them is all too common. Funding a project, but not building the participant skills to use those funds appropriately is another frequent error.

Our experience in SCD initiatives has shown that each year seven steps are required to complete a cycle of community development toward change. Such effort, however well intended, is essentially wasted if only some of those steps are accomplished. So complete the whole cycle, even if poorly, then next year do the cycle better. This framework, described below, will form the foundation for continuous improvement in the capacity of any community to make change effective and long-lasting.

Step One: Create a coordinating committee. One individual who seeks to lead will likely get caught by factions or personalized demands. But a coordinating committee brings groups together and distributes responsibilities.

Step Two: Identify the community's successes. Whatever the community has done best in the past will be the most likely base for future success. Outside experts can help identify these successes.

Step Three: Study other communities. Find options that have worked for other people in similar circumstances, options that can be adapted and used. Send community members to observe these other successes, especially those people who will actually do the work.

Step Four: Self-evaluation. Gather data specific to the target community. Collect information on resources and problems. Look at human needs, financial factors, and environmental change. Such objective data provide a better basis for action than the more common practice of bringing together people's opinions.

Step Five: Effective decision-making. Working from data specific to the community, practitioner-led discussion will identify and clarify actions that can solve problems and build community confidence. Discussing these matters collaboratively, the community probes the sources of problems and explores alternative solutions. Once community members (in public meetings, guided by the coordinating committee) have agreed on an achievable course of action, it is time to create an annual work plan that assigns specific jobs and functions to all.

Step Six: Start popular projects. Aggregate specific activities so momentum converges and builds into an evolving process. Building progress that will lead to further progress means involving as many people in the community as possible.

Step Seven: Maintain the momentum. Keep improving what works, so as not to waste the community experience. The issue here is not so much to find the perfect solution but rather to test a promising process, adapt it, and keep building on it. Tackle projects everyone believes in. Monitor the momentum of this community

action, in order to make necessary midcourse corrections in the way the work is actually performed and, when needed, reassign tasks to make sure they are accomplished.

What Is Community Capacity?

Community capacity refers to the ability of community members to make a difference over time and across different issues. Capacity is not a one-time thing; like learning to ride a bike, it is not something that disappears once you have experienced it. And like riding a bike, we get better the more we practice. For example, if a member of your community is killed by a drunk driver, people might be really angry. For a few weeks—or even a few months—community members might work together to stop people from drinking and driving. But if that is all that happens if those efforts fade away, and people go back to what they see as their “normal lives”—that is *not* building community capacity.

It must instead be seen as a process, where people see working on community issues as a part of their “normal lives.” The group that plants a tree every year on Earth Day has developed a certain amount of community capacity. Likewise, the community that developed a successful collaboration for substance abuse might decide later that rates of childhood immunization are not high enough in their community and then also work effectively to improve those rates. By translating what they learned while developing the substance abuse coalition (e.g., ways to recruit members or to work with the media), they should be able to do a good job and effectively improve the immunization rates. A community has demonstrated strong community capacity when it can bring about community changes over time and across concerns (Mayer 1995).

SCD should continually create and improve the well-being and capacity to develop a community’s full potential. SCD works as a catalyst to strengthen the capacity of communities to enhance individual and collective health, well-being, and development of individuals, organizations, sectors, and communities by promoting and supporting asset building, skills development, community learning, social development, and economic development.

Capacity building describes processes and activities that maximize the human potential to take intentional actions and initiatives that support all people to become the best they can be—as individuals and communities. A comprehensive, integrated approach to capacity building nurtures excellence, expansion, and positive change in all areas of human experience. This approach integrates the exterior, practical aspects of life (such as ecology, economics, and social systems) with the interior, subtle aspects of humanity (like psychology, culture, and spirituality).

Community capacity is the combined influence of a community’s obligation, assets, and talents that can be deployed by an individual or an institution to build on community strengths and address community problems and opportunities (Fawcett 2009). A person or institution must first develop capacity in and for themselves

before it can help develop capacity in others. It is clear that some community institutions are better adapted or suited to creating capacity than others. Some take on considerably more capacity than they help create elsewhere, whereas others may be highly efficient, creating as much or more capacity in others as in themselves. A group or an institution gets its capacity from drawing on the commitment, resources, and skills from those within and around it, as discussed briefly below:

- *Commitment* refers to the community-wide will to act, based on a shared awareness of problems, opportunities, and workable solutions. It refers also to heightened support in key sectors of the community to address opportunities, solve problems, and strengthen community responses.
- *Resources* refer to financial, natural, and human assets and the means to deploy them intelligently and fairly. It also includes having the information or guidelines that will ensure the best use of these resources.
- *Skills* include all the talents and expertise of individuals and organizations that can be marshaled to address problems, seize opportunities, and to add strength to existing and emerging institutions.

These three essential ingredients of community capacity—commitment, resources, and skills—do not “just happen.” Rather, they are developed through effort, will, initiative, and leadership (Weitzman et al. 2002), all of which are strongly influenced by an experienced SCD practitioner. For example, effort, will, initiative, and leadership are needed on the part of an individual or staff/administrators of an institution (influenced by an experienced SCD practitioner) to:

- Involve and educate community members, help shape opinion, and galvanize commitment to act;
- Attract and collect resources, compile information, and shape ways for deploying these resources to “catalyze” change in how problems are addressed and opportunities are seized; and
- Organize people and work, develop skills, and coordinate or manage a sustained effort that builds up the positive qualities of community life that enable a community to address its problems and recognize and act on its opportunities.

All kinds of community groups contribute to community capacity to some degree. Communities, and the groups and institutions within them, can intentionally and strategically work to develop their capacity.

The Development Triangle Point of View

As discussed in an earlier chapter, economy often underlies community efforts to design solutions for perceived problems. If communities want to change their economy in a way that seeks equal consideration for modern society, economics, and nature, they can make effective use of the community development triangle (Fig. 8.1). This can be superimposed on the three-overlapping circles introduced as

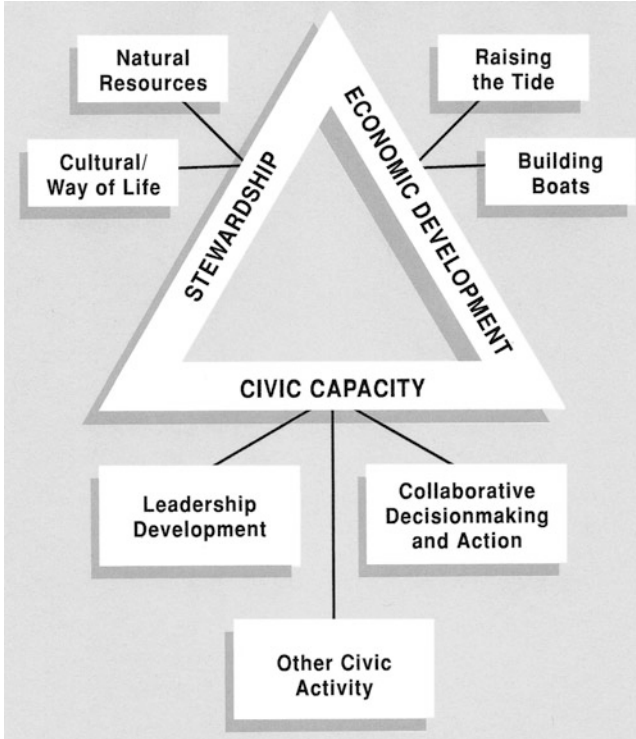


Fig. 8.1 Depiction of the rural development triangle that illustrates relationships of stewardship, economic development, and civic capacity

part of the sustainability model in Chap. 3. The triangle in Fig. 8.1 emphasizes the importance of stewardship, development, and civic capacity. The triangle base shown in Fig. 8.1 symbolically illustrates the *importance* of community (civic) capacity in sustainable community development—it holds up the other two sides of the triangle. According to this model, the economy of a place is very closely linked to the locale’s stewardship of natural resources, environments, and people. Furthermore, in order to achieve a sound balance between economic development and stewardship, there must be a strong foundation of community capacity upon which to enact identified actions (Aspen Institute 1996; Flint 2010).

In other words, community (civic) capacity building forms the base for more than just economic development. Solid community capacity also offers a foundation for making good decisions about the stewardship of a region’s natural, human, and cultural resources, so the community’s way of life can be maintained and improved over time. The development triangle of Fig. 8.1 shows these three important components of community development and how they relate to each other.

1. *Community capacity building* promotes the ability of people in a community to work together, make well-considered and collaborative decisions, develop a

vision and strategy for the future, and act over time to make these real—all while being positioned to tap into and enhance the individual skills and abilities of an ever-increasing quantity and diversity of participants and organizations within the community. Community capacity building efforts can encompass a wide range of activities, from formal leadership development efforts to community-wide strategic planning to a wide variety of less formal activities that build trust and camaraderie among citizens—like church socials, girl and boy scouts, volunteer community cleanups, or chamber of commerce events. Community capacity building forms the base of the development triangle because the better a community's capacity, the better the decisions a community makes about its economic development or stewardship choices—and the better the community is at turning those decisions into effective action.

2. *Economic development* too often means the traditional view about how to build community economies that has dominated the last half century: Rely on the ready availability of natural resources, low labor costs, and lax taxes and regulations to recruit businesses to rural community areas. This approach has helped some rural areas, if only temporarily, but has left others scarred economically, socially, and environmentally. In recent years, as the economy has gone global, as the methods and technology of work have changed, and as natural resources have become scarcer and more highly prized as contributors to our quality of life, new choices for development have emerged. They center on growing entrepreneurs from within the community. They base business development strategy on the existing core competencies of resident people and firms—in other words, trying to take advantage of and strengthen what they are already good at. And they focus on finding and pursuing the market opportunities—that is, places to sell their existing products and skills, new ways to sell them, and ideas for developing new products and skills—that complement these core competencies. And then there are those communities who are really being aggressive economically and discovering new ways to add value to existing resources to benefit from that value instead of someone further up the supply chain.
3. *Stewardship* suggests that a community must steward its natural resources and way of life—and nurture its culture and people—if development is to be maintained at a healthy and sustainable level over time. Economic development typically produces growth. Growth, however, is not always good. For many communities, as for most people, there is a “right size” beyond which growth will take over the way of life, deplete resources, and change the standard of living of many residents—some for the better, some for the worse. In short, economic development and stewardship are somewhat in tension, and a community that focuses on either in the extreme—growth at any cost versus a knee-jerk resistance to any change—will not serve residents well. Community stewardship is made possible when citizens acknowledge the value of their resources and engage in civic dialogue to determine, as a community, how and which resources should be developed or preserved. Typically, dialogue and action comes when it is far too late, when unplanned development has destroyed the amenities that residents most appreciate, often the very natural and cultural resources that have the most value for the community's long-term viability and vitality.

The SCD practitioner, in their advisory role to the target community, should strongly promote the idea that leaders and communities in general must attend to each part of the development triangle (Fig. 8.1) if they wish to achieve healthy, sustainable development and that there is an advantage to addressing the three areas simultaneously. Nonetheless, paying attention to the base—that is, community capacity building—will certainly also strengthen a community’s future economic development and stewardship efforts as suggested by the symbolism of the triangle.

The SCD practitioner is in an ideal position to recommend that community development is a way of strengthening civil society by prioritizing the actions of communities and their perspectives in the development of social, economic, and environmental policy. It seeks the empowerment of local communities, taken to mean geographical communities, communities of interest or identity, and communities organizing around specific themes or policy initiatives. The practitioner can strengthen the capacity of people as active citizens through their community groups, organizations, and networks and the capacity of institutions and agencies (public, private, and nongovernmental) to work in dialogue with citizens to shape and determine change in their communities. They can play a crucial role in supporting active democratic life by promoting the autonomous voice of disadvantaged and vulnerable communities. And the practitioner is in a position to promote to community members a set of core values/social principles covering human rights, social inclusion, equality and respect for diversity, and a specific skill and knowledge base.

Community development is thus a method, a practice, that not only involves a set of skills, a knowledge base, but also has a strong value base (Kretzmann and McKnight, 1993). It should offer significant advantage to the role of ordinary communities themselves in identifying and organizing to meet their needs. Through this approach to social change, ordinary people—and particularly the most powerless and deprived—should begin to recognize the real basis for their empowerment by the counsel of the SCD practitioner.

In seeking full community participation, sustainable development requires the constant and equal consideration of actions at all levels (personal, professional, and governmental). Only in this manner can we achieve community economic security while maintaining environmental integrity in ways that are fair and equal to all members of society and that attack the underlying causes of problems, instead of the symptoms we most easily see. In applying sustainable development principles, one must link economic, societal, and environmental issues on a sound foundation of citizen capacity and will, to strengthen the overall community fabric and realize its long-term vision. For example, recognition of the following basic beliefs that open the door to leadership will direct communities down a path to achieve critical community capacity and maximum participation toward sustainability:

- *Commitment to place*—activities that strengthen a sense of place and a willingness to work together.
- *Vitality*—dynamic, healthy progress in economies, communities, and ecosystems sustained over time.
- *Resilience*—ability to withstand and recover from disturbances in economies, communities, and ecosystems.

- *Stewardship*—how humans interact with others where they live and with the environment they inhabit.
- *Making connections*—working with communities in a watershed context since their activities affect one another.
- *Equity*—benefits, burdens, and decision-making shared equally among members of a community.

Promoting Leadership

A major issue of concern in SCD programs involves the fact that the practitioner will not be working with the SCD target community forever—the project will end. And the community must rely upon whatever capacity it has developed for carrying on the activities and programs the community has committed to after the practitioner departs. The capacity the community must build upon, which the practitioner is central to the development of, relies both on the leadership skills that can be learned by the people in the community and on the different collaborative partnerships that can be developed with others to add to the ability of community planning and action-taking skills that are built up within the community membership (Rabinowitz 2011b).

In working to improve communities, leadership is the most important resource. It is the engine that pulls the train. If you are involved in any group or organization, you will need to develop leadership in order to accomplish anything of significance. Why? Because it is leaders who make things happen. It is leaders who have a vision, take initiative, influence people, make proposals, organize logistics, solve problems, follow up, and, most of all, take responsibility.

Commitment to the cause is not enough to achieve results. In the conduct of comprehensive community initiatives, the SCD practitioner must be cognizant of the specific knowledge, skills, and relationships that the initiative's leadership and staff need to be successful. Comprehensive community initiatives require the leadership ability to promote the initiative and bring the right people and resources to the table, the management capability to keep the operation on track, and the staff means to implement effectively. Not having the right people in leadership positions is particularly problematic. Good management and capable staff leadership, however, play a clear role in enabling the level of coordination and collaboration required to nurture comprehensive programs and strategies. Leaders focus on building relationships with new allies and negotiating to leverage additional resources, thereby facilitating the achievement of results while serving as the glue to hold the initiative together.

Being a leader is in itself a challenge. The challenges of leadership are really of three kinds: external, coming from people and situations; internal, stemming from within the leader themselves; and those arising from the nature of the leadership role (Rabinowitz 2011b).

- *External challenges:* In an organization, such issues as lack of funding and other resources, opposition from forces in the community, and interpersonal problems within the group often rear their heads. Social, economic, and political forces in the larger world can affect the community group as well. To some extent, the measure of any leader is how well they can deal with the constant succession of crises and minor annoyances that threaten the mission of the group. If they are able to solve problems, take advantage of opportunities, and resolve conflict with an air of calm and a minimum of fuss, most of the external issues are hardly noticeable to anyone else. If the leader does not handle external challenges well, the community group probably will not, either. We have all seen examples of this, in organizations where everyone, from the director to the custodian, has a constantly worried look, and news is passed in whispers. When people feel that leaders are stressed or unsure, they themselves become stressed or unsure as well, and the emphasis of the group moves from its mission to the current worrisome situation. The work of the group suffers.
- *Internal challenges:* While leadership presents to each of us the opportunity to demonstrate the best of what we are, it also exposes our limitations. In many cases, good leaders have to overcome those limitations in order to transmit and follow their vision. Fear, lack of confidence, insecurity, impatience, intolerance—all can act as barriers to leadership. At the same time, acknowledging and overcoming them can turn a mediocre leader into a great one. It is often very difficult for people, especially those who see themselves as leaders, to admit that they might have personality traits or personal characteristics that interfere with their ability to reach their goals. Part of good leadership is learning to accept the reality of those traits and working to change them so that they do not get in the way.
- *Challenges arising from leadership itself:* Real leadership makes great demands on people. As a leader, you are responsible for your group's vision and mission, for upholding a standard, often for being the group's representative to the rest of the world, and its protector as well. These responsibilities might be shared, but in most organizations, one person takes the largest part of the burden. In addition to its responsibilities, leadership brings such challenges as motivating people—often without seeming to do so—and keeping them from stagnating when they are doing well. Leaders also have to motivate themselves, and not just to seem, but actually to be, enthusiastic about what they are doing. They have to be aware of serving their group and its members, and all that that entails. In other words, they have to be leaders all the time.

The Power of Collaborative Partnerships

Community health—the well-being of the people who share a commonplace or experience—requires changes in both the behaviors of large numbers of individuals and the conditions that affect their well-being. Although community members are

best positioned to determine their concerns and strategies, other partners are needed to help with technical support and in obtaining financial and other required resources.

To be effective in an SCD initiative, the practitioner must either promote partnerships or encourage community stakeholders to bring diverse groups of people and organizations together to utilize the broader conditions that can nourish local work. In other words, a community must always be on the lookout for broader collaborations through partnerships. This requires courage, doubt, and faith: the courage to trust those outside a community's immediate experience, the doubt to question local capability, and the faith to believe that, together, people will make a difference. The work of building healthier communities takes time: our time, that of our children, and that of our children's children. A Jewish proverb counsels: "You are not bound to finish the work, but neither are you free to give it up" (Fawcett 2009). In our emerging ties across place and time, we join others in an attempt to create environments worthy of all our children.

At some point in an SCD initiative, there will be a need to examine, define, and forge relationships, roles, and responsibilities among community partnerships, support organizations, and grantmakers. The aim is to maximize synergy for the future.

Collaborative partnerships are a powerful way to improve communities. That is, to improve a community, we must all work together to solve problems. Even neighborhood-level change requires relationships and partnerships with entities beyond the neighborhood to optimize funding and access needed expertise and skills. One reason for this is that issues that matter to local people, such as child health, academic success, safe water supply, or substance abuse, do not fit into neat categories. The things that make one issue a problem usually involve other things as well. Identifying the connections among problems helps us to see the many ways in which we are linked together as well as the many paths that change can take.

Who should be involved in collaboration? In general, it is important that the collaboration is as inclusive as possible. Transforming the conditions that affect community health and development requires a broad partnership among several key players. This means individuals from the different parts of the community, for example, representatives from schools, business, and the government. It also means representatives from different levels, for example, representatives from the town, the county, the state or province, and even the region or nation.

Moreover, three distinct groups emerge as playing vital, interdependent roles in the formation of collaborative partnerships for any SCD initiative: state and community partnerships; support and intermediary organizations; and grantmakers—private foundations. Let us look at each of these groups:

- *State and community partnerships* (those doing the work of community and systems change)—link together people and organizations that have the same goals. For example, a community partnership for universal access to health care might bring together representatives from health care with representatives of groups who have traditionally not had access. Together, they might work

to make changes throughout the community that would improve access for all. Specific changes might be made in local community-based organizations, health organizations, businesses, schools, the government, financial institutions, and the faith community—all with the overall goal of access to health care for all.

- *Support and intermediary organizations*—such as university-based research centers and community-based organizations help community partners develop the skills they need to be effective. Often, these groups concentrate on improving community members’ understanding of the core competencies necessary to do this work. Examples of these competencies include community assessment, strategic planning, community action and advocacy, community evaluation, and securing resources to sustain the effort.
- *Grantmakers—Foundations*—help create conditions for success by using requests for proposals to bring people together for a common purpose, such as reducing air and water pollution or improving arts education for children. They can also broker connections among groups working in the same community or on the same issue. Finally, they can leverage funding and resources through relationships with other grantmakers and help make the desired outcome occur—know as “making outcome matter.”

Finally, forging strong connections to the public sector is a critical task for the SCD practitioner and community members, in community governance and services. Achieving sufficient scope means strategically integrating all potentially synergistic programs and activities.

Evaluating Community Capacity Outcomes

There are seven essential ingredients that contribute to sustainable community change (Trent and Chavis 2007) and will lead to the capacity a community needs to maintain its well-being into the future.

- *Clear vision and mission*—those initiatives with a clear and specific focus, such as increasing rates of childhood immunization or lowering the rate of unemployment, bring about much higher rates of change than broad “healthy communities” efforts that lack a targeted mission and objectives. The vision and mission may reflect a continuum of outcomes.
- *Action planning*—Identifying specific community changes (that is, new or modified programs, policies, and practices) to be sought is extremely important for identifying actions that need to be implemented. The Strategic Sustainability Plan should be quite precise, specifying with whom, by whom, how, and by when each action step should be carried out.
- *Leadership*—A change in leadership can dramatically affect the rate of change brought about by a community group. The loss of strong leadership can be particularly difficult for a community. Acquiring strong leadership can keep

community members engaged, on track, and able to achieve some of the objectives originally proposed.

- *Resources for community mobilizers*—Professional community mobilizers or organizers can aid in following up on action plans. It can be very difficult to maintain an organization without qualified staff. Paid organizers can reliably help fan the flames and keep the level of excitement about the community group and its goals at a consistently high level.
- *Documentation and feedback on the changes brought about by the group*—It is also very important that people keep a record of what they have done and how they have done it. Having this history can be an invaluable guide for the community group's work. Looking regularly (at least quarterly) at what the group has done, how quickly it has occurred, and outside events that affect the group's work has been shown to spur groups onto even greater heights.
- *Technical assistance*—Outside help with specific skill assignments, such as action planning or securing resources, is also a way to ensure a group's efforts to transform its community.
- *"Making outcome matter"*—Finally, grantmakers also have the ability to increase rates of community and systems change through offering incentives or disincentives to their grantees. For example, the annual renewal of multiyear awards or the offering of bonus grants could be based on evidence of progress or accomplishment by the community group.

There are a number of indicators that can be used to inform an SCD target community that they have contributed significantly to building the community capacity of the group (Aspen Institute 1996). These are indicators of residual commitment, resources, and skills that will be required after the consultants go home, the community is on its own, and stakeholders want to continue the momentum of change. These indicators include the following.

Expanding, diverse, inclusive citizen participation: In a community where capacity is being built, an ever-increasing number of people participate in all types of activities and decisions. These folks include all the different parts of the community and also represent its diversity.

Expanding leadership base: Community leaders that bring new people into decision-making are building community capacity. But the chances to gain skills and to practice and learn leadership are also important parts of the leadership base.

Strengthened individual skills: A community that uses all kinds of resources to create opportunities for individual skill development is building community capacity in an important way. As individuals develop new skills and expertise, the level of volunteer service is raised.

Widely shared understanding and vision: Creating a vision of the best community future is an important part of planning. But in community capacity building, the emphasis is on how widely that vision is shared. Getting to agreement on that vision is a process that builds community capacity.

Strategic community agenda: When clubs and organizations consider changes that might come in the future and plan together, the result is a strategic community

agenda. Having a response to the future already thought through community-wide is one way to understand and manage change.

Consistent, tangible progress toward goals: A community with capacity turns plans into results. Whether it is using benchmarks to gauge progress or setting milestones to mark accomplishments, the momentum and bias for action come through as a community gets things done.

More effective community organizations and institutions: All types of civic clubs and traditional institutions—such as churches, schools, and newspapers—are the mainstay of community capacity building. If citizen organizations and institutions are run well and efficiently, the community will be stronger.

Better resource utilization by the community: Ideally, the community should select and use resources in the same way a smart consumer will make a purchase. Communities that balance local self-reliance with the use of outside resources can face the future with confidence.

Almost everything significant that happens in the world starts with a leader or a group of leaders who care enough about something to organize and get others moving toward a goal. Not all leaders are needed for lofty goals, however. Sometimes a person with the right combination of characteristics is in the right place at the right time: to short-circuit panic and help people find their way out of a burning building, for instance, or to buoy up spirits or find the right strategy in the midst of an exhausting and frustrating advocacy campaign. Nor does leadership have to be dramatic.

Communities, advocacy efforts, and grass roots and community-based organizations need these people, just as the larger society needs the Martin Luther Kings. They make positive growth and change possible and improve the quality of life for everyone. But they do not come out of nowhere: the right people are much more likely to step up as leaders when they have had some experiences that make them feel they are capable. These are the kinds of community members that SCD practitioners and their teams should always be on the lookout for. For more details on building community capacity for change, go to the Community Tool Box of the Work Group for Community Health and Development at the University of Kansas, Lawrence, KS (http://ctb.ku.edu/en/tablecontents/chapter_1001.aspx).

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Chapter 9

Creating a Community Vision

A specialist was hired to develop and present a series of half-day training seminars on empowerment and teamwork for the managers of a large international oil company. Fifteen minutes into the first presentation, he took a headlong plunge into the trap of assumption. With great intent, he laid the groundwork for what he considered the heart of empowerment—team-building, family, and community. He praised the need for energy, commitment, and passion for production. At what he thought was the appropriate time, he asked the group of 40 managers the simple question on which he was to ground his entire talk: “What is the vision of your company?”

No one raised a hand. The speaker thought they might be shy, so he gently encouraged them. The room grew deadly silent. Everyone was looking at everyone else, and he had a sinking sensation in his stomach. “Your company does have a vision, doesn’t it?” he asked.

A few people shrugged, and a few shook their heads. He was dumbfounded. How could any group or individual strive toward greatness and mastery without knowing their vision? That is exactly the point. They cannot. They can maintain, they can survive; but they cannot expect to achieve greatness.

And if this were not a corporation but rather a community, like a town or county, the concern would be equally as great if the community wanted to collaborate among its members on improvements. Without a vision, how would they know that everyone wanted the same kind of improvements and how would the community know where it was going, what it collectively wanted the future to look like? And without a vision that referenced sustainable development for future improvements, how would people know they were moving toward a more sustainable tomorrow?

If a community wants to promote sustainable development as a means for improving itself, the community must examine its members’ core values and determine how those core values are projected into the future as a vision (Norton 2005). The simple community-based definition of sustainability expressed earlier is the basis for a community developing a vision compatible with its character. It is not sufficient for the community to borrow a definition of sustainability from someplace else. It instead needs to evaluate its own core values and from that

process create the community's own sense for sustainability such that it can craft a vision that is empowering and guiding to the specific community as a whole.

Since the development of a vision through the analysis of a community's core values is the first real facilitator-organized engagement step, let us examine the process behind visioning and learn what this process leads to in the way of the community's characterization of a future, including the goals for improvement they believe are needed in order to achieve their vision.

Foresight First: The Vision

Many organizations, as illustrated by the brief story above, not only lack a vision, but also are unaware of the power that a vision produces. And not so surprisingly, many individuals have not thought about their lifetime purpose; they do not have a vision, either. Corporations make the common mistake of equating a mission statement with a vision, and individuals often believe that setting a goal is the same as defining a vision.

We have all seen organizations whose purpose we never quite understood; we know they are out there, in our town, doing something—but we are not quite sure what. They may have a purpose we could learn about, but we have never taken the time to do so; it is always been more effort than it was worth. If we got closer to these organizations, we might be surprised to learn that even some of their own members are not entirely sure of the organization's goals; they know only about a specific project they are working on at that moment. Very often, these organizations end up slipping quietly away; they lose their momentum, they lose their funding, and finally, the organization is gone, with no one really noticing much.

So is vision really that important? Chances are these organizations never had well-defined vision statements to help clarify and communicate their purpose. Developing these key elements is certainly very crucial to the success of any community initiative. A vision exceeds importance. It is vital. We either imagine our own destiny, or we live out someone else's creation. That is the choice. A vision is like a lighthouse that illuminates rather than limits, gives direction rather than destination. Almost all successful individuals, organizations, and community groups have one thing in common: the power and depth of their vision, which can be as simple as that illustrated in Fig. 9.1. A positive, meaningful vision of the future supported by compelling goals provides purpose and direction in the present. A vision is not something that happens by accident. It is purposefully created. Meaning flows from the act of any creation, and passion comes into our lives when we act congruently with our vision.

Defining and Crafting a Vision?

First of all, a vision is greater than ourselves. A vision may be eliminating world hunger, cleaning up the environment, or serving others. Vision is always about



Fig. 9.1 A community vision might be as simple as caring about the future for our children

greatness. A vision expresses our values and what we hope to contribute. Vision is about creating a community group or organization whose members express their deepest held values about work, family, achievement, or community.

Vision transforms momentary strategies into a way of life. Vision engenders change. Vision is creating an ideal preferred future with a grand purpose of greatness. It plays a core role in many activities ranging from career choices to family vacations to creating a better community life.

A community's vision communicates what members or stakeholders believe are the ideal conditions for the community—how things would look if the issue important to each community member were perfectly addressed. This utopian dream is generally described by one or more phrases or vision statements, which are brief proclamations that convey the community's dreams for the future. By developing a vision statement, the participating community members make the beliefs and governing principles of the group clear to the greater community.

The first step in producing a vision is to know what a vision is not. As stated above, it is a common misunderstanding to equate a mission statement with a vision statement. In fact, one of the most often-heard comments is: "But we already have a mission statement."

The difference is vast. A mission statement comes from the head; a vision comes from the heart. A mission statement is a declaration of what the organization does if a business: its goals, its ranking, return on equity and net assets, and increased profitability. But a vision cannot be expressed in numbers. Numbers are only a manifestation or consequence of a vision yet to be defined.

A vision is a consciously created fantasy of what we would ideally like the organization or community to be, a waking dream, and this idea is not new to many organizations. A vision statement is often another name for "guiding principles"

or “core values.” What is new is that in the empowered community, it is the challenge of leadership to make sure each and every person is involved in creating the vision. The task of each person is to create his own grand vision and then attempt to integrate it into what other community members are seeing as their vision for the community.

Goals versus Vision

The second most common mistake is to confuse goals with vision. A goal is a baby step toward a vision. A goal may be short-term or long-term; it has a beginning and an end. But a vision is an ongoing process.

A goal is task-oriented; a vision is process-oriented. A goal is limiting; a vision is open-ended. A goal is often boring, mundane, non-inspirational, but a vision provides the energy, power, and passion to achieve goals. To create a grand vision, you need to be aware of its qualities (Nagy and Fawcett 2011).

- *It is from the heart:* It may not necessarily be considered practical or reasonable. Goals are practical and reasonable, vision is not. The loftiness of a vision may seem as though it asks too much of us. If it does, then one is on the right track. How can a vision be grand if it does not require us to stretch? A great vision requires great sacrifice.
- *It is authentic:* Authenticity means the vision statement comes from you. No one can make the statement for you. It must be personal in order for us to “own” it. It must be recognized as uniquely ours. The vision must be an extension of our personal being.
- *And extraordinary:* A grand vision must take a quantum leap from the ordinary. If it spells out our highest ideals and wishes, it stands to reason that it will stand above the commonplace. It will set us apart from the crowd.

Why Develop a Vision?

It is easy to allow ourselves to be manipulated. We are constantly presented with a social mirror—magazines, advertisements, television shows—that purport to be a reflection of normalcy. We are led to believe that being normal is to create a vision like everyone else’s. If we choose to venture outside of what is considered normal, we will be criticized; yet people have great respect for risk-takers.

As a rule, with the exception of a few greats like JFK, MLK, Steve Jobs, great visions are not handed down from above. They are not dictated or manipulative. That would be yet another form of control. Visions are created, crafted, and shaped by those in partnership, built by those who will be living the vision. The sustainable community development (SCD) practitioner should attempt to promote the idea

of thinking outside the box as much as possible during a community's work on their vision. The process of visioning can be all-inclusive of the public in a community. "Buy-in" is most important here, and if everyone is not involved in crafting their vision for the community, buy-in will probably not occur to the degree needed for future direction.

There are certain characteristics that most vision statements have in common. In general, vision statements should be

- Understood and shared by members of the community
- Broad enough to encompass a variety of local perspectives
- Inspiring and uplifting to everyone involved in the effort
- Easy to communicate—for example, they should be short enough to fit on a T-shirt

Why is it important that the SCD consultant team help the target community develop a vision statement? First of all, because it can help the community focus on what is really possible. Although stakeholders know what the group is trying to do to improve the community, it is easy to lose sight of this when dealing with the day-to-day hassles that plague all people. The vision statement helps members remember what is ultimately important as they go about doing their daily work.

Second, the vision statement lets other individuals and organizations see a snapshot view of who the community really is and what it wants to do as is simply illustrated in Fig. 9.2—the community's concern regarding its relationship with nature. When the vision statement is easily visible (for example, on the letterhead of your stationary), people get a sense of the community without having to work hard for the information. Then, those with common interests can take the time necessary to learn more. Clearly, this can be very helpful when a community group is recruiting other people and organizations to collaborate in its improvement effort.

Finally, vision statements are very helpful to community members who are focused and bound together in common purpose. Not only does the statement itself serve as a constant reminder of what is important to the community, but also the process of developing it allows people to see the community group as "theirs." It is common sense: people will believe in something more completely if they had a hand in developing it.

The SCD practitioner can take advantage of the many benefits of developing a vision statement:

- Presents a starting point to begin identifying community members' core values;
- Draws people to common work;
- Articulates hope for a better future;
- Inspires community members to realize their dreams through positive effective action; and
- Provides a basis for developing the other aspects of the action planning process: objectives, strategies, and achievements.



Fig. 9.2 The vision of human relationships with nature is vividly illustrated by this image

The Importance of Core Values

The work of community development is both science and art. On the one hand, it grows from the experience learned by community activists and professionals in trying to create systems, programs, interventions, and policy that improve the lives and health of everyone in communities. On the other hand, it stems from the emotion for social justice, equity, and fairness that leads people to work under less than ideal conditions in order to create truly healthy communities where all citizens, regardless of their backgrounds or circumstances, have what they need.

Commitment, as the SCD practitioner will find, is already present and inherent in the community. It comes from and is guided by values that spring from people's backgrounds and cultures, from their experiences, and from their conscious understanding and decisions about what is right. These values shape people's vision of the world as it can be and motivate us to try to make it so. The purpose of any SCD initiative is to discover people's values and build a foundation for the overall planning process that informs their view of community improvement.

Values are our guidelines for living and behavior. Each of us has a set of deeply held beliefs about how the world can be. For some people, that set of values is largely dictated by a religion, a culture, a peer group, or the society at large. For others, it has been arrived at through careful thought and reflection on experience and is unique. For most of us, it is probably a combination of the two. Values often concern the core issues of our lives: personal and sexual relationships, morality, gender and social roles, race, social class, and the organization of society, to name just a few.

When you do not know or you have not clearly defined your values, instead of basing your decisions on an internal compass, you make choices based on circumstances and social pressures. You end up trying to fulfill other people's expectations instead of your own. Trying to be someone else and living without core values can be exhausting and leave you feeling empty. Conversely, living a life in line with your core values brings purpose, direction, happiness, and wholeness. Defining values prevents us from making bad choices. Perhaps you have a vague idea about what you value. But if you have not *clearly* defined your values, you can end up making choices that conflict with them.

Defining our values gives us confidence. I have noticed that when I take the time to really think about what I value and then write those things down, I am more likely to have the courage and confidence to make choices based on those values. There is something about actually writing down your values that makes you more committed to living them.

Defining our values makes life simpler. When you are sure of your core values, decision-making becomes much simpler. When faced with a choice, you simply ask yourself: "Does this action align with my values?" If it does, you do it. If it does not, you do not. Instead of fretting over what is the best thing to do, and standing shilly-shally in times of crisis, you simply let your internal compass guide you.

Thus, how well people's core values are encompassed in a vision depends first on how well the people understand themselves individually and as a culture, which means how well they understand their core values, and second on how well that understanding is reflected on paper, where there can be no question about what has been stated and how (Boldt 1993).

Creating a Vision Statement

Defining the community vision statement is the first major step in developing an action plan. It is especially important that the SCD practitioner make sure a vision is well grounded in community core beliefs and values. Knowing the significant issues in the target community is vital for the development of a strong, effective, and enduring strategic action process guided by a vision.

The SCD practitioner and consultant team can assist all stakeholders in exploring and articulating their core values, and the issues that matter most to people in the community, and then using these to reach agreement on a vision for achieving a

sustainable community. In most cases, the community core values can be informed by how members responded to the survey assessment tools detailed in Chap. 6. There are also many other ways an SCD consulting team can gather information to inform a visioning process. Some of the best ways include the following:

- Conduct public listening forums to gather ideas, thoughts, and opinions about how members would like to see the community transformed.
- Hold focus groups with the people interested in addressing specific issues, including community leaders, people most affected by the issues, businesses, church leaders, teachers, etc.
- Obtain interviews with people in leadership and service positions, including such individuals as local politicians, school administrators, hospital and social service agency staff, about what problems or needs they believe exist and how these relate to the core values they hold.

The public listening forum design is recommended as a template to begin identifying community member core values and issues of concern in a public meeting. This second public meeting (following the earlier meeting to discuss community assessment surveys), which would include the entire community (all stakeholders) interested in the SCD initiative, would have three purposes: (1) to articulate community member core values and issues; (2) to allow for all community members to participate in the community's visioning process; and (3) to define goals that reflect the vision toward community improvement. The meeting should occur early in the SCD project initiative, as soon as possible after the initial collection of interview and survey data and the development of the overall community description explained earlier. The meeting agenda would be informed by data collected from all the preliminary work the SCD consultant team has already conducted in the way of community member discussions and assessment surveys as described in earlier chapters. An example of this kind of data is illustrated in Fig. 9.3.

In this public listening forum, people would come together from throughout the community to talk about what is important to them. During the initial part of the meeting, the SCD practitioner would describe the purpose of the overall SCD project and provide background on the process for those who have not been engaged before this meeting. Community assessment survey results would be reported on, and anything else the consultant team has collected in the way of data on the community would be presented.

After the introductory presentation to inform all participants about the status of the SCD project, the meeting would focus on participant dialogue led by facilitators, usually from the SCD consultant team. These facilitators would of course share with attendees information like the meeting participant ground rules, meeting agenda and expectations, and other information that attendees should know about. Then facilitators would guide a discussion of what people perceive to be the community's strengths and problems, and what people wish the community was like.

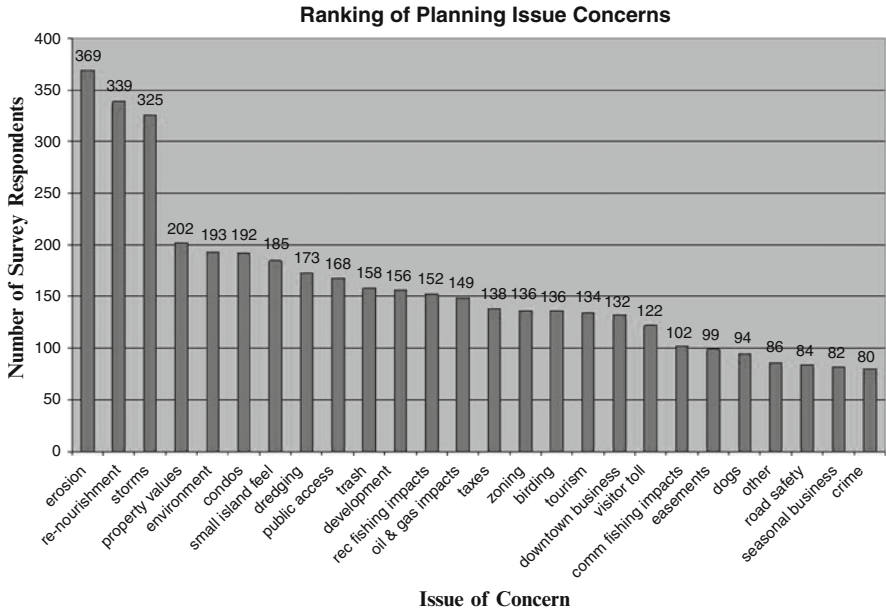


Fig. 9.3 Ranking of planning issue concerns based upon a survey of Dauphin Island (AL) residents in 2007

No matter if you are talking to one person or 300, the purpose is the same: to learn what matters in the target community. Here is a list of questions that could be used to focus initial discussions with meeting participants.

- List some of your core values.
- What is your dream for your community?
- What would you like to see change?
- What kind of community (or program, policy, etc.) do you want to create?
- What do you see as the community’s major issues or problems?
- What do you see as the community’s major strengths and assets?
- What do you think should be the primary effort of focus for the community?
- Why should these issues be addressed?
- What would success look like?

When the facilitator is engaging with people, they can encourage the participants to allow their most idealistic, hopeful, and positive ideas to shine through. Do not worry right now about what is practical and what is not—this can be narrowed down later. Encourage everyone to be bold and participate, and to remember that they are trying to articulate a vision of a better community and a better world.

The record of this issue of concern discussion could be collected in one of two ways. If meeting participants are seated at tables (round tables would be the preference), then they can list on index cards their issues of concern (one issue per card). These cards are collected by the facilitators and arranged on the wall for

review. When all participants' issues of concern are on the wall, using the ORID discussion method from the Technology of Participation process (ToP described in Chap. 7) as a framework, community members are asked to verify their issues, look for similarities among issues, cluster similar concerns, and name each of the issue clusters with a larger problem group definition. The intent of this discussion process is (1) to allow participants to share their issues with others and listen to what other community members have as concerns and (2) to initiate dialogue among the meeting participants to increase momentum for the next exercise. At some point during the wall clustering of concerns, participants would be asked to select their most important issues from all those displayed on the wall by voting with "dots."

If the meeting participants are arranged in a traditional conference seating style of rows of chairs, a second, less flexible, way to record the issues of concern from participant discussion during the public listening forum would be to ask for random contributions from the audience on ideas and then recording these ideas on flip charts at the front of the room. Each meeting participant will have the opportunity to hear others' ideas and share their own in this process. Participants would again be asked to vote on their most important issues at the conclusion of the discussion and idea listing. But this recording method makes it difficult to do any integrating of similar ideas and to cluster thoughts on common perspectives of the community's future. And this kind of seating arrangement can intimidate some people so that they do not participate the way they would in smaller table groups. Therefore, extensive thought can be given to the room design and participant seating arrangements by the project consultant team in order to stimulate the most effective form of community member participation.

The next part of the public listening forum, the main reason for holding the community meeting, would be to help community members to develop a shared vision for their SCD initiative. Meeting participants would work in groups around tables, preferably close to a wall for posting their ideas. It is recommended that the SCD practitioner follow a visioning process using the following criteria, the goals of which include to create a climate of collaboration among stakeholders; create a common reference point of shared perspectives; validate all points of view, each person's reality; enable a full appreciation for the complexity of the issues; and work toward a common vision of a possible future.

The theory that underlies these criteria includes the assumption that most of us in a community are concerned about the same issues and want to live in the same kind of world. That in no way diminishes the degree to which we disagree about how to get there. This process brings stakeholders together to chart a common view of how past events led us here—what "here" looks like, and how an ideal future might differ from the one that looks inevitable. As a result, participants have a shared vision and a deep understanding of the problems that are defined as the gap between what is and what can be.

The process tool also questions and breaks through old assumptions about how other stakeholders feel and think about these issues, allowing them to feel a shared responsibility for the present and the future rather than blaming one another for how

things are and feeling that the future is “out of their control.” As a result, they are able to pool their collective resources to bring about real change.

SCD practitioners have a number of different designs available for conducting visioning sessions. I have found the following visioning process design, based upon the model described above, to perform well with community groups I have worked with. The process includes community members forming breakout groups, each congregating around a breakout table. It is important that SCD consultant team facilitators remind the meeting participants that it often takes several vision statements to fully capture the dreams of those involved in a community improvement effort. You do not need—or even want—to have just one “perfect” phrase. Encouraging people to suggest all of their ideas, and writing them down, is the primary intention of the following process so people can be further inspired by the ideas of others. The visioning process is as follows.

1. *Very brief introductions*: Everyone around the table give their name, why they came.
2. *Recalling the past*
 - (a) Each person jots down what they recall about the target community as it was ___ years ago. (Ideally, it would be a timeline going back 20–30 years. You could go with 10 years). Items can be very personal and anecdotal or global.
 - (b) Each person shares one of their items and the recorder posts them on the wall; this process continues until all cards (one idea per card; no more than seven *large printed* words per card) have been taken from participants; items are then grouped into related clusters, with headings written on regular size copy paper, probably 10–15.
3. *Documenting the present*
 - (a) What are the external trends and forces that are having an impact on the community today? (The facilitator has paper taped to the wall, the size of at least four pieces of newspaper. The target community name is circled, in the middle.) People brainstorm all the forces and trends while the facilitator records them as branches touching the middle circle. (These trends and forces could be written on index cards for ease in moving around on the wall map.) Some branches may spring from others—some may be very large, some small. All are allowed. The person who contributes the idea has final say of where it goes.
 - (b) General discussion of the “map”: How are forces/trends related to each other? Which are most significant? Acknowledge the chaos and complexity.
 - (c) Describe the probable future: Each person writes no more than three things that they believe would characterize the description of the community in the above chosen years from now given the current picture of the forces and trends map, prioritized by importance, most important first (written on index cards—one idea per card; no more than seven *large printed* words per card). The facilitator asks each person to contribute their first card and they are all

posted on the wall. The same is done with the second and third. They are then grouped if possible—discussion for clarification only. When items are mentioned more than once, that is noted. Keep posted.

4. *Creating a preferred future*

- (a) Using the above chosen number-of-years horizon, describe your preferred future as it differs from the probable one. Each person writes no more than three things (on index cards—one idea per card; no more than seven *large printed* words per card) that describe some element of their preferred future, prioritizing as was done before. These ideas are usually drawn from each person’s core values and perception of community needs.
- (b) The facilitator asks each person to contribute their first item, posting cards until all first items are up. Then the same with the second and third. They are grouped for similarity if possible.
- (c) *Report out:* after all breakout groups have completed their discussion and grouping of preferred future ideas, they will present the products of this work to all the meeting participants. All will remain on the wall. Everyone will be given, a certain number of self-adhesive dot stickers to indicate their approval/support, ambivalence, or disagreement with regard to the lists of ideal futures. The data gleaned from this “voting” will be tabulated, discussed, and presented as the integrated vision of the full gathering (all participants).

This entire visioning process requires between 2 and 3 h to complete, depending upon how in-depth the various group discussions go.

As a final thought: after each group has critically discussed the different ideas they have expressed as their preferred future for the community, oftentimes, several of the vision statements will just jump out at you—someone will suggest it, and people will just instantly think, “That’s it!” The facilitators should not miss these opportunities. Participants can also be asked to review and verify the vision statements created by having them answer the following questions about possible vision statements to check for their meeting certain expected criteria.

- Will it draw people to common work?
- Does it give hope for a better future?
- Will it inspire community members to realize their dreams through positive, effective action?
- Does it provide a basis for developing the other aspects of an action planning process?

A final caution for the SCD practitioner: try not to get caught up in having a certain number of vision statements for the target community. Whether you ultimately end up with 2 vision statements or 10, what is most important is that the statements together give a holistic view of the vision of the whole community. Developing an effective vision statement is one of the most important tasks the target community will ever do, because almost everything else will be affected

by these statements. The shared vision developed by the community of Dauphin Island (AL) in 2007 and shown below is a good example of statement by all stakeholders of what they believed their future could look like.

Shared Community Vision for Dauphin Island

On behalf of the people of Dauphin Island, the town will lead this small island community through the twenty-first century by preserving the island's history, culture, and environmental assets, while planning for a future that capitalizes on its natural resources to promote economic well-being.

This simple statement served as a guide for the Dauphin Island's further planning for a program to address their achieving a sustainable community. The overall process of visioning produced a shared vision and a deep understanding for the problems that were defined as the gap between what is and what can be according to the perspective of Dauphin Island community members. It represented a guiding foundation for groups of people deciding together what they wanted to accomplish and how they were going to get there.

An example of a large city that decided to conduct sustainability planning is Salt Lake City, UT (USA). Salt Lake let the following vision guide its strategic planning process:

We envision Salt Lake City as a prominent sustainable city: the international crossroads of western America, blending family lifestyles, vibrant artistic and cultural resources, and a strong sense of environmental stewardship with robust economic activity to create a superb place for people to live, work, grow, invest, and visit.

An international example of a guiding community vision comes from the Resort Municipality of Whistler (British Columbia, Canada) in their "Whistler 2020 Vision" program. In 2002 the community agreed that "Our Vision is what we aspire to be. It helps guide our actions and strategic planning over time." Therefore, "Whistler will be the premier mountain resort community—as we move toward sustainability."

Whistler is committed to achieving social and environmental sustainability and a healthy economy. We will continue to build a thriving resort community that houses 75 % of the workforce in Whistler. We will continue to offer world-class recreational and cultural opportunities for our visitors and residents.

For the description of other ways to create a community vision, the reader is referred to the Community Tool Box of the Work Group for Community Health and Development at the University of Kansas, Lawrence, KS (http://ctb.ku.edu/en/tablecontents/chapter_1007.aspx). Also go to the U.S. Environmental Protection Agency's Green Communities Toolkit (<http://www.epa.gov/greenkit/tools3.htm>) for a step-by-step community visioning process.

Setting Goals from Asset Analysis

The ideas contributed by the public listening forum toward a community vision statement would normally be focused upon improvements using existing assets and resources that could make the community better in the future. Therefore, these data—the actual idea cards from the visioning of the different breakout groups of meeting participants—provide a significant source of information for stakeholders to use in defining the goals for community improvement.

But in addition to establishing goals, the question needs to be asked: what is it community members want to improve? The goals community members set for improvement can be asset based, rather than problem based. That is, the goal is meant to be an aspiration: something the community is working toward, not away from. The criteria for choosing these goals, therefore, can be focused on enhancing the value of community assets and resources.

This requires the SCD practitioner to design a discussion process as part of this public listening forum that builds upon the vision agreed upon by stakeholders to go the next step, formulating goals that meet the aspirations of their vision and direct actions toward improvement in what community members judge as important community resources.

A comprehensive resource inventory process would be a lifetime of work for any community. The idea is not to produce an exhaustive account, but to give everyone in attendance at the public listening forum an improved understanding about how each community subsystem functions. Every person involved comes to the table with a partial view of how the community works. If they are able to translate this knowledge into understanding the important resources the community possesses, then they can have an informed group discussion about goals to build upon and/or improve whichever resources fit with the community's shared vision.

The assets community members would discuss are in the context of the environmental, social, and economic systems that form the foundation of communities. As discussed in Chap. 3, another name for assets and resources is community capital, a good or service that result from the characteristics of subsystems, components, structure, and interactions (Heintz 2004). Capital is an appropriate indication for resources here because environmental, social, and economic systems all contain capital and produce flows (or in other words a currency) of services, experiences, or goods over time (Flora 2003), all representing assets to the community. Flora and Flora (2008) define seven forms of capital that can be employed by community members to discuss their assets and determine their goals for improvement, in line with their vision. These capitals (defined in Chap. 3) containing community assets and resources include natural capital, cultural capital, human capital, social capital, political capital, financial capital, and built capital.

During the final stages of the visioning public listening forum, the participants can use the information they have identified in their community needs and assets discussions from the earlier Community Assessment Workshop (Chap. 6) plus the data they discussed during their visioning sessions to draft a goal statement for each

of the capital resource areas where they believe community improvement activities could be successful. To avoid confusing goals with the strategies used to reach them, goals can be worded to reflect an end state, a particular future condition you are trying to achieve. Participants can reinforce their development of goal statements by placing a target date right up front and then picturing what the state of a given asset would be on that date.

Additionally, the SCD practitioner can assist community stakeholders in defining goals by helping them to see a goal as the first step in making dreams a reality, a statement of intention regarding the actions to someday achieve a certain vision. Setting goals moves the community ever closer to realizing its vision. A goal is a concrete thing in which you set into motion the steps in which to obtain it. A goal is a target you want to reach or achieve, a general statement in abstract terms of an intended outcome. Goals should be focused on the community's strengths and reflect the end state that the community wants to arrive at in the form of increased capital after the strategic sustainability plan has been implemented. Every goal has three components:

- The “what” is the goal itself, which provides purpose.
- The “why” is the set of benefits to be gained, which provides fuel to reach the goal.
- The “how” is the strategy—the map that provides the direction and measures for achievement—the project objectives.

The completion of this community work will result in an identified set of goals that address the questions of what are we trying to accomplish and toward what ends are our efforts directed. These community-defined goals, both short-term and long-term, will offer overarching direction to further planning and design toward the development of the strategic sustainability plan. Stakeholders can view these goals as an extension to the community-shared vision in providing an end point for large-scale tasks needing completion in order to achieve the elements of the vision. These goals will enable building a road map to the future and they will be specific (unlike the vision) in identifying something for the community to strive for—some point in the future to reach. Each goal will represent a specific intended result of a strategy required to achieve a part of the community vision. Setting goals is a way to focus your attention on what you want in the future. If you are not specific, you will never know where you are going. It would be like trying to follow a map that has no street names. You would have an idea of where you wanted to go, but no real way of knowing how to get there.

The SCD practitioner might note that many important details identified through this process have been lost in the kind of draft goal statements community stakeholders often produce. Do not become discouraged because you have surfaced these explicit issues, only to condense what has been discovered to the point that the results seem overly broad. The information and insights gained and recorded through this exercise will prepare community stakeholders for setting specific targets and—from these—creating strategies for action. Therefore, all data cards produced by the participants, such as illustrated in Fig. 9.4, in the process can be

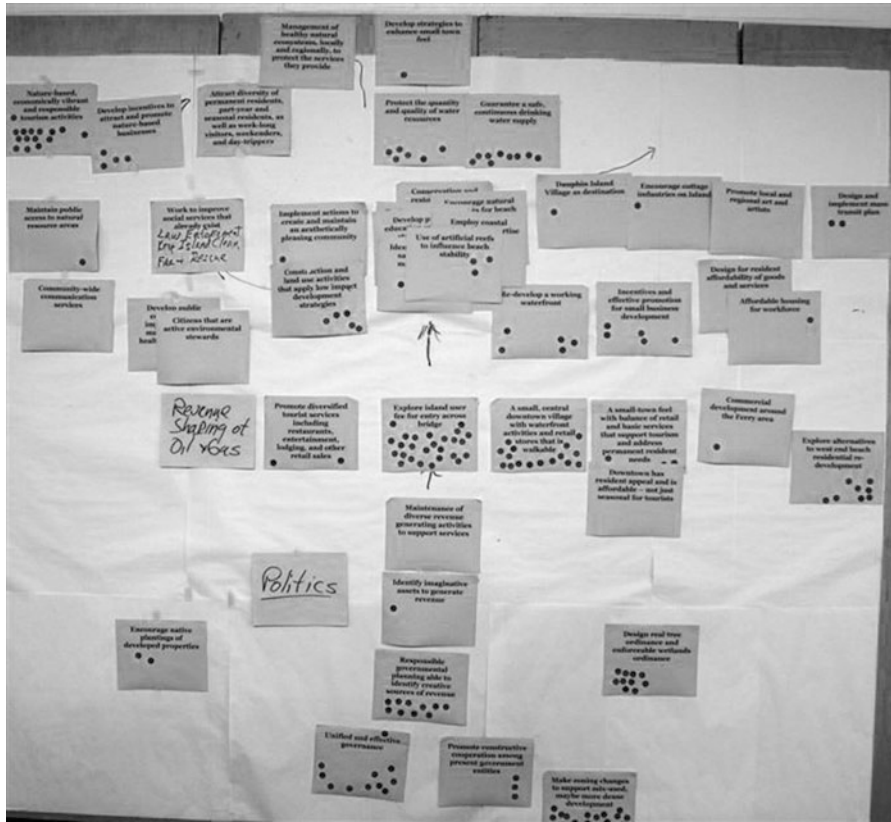


Fig. 9.4 Individualized idea cards placed on the wall by each workshop participant to develop ideas around vision and goals. Even though the vision and goals might be condensed from each of the idea cards, these data are not lost to future processes in the planning effort

retained for future reference. The purpose of the goals process is simply to identify the community’s highest priorities for action and to present them in a condensed and easy-to-communicate form. The next task is to evaluate community problems and identify individual targets for each goal, which will present the opportunity to itemize more specific detailed objectives.

As a final step for this public listening forum, the SCD practitioner can work with the consultant team and the Oversight Committee to summarize all of the products of the participant’s work from the forum. The vision and goal statements can be reported to the entire target community so those not in attendance at the public listening forum will be aware of what happened and maybe be stimulated to begin participating themselves. There are several ways for the SCD practitioner to report this information, many of which are described in Chap. 7 in “Developing a Plan for Communication.” They include a short report circulated to every resident in the community, presentation in a community newsletter, or as a story in the

local newspaper, as some examples. Whatever form of reporting is chosen, the information can be presented in a way that engages the remainder of the community to decide to begin participating in the SCD planning process.

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Chapter 10

Analyzing Community Problems and Defining Objectives

Before developing a Strategic Sustainability Plan for action it is critical to establish the vision, goals, and objectives, so that you can be sure you're pursuing the right strategies. Otherwise, you risk being derailed by a community member's opinion for a good strategy or by unspoken assumptions about the community's condition that turn out to be inaccurate. In the last chapter I described how to assist the target community in articulating a vision and establishing goals for sustainable community development (SCD). As an SCD practitioner you are now ready to help the community build on their shared vision and goals with the development of objectives, the foundation for guiding strategic actions.

Objectives are specific measurable elements of an issue of concern, how much of what will be accomplished and by when, that are the means for achieving any particular community goal. Development of the community-derived vision, goals, and objectives of an action planning process will frame what actually has to be accomplished to achieve what the community perceives as needed improvements. And the analysis of community-identified problems, in association with their related goal statements, will provide the information needed to define realistic objectives for implementing any action plan. Without these guiding elements community improvement achievements could be unsynchronized, possibly much more costly, and potentially in conflict with one another.

Common Community-Identified Problems

Problems with achieving certain goals and the community needs they are intended to satisfy can be defined as the gap between what a situation is and what it should be. A gap can be as concrete as the need for food and water or as abstract as improved community cohesiveness (Berkowitz 2011a).

Therefore, the focus of this chapter is how a community will use an analysis of problems to develop its objectives proceeding from the earlier delineation of vision and goals. Objectives are usually stated in quantifiable terms, for example

measuring an amount of change in a variable representing an issue of concern toward some form of improvement in a designated time frame. Thus, it is important to define and measure the baseline values, trends, and other numbers extracted from the community problem that is tied to the objective. The community needs to conduct analysis on all problems that in earlier stakeholder resource and needs assessments have risen to high priority and deserve goals and objectives to be defined to achieve the overarching vision of overall community improvement.

In order to articulate and establish the objectives derived from community goals, therefore it is first necessary for the SCD practitioner to guide the community in analysis of the problems that are at the origin of a particular objective (Nagy 2009). This analysis will focus upon the exact reasons for creating the objective as well as establishing measures of progress such as trends, unmet needs, underutilization of resources, and evaluation of community capacity. With this information the SCD practitioner will be better equipped later on to facilitate the community in using the agreed objectives, plus the information characterizing the source problems to establish indicators and evaluation tools to track progress toward achieving the goals of the shared community vision. Thus, the lesson here is that no data from the overall planning process is discarded because it probably will be used again in another step.

Defining a community's problems is in fact going to be one of the main tasks of the project the practitioner has embarked upon (Nagy and Heaven 2009). Usually the perceptions of problems in a community are informed by the vagaries of public opinion. For example, it is likely that a group of community members and officials in preparing the Request for Proposals (RFP) referred to earlier, met and decided upon what needs they had and problems they wanted to fix. This kind of un-facilitated group dialogue, which was probably not structured in any great detail, would usually result in the points of view of a few dominating the agenda and thus possibly screen out a number of important problems from a practitioner's awareness.

The real question is whether the community list of "problems" in the RFP is accurate and whether it includes only the symptoms of a particular situation rather than the actual problems that caused that situation. So it requires skill to balance what the potential client community believes should be the scope of work for the project versus what you as an expert consultant in SCD feel is important according to what you have learned about the community and know about the science of sustainability. Moreover, from the broader perspective of experience, significant thought and insight can empower the practitioner to consider the standing of the target community in its larger political landscape. In its own undirected analysis a community will often look to the next jurisdiction up the line for solutions to some of its local problems, and thus exclude those issues as its own concern.

Actually in reading this book I hope you will develop an increased awareness of community importance detached from its hierarchical relationships to larger jurisdictions such as the county, the region, or the nation. In the case of SCD political will has been lacking at the regional and national scale in many cases.

That leaves communities—the grassroots—as the only chance for sound and progressive SCD work. Practitioners can encourage communities to recognize this situation and promote it to their advantage in trying to get some of their problems solved!

A sampling of several different community plans completed during the last decade show objectives to address in the future. Examples of these objectives are listed below. Some of them can be quite specific and sophisticated in representing community governments and organizations. Others can be as important as only a single individual in the community believes them to be. And please note that you are not seeing these objectives in the context of serving their overarching goals, which makes it harder to interpret their meaning. These are shown simply as examples of how some communities have developed objectives.

- Assist the Community to come together to develop a common vision for the area of what it should be in 20–30 years.
- Help the Community plan for and develop improvements to infrastructure that are environmentally sensitive and resilient.
- Implement programs to encourage the private sector to develop and build environmentally friendly, energy-efficient places to live and work.
- Support the Community to engage in commercial revitalization and expansion of economic opportunities including tourism and business growth in a way that capitalizes on its assets.
- Identify both current Community strengths and shortcomings
- Encourage transportation planning that is sensitive to both the natural environment and neighborhoods.
- Reduce electrical consumption within the facilities of the Community.
- Use up-to-date storm water management techniques and facilities to filter out impurities and reduce water pollution.
- Maintain the integrity, heritage and local character of the community's natural and built environment.
- Use sustainable landscaping practices when possible in public spaces through the use of recycled, biodegradable materials and native or other water conserving plants.
- Institute new programs in the area of business recruitment that result in the creation of green businesses and jobs.
- Facilitate the Community in maintaining and improving housing diversity so that work force and other affordable housing for commercial/retail establishment workers will be available.
- Assist the Community to improve/expand its arts community/recreational facilities and opportunities.
- Manage growth and urban sprawl to balance agricultural issues and land preservation with planned urban development to protect and enhance both the region's rural character and its natural resources.
- Preserve and manage all of the Community's natural resources, including but not limited to air, water, green spaces, natural areas and farmlands, through sustainable land use practices.

- Show us how we can better work both independently and interdependently as a community.
- Guide the Community to better coordinate its governing activities, financing activities and the organizational capacity of the current entities.
- Reduce non-sustainable practices in local government facilities and encourage use of reusable materials and products.
- Ensure that everyone in the community shares in its well-being
- Create a sense of “ownership” by involving as many people and organizations as possible
- Identify all resources, not just financial, needed to manage future challenges and opportunities
- Promote program development that enhances existing programs in the areas of climate protection, green building and green business recognition.
- Facilitate green purchasing and material exchange partnerships and other programs to sustain new and existing businesses.
- Establish benchmarks of measurability for these sustainable practices.

As you can see from the list above, in most cases there does not appear to be much problem analysis preceding the development of objectives because they do not contain quantifiable benchmarks or deadlines (what will be completed by when). And the community’s needs that produce this list can be wide and varying depending upon who was involved in the evaluation process. In most needs assessment surveys it’s not usually a universal necessity, such as the need for food or friendliness that stands out. But it’s more than an individual need, such as a single pothole in front of a driveway. Instead, such an inquiry usually asks about needs that concern a particular community or group. This could include hundreds of possibilities, ranging from collecting trash on the streets, to controlling vandalism, or from replacing stores moving out of downtown to resolving disputes in ethnic or racial conflict.

Instead of logging a diverse list of needs and presumed objectives, it is important for the consultant early on to establish a process that can provide a good picture of what the community’s real problems are. Before we get to the full development of an Action Plan and the Logic Model behind it, let’s take a detailed look at the analysis of community problems that will form the basis and sense for action planning. Consider the following example of a community problem: The downtown area of a community is declining. Stores are closing, and moving out; no new stores are moving in. We want to revitalize that downtown. How should we do it? Our thinking here should be simple (Nagy 2011a):

- Sustainability is encouraged by attempting to identify the cause rather than the symptom. We’d be better off analyzing why that decline is taking place, why the problem is occurring, rather than simply jumping in and trying to fix it.
- A good analysis will lead to better long-run solutions. And therefore:
- A good analysis is worth taking the time to do.

One means of obtaining more in-depth information about exactly what the needs and problems are in a community, is to conduct a needs assessment or some other kind of survey as discussed in Chap. 6. A good survey can supplement your own sharp-eyed observations and experiences. It can give you detailed information from a larger and more representative group of people than you could get from observation alone. The survey type of assessment can often provide a more honest and objective description of needs than people might tell you publicly. It might also make you aware of possible needs that you never saw as particularly important or that you never even knew existed.

Once you obtain a better picture of a community's potential problems and needs from an assessment survey or other kind of community-wide inquiry the analysis of those problems by the community will be much more promising. You will obtain more group and community support for the actions you will soon undertake because if people have participated in stating a need for a particular course of action, they are more likely to support it. Additionally this will get more people actually involved in the subsequent step of problem analysis.

Analyzing Community Problems

It is time to translate the community's goals for improvement into measurable, achievable terms, and this requires that you set objectives for progress you want to make toward rectifying the problems underlying the definition of the goals. I will now introduce the term "problem systems" to suggest that any problem requires a systemic approach to its analysis in order to avoid analyzing symptoms, but more productively evaluating the underlying causes of the problem or some important component of the overarching trends in failed sustainability.

Attaining a community's stated goals requires that stakeholders set realistic objectives toward achieving them. The SCD practitioner can assist this process by helping the community in designing a process for identifying and understanding the variables at work in a particular problem system and the influence they exert (Nagy and Heaven 2009). In particular the practitioner can encourage community members to pay careful attention to underlying trends in the problem analysis, which will help them to better understand the problem systems they are working to improve and thus establishing more reasonable objectives to accomplish. For example, if job growth has been inching upward at .02 % per year for the past 30 years, and your analysis indicates that the critical variables aren't likely to change dramatically, it will only invite failure to project a future job growth of 10 % per year over the next 5 years. Your own study of the system shows that this will not happen without dramatic systemic change.

This is not to say that we are trapped by what history tells us. But to grasp the kind of strategies and interventions we want to make, we need to understand what has led us to the present circumstances. Trying to make dramatic improvements in community systems without careful consideration of past trends and thoughtful projections of reasonable objectives is often a futile exercise.

What Is a Community Problem?

A community problem is an issue with six (6) dimensions:

- It occurs frequently (frequency)
- Has lasted for a while (duration)
- Affects many people (scope, or range)
- Is disturbing, and possibly intense (severity)
- It disrupts personal or community life—deprives people of legal or moral rights (legality)
- The issues are perceived as a problem (perception)

This last criterion—perception—is perhaps the most important one. If people perceive the streets as unsafe, that is a problem, regardless of what crime statistics say. If people think that the schools are rotten, that is a problem, no matter what objective facts are offered. A problem can be a psychological fact; it doesn't have to be based on hard evidence (Nagy 2009).

In a nutshell, analyzing community problems is a way of thinking carefully about a problem or issue before acting on a solution. It first involves looking for possible reasons behind a problem, and checking out whether those reasons are true. Then (and only then), does it involve identifying possible solutions, and implementing the best ones (Berkowitz 2011a). This kind of approach can often eliminate issues that people believe are community problems, which really are not, before more time is wasted in their analysis. It can also suggest the coming together of several different issues that appear connected after cursory evaluation and can be combined into a single problem statement.

The techniques for analyzing community problems are easy to state. They require simple logic and sometimes the collection of evidence. But sometimes these techniques elude us in practice. Why should you think about analyzing a community problem? Why not just charge ahead with what you might be told by community members? For example, kids gather on a street. Sometimes they drink; sometimes they get rowdy. What is the problem here? The drinking? The rowdiness? The gathering itself? Or, the possible fact that kids have nowhere else to go? We act on impulse rather than logic; or we neglect the evidence. Before looking for solutions, you would want to clarify just what is the problem (or problems) here. Unless you are clear, it's hard to move forward. A careful analysis of the problem can put us back on course (Nagy and Heaven 2009).

A problem is usually caused by something; what is that something? We should find out. Often the problem we see is a symptom of something else. How do we seek out the root cause of the problem instead of just focusing upon its symptom? It's good practice and planning to anticipate barriers and obstacles before they might rise up; by doing so, you can get around (or over) them. For example, root causes are the basic reasons behind the problem or issue you are seeing in the community. Trying to figure out why the problem has developed is an essential part of the problem solving process in order to guarantee the right responses and also to help

citizens own the problems. Identifying genuine solutions to a problem means knowing what the real causes of the problem are. Taking action without identifying what factors contribute to the problem can result in misdirected efforts, and that wastes time and resources. However, by thoroughly studying the cause of the problem, community members can build ownership, that is, by experiencing the problem they will understand it better, and be motivated to deal with it.

The “But why?” technique can be used to discover basic or “root” causes (Lopez 2011). For example, if you say that too many people in poor communities have problems with good nutrition, you should ask yourself “but why?” Once you come up with an answer to that question, probe the answer with another “but why?” question, until you reach the root of the problem, the root cause.

Analyzing community problems can also help community members understand (and find) the resources they need by matching the resource assessment results in Chap. 6 with the identified problem causes. And the better equipped they are with the right resources, the greater their chances of success in tackling whatever problem they are facing.

In general, when you tackle a problem that requires an objective of the planning process, it’s always smarter to analyze it before you tackle defining the objective (Nagy 2009). That way, you’ve got a deeper understanding of the problem; and you’ve covered your bases. There’s nothing worse for community member involvement and morale than starting to work on an objective for the planning process and running up against lots of obstacles due to misunderstood problems—especially when they are avoidable. When you take a little time to examine the caused problem first, you can anticipate some of these obstacles before they come up, and give yourself and the community members better odds of arriving at a realistic and executable objective.

Community-Based Participatory Research

There are many ways to analyze problems. And I’ll suggest further that you keep your eye on the big picture: to understand the problem better and to deal with it more effectively. These are the aims of any problem analysis. So the method you choose should accomplish these aims for you.

As you begin the community problems analysis you will need to involve community members in documenting the problems or issues with information and statistics. Listen to the community: conduct focus groups, study circles, or other kinds of public forums that will usually include a subset of the involved community members to obtain information about perceived issues, problems, and solutions within the community.

As the SCD practitioner you want to encourage groups of community members to volunteer and get involved in participatory research on a particular problem of concern to them. So as the facilitator of community problems evaluation you can establish volunteer groups that will start collecting information about a particular

problem. How will they get started attacking the problem unless they first have some idea of its extent and intensity? Once the intervention is in place, how will they know how effective it is unless the group knows how bad the problem was before they started? This is where baseline measures come into play.

To solve a particular problem, one of the first things the volunteer stakeholders need to do is isolate and measure all the different causal factors and trends that the problem they can learn about. The group should try to find out how prevalent, directly and indirectly, the drivers and other influencing factors on the problem are, how often things happen, the duration and intensity of most changes, etc (Nagy 2011a). The things they research and keep track of in order to obtain this sort of information are called baseline measures. In other words, the baseline is the standard against which the community will measure all subsequent changes implemented by a particular action strategy.

There are a couple of different ways that a volunteer group can come together to carry on their participatory research to collect baseline information. One gathering structure is referred to as a Focus Group (Berkowitz 2011b). A focus group is a small-group discussion guided by a facilitator. It is used to learn more about opinions and research information on a designated topic, and then to guide future action. A focus group will have a specific community problem as their discussion topic. Participants will conduct detailed research on the problem of concern and share their opinions openly with the other members. The group's composition and the group discussion are carefully planned to create a non-threatening environment, in which people are free to talk openly. Members are actively encouraged to express their own opinions, and also respond to other members. Because focus groups are structured and directed, but also expressive, they can yield a lot of information in a relatively short time.

Another type of gathering that can be used for problem analysis is the Study Circle design (Nagy 2011b). A study circle is a group of 8–12 people who meet regularly over a period of weeks to collect and evaluate information on a critical public issue or community problem in a democratic, collaborative way. Participants examine the issue from many points of view, conduct research in order to establish baseline and trend information on the issue or problem, and identify areas of common ground. They emerge with recommendations for community-wide consideration that will assist in overall planning efforts. A study circle is typically led by an impartial facilitator whose job it is to keep discussions focused, help the group consider a variety of views, and ask difficult questions about the research information to maintain focus. Study circles generally can get to the heart of a community problem in a way which can draw the community together and improve everyone's quality of life.

Either of the above structured community meeting groups can employ community-based participatory research to good use (Rabinowitz 2011). Because participatory research is conducted by and for the people most affected by the problem being studied and analyzed, it has multiple benefits, including the empowerment of the participants, the gathering of the best and most accurate information possible, garnering community support for the eventual objectives

that might be developed from the problem analysis, and ultimately social change that leads to the betterment of the community for everyone.

Group members can research what experts believe to be the best ways to solve the problem. For many community issues, researchers have over time developed useful ideas of what needs to occur to see real progress. Information on the problem can be sought from the Internet, local libraries, nonprofit organizations, state and national agencies, university research groups, and through an individual's own research, or by drawing on the knowledge of local individual experts on the problem that would be willing to participate and contribute. If possible discuss the problem with local experts first. This would include knowledgeable community members as well as knowledge assets (people and institutions) identified from the earlier community assets assessment.

Community members might balk at the prospect of having to actually do research in one of the discussion group structures described above. Many of us hate doing research and would much rather proceed from our "gut reaction" to an issue of concern. The advantages of having research information at your fingertips, however, are enormous. The practitioner should convince community members that it's really a worthwhile task, for many reasons. Some of the best include:

- *Knowledge.* Reality talks. Knowing the facts is a stark way of determining the size of the gap between your vision of a healthy community and the reality in which you live. Gathering information from the time period before your discussion group got started (baseline data) is an excellent way to show the magnitude of the problem.
- *Credibility counts.* If you are able to talk easily in a casual conversation about the exact numbers of people affected by the issue you are involved in, you come across as knowledgeable, serious, and well organized.
- *Awareness leads to change.* You can use the statistics you have found to raise community awareness of a number of things: how serious the problem is, how well (or how poorly) your community is doing in relation to other communities or to the nation as a whole, and last but not least: how well the community is presently addressing the problem at hand.

For the reader who wants to pursue the analyzing of problems further there is an extensive outline of the process that can be found in the Community Tool Box of the Work Group for Community Health and Development at the University of Kansas, Lawrence, KS (http://ctb.ku.edu/en/dothework/tools_tk_content_page_153.aspx).

Pattern Mapping

Whether the SCD practitioner picks the Focus Group approach or the Study Circle method for problem analysis, I suggest that the group begin its work with the application of a very effective tool called "Pattern Mapping". Pattern mapping

guides the work of small groups in brainstorming activities to explore all the underlying “drivers” and “impacts” on an issue. Pattern Mapping is a conceptual (diagrammatic) tool for creating a climate of collaboration among participants, generating a common reference point of shared perspectives, validating all points of view, enabling a full appreciation for the complexity of the issues, and working toward a shared characterization of a problem. It allows fact-finding participants to organize their thoughts and examine inter-relationships before moving on to other strategic discussions and decision-making, in a way that minimizes unintended consequences. Pattern Mapping aids groups to identify and possibly quantify major trends in a problem.

Pattern Mapping is very easy to facilitate. Community members within a breakout group (5–15 people) are provided with index cards and asked to individually think about forces, trends, and pressures acting on a problem, as well as outcomes or responses that might result from action to the problem. Group members are encouraged by the facilitator to write individual ideas on index cards (one idea per card; 5–7 words per card written in LARGE LETTERS) for open discussion with the whole group. The facilitator will have written the problem statement (short version) on a series of flip chart pages pasted to the wall. Following participant discussion in the breakout group about everyone’s contribution of ideas, the facilitator will ask the group to pick their top ranked ideas (up to 6) and post these on the wall around the central statement of the problem. This will continue until all participant idea cards are on the wall or 15 min has elapsed. If at any time the idea statement on an index card is not understood by the entire group, clarification is requested from the contributor of the idea card.

After completion of the card posting on the wall, relationships (driver, pressure, response, etc.) among idea cards and the central problem statement are looked for by all group participants. These are noted on the wall “map” by the facilitator with lines and arrows connecting different idea cards to each other or to the central problem, as in Fig. 10.1. At the completion of the Pattern Mapping exercise the group will end-up with a wall map that looks like Fig. 10.1.

Because of its intent to draw-out interconnections, Pattern Mapping is also a good process to engage in early-on in any problem definition process. The practice encourages systemic analysis. The product of collective Pattern Mapping provides the initial means for mapping and conceptually identifying forces, trends, and pressures acting on a focus area, outcomes or responses from these actions on the focus area, their relationship to one another, as well as the chaos and complexity involved.

The diagrammatic result of the group’s dialogue provides the substance for discussing probable patterns that best characterize the problem. This then can lead to brainstorming by the group on how certain leverage points identified on the map, as well as known resources and assets in the community, can inform solutions to the problem. The mapping may also identify potential trend issues that can lead to further research for collecting baseline data. The community can eventually use these baseline data—data that document the extent of the problem

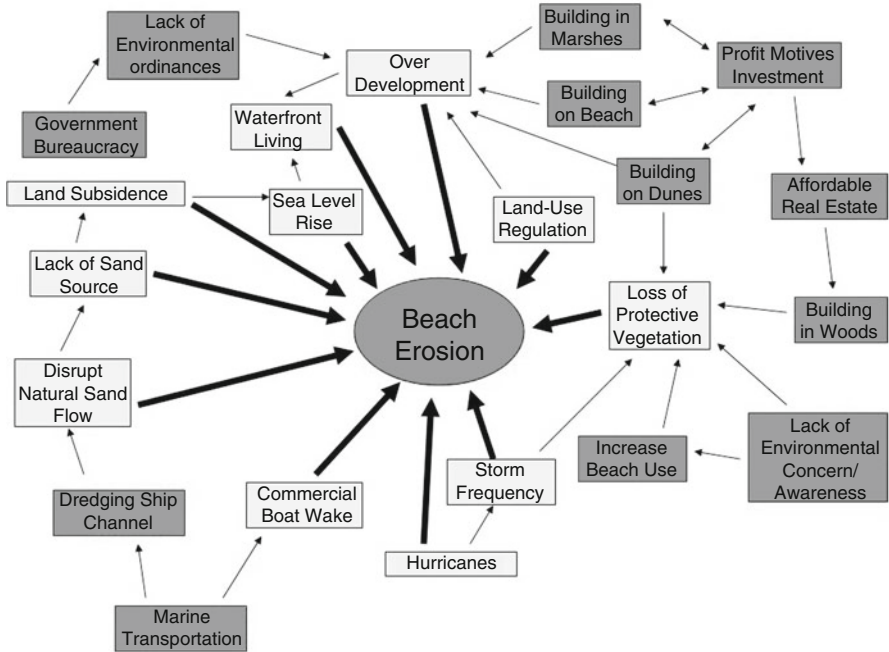


Fig. 10.1 Illustration of the results from a group engaging in Pattern Mapping to analyze a problem toward objective definition. Group participant idea cards are arranged around the name of the problem to be addressed and the state of these cards as a driver of the problem or an outcome of action on the problem are indicated by the arrow directions. Relationships among idea cards are also illustrated to assist the group in fully analyzing the patterns that exist for the problem information the group is aware of

prior to implementation of the sustainability strategic plan—for comparison with data collected after implementation of the plan.

Developing baseline measures from the problem analysis can be very effective in helping to monitor how successful eventual implementation of a sustainability strategic plan is. And with development of the information through community-based participatory research as described above the practitioner can feel assured that the outcome information will be credible to the community and supported by their continued involvement because they were part of the overall group assessment process.

Once you know what you want to do, as well as exactly how big the problem is, it's time to figure out how much you believe your community can accomplish. Do you have the resources to effect all of the goals your community members have defined? And to what extent will you be able to achieve them? These questions are difficult ones to answer. It's hard in a new community improvement effort to know what it can reasonably expect to get done. There are no easy answers. The community will need to take a good look at its resources, as well as talk to experts who have a sense of what is not only possible, but likely. For example, community members may seek guidance from communities who have done similar things, or from researchers

in the different objective topic areas on what they believe makes sense. Remember, you are attempting to set objectives that are both achievable and productive. It's hard to hit just the right note of balance between these two qualities, and you may not always get it just right. Research and experience, however, should help the community come closer and closer to this goal.

Setting Project Objectives

We have a general picture from our core values analysis what the future of a particular situation should look like if it is healthy. We are just not sure how to make that happen. To obtain long-term results, we need to know, specifically, what objectives will take us there. If a child wants to finish high school (his long-term goal), in the meantime, he will need to successfully complete the second, third, fourth (and so on) grades.

Characterizing an Objective

The way to meet the community's defined goals will be through the setting of objectives. And each objective is related to a problem that has been characterized through community dialogue as described above. One can imagine a ladder with its rungs as the path to a goal that is at the very top of the ladder. Each rung of the ladder represents one of possibly several objectives that must be achieved in order to come closer to attaining the overarching goal. You may never reach the top of the ladder (fully achieve the goal) but as long as the community keeps trying to climb the rungs of the ladder—achieving the objectives—they will continue their task of trying to reach the goal.

The vision sets the “big picture” that the goals and objectives fit into. Developing objectives is a critical step in the community's planning process. An objective will state exactly how the community will solve a major problem in the community. It can also be very exciting phase, because this is the time when the community really starts to say what, exactly, they are going to get done in order to realize their dream (Nagy and Fawcett 2011).

It is essential to progress to develop specific objectives for the target community. The SCD practitioner can use explicit reasons to obtain the community's continued engagement and next steps following what might have been an arduous effort at crafting the vision and goals of the SCD process. Developing objectives helps the community create effective and feasible ways in which to carry out the vision and to begin achieving goals. Completed objectives can serve as markers to show members of the community and others what the SCD initiative has accomplished. Creating objectives helps the target community set priorities for its goals. It helps individuals and community work groups set guidelines and develop the task list of things that need to be done. It re-emphasizes the community's vision throughout the

process of change, which helps keep members of the community on target and working toward the same long-term goals. Developing the list of objectives can also serve as a completeness check, to make sure the community and its partners are attacking the issues on all appropriate fronts. The process of setting objectives will reveal and determine the clear strategic direction stakeholders want to take in their plan for community improvement.

As an SCD practitioner you have now assisted a target community in developing a statement of its shared vision, the dreams that all community stakeholders hold for the future of the community. This visioning process, which is one of the early steps in the overall community endeavor to develop a Strategic Sustainability Plan, has helped it to define its dream and set its goals. Now the SCD practitioner must guide a process to define ways to meet those goals, alleviating community-defined problems blocking their achievement, and finally, to develop practical ways to bring about needed changes. Objectives are the first step toward community accountability. It's one thing to wish for everything worthy and good; it's another to state your intentions in clear terms that challenge people to make those wishes a reality.

Objectives are the specific measurable results of the SCD initiative. A community's objectives offer specifics of how much of what will be accomplished by when. They should be quantitative, fit within a definite time frame, and be stated in clearly defined terms. The best objectives have several characteristics in common. They are all *S.M.A.R.T.* + *C.* (Nagy and Fawcett, 2011):

- *Specific.* That is, they tell *how much* (e.g., 40 %) *of what* is to be achieved (e.g., what behavior of whom or what outcome) *by when* (e.g., by 2010)? To set a specific objective you must answer the six “W” questions:
 - Who: Who is involved?
 - What: What do I want to accomplish?
 - Where: Identify a location.
 - When: Establish a time frame.
 - Which: Identify requirements and constraints.
 - Why: Specific reasons, purpose or benefits of accomplishing the objective.
 - Example: A goal would be, “Get in shape.” But a specific objective would say, “Join a health club and workout 3 days a week.”
- *Measurable.* Information concerning the objective can be collected, detected, or obtained from records (at least potentially). Establish concrete criteria for measuring progress toward the attainment of each objective you set. When you measure your progress, you stay on track, reach your target dates, and experience the exhilaration of achievement that spurs you on to continued effort required to reach your objective. To determine if your goal is measurable, ask questions such as.....How much? How many? How will I know when it is accomplished?
- *Achievable.* Not only are the objectives themselves possible, it is likely that your community will be able to pull them off. When you identify objectives that are most important to you, you begin to figure out ways you can make them come true.

You develop the attitudes, abilities, skills, and financial capacity to reach them. You begin seeing previously overlooked opportunities to bring yourself closer to the achievement of your objectives. You can attain most any objective you set when you plan your steps wisely and establish a time frame that allows you to carry out those steps. Objectives that may have seemed far away and out of reach eventually move closer and become attainable, not because your objectives shrink, but because you grow and expand to match them. When you list your objectives you build your self-image. You see yourself as worthy of these objectives, and develop the traits and personality that allow you to possess them.

- *Relevant* to the vision. Your community has a clear understanding of how these objectives fit in with the overall vision of the group.

R can also stand for *Realistic*—To be realistic, an objective must represent an end point toward which you are both *willing* and *able* to work. An objective can be both high and realistic; you are the only one who can decide just how high your objective should be. But be sure that every objective represents substantial progress. A high objective is frequently easier to reach than a low one because a low objective exerts low motivational force. Some of the hardest jobs you ever accomplished actually seem easy simply because they were a labor of love. Your objective is probably realistic if you truly *believe* that it can be accomplished. Additional ways to know if your objective is realistic is to determine if you have accomplished anything similar in the past or ask yourself what conditions would have to exist to accomplish this objective.

- *Timed*. Your community has developed a timeline (a portion of which is made clear in the objectives) by which they will complete the tasks. An objective should be grounded within a time frame. With no timeline tied to it there's no sense of urgency. If you want to lose 10 lbs, when do you want to lose it by? "Someday" won't work. But if you anchor it within a timeframe, "by May 1st", then you've set your unconscious mind into motion to begin working on the objective.

T can also stand for *Tangible*—An objective is tangible when you can experience it with one of the senses, that is, taste, touch, smell, sight or hearing. When your objective is tangible you have a better chance of making it specific and measurable and thus attainable.

- *Challenging*. They stretch the group to set its aims on significant improvements that are important to members of the community. There are reasons to continue climbing the ladder toward the ultimate goal.

Some good examples of SMART objectives are among those that the city of Calgary (Canada) has established to meet their goals for Economic Security:

- Increase research and development intensity (gross public and private expenditures) to 3 % of GDP by 2036
- By 2036, increase the number of environmentally sustainable and commercially viable value-added products produced in Calgary by 40 %

SMART Form

Objective Statement for Analysis: _____

SMART Characteristic	No	Yes	If Yes, then Why?
Specific			
Measurable			
Achievable			
Relevant			
Timed			

Fig. 10.2 The design of a SMART form for the analysis of objectives a community might define that will offer insight on the correctness and effectiveness of the stated objective

- By 2036 Calgary’s economy will be diversified and balanced such that no sector will exceed 10 % of GDP (Calgary will not be known as just an oil and gas town)
- By 2036, tourist visitations and expenditures will grow by 30 %.

Smart Analysis of potential objectives can be done using the following form shown in Fig. 10.2. If you believe the objective you have named in the line above the table does not meet the definitions in any of the SMART characteristics then check “No” for that characteristic in the table. If the objective named in the line above does meet the description of a particular SMART characteristic then check “Yes” for the characteristic and state why it meets that particular characteristic. If the above objective statement shows a minimum of 3 “NO” regarding the check of characteristics, then the objective should not be considered further.

Community Objective Selection

To begin the objective selection stage, the SCD practitioner should design and plan another Public Listening Forum with the assistance of the consultant team and the project Oversight Committee. All community members should be encouraged to participate in this Forum. The purpose of this meeting would be to review the work on development of the community’s shared vision and goals and group formulation of problem characteristics that will keep each goal from being achieved.

The first thing the practitioner will need to do at the beginning of the Forum is lead the attendees through a review of the vision and goal statements they have

helped develop. Before the community attempts to determine its objectives for change and improvement, it should have a “big picture” that they fit into. At this point in the planning process, you don’t need hard and fast ideas and answers. What community members should develop as part of this step is a general statement of what needs to occur to address the identified problems and make the changes they want to see. Once you know what you want to do, as well as exactly how big the problem is (as initially specified by the community-based research effort), it’s time to figure out how much you believe the community can accomplish. Does the community have the resources to effect all of the goals it has just reviewed? And to what extent will the community be able to achieve them?

The crux of writing realistic objectives is learning what the characteristics (trends, patterns) of the problems are and deciding on the changes needed in order to fulfill the goals of the community vision. It helps to pull together a summary of the information the community discussion groups have uncovered in their previously conducted community-based participatory problem analysis, along with a sense of the possibilities for new directions. Objective selection will be shaped by a realistic assessment of the capacity the community has to change the system the goal fits within, and the resources available for working toward it. So following the review of the vision and goals each Focus Group or Study Circle Group should report to the entire community at the Public Listening Forum their findings from participatory problem analysis, each problem’s relationship to a particular goal, and the research conducted. Prior to the actual Forum gathering written reports of these findings should be provided to all community members for their review and understanding.

The Public Listening Forum would then be designed and facilitated in a way for all community members to evaluate the activities identified by the community research groups that potentially are required to achieve the goals of the community’s vision. These activities would be converted into a set of objectives serving each goal that will guide the future work of the community toward achieving improvement. Each of the goal statements, with their initially defined problems and research group analysis, would form the basis for a breakout table at the Public Listening Forum. Forum participants would select the goal they chose to work on and become a part of the respective breakout table for that goal. The assigned goal and its associated community-defined problems and research would focus community member discussions on a path to the community’s shared vision statement. If some goal statements are not chosen by Forum participants, then these goals can be considered not relevant to the community at the present time.

Since some time has probably elapsed since the community defined its goal statements and the discussion of objectives now, they have had a period of time to reflect on the original goals. Therefore, the first task of each breakout group would be to discuss their assigned goal for its continued relevance and importance to the community. Any significant changes to the definition of the goal from this discussion would be recorded for reporting to the full community.

The facilitator of each breakout group would then assist the participants in defining a number of statements on index cards (1 idea per card; no more than

5–7 words per card) that represent their ideas for objectives for the various problems identified in the earlier focus group participatory research work blocking the goal they are focusing upon. This process of articulating short objective statements to solve the different problems of the group assigned goal can be guided by use of a form of Concept Mapping (Trochim et al. 1994; Trochim et al. 2004). This discussion technique integrates familiar qualitative group processes (ORID, brainstorming, sorting, clustering, pattern mapping, etc.) with analyses to help a group describe its ideas on any topic of interest and represent these ideas visually through a map. The process typically requires the participants to brainstorm a large set of statements relevant to the topic of interest, sort these statements into clusters of similar ideas, interpret the wall maps that result, and discuss the clusters to define objective statements that can be drawn from each cluster listing of ideas. This breakout group process is conducted on each problem assigned to the group.

The preliminary set of objectives that the breakout group is comfortable with and agreeable to, should be examined with the SMART process described above. This will filter out some of the objectives, cause revision to others, and guarantee that what results can be confidently recommended to the larger Forum group.

After completion of the breakout group work the SCD practitioner would reconvene all Forum participants. Each breakout group would report on their findings—any changes in the goal statement and the formulation of objective statements (following their criteria and format for development) the group has decided upon to achieve a specific community-defined goal and address its related problems. All of this information would be in flip-chart page format and posted on the walls of the meeting facility. The final step would be for the community to vote on their selection of most important objectives to include in the continuation of the action planning process. Participants would be given a set of colored sticky dots to mark those objectives they choose. The votes would be counted to rank the objectives by importance.

Before the community finalizes its objectives, it makes sense for members to review them one more time, and possibly, ask people outside of the participant group in the community who were not involved in the development process to review the results of the objective-creating work. The community may also wish to get the thoughts of local experts, targets and agents of change, and/or of people doing similar work in other communities to review what the community member work has developed. Reviewers might comment on:

- Do your objectives each meet the criteria of “SMART+C”?
- Is your list of objectives complete? That is, are there important objectives that are missing that can address the problem of concern?
- Are your objectives appropriate? Are any of your objectives controversial? If so, your organization needs to decide if it is ready to handle the storm that may arise. For example, a program that is trying to increase taxes on tourists visiting the community is an objective they wish to strive for; but it may very well cause difficulties for the community’s governance structure. That’s not to say the

community shouldn't make that an objective, but they should do so with a clear understanding of practicality and the consequences.

Are the Objectives Sustainable?

Long-term benefits, costs, and impacts are some of the factors to consider when you're trying to assess the sustainability of a particular objective. These must be evaluated with respect to the entire community system, so you can recognize when a benefit to one part of the system has a negative impact somewhere else. If the ways in which your community meets some of its needs now are imposing a high cost on other local assets, are there strategies the community can pursue to reduce those impacts, or to shift to another way to meet the needs?

There are several tools you can use to evaluate the sustainability of an objective. One process involves the 3-overlapping circle model framework (described in Chap. 3). This framework helps users to understand the interconnected relationships of a specific objective by developing a "Project Map." Development of this map relies on the principle that there are environmental, social, and economic purposes that collectively advance sustainability. We should be able to map the potential positive and negative impacts of an objective across these three sectors. This process can provide reasonable awareness of the relevant conditions and influences of the objective on sustainability criteria. With this greater awareness of the potential integrated objective outcomes, the design of the set of objectives can be re-evaluated to explore alternatives that will eliminate negative impacts and optimize the interdependent objective statement.

One way to begin is to ask these simple questions about the way the objective is expressed now:

- Are human and natural resources being conserved and renewed?
- Are the value and vitality of human and natural systems improved?
- Are the benefits and burdens distributed equitably?
- Are the people who are affected involved in making the decisions?
- Are people and the whole community of life respected and nurtured?
- Are the benefits to economic systems of sufficient value?

Other ideas on the sustainability testing of objectives and assets can be found in Hallsmith et al. 2006.

When any process identifies objectives that have a low sustainability rating then you have an opportunity to discover more sustainable ways to meet the needs and problems that they serve. Obviously, taking the time to do a complete and rigorous evaluation using this sustainability testing tool for all the objectives identified will not be practical, unless you have a large consulting group or a number of capable community members. But as the stakeholders proceed with the creation of action strategies, having this menu of questions as an evaluation tool can help community members discover the potential for new initiatives. It can also serve as an added tool to encourage community members to look across borders and disciplines to select

the most integrated objectives to pursue. When you have finished refining the objectives with all methods and time at your disposal, with all of these forms of inquiry in mind, you'll be ready to set some clear actions for your local community improvement plan.

Once the community stakeholders have agreed to a vision, goals, and objectives and have evaluated the objectives for sustainability, you are ready for the next step: developing the strategies that will make the objectives possible. Strategic action can commence once your objectives are satisfactory to all members of the community wanting to have a say, as well as important people outside of your group. At this point you are ready to move on to developing successful action strategies that will implement the objectives. This is the subject of the next Chapter.

SWOT Analysis—(S)trength, (W)eakness, (O)pportunities and (T)hreats

Before considering the development of strategies, however, the SCD practitioner might want to encourage the community to conduct a SWOT analysis which could be most helpful if it is used to confirm the vision, goals, and objectives you have already defined. The SWOT will at least provide perspective, and at best will reveal connections and areas for action that can inform the community's strategic action discussion.

A realistic recognition of the weaknesses and threats that exist for a community effort is the first step to countering them with a robust and creative set of strengths and opportunities (Renault 2011). A SWOT analysis first identifies the community's weaknesses, and threats to assist community members in making use of strengths and opportunities in strategic plans and decisions. SWOT is a simple yet comprehensive way of assessing the positive and negative forces within and without the community, so you can be better prepared to act effectively. The more stakeholders involved in preparing the SWOT, the more valuable the analysis will be. Whatever courses of action the community decides on, the four-cornered SWOT analysis prompts involved community members to move in a balanced way throughout their program.

Depending on pretext and situation, a SWOT analysis can produce issues which very readily translate into category actions. The SWOT analysis, like many other management assessment models, has four quadrants; Strengths, Weaknesses, Opportunities, and Threats (Fig. 10.3). Strengths and weaknesses are internal factors. Opportunities and threats are external factors. You use each of the four quadrants in turn to support analyses of where you are now, where you want to be, and then make an action plan to get there. SWOT essentially tells you what is good and bad about a particular objective or planned activity. If the aim is to improve a situation in order to better formulate the objective or activity, then SWOT analysis reminds you to work on (Fig. 10.3):

Fig. 10.3 An example of the SWOT matrix showing the four quadrants of analysis for any objective stated by the community and intended to be part of the strategic action plan of that community

Strength GOOD NOW Maintain, build, leverage	Weakness BAD NOW Remedy, stop
Opportunity GOOD FUTURE Prioritise, optimise	Threat BAD FUTURE Counter

- Strengths by maintaining, building upon, and leveraging them
- Weaknesses by minimizing, remedying or stopping them
- Opportunities by seizing, prioritizing and optimizing them
- Threats by countering or minimizing them

in order to define actions that can be agreed and owned by a community group (team) or the entire community membership.

Strengths: describe the positive attributes, tangible and intangible, internal to your community or organization. They are within your control. What do you do well? What resources do you have? What advantages do you have over other areas? You may want to evaluate your strengths by major issue of concern to the community (e.g., respect, teamwork and togetherness, governance). Strengths include the positive attributes of the people involved in the community, including their knowledge, backgrounds, education, credentials, contacts, reputations, or the skills they bring. Strengths also include tangible assets such as available capital and other valuable resources within the community. Strengths capture the positive aspects internal to your community that add value or offer you an advantage. This is your opportunity to remind yourself of the value existing within your community.

Weaknesses: note the weaknesses within your community. Weaknesses are factors that are within your control that detract from your ability to obtain a particular objective or goal. Which areas might you improve? Weaknesses might include lack of expertise, limited resources, lack of access to skills or technology, inferior service offerings, or the functioning of your community group. These are factors that are under your control, but for a variety of reasons, are in need of improvement to effectively accomplish your goals and community shared vision. Weaknesses capture the negative aspects internal to your community that detract from the value you offer, or place you at a disadvantage. These are areas you need

to enhance in order to improve. The more accurately you identify your weaknesses, the more valuable the SWOT will be for your assessment.

Opportunities: assess the external attractive factors that represent the potential reasons for your community to exist and prosper. These are external to the community. What opportunities exist in your region, or in the environment, from which you hope to benefit? These opportunities reflect the potential you can realize through implementing your planned strategies. Opportunities may be the result of increased hospital census, lifestyle changes, resolution of problems associated with current situations, positive perceptions about your community, or the ability to provide greater value that will create a demand for your community offerings. If it is relevant, place timeframes around the opportunities: Does it represent an on-going opportunity, or is it a window of opportunity? How critical is your timing? If you have identified “opportunities” that are internal to the community and within your control, you will want to classify them as strengths.

Threats: what factors are potential threats to your community? Threats include factors beyond your control that could place your planning strategy, or the community group itself, at risk. These are also external—you have no control over them, but you may benefit by having contingency plans to address them if they should occur. A threat is a challenge created by an unfavorable trend or development that may lead to deteriorating conditions or lifestyles. Arbitrary external decision-making—existing or potential—is always a threat. Other threats may include economic downturns, devastating media or press coverage, or a shift in consumer behavior that impacts your census numbers. What situations might threaten the carrying out of your planning strategies? Get your worst fears on the table. Part of this list may be speculative in nature, and still add value to your SWOT analysis. It may be valuable to classify your threats according to their “seriousness” and “probability of occurrence.” The better you are at identifying potential threats, the more likely you can position yourself to proactively plan for and respond to them. You will be looking back at these threats when you consider your contingency plans.

The Process

Step 1—In the here and now with regards to the internal state of the community and its efforts to fulfill its objectives. . .

List all strengths that exist now. Then in turn, list all weaknesses that exist now. Be realistic but avoid modesty!

Step 2—What might be and how it is influenced by factors external to the organization. . .

List all opportunities that exist in the future. Opportunities are potential future strengths. Then in turn, list all threats that exist in the future. Threats are potential future weaknesses.

Step 3—Plan of action. . .

Review your SWOT matrix for each objective the community has established with a view to creating an action plan to address each of the four areas. Then work to identify the actual assets that the organization possesses and the things that have to be overcome with regards to a particular issue of concern

The primary purpose of the SWOT analysis is to identify and assign each significant factor, positive and negative, to one of the four categories (strength, weakness, opportunity, threat), allowing you to take an objective look at the community's vision for the future as characterized by its identified objectives. The SWOT analysis will be a useful tool in developing and confirming the community's objectives and ultimately its goals, as well as its initial effort at development of a set of strategies to pursue (Renault 2011). For example, in concluding the SWOT analysis, the strengths, weaknesses, opportunities, and threats are used as inputs to the creative generation of possible strategies, by asking and answering each of the following four questions, many times:

1. How can we *Use* each Strength?
2. How can we *Stop* each Weakness?
3. How can we *Exploit* each Opportunity?
4. How can we *Defend* against each Threat?

A SWOT analysis focuses on the four elements of the acronym, but the graphic format you use can vary depending on the depth and complexity of the community effort. SWOT will reveal positive forces that work together and potential problems that need to be addressed. Before you conduct a SWOT session, decide what format or layout you will use to communicate these issues most clearly. An example of a SWOT form for discussion of an objective is shown in Fig. 10.4. This is just one of many SWOT analysis form designs that one can use. To see others go to Renault (2011).

Errors To Be Avoided in a SWOT Analysis

The following errors have been observed in published accounts of SWOT analysis:

1. Conducting a SWOT analysis *before* defining and agreeing upon an objective (a desired end state or shared vision). SWOTs should not exist in the abstract. They can exist only with reference to an objective. If the desired end state is not openly defined and agreed upon, the participants may have different end states in mind and the results will be ineffective.
2. Opportunities external to the community are often confused with strengths internal to the community. They should be kept separate.
3. SWOTs are sometimes confused with possible strategies. SWOTs are descriptions of conditions, while possible strategies define actions. This error is made especially with reference to opportunity analysis. To avoid this error, it may be useful to think of opportunities as “auspicious conditions”.

SWOT Form

(Strengths, Weaknesses, Opportunities, Threats)

Write an objective on the line below from one of the ones identified during the workshop. Then, based on the questions, fill out the table for this objective. Be brief in your comments, using just a few words to describe your ideas.

Objective:

<p>1. Strengths (What are the community's strengths regarding this issue?)</p>	<p>3. Opportunities (What opportunities does the community have to improve this issue?)</p>
<p>2. Weaknesses (What are the weaknesses of the community with regards to this issue?)</p>	<p>4. Threats (What threats impact the community with regards to this issue?)</p>

Fig. 10.4 One kind of form to use for the actual SWOT analysis a community group might want to employ in order to evaluate the objectives the community has defined to be part of the strategic planning process

4. Make your points long enough, and include enough detail, to make it plain why a particular factor is important, and why it can be considered as a strength, weakness, opportunity or threat. Include precise evidence, and cite data, where possible.
5. Be as specific as you can about the precise nature of a community's strength and weakness.
6. Avoid vague, general opportunities and threats that could be put forward for just about any community under any circumstances.

Depending on how long the Public Listening Forum described above took for community participants to formulate their objectives to activate the community's agreed-to vision and goals, the SDC practitioner should decide on whether to continue with the same Forum, providing an opportunity for participants to conduct a SWOT analysis on each of the agreed objectives or whether a follow-up gathering should be scheduled to analyze each of the objectives with SWOT assessment. The practitioner should plan on several hours for both brainstorming and more structured SWOT analysis. If a follow-up to the Forum is the chosen path, it should be scheduled very soon after the objectives have been formulated so that momentum is not lost in the community participation and its dedication is still strong.

When initiating the SWOT analysis, the SDC practitioner should request that all participants pool their individual and shared knowledge and experiences. The more relaxed, friendly and constructive the setting and environment, the more truthful, comprehensive, insightful and useful the community's analysis will be. In order to keep the processes moving on track the SCD consultant team will serve as facilitators for the community's SWOT analysis. Use newsprint on a flip chart or a large board to record the analysis and discussion points. You can transcribe later in a more polished fashion on the actual SWOT Form design the group chose to use in order to share with all stakeholders and to update. Introduce the SWOT method and its purpose in the community to enhance the process of strategic action definition. This can be as simple as asking, "Where are we, where can we go?"

Divide the participating stakeholders into small breakout groups of no more than 10 participants. Make sure you mix the groups according to the different stakeholder special interests to get a range of perspectives, and give them a chance to introduce themselves. Have each group designate a recorder, and provide each with newsprint or dry-erase board. Direct them to create a SWOT analysis for the set of objectives that the group has been assigned in the format chosen. Give the groups 45–60 min to brainstorm and fill out their own strengths, weakness, opportunities, and threats chart for the assigned objectives (Fig. 10.4). Encourage them not to rule out any ideas at this stage. These tips for the different ideas might be helpful:

- As the group lists, keep in mind that the way to have a good idea is to have lots of ideas. Refinement can come later. In this way, the SWOT analysis also supports valuable discussion within each breakout group as they honestly assess issues.
- In the beginning, though, it helps to generate lots of comments about the community and the objective, and even to put them in multiple categories if that provokes thought.
- In the end, it is best to limit the group's lists to 10 or fewer points and to be specific so the analysis can be truly helpful.

The SDC consultant team facilitators should reconvene the breakout groups at an agreed-upon time to share results. Gather information from the groups, recording on flip-chart newsprint with the objectives already listed on separate sheets. Collect and organize the differing groups' ideas and perceptions. Proceed in S-W-O-T order, recording strengths first, weaknesses second, etc. The recorders should make sure the top priorities in each category – the strongest strength, most

dangerous weakness, biggest opportunity, worst threat – are indicated across each category. Ask one group at a time to report. You might want to discuss some of the items as they come up. In fact, cross connections between categories—“This strength plays into that opportunity”—is what you’re pursuing, so a good facilitator will tease out those insights as they arise. Encourage the participants to also make notes of ideas and insights as you build the SWOT descriptions for each objective so the drawing together process will continue to be creative and collaborative. Discuss and record the results. Come to some consensus about the most important items in each category for each objective evaluated. Relate the analysis to your vision, goals, and objectives. Begin to discuss the relationships of the analysis to action plans and strategies. At the conclusion of the Public Listening Forum the SDC practitioner should prepare a written report of the SWOT analysis for each objective to give or e-mail to community members who did not participate for continued use in planning and implementing the SDC project.

The more stakeholders that are involved in preparing the SWOT, the more valuable the analysis will be. Whatever courses of action are decided on, the four-cornered SWOT analysis (Fig. 10.3) prompts community members to move in a balanced way throughout the community improvement program and the fulfillment of the community’s objectives. It reminds participants to:

- Build on your strengths
- Minimize your weaknesses
- Seize opportunities
- Counteract threats

Refinement of community-based objectives with the SWOT analysis will improve the affectivity of strategic actions, and added to the vision and respective goals already produced, will result in overall project success.

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Chapter 11

Developing a Strategic Sustainability Plan

The question to consider for this chapter is how do you as the SCD practitioner successfully facilitate a group of diverse community representatives starting with an agreed vision to reach consensus that will turn ideas into results through an intensive strategic planning process? Once community stakeholders have created a set of objectives aligning with their vision and goals for community improvement and some defined level of sustainability, the community must set about designing a revised organization and structure to move forward with the development of a strategic plan that will minimize chaos and unintended consequences.

The process of planning in the community involves more or less the same steps as completing any list of errands you might have written. The nuances, the vocabulary, the level of complexity, and the specific planning tasks may be different, but the process is the same. “Planning” could be defined as creating a process that allows a group of people, such as in a community, to take action that will result in an outcome that would otherwise not have come about (Gable 1999).

What Is Strategic Planning?

Because you have come so far as an SCD practitioner in assisting the target community to develop a vision, goals, and set of objectives, you will now want to move from framework to action and therefore it makes sense to take all of the steps necessary to ensure success, including developing a strategic plan. Proper and complete planning of any initiative is critical for yielding the best results or outcomes possible (Pfau 2011). A strategic plan, while a significant investment of time and energy, grounds all community members and their collaborators with a common purpose. A strategic plan is the first step in executing the objectives the community has worked hard to define.

The Idea of Planning

Presently, instead of building capital, many communities, businesses, and other institutions are depleting it. When natural resources are used up faster than nature can replace them, when people are uneducated and unhealthy, when infrastructure is not maintained, all of these forms of neglect deplete the capital base you require to meet your needs in the future. The core value of a sustainable community development (SCD) plan is to ensure that future generations continue to have the same opportunities as community members have now with no new constraints on the use of community capital in providing the ability to meet their needs. Maintaining and even increasing the assets available to people living in the future is an important operating principle.

When developing a plan to improve the local area, you can see your whole community as an enterprise unto itself—one that serves its customers—all citizens—by satisfying human needs. Your strategies can be like that of an enterprise director. You need to understand how to build all of the different forms of capital in your community. Your job is to increase all of your capital assets and make the community enterprise more efficient, cost-effective, and globally competitive (Emery and Flora 2006). By building your capital (e.g., natural, built, social, cultural, financial, political, and human), you are increasing your ability to satisfy human needs now and for future generations.

A strategy is a way of describing how you are going to get things done. It tries to broadly answer the question, “How do we get there from here?” Since a strategy is something that drives or governs a set of actions intended to accomplish a specific purpose, deciding which actions are the best ones will depend on the parameters of your project, the circumstances and details of your environment, and the abilities of and resources available to your team (Nagy and Fawcett 2011a). The action you take is the skillful implementation of an appropriate strategy. So, in the planning process, action is the embodiment of strategy: it is the doing, the movement, the physical energy that drives completion of goals and objectives.

Strategic planning is important because it provides a reference point with a detailed timeline and assignment of accountability for accomplishing tasks. A strategic planning process that is preceded by the formulation of community-identified vision, goals, and objectives lends credibility to the SCD initiative—a strategic plan shows members of the community that the complex, community-based program they have created is well ordered and dedicated to getting things done. The extent of the planning process will serve as a check that no detail is overlooked and provide ample opportunity for community members to understand what is and is not possible for the community to do—focusing on actions that are feasible and realistic. And finally, a well-orchestrated strategic planning process provides accountability to people both in the community and outside because all measurable activities are documented and evaluated (Nagy and Fawcett 2011b). This will increase the chances that people will do what needs to be done and collaborators will follow through with their commitments.

As the strategic planning process progresses it is imperative that the SCD practitioner keeps an eye on what I refer to as the 3 Cs of sustainability. It is extremely important to understand the many, diverse Connections in capital assets and human–nature interactions associated with action planning so Choices made do not produce unintended Consequences. This is the number one principle of any planning process and is what makes the planning “strategic.”

The strategic planning process applies a sequence of questions that help you examine experience, test assumptions, gather and incorporate information about the present, and anticipate the environment in which you will operate in the future. Strategic planning will lead to a set of decisions about what you want to do, why you want to do it, and how you will do it. Naturally, some decisions and actions are more important than others. Much of strategic planning lies in making the tough decisions about what is most important to achieving success, always trying your best to understand the vast array of synergistic processes (both internal and external) that will be influencing action choices you ultimately decide upon (Nagy and Axner 2009).

A good strategic plan will take into account existing barriers and resources (people, money, power, materials, etc.). Often, an initiative will use many different strategies—providing information, enhancing support, removing barriers, providing resources, etc.—to achieve its goals. Objectives outline the aims of an initiative—what success would look like in achieving the vision and goals. By contrast, strategies suggest paths to take (and how to move along) on the road to success. That is, strategies help you determine how you will realize your vision, goals, and objectives through the nitty-gritty world of action.

Good strategies depend on understanding how the whole community enterprise works and how its capital assets can be best used for community improvement (Flora and Thiboumery 2006). Different strategies and activities are available to strengthen the capacity of each of the seven types of capital described earlier in Chap. 3. The state of these capitals and potential improvements in their condition can be part of the evaluation of strategic action planning.

The overall goal of strategic planning is to increase your community’s ability to work together to effect their vision, goals, and objectives—while trying to minimize the number of “unintended consequences” that might result. A strategic plan is a way to make sure your community’s vision is made concrete. It describes the way a community will use its strategies to meet its objectives while being well informed of the many human-nature interconnections involved.

The strategic plan must include the information and ideas the community members have already developed while brainstorming about their goals and objectives, especially through the SWOT process (Chap. 10). Now it is time for all of this earlier community work to come together. While the strategic plan might address general goals you want to see accomplished, the strategy statements themselves will help you determine the specific actions you will take to help make your vision a reality, always considering both the subtle and big picture constraints of the 3 Cs of sustainability.

The SCD practitioner and the team of consultants can devote significant time to the design of a strategic planning process that honors by inclusion all past community work, is holistic in its perspective of the project, and is transparent and integrative in its development. In this way the strategic plan can assimilate sufficient detail to succeed in achieving goals in ways that are truly going to work and be comprehensive in their reach. An effectively designed strategic planning effort will allow a large number of people to think and act in a structured way about the future of their community.

Strategy Development

A sound strategy realizes its intent of guidance, collaboration, and integrative action. Any strategy, such as enhancing experience and skill or increasing resources and opportunities, can give general direction by pointing out the overall path without dictating a particularly narrow approach (e.g., using a specific skills training program). A good strategy also takes advantage of current resources and assets, such as people's willingness to act or a tradition of self-help and community pride. It also embraces new opportunities such as an emerging public concern for neighborhood safety or parallel economic development efforts in the business community. Furthermore, when initiatives are set out to accomplish important things, resistance (even opposition) is inevitable. However, strategies need not provide a reason for opponents to attack the initiative. Well-conceived strategies attract allies and deter opponents.

Strategies must connect an intervention with those who it can most benefit. For example, if the goal of the initiative is to get people into decent jobs, do the strategies (providing education and skills training, creating job opportunities, etc.) reach those currently unemployed? Taken together, are strategies likely to better lead to achieving goals and objectives? If the aim is to reduce a problem such as unemployment, are the strategies enough to make a difference on rates of employment? If the aim is to prevent a problem, such as polluted water, have factors contributing to risk (and protection) been changed sufficiently to reduce input of pollutants into the water source?

Developing strategies in steps is a way to focus your efforts and figure out how you are going to get things done (Nagy and Fawcett 2011a). By integrating the steps you are able to see the "big picture"; a thoroughly integrated plan will most definitely provide the most efficient use of time, energy, and resources.

A strategic action step refers to the specific efforts that are made to reach the goals and objectives the community has set. Action steps are the exact details of your strategic plan (Nagy 2011a). They should be concrete and comprehensive, and each strategy should explain:

- *What* action or change will occur
- *How* much, or to what extent, this action will occur;
- *Who* will carry it out

- *When* will it take place, and for how long
- *What* resources (e.g., money, staff) are needed to carry out the change
- *Communication* (who should know what)

In the development of strategies, the SCD practitioner can remind all stakeholders of their recent SWOT analysis and how the discussions and results of their work, focused upon the community's objectives, can usefully inform their design of strategies. The outcome from a SWOT analysis can be an excellent, fast tool for exploring potential new action strategies, as well as for decision making, that will move community-identified objectives to completion (Balamuralikrishna and Dugger 1995). And the strategies linked to these objectives can be well informed by the community-based participatory research conducted earlier in the project regarding perceived problems (Chap. 10). SWOT is neither cumbersome nor time-consuming and is effective because of its simplicity and latitude for thinking outside the box. Used creatively, SWOT can form a foundation upon which to construct numerous strategic actions.

The following list of questions provides a guide to brainstorming the best strategies for implementing their vision, goals, and objectives (Rabinowitz 2011a).

- What resources and assets exist that can be used to help achieve the vision and goals? How can they be used best?
- What obstacles or resistance exist that could make it difficult to achieve your vision and goals? How can you minimize or get around them?
- What are potential agents of change willing to do to serve the SCD project?
- Do you want to reduce the existing problem, or does it make more sense to try to prevent (or reduce risk for) problems before they start? For example, if you are trying to reduce water pollution you might consider local strategies to regulate outflow of industrial water and wastes from area plants. Or as an alternative you might try to engage local industry in discussions about lessening or eliminating their outflows by changing their production processes.
- How will your potential strategies decrease the risk for experiencing the problem? How will the strategies increase protective factors?
- What potential strategies will affect the whole population and problem? Also, just one strategy, affecting just one part of the community, often is not enough to improve the situation. Make sure that your strategies affect the problem or issue as a whole.
- What potential strategies reach those at particular risk for the problem?

Full Participatory Approach

With the help of your consulting team, you have diligently attempted to conduct an all-inclusive, transparent process for your target community, facilitating its full participation in all activities leading to the final strategic planning process. There should be no reason to change the participatory pattern now. A participatory

planning process—one in which all the stakeholders are involved—has proven the most effective and inclusive way to plan strategy (Rabinowitz 2011b). A participatory process provides community ownership and support of a strategy for action; participation draws valuable information about community history, politics, and past mistakes and respect for the process through promotion of a voice for everyone. It also takes time, care, mutual respect, and commitment. As before you must identify all the stakeholders, and make sure they all get to the table, using communication techniques designed to reach them.

The SCD practitioner must commit to providing all community members, stakeholders, and agents of change the opportunity for engagement in the process. Agents of change include actual policy makers, but also encompass people influential in the community at large, who can help or block a strategic action by their support or opposition.

An informational meeting can be conducted for all participants to fully inform them of the proposed design of the strategic action planning activities that will be described below. That way all stakeholders participating will fully understand what they will be taking part in so that they can decide to fully commit to the process. The information meeting and conduct of strategy development through the group brainstorming process described below can be conducted as soon as possible after the development of community-defined objectives so that momentum will not be lost. If you can introduce and manage a planning process that meets all these requirements, the chances are that you will come up with a successful community Strategic Sustainability Plan, one that truly works and meets the community's needs (Rabinowitz 2011b).

It is likely that your target community includes unique cultural groups that differ in their perspectives and traditions from the majority of the community population. This is important when the practitioner intends to engage as many community members in the formulation of action strategies as possible (Wadud and Berkowitz 2011). Therefore, a well-adapted and culturally sensitive strategic planning process can:

- Show respect for another culture's values and identity
- Improve your ability to connect completely with your target community
- Increase the relevance of community-identified actions
- Decrease the possibility of unwanted surprises
- Increase the involvement and participation of members of other cultural groups
- Increase support for the planning program by those cultural group members, even if they do not participate or get directly involved
- Increase the chances for success of the strategic plan (and its community impact)
- Build future trust and cooperation across cultural lines—which should raise the prospects for more successful community planning and action in the future

As an SCD practitioner you want to be able to assess all the interests of the community group you interact with and always work within the total experience of your community, especially if you are assisting people from different cultural backgrounds by seeing things through their eyes and acting accordingly. You must have a good idea about how everyone understands and relates to the world.

This takes understanding on your part, not to mention sensitivity, flexibility, and patience. Working with different cultural groups or in culturally diverse communities presents a challenge, even to vastly experienced professionals.

For a variety of reasons, you may not get the diverse collaboration you want or need. Just conduct your facilitation toward SCD as best you can. But when success does happen, the rewards can be great. You will have developed a program that is culturally relevant to the community's needs, perhaps with benefits that have never been present before. And you may have set an excellent precedent for future work with different cultural communities, a precedent that can long outlast your own departure from the scene.

An obstacle that might occur while working with different cultural groups in a community is conflict (Lee 2009). Conflicts are natural. Some people tend to shy away from conflict, while others tend to confront it. Some cultures encourage their members to conform, while others encourage their members to challenge. Conflicts can occur between two or more individuals because of differences in personality, values, and opinions. When this type of conflict happens, conflict resolution techniques can be employed to help the parties find a peaceful solution to a disagreement.

Conflict transformation is important in diverse communities to resolve conflicts and to promote peace among groups of different race, ethnicity, beliefs, and culture. It is a process that takes time, patience, humility, a long-term commitment, and a willingness to trust and take risks. Conflict transformation is the process whereby conflict is both resolved and used to build the capacity of groups to develop alliances that value equitable relationships, promote harmony, and effect systems change.

In a community composed of two or more cultural groups, conflicts are more likely to occur because of differences in group identity, which is shaped by the group's cultural values, history, socioeconomic status, and perceived power. There could also be history of hostile interaction and discrimination that may not be obvious at the onset of the planning exercise. And then there is always the problem of misinformed stereotypes and perceptions caused by prejudiced attitudes and other external influences (e.g., the media).

When conflict does arise, the worst thing a practitioner can do is move on without everyone engaged. Try and work together to figure out what is holding some of the groups back and what it would take to move forward together. In these instances it would be helpful to have a trained mediator as part of the consultant team. The following recommendations for transforming conflict provide you with a general framework and direction for your effort and remind you of certain components that have to be considered during the process (Lee 2009).

1. All groups that are affected by the conflict can acknowledge that there is a problem and commit to working together to deal with the conflict.
2. The root causes of the conflict can be identified, made explicit, and reconciled collectively by the groups.

3. The groups involved can develop a common vision for what they can do together and how they can do it.
4. The groups can determine what they need in order to sustain their ability to continue to work together to manage or eliminate the causes of the conflict, and to promote peace.

What Makes Strategic Planning Sustainable?

Strategies the environment can sustain and that citizens want and can afford will generally be quite different from community to community. Moreover, strategic planning for a sustainable community is continually adjusting to meet the social and economic needs of its residents while preserving the environment's ability to support it. However, there are several processes that communities seem to execute in common. These include:

- Create a shared vision of sustainability
- Identify impacts and priorities
- Assess current sustainability initiatives
- Develop strategies, goals, and actions to improve sustainability performance
- Develop a business case for pursuing sustainability
- Identify and select improvement projects that meet the chosen sustainability framework criteria for assessing a project
- Develop metrics and reporting
- Communicate to community members and encourage participation in the overall effort

To make use of the information we possess about how communities function and how they can choose alternative paths toward improvements, we must be continually aware of basic factors affecting how our human and natural worlds operate. That is exactly what assimilates the idea of sustainability into strategic action planning. We have learned that economic development (the foundation of today's globalization pattern) that is sustainable must be both environmentally sound and shared fairly among *all* societal members. Members of a strategically planned sustainable community realize that long-term economic viability is not only about scientific and technical information guiding the planning process but also about being supported by moral and ethical concerns and decisions.

To review earlier chapters, SCD has emerged as a compelling alternative to conventional approaches to development: a participatory, holistic, and inclusive planning process that leads to positive, concrete changes in communities by creating employment, reducing poverty, restoring the health of the natural environment, stabilizing local economies, and increasing community control. The *economic component* involves the sustainable management of human, material, and financial resources to meet the material needs of as many people as possible. A project is economically viable if the goods produced or services provided adequately meet the actual needs of the population through the efficient use of the materials, energy, and human resources required to produce them.

The *social component* involves making sure similar opportunities in the present are also available to future communities for continually improving quality of life. Specifically, it means meeting the needs of a population in terms of health, education, individual aspirations and safety, and encouraging healthy lifestyles (physical activity, diet, hygiene, consumption) and cultural dialogue and sharing (language, arts, religion, traditions) so as to foster the emergence of a sense of individual freedom and collective responsibility in existing human settlements. The social component also involves taking into account demographic trends (age, gender, cultural communities) in society's make-up and organization to ensure a balance in society and the longevity of communities.

The *environmental component* involves the maintenance and sustainable use of all natural resources, and the preservation of biological diversity and ecosystems. Among other things, this means meeting the needs of the natural environment, which implies careful use of natural resources to ensure their sustainability, and committing to sound management of human activity to ensure it does not overtax the environment.

Strategic actions are best developed by taking a system's approach to understanding, forecasting, and decision-making. Only through the use of a sustainability framework (e.g., the Natural Step, 3-overlapping circles model, Triple Bottom Line) applied consistently throughout the SCD project can a community be assured that it is incorporating the concepts of sustainability during its process for systemic strategic planning (Pfau 2011). The SCD practitioner can provide the stimulus for community members to be thinking in the context of the chosen framework during the selection of project objectives as well as during the strategic action planning exercises.

Reiterating earlier chapters, planning for SCD can be described in terms of a community that participates actively in modeling its present and its future to ensure a better quality of life. Strategically planned SCD must take into account the full range of the community's needs and multidisciplinary actions involving stakeholders from all sectors. Successful SCD planning requires communities to:

- Want self-determination.
- Adopt a vision that is shared by all of its members.
- Have leadership and consensus-building mechanisms.
- Have a permanent coordination mechanism (e.g., program manager).
- Be able to take stock.
- Be able to make decisions incorporating all aspects of sustainable development (e.g., cultural, economic, environmental, and social).

In most communities economic development is going to be one of the top strategic priorities. The SCD practitioner can be prepared to demonstrate to stakeholders that valuable opportunities exist to strengthen economic development planning by blending in sustainability concepts. Potentially significant employment opportunities, consistent with more sustainable patterns of development, can be mined in many economic sectors. Redesigned and improved infrastructure, knowledge-based services, environmental technologies, improved management and use of natural resources, and tourism are all rich areas for private sector examination, supportive government policies, and expanded training.

Incorporating sustainability concepts into strategic planning implies sustainable employment and economic demand management (EDM). Sustainable employment includes turning “wastes” into resources (e.g., recycling), improving efficiency in the use of energy and materials, converting to greater reliance on renewable energy sources, increasing community self-reliance (e.g., food and energy production), and sustainable management of natural resources (e.g., community forestry). EDM shifts our economic development emphasis from the traditional concern with increasing growth to reducing dependence on economic growth.

In the overall scheme, successful SCD planning attends to several dimensions.

1. We want to sustain communities as good places to live, that offer economic as well as other opportunities to their inhabitants.
2. We want to sustain the values of society—things like individual liberty and democracy.
3. We want to sustain the biodiversity of the natural environment, both for the contribution that it makes to the quality of human life and for its own inherent value.
4. We want to sustain the ability of natural systems to provide life-supporting “services” that are rarely counted by economists, but which are estimated to be worth nearly as much as total gross human economic product.

My experiences of working in community development through the past decade have been distilled into a theory as follows. This strategic process includes the convening of stakeholders, creating a vision of the community identified by core values, establishing goals, employing the emerging field of sustainability science to identify assets and challenges and set targets for community improvement, designing a strategy for community change and indicators to monitor change (again based on sustainability science), and employing an adaptive management approach to implement change, engage in learning by experience, and refining/revising strategic actions to achieve the intended outcome defined by the vision. This process employs representative practices for establishing community wisdom and capacity and the process of evolutionary sustainability for enhancing community change.

The Design Charrette to Develop A plan

The community is now ready for the actual formulation of action plans. This can be a challenging but also rewarding process for a dedicated community truly engaged in wanting to make a difference.

As the practitioner probably knows from past experiences, the traditional design of action plans, such as for a town, city, or county, usually does not consider many of the subjects covered earlier in this chapter. For example, in a conventional plan, strategic integration of issues is rarely considered. A system’s approach to planning is also rare. Usually major issues are isolated into topics such as transportation, land-use, buildings, economic development, with limited cross-feed.

In conventional planning, the design team presents plans to the community and input is gathered through various methods such as surveys, public hearings with limited public dialogue, or small discussion groups. The designers then retreat to their office and return weeks later with a revised plan. Often during these weeks, some degree of misunderstanding occurs in the community. People who attended the meeting come away with different interpretations. People who do not like to speak in public speak to others in the parking lot afterward. The result is often a crystallization of opinions against the plan that sends the design team back to the beginning, or the plan is approved while ignoring public concern.

The design charrette is a better alternative for developing a Strategic Sustainability Plan compared to the time-consuming linear and sequential process of submittals and re-submittals typical of conventional planning. The number and variety of ideas, solutions, and actions generated is far greater than with conventional planning, and clarity and transparency are protected because interested community members are able to be intricately involved with the discussion and planning throughout the process.

The term “Charrette” is derived from a French word meaning “cart” and refers to the final intense work effort expended by art and architecture students to meet a project deadline. At the *École des Beaux Arts* in Paris during the nineteenth century, proctors circulated with carts to collect final drawings, and students would jump on the charrette with their work and frantically put finishing touches on their drawings. This intense burst of activity is similar to the atmosphere of the Charrette process suggested here for any SCD target community.

The planning charrette is a highly structured and carefully facilitated process, involving citizens, residents, business owners, and other stakeholders with an interest in the community. In addition to community stakeholders, planning charrette participants will include representatives of various public, non-profit, and private agencies, professionals such as architects, land-use specialists, and scientists with specific knowledge on community issues of concern, as well as staff and other city officials who will serve to help the community stakeholders through the design charrette planning process, an intense, interactive workshop, usually lasting a number of hours or possibly several days.

The purpose of the workshop-type design charrette and requisite public involvement assisted by the SCD practitioner, the consultant team, and other professionals is to gain the deepest possible insights into the previously identified issues confronting the preferred future of the target community and to build consensus for specific strategic action. This process provides an opportunity for the participants to present their grandest ideas and most serious concerns, and then help them frame concepts and formulate designs toward a strategic solution. At the end of the charrette, specific cooperative design decisions for the future of the community are made visible and participants have a chance to appreciate the potential improvements. Charrettes serve as another way of quickly generating a design solution for identified problems while integrating the attitudes and interests of a diverse group of people.

Before conducting a design charrette the practitioner can compile a summary package of all the products from the work that community stakeholders from the beginning have completed. As in preparations for other strategic planning, this briefing would document where the community has come to date in its SCD initiative (e.g., identity of problems, vision, goals, capital assets, opportunities, and threats) and what data has been collected to inform the design charrette process through participatory research. Once all background information and materials/supplies are assembled for the design charrette, the following steps for the actual process are suggested.

Part 1: Brief the community participants on what the design charrette objectives are and on any particular issues that still need to be addressed. Listen to what the community members expect from strategic action planning. Review and ask questions about the data and public input that have been provided from previous activities of the SCD initiative. Work together to come to a clear understanding about the potential and limitations offered by the ideas identified through the planning process to date.

Part 2: Collaborate to identify community, and possibly regional, scale design and process issues blocking the completion of objectives and come up with realistic and creative ideas for resolving them. Work to compile these ideas into a design image of the group's stated vision and goals.

- Breakout groups scope out their particular set of strategic actions
 - Characterization of a chosen direction with identified “end points” (future milestones that describe it)
 - Major issues to overcome from the SWOT Analysis work of early objective identification
 - Discuss strategies that improve the achieving of objectives—provide solutions to perceived problems
 - Application of the previously chosen sustainability framework to verify whether each strategy meets the defined criteria for sustainability
 - If appropriate to the subject, map images of strategic results
 - Use of stories/pictures to support mapped strategies
 - What would the timeframe look like for completion of this action strategy?
- Consultant team refinement of proposed strategies and mapped futures

Part 3: Each topic group presents their findings to the entire charrette workshop and with the direction of the SCD practitioner discusses how the findings of different groups might be connected. All participants work to compile these various group ideas into a revised development plan with action strategies and associated timeline.

- Stakeholder discussion, evaluation, and selection (consensus) of most realistic objectives evaluated that could lead to the preferred future of the community
- Identification of short- and long-term action strategies: what they are, who will do them, cost and time
- Timeline for progress on future view

To maintain overall integrity, this process will require quite a bit of time that necessitates full attention by community participants and other stakeholders to the many different stages of the charrette effort. A charrette will take at minimum one 2-h evening session for introduction, a full day (4–5 h) for team work, and a report-out, wrap-up session the following morning from 9 am to 12 pm. This will be quite an intensive set of sessions and probably everyone will not be able to fully participate. Attendance over the entire period should be required of those who will make final recommendations.

The SCD practitioner might extend formal invitations to experts and community participants able to commit to the entire time period. Other stakeholders not able to commit their full time to the charrette may attend as *observers* and come-and-go with some agreed-upon privileges to provide input and ask questions. The status of “observer” offers an alternative to fulltime attendance at the design charrette that will provide the chance for many more people to be involved.

Benefits of the Charrette Process

1. *Creates public trust* through meaningful public involvement and education:
 - Community members get immediate feedback as peers on technical questions from experts, as opposed to answers from government leaders, planners, and staff during a conventional public hearing, improving the quality of information exchange.
 - Community members see how their comments and suggestions have been integrated into the plan.
 - This immediate feedback loop and education process is unusually responsive and strengthens public confidence in local government.
2. *Creates a better plan* through diverse input and involvement:
 - With a compressed timeframe and a multi-disciplinary team, brainstorming and negotiation during a charrette can change minds and facilitate unexpected solutions to problems.
 - The number and variety of solutions and ideas generated is far greater than with conventional planning processes.
 - The charrette is an alternative to the time-consuming linear and sequential process of submittals and re-submittals that typically occurs in traditional planning.
3. *Creates a shared vision* that builds public support for the project:
 - Everyone who is interested in the project can participate.
 - The educational process of a charrette helps everyone who participates understand the rationale behind the preferred design, and they in turn can become advocates for the plan.

Information gathered at the design charrette is used for developing the actual strategic plan, based upon all background data collected during the full public consultation. The SCD practitioner and consultant team will analyze the information and prepare recommendations for a strategic plan of action as informed by the charrette participants. Upon completion of the charrette, a written report summarizing issues and action strategies, along with an implementation timeline, will be prepared and submitted to the community's Oversight Committee for their review and comment.

For more details on the actual design and conduct of charrettes, consult the report by the National Institute of Building Sciences Whole Building Design Guide entitled "Planning and Conducting Integrated Design (ID) Charrettes" (<http://www.wbdg.org/resources/charrettes.php>).

Choosing Promising Strategic Actions

Earlier in this chapter we discussed what a strategy is and how it is applied in the planning process. We talked about strategy as a way to focus your efforts and figure out how you are going to get community planning done.

Defining Community Strategies

Once the design charrette is begun, the SCD practitioner and their consulting team must be able to assist with and promote community work on defining appropriate strategic actions to meet their defined goals and objectives bolstered by the earlier discussion of developing strategies in general. "Appropriate" is about finding out what kinds of practices and action strategies are possible, choosing what is suitable for that particular community, and adapting them to the document needs, character, and other circumstances of the community. Therefore the practitioner should be able to discuss with community members who will be participating in the charrette how to tell whether a practice or action strategy has a chance of fulfilling the community's vision.

One way to increase the probability of making good choices among strategies is to employ "best practices"—methods or programs that have been proven successful elsewhere, and that have the capacity to be reproduced, or replicated (Rabinowitz 2011c). While this does not guarantee success—not every intervention works in every community, and you may already have successful programs operating—it beats the "stab in the dark" approach that many health, human service, and community efforts take for new programs or initiatives.

As in all SCD processes, persuading the community to adopt best practices requires building credibility by assembling a multi-sector group—including local officials and influential citizens, potential participants or beneficiaries of a proposed

intervention or initiative, and others affected by it—to (1) research best practices and make recommendations; (2) introduce the community and/or relevant organizations to the new practices (by, among other tactics, introducing them to people already using them) and suggest ways to incorporate them; and (3) provide the resources and support necessary to make successful replication in your community possible. Once you have convinced everyone that best practices make sense, you have to make sure that they are actually adopted. You then must continue to remind and educate the community about best practices, and maintain community commitment to using them. In addition, remember that any practice, even a “best” practice, can be improved, and that the effort to make things better should never end (Rabinowitz 2011c).

Promising practices and interventions may also be untried, but based on something solid and thought through toward agreement for potential by a number of stakeholders (Nagy 2011b). Sometimes, there is no model for what you want to do, or at least no satisfactory one. In that case, there are places to look for ideas. A person in the brainstorming group may have read about a new idea, or may know an academic whose research is in the area the group is concerned with. Trying out a practice or intervention grounded in theory is a way both to come up with a strategy that has a good chance of working and to test the theory as well. Likewise, a member of a particular stakeholder group discussing specific objectives may have tried or seen something that worked well in a similar situation, or may have evidence from what they have done before that certain methods are likely to work well under certain circumstances. That is a reasonable basis for action.

The in-depth analysis of the problem informing an objective that has already been developed (Chap. 10), especially after a broad community discussion, may inspire strategy ideas and actions that could be promising. If lots of people are involved in looking at an issue, solutions are likely to emerge that address real causes. These kinds of solutions tend to take into account the history and cultural realities of the community, and to have a reasonable chance of success.

New practices and strategic actions have to start somewhere. Sometimes they start from entirely new ideas or new perceptions of an issue. The SCD practitioner and their target community may be in a situation where that is appropriate. One caution, however: there are few ideas that are totally new: if discussion revolves around a new idea, check around and see if it or something similar has been tried before. If it has, you may be able to get some suggestions about how to make it work and how to avoid pitfalls.

As discussed earlier (Chap. 3), the framework of the Community Capitals (Flora and Flora 2005) can provide a mechanism for the discussion of strategic actions and best practices in community development that could prove most successful. The Community Capitals Framework offers a new viewpoint from which to analyze holistic community changes. The framework encourages us to think systemically about strategies and projects, thus offering insights into synergistic influences and outcomes from focusing a specific action on one of the capitals important to the community (Flora 2008).

For example, my facilitation of Dauphin Island strategic planning (Flint 2010) resulted in community stakeholders agreeing that they needed to change from major reliance upon the low diversity of revenue sources primarily coming from the built capital of the Island (expensive beach rental homes) because of the risk of natural disturbances (e.g., hurricanes). Recognizing these risks by analysis within the Community Capitals Framework caused community stakeholders to begin evaluating the potential for added income from the use of natural capital in the form of ecotourism and birding. This potential new source of capital promoted ideas for additional forms of economic capital development in the community through the growth of businesses that served to support ecotourism economies on the Island.

Discussion of the capitals framework (Flora 2003) provided a broader understanding of the strategic nature of ecotourism development, extending to facets of natural capital not even directly related to ecotourism, such as the protection of freshwater sources to the community. By using the framework to think systemically about the project, stakeholders were able to identify indicators in all the capitals, beyond those related to the specific activity, as they strived to evaluate the project's impact and learn from that experience.

The Community Capitals Framework can provide assessment for potential best practices in developing strategic actions by offering a mechanism for systemic evaluation, an evaluation process that looks at impact beyond an objective's specific goals, to the community or system as a whole (Flora 2004). Applying the framework allowed community members in the Dauphin Island project to map outcomes by capitals and to even identify indicators that could measure the degree of system change.

Criteria for Choosing Promising Practices

After the discussion and brainstorming sessions of the Design Charrette, and once you have looked at a number of "best practices" and talked to some folks about their programs, how do you decide what really works, and what might work for you? First, you need to determine what the best practices you have been looking at are best practices for (Rabinowitz 2011c). Then, the question is what criteria you use to link best practices to specific strategic actions. In other words, how do you know they actually work? Finally, what are some of the common elements of successful practices and strategies that you can incorporate into whatever you decide to do? These issues/questions will be the primary talking points during the Design Charrette engagement in order to discover practices and strategies that the community in general believes are best for its circumstances.

Particular best practices may or may not be relevant to your goals. Many organizations, agencies, or government departments identify best practices as those which solve a specific problem or treat a specific condition. Thus, a best

practice in the protection of freshwater supply to a locale supplied with limited groundwater might be one that targets water conservation, and reduces use drastically through the excessive costs of increased vigilance and enforcement by local agencies. These practices and interventions are certainly vital—no one would deny the need to reduce wasted water as quickly and drastically as possible—but they often fail to address the underlying causes of the issue.

Likewise, there is a type of best practice that promotes rather than restricts certain behaviors, attitudes, or causes. Again, this type of practice or intervention looks to root causes of problems and issues, but approaches them from a positive angle. It asks people to do something, rather than to stop doing something. Campaigns promoting condom use and safe sex as a defense against AIDS are an example. They do not suggest that everyone should stop having sex (unlikely in any case), but rather that they can adopt some behaviors that will protect them from risk. Many health programs have switched from disease prevention to health promotion, emphasizing taking positive steps to maintain and improve current and long-term health through daily attention to diet, exercise, stress, and other health-related factors (Rabinowitz 2011c).

As you look for best practices, you can be clear about what kind of practices and actions you are interested in (and have the resources for). Are you intending to run a treatment program, which addresses the manifestations of a particular problem or issue? Are you, instead, planning a prevention program, through which you will try to address and change the root causes of the problem or issue? Or will you sponsor a promotion program, which approaches the issue from a positive standpoint? Being clear about the direction you choose will help you decide which among many best practices or promising strategic actions might work for you.

During the Charrette process, community stakeholders can consistently and repeatedly list best practices and known successful strategic actions. Identifying methods or programs that have been tested and found successful increases the chances that you will accomplish your goals and that life will therefore be better for the folks who participate. Additionally, using a recognized best practice makes it easier to justify the work. Using recognized best practices can bolster the credibility of the community and its members/leaders (Nagy and Hampton 2009). Using a best practice removes a lot of the guesswork from planning.

Employing a program or action strategy whose structure and process are carefully documented makes it easier to set up and implement, and increases the chances that it will go smoothly. The originators of a practice or action strategy might be known, and be available to consult on how to best implement it. They can troubleshoot when there is difficulty, or help to adjust it to fit the community or population circumstances. If the originators are not available, there may be others experienced with the practice who can help. Most important—and most obvious—we know that best practices work. That is why they are named as such! They have been shown to result in the changes in behavior or conditions and the outcomes we are interested in.

Promoting the Strategic Plan and Obtaining Community Feedback

Once the SCD practitioner and the consultant team have reached the stage where a community has agreed on a vision, goals, objectives, and relevant strategic actions to achieve the intentions of community improvement and sustainable development, it is time to engage the remainder of the community not directly involved in the earlier stages, as well as other people that could offer meaningful feedback on the community's planning work. A plan of advocacy can be prepared for conveying the results of the Design Charrette in order to reach as many stakeholders and experts as possible (Breitrose 2011). And then a process for acquiring and evaluating perspectives on the final plan in the form of public feedback can be devised to continue to benefit from the public's view on how the plan might be improved as time goes by and the community continues to learn from experience about its issues (Nagy 2011c).

Advocacy Plan

Taking the additional time to create an advocacy process for promoting the Strategic Sustainability Plan to the larger community can only improve your opportunities for achievement. An advocacy process will help to clarify your goals as stated in the Strategic Sustainability Plan that were produced by the Design Charrette work by community stakeholders. In deciding exactly what community members choose to promote in their advocacy for the final plan, the process itself will help to crystallize the steps that will take the entire community to its goals, and will likely increase everyone's chances of success.

If the community does not promote the actual plan that has been developed for both short- and long-term action soon after the completion of the Design Charrette, valuable energy may be wasted, opportunities potentially missed, and perhaps even antagonize people that you need to keep on your side. There are no downsides to advocating the completed Strategic Sustainability Plan and plenty of probable good input and guidance to be obtained by promoting it as widely as possible.

For credibility the practitioner can engage the Community Oversight Committee in defining the parts of the Strategic Sustainability Plan that are highlighted in the advocacy document. Their involvement will be essential since they best understand how to reach the targeted parts of the community and they will have already approved the Strategic Sustainability Plan that was the product of the Design Charrette.

In creating the actual design for Strategic Sustainability Plan advocacy, the SCD practitioner will essentially assist community members and the Community Oversight Committee in briefly describing the important parts of the plan so that it can be easily digested by and reacted to by those targeted for promoting it (Breitrose 2011). The community's goals in support of the shared community vision will be the first aspect promoted in an advocacy document. Advocacy for the final community plan

will detail the available resources, assets, and plans for building upon them as specific actions are completed. The extent of community support to date from the initial development of the community plan will be described and those opponents who show disagreements with the final plan will be invited to contribute their ideas for bettering the process. The specific targets of change in the community will be defined, the strategies for improving present circumstances in a sustainable way will be identified, and the actual tactics or specific actions will be promoted.

Remember that *it is better to keep your focus on a relatively narrow, manageable group of issues in advocating the Strategic Sustainability Plan to the larger community*, rather than letting yourselves try to cover too much ground, and lose strength in the process. It is also important to split up the goals according to your time frame. The shorter term goals are especially important to promote in an advocacy effort. They focus more immediately on community and system needs for change—new or modified programs, policies, and practices in the local community or the broader system. They provide quick impact outcomes that offer concrete building blocks toward the ultimate goal and thus help the entire community feel it is doing something. This can be helpful to maintain high levels of motivation over the long haul. And finally, they provide early “bench-marks” by which the community can begin to measure progress, which again is important to the continued motivation of the community and will be the topic of the next Chapter.

Constituency Feedback

By obtaining community feedback, I simply mean asking questions to determine something community members who worked on the Strategic Sustainability Plan want to know from the broader constituency. Most often, feedback is sought to determine how well people feel the community is doing, especially in this case of developing a Strategic Sustainability Plan, and also how important they believe the goals of the plan are to the future of all community members (Hampton 2009). Feedback may be obtained in a number of ways, some as simple as having a casual conversation or reading articles and editorials in the paper. Formal feedback—data that you can measure—is usually obtained through one of the following methods:

- Personal interviews
- Phone surveys
- Written surveys or questionnaires

The infamous saying “build it and they will come” cannot be the point of view of those instrumental in developing the Strategic Sustainability Plan. Just because the SCD practitioner and the consultant team might have put a great deal of effort and time into trying to encourage an all-inclusive, fully participatory process during the development stages of the plan does not guarantee that everyone will be happy with the product developed from the Design Charrette process or might otherwise change their mind on certain goals or objectives as time passes. Therefore, it is

incumbent upon the community, probably through continual open public meetings hosted by the Community Oversight Committee, to consistently allow feedback from all stakeholders on the Strategic Sustainability Plan as actions are implemented and results begin to be observed.

In particular, those responsible for the continued implementation of the Strategic Sustainability Plan through time should want to obtain as much continual feedback from community stakeholders as possible in order to better understand how plan implementation and those responsible for it are perceived, as well as learn what the community really needs and to help prioritize tasks that will meet those needs (Nagy 2011c). Continuous opportunities for constituent feedback are also important to generate renewed excitement and interest in the community improvement program and to always have the chance to gain new information not raised before and/or learn about new scientific information affecting the community's issues.

Community feedback meetings held on a consistent basis will continue to increase community consciousness of the Strategic Sustainability Plan process, enhance community-wide awareness of what community sustainability means, and improve the overall plan implementation program. For example, following strategic plan development in my Dauphin Island project (2007), the community and its leaders decided to hold a bi-monthly meeting with the different governance officials to be updated on plan progress as well as to have input to the SCD processes the Town was implementing.

In most circumstances, to maintain continuity in obtaining constituent feedback, an informal process, usually through occasional public meetings as discussed above, will be sufficient to meet objectives for seeking feedback. There may be the rare instance, however, when a more formal means of seeking community feedback would be warranted. When community leaders believe they want a more formal means of obtaining community feedback a survey process is usually the most effective mechanism. Then the responsible party for conducting the survey needs to decide whether the survey format can be oral or written. A written survey may be formal and exact, and thus in the long run more efficient. However, it may be more difficult to obtain a large enough sample size of returned surveys unless considerable follow-up is carried on. The format of the survey questions can be closed allowing the respondent to answer from a menu of different choices, and thus comparison among surveys from different community sectors would be easier to evaluate.

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Chapter 12

Evaluating Community Improvement

Around the world, many programs and interventions have been developed to improve conditions in local communities. Communities come together to reduce levels of violence, to work for safe, affordable housing, or to help improve the water quality in their local ecosystems, to give just a few examples. But how do we know whether these programs are working? If they are not effective, and even if they are, how can we make them better? And finally, how can community leaders make intelligent choices about which promising programs are working best in their community over the long-term?

There has been a growing trend toward the better use of assessment to answer these questions. The systematic use of assessment has solved many problems and helped numerous community-based groups do what they do better. Assessment practice has improved dramatically during the past three decades—new methods and approaches have been developed and assessment is now used for increasingly diverse projects and audiences.

Creating project assessments or monitoring tools is the last step in the successful completion of a community's strategic sustainability planning project. Assessment provides the transition from the intellectual nature of planning to the real world where your plan is being executed. When you measure the actual effects of your actions at regular intervals, you will know whether or not you are making progress toward your goals. The assessment process seeks to find out if your actions are on target and improvement in the community is occurring.

So this chapter will first concentrate on the development of indicators to measure progress of the target community's implementation of their Strategic Sustainability Plan. As part of the indicator discussion, I will review the reasons behind conducting an assessment based upon the goals and objectives included in the Strategic Sustainability Plan. Then, since the status and success (or failure) of the overall sustainable community development (SCD) project will be vital to the community, I will close discussing the concept of overall project evaluation—how successful it has been or what could have been done better—as part of the community assessment responsibilities the practitioner will want the target community to internalize and sustain.

What Is Community Project Assessment?

Assessment and measurement tools generally ask questions about what, when, and who: What kinds of measurements will be tracked? When will the measurements be taken? When will the measurements be reported? How often? To whom? Who will do the tracking, computation, analysis, and reporting? Who will be responsible for what tasks? Who is accountable if tasks are not completed?

It is only by having concrete benchmarks that the stakeholders in a community will know if their strategic actions need to be adjusted midcourse. Maybe the goal itself will prove to have been too easy, unrealistic, or even irrelevant. Trying to execute a plan without actually measuring progress is like trying to find your way to the door in a room that is empty and dark. Often the last task in the evaluation step is to decide, “Did we successfully reach our goals?” or “Are there other things we need to accomplish now?” This assessment can be the end of a successful project or the beginning of a new cycle of identifying challenges.

And more times than not, the tool of assessment is the indicator. An indicator is something that helps you understand where you are, which way you are going, and how far you are from where you want to be. A good indicator alerts you to a problem before it gets too bad and helps you recognize what needs to be done to fix it.

Project Assessment Is about Feedback

As suggested above, you need to have feedback about how you are doing, where you are in relationship to where you want to be, and whether your steps are leading you in the right direction. Project assessment becomes a means of obtaining feedback, data, and information about the target community and its activities. By using this information, community leaders can decide what aspects of the action plan work and what areas need improvement. When the community evaluates its program, they are gathering information to help draw conclusions about a particular project or action and the efforts of the community in carrying out that activity. After community leaders have drawn conclusions from the information, they are in a position to make any necessary changes to the goals, objectives, and/or action plan to obtain a better outcome.

Being successful demands careful attention and feedback during the beginning, middle, and end of an action project (Milstein et al. 2009). If a violinist wants to learn a new piece of music for an upcoming concert, for example, he/she would prepare by practicing for many hours each day. But, if he/she never asks his/her teacher to listen to him/her play, he/she may be playing the music too slowly, too fast, too softly, or too loudly. If he/she never knows the proper way to play the piece—if he/she never gets any feedback—all of the practice in the world would not help him/her sound in tune and in time on the night of the performance.

Like the violinist, community groups need to pay careful attention to feedback during the beginning, middle, and end of their projects. Analysis of data pertinent to measuring project progress is a big part of this process. An initiative can devote a great deal of time and energy to working on meeting its goals. But, if the work is not heading in the right direction, all of those long hours and hard work can lead to frustration instead of a feeling of success. Assessment tells the community how it is doing and helps identify any necessary changes along the way that will help community leaders stay in tune with their own goals and the needs of the community.

Purposes for Conducting an Assessment

Ask yourself, “What questions do I want to answer?” That is a key first step. Now, how do you answer them? It cannot be emphasized enough that the first step is to clarify the objectives of the community’s initiative. What are the main things community members want to accomplish, and how have they set out to accomplish them? Clarifying these will help community leaders identify which major action project components should be assessed. Consider the following example of how to assess a specific program.

Your group should first be very clear about the answers to the questions listed. To clarify the meaning of each, answers are provided for a hypothetical program begun to stop drunk driving.

- *What will be the criteria evaluated?*—Drive Smart, a program focused on reducing drunk driving through public education and intervention.
- *What indicators will be used to judge criteria performance?*—The number of community residents who are familiar with the program and its goals—The number of people who use “Safe Rides” volunteer taxis to get home—The percentage of people who report drinking and driving.
- *What targets of performance by the indicators must be reached for the program to be considered successful?*—80 % of community residents will know about the program and its goals after the first year of the program—The number of people who use the “Safe Rides” taxis will increase by 20 % in the first year—The percentage of people who report drinking and driving will decrease by 20 % in the first year.
- *What measures of evidence will indicate performance on the indicators relative to the standards?*—A random telephone survey will demonstrate community residents’ knowledge of the program and changes in reported behavior—Logs from “Safe Rides” will tell how many people use their services.
- *What conclusions about action project performance are justified based on the available evidence?*—Are the changes we have seen in the level of drunk driving due to our efforts, or something else? Or (if no or insufficient change in behavior

or outcome)—Should Drive Smart change what it is doing, or have we just not waited long enough to see results?

There are at least four general purposes for which a community might conduct an assessment of key project indicators:

1. *To gain insight.* This is needed, for example, to decide whether to use a new approach (e.g., would a neighborhood watch program work for our community?). Knowledge from such an assessment will provide information about its practicality. For a developing program, information from assessments of similar programs can provide the insight needed to clarify how its activities should be designed.
2. *To improve how things get done.* This is appropriate in the project implementation stage when an established project group tries to describe what it has done. This information can be used to describe processes, to improve how the project operates, and to fine-tune the overall strategy through an adaptive management approach.
3. *To determine what the effects of the action project are.* Assessments done for this purpose examine the relationship between project activities and observed consequences. For example, are more residents using alternative forms of energy as a result of the program? Projects most appropriate for this type of evaluation are mature and able to state clearly what happened and who it happened to.
4. *To affect those who participate in it.* The logic and reflection required of assessment participants can itself be a catalyst for self-directed change. And so, one of the purposes of assessing an action project is for the process and results to have a positive influence. Such influences may:
 - Empower program participants (e.g., being part of an assessment can increase community members' sense of control over the project);
 - Supplement the project (e.g., using a follow-up questionnaire can reinforce the main messages of the program);
 - Provide additional community member learning opportunities related to the SCD program issues (e.g., by discussing new concepts or teaching community volunteers how to collect, analyze, and interpret evidence); or
 - Contribute to increased community member involvement (e.g., the assessment may clarify how the action project relates to the community's vision which people might relate to more and more as time goes on).

Choosing Assessment Questions

Before you begin with an assessment process, you must know what it is you are planning on appraising. Every assessment, like any other research, starts with one or more questions. Sometimes, the questions are simple and easy to answer. Often, however, the questions can be complex and the answers less easy to find.

The questions you ask will guide not only your evaluation, but also your program. By your choice of questions, you are defining what it is you are trying to change.

The SCD practitioner will help the community identify evaluation questions by reviewing the evaluation of an identified community problem and related objective (s) definition that was conducted earlier in the action planning process (e.g., information from the community-based participatory research and the SWOT analysis). In essence community members will have analyzed a community problem or issue and decided how they want to affect it. Why do you want to ask this particular question in relation to your assessment? What is it about the issue that is the most pressing to change? How will you identify what indicators will tell you whether that change is taking place? Is that all you are concerned with? The answer to each of these and other questions helps to define what it is you are trying to do, and, by extension, how you will try to do it (Fawcett and Rabinowitz 2009).

The evaluation questions you encourage community members to ask both reflect and determine their goals for the project. Some of the basic questions to ask in choosing assessment questions include:

- *What do you want to know?* A stakeholder might be concerned specifically with improving what they are doing so they can help to enhance the quality of life for the community as a whole.
- *Why are you interested?* As an involved community member you will want to know the effects of what you are doing on the lives of participants or the community. Your interest, therefore, might grow from:
 - Your experience with an issue and its consequences in a particular population or community.
 - Your knowledge of promising interventions and their effects on similar issues.
 - The uniqueness of the issue to your particular community or population.
 - The similarity of the issue to other issues in your community, or the issue's interaction with other issues.
- *Is the issue you are addressing important to the community or to society?* Media reports about or community attempts to address the issue are clear indicators that it is socially important. If addressing the issue can lead to long-term positive social change, then the analysis is vitally important.
- *How does the issue relate to the field?* The real question here is not whether the issue is important to the field—if it is important to the community, that is what matters. However, you should explore whether there is evidence from the field to apply to the issue.
- *Who might use the results of your assessment?* If assessment shows that your program or intervention is successful, that is obviously valuable information. Even if the appraisal turns up major problems with the intervention, however, that is still important information for others—it tells them what would not work, or what barriers have to be overcome.
- *Whose issue is it?* Who has to change in order to address the issue?

By this point the community should completely understand why they are involved in a sustainable community development program. Assessing it should “just” be a matter of deciding whether conditions are better now than they were before you started. It is not that simple. First, you need to determine what conditions to measure. Second, you will need to consider how you will determine what you are doing right, and what you need to change. Below are some reasons why you should choose the questions for the community’s assessment program carefully.

1. *It helps you understand what effects different parts of your effort are having.* By framing questions carefully, you can evaluate different parts of your strategic sustainability plan action. If you add an element after the start of the program, for instance, you may be able to see its effect separate from that of the rest of the program—if you focus on examining it. By the same token, you can look at different possible effects of the program as a whole.
2. *It makes you clearly define what it is you are trying to do.* What you decide to appraise defines what you hope to accomplish. Choosing assessment questions at the start of an action project makes clear what you are trying to change.
3. *It shows you where you need to make changes.* Carefully choosing questions and making them specific to your real objectives should tell you exactly where the program is doing well and where the program is not having the intended effect when you monitor appropriate indicators.
4. *It highlights unintended consequences.* When you find unusual answers to the questions you choose, it often means that your program has had some effects you did not expect. Sometimes these effects are positive—not only did people in the heart-healthy exercise program gain in fitness, but a majority of them reported changing their diet for the better and losing weight as well—sometimes negative—obese children in a healthy eating program actually gained weight, even though they were eating a healthier diet—and sometimes neither. Like the side effects of medication, the unintended consequences of a program can be as important as the program itself.
5. *It provides focus for the assessment and the program.* Choosing evaluation questions carefully keeps you from becoming scattered and trying to do too many things at once, thereby diluting your effectiveness for all of them.
6. *It determines what needs to be recorded in order to gather data for assessment.* A clear choice of assessment questions makes the actual identification of indicators and gathering of data much easier, since it usually makes obvious what kinds of records must be kept and what areas need to be examined.
7. *In all-inclusive participatory assessments, appraisal involves stakeholders in setting the course of the program, thus making it more likely that it will meet community needs.*

When you choose assessment questions, you are really choosing a research problem—what you want to examine with your research. You have to analyze the issue and the overall SCD action project, consider various ways they can be looked at, and choose the one(s) that most nearly tell you what you want to know about what you are doing (Fawcett and Rabinowitz 2009). Are you just trying

to determine whether you are reaching the right people in sufficient numbers with your particular action? Do you want to know how well an intervention is working with specific populations? What kinds of behavior changes, if any, are taking place as a result? What are the actual outcomes for the community? Each of these—as well as each of the many other things you might want to know—implies a different set of evaluation questions. To find the questions that will result in indicator measures best suiting your problem assessment, there is a series of steps you can follow.

1. *Describe the issue or problem related to one of your objectives.* A problem is a difference between some ideal condition and some actual condition in the community or society. This may mean the absence of some positive factor or the presence of some negative factor, or some combination of these.
2. *Describe the importance of the problem.* To be sure that this is a problem you really should be addressing, consider its importance to those affected and to the community as a whole.
3. *Describe those who contribute to the problem.* Whose behavior, by its presence or absence, contributes to the problem? Are they in the program participants' personal environment (participants themselves, family, friends), service environment (teachers, police), or broader environment (policymakers, media, general public)? For each of them, consider the types of behavior that, by their presence or absence, contribute to the discrepancy that constitutes the problem.
4. *Assess the importance and feasibility of changing those behaviors.* How important is each of these behaviors to solving the problem? What are the chances that your effort can have any effect on each of them?
5. *Describe the change objective.* Where you can, specify the desired levels of change in targeted behaviors or indicator outcomes
6. *Make sure that the expected changes would constitute a solution or substantial contribution to the problem.* If you conclude that they would not result in a substantial contribution, revise your choice of problem and/or your selection of targeted actions as necessary.

Choosing assessment questions—the areas in your work you will examine as part of your action project assessment—is key to defining exactly what indicators you might choose to monitor (Fig. 12.1). For that reason, those questions should be chosen carefully as part of the planning process for the program itself, so that the questions can guide your work as well as your assessment of it through indicator development, such as in choosing the appropriate tools for assessment (Fig. 12.1). The more stakeholders can be involved in that choice and planning, the more likely you are to create a program that successfully meets its goals serving the community.

Best Times and Ways to Assess

When should you assess community initiatives as part of Strategic Sustainability Plan implementation? When the community-led strategic sustainability plan is

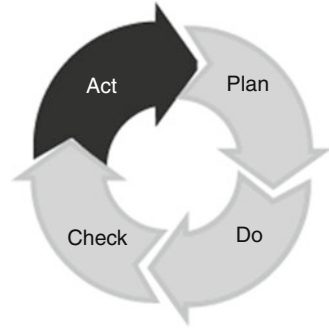


Fig. 12.1 The indicator chosen to measure the outcomes of an objective and its implementation actions will determine what kind of measuring device is used for assessment of the change in the indicator

complete and action implementation to achieve community-defined objectives has begun. But always remember, feedback anytime during the development of the project plan is useful. Here are some tips for the SCD practitioner to share with the Community Oversight Committee and other community leaders about the processes of project assessment:

- Determine baselines for indicators the community wishes to monitor. If you want to know how much change your program has brought about, you will need to know what was happening before the community began with its planned improvements.
- Focus on the specific impact the project work is having on the community—do not become distracted by extraneous information.
- Continue revising and updating the Strategic Sustainability Plan as the community learns more from its indicator assessment. This process is best guided by the Plan, Do, Check, and Act strategy (Fig. 12.2) that provides the framework for adaptive management implementation. The concept of adaptive management advances sustainable community development through strategy implementation, indicator assessment, and feedback that leads to learning-based improvement.
 - PLAN—Establish the objectives and processes necessary to deliver results in accordance with the goals of the plan.
 - DO—Implement the processes.
 - CHECK—Monitor and evaluate the processes and results against indicators of objectives and specifications and report the outcome.

Fig. 12.2 The plan, do, check, act strategy of an integrated adaptive management protocol. The check part of the strategy is the assessment of project indicator(s)



- ACT—Apply actions to the outcome for necessary improvement. This means reviewing all steps (Plan, Do, Check, Act) and modifying the process to improve it before its next implementation
- Identify and monitor integrative indicators that illustrate the combined outcome of several individual indicators and surrogate indicators that may indirectly (through correlation) represent a process that has no way of direct measure itself.
- Keep the community group involved in evaluating specific indicators strong and focused on the goals at hand. Community leaders may want to use a survey that appraises progress on achieving community objectives, and use the feedback to change the community’s planned priorities, which would fly in the face of the original planning effort.

The SCD practitioner is responsible for making sure that all community stakeholders understand that their assessment of indicators may require new SCD decisions. As the practitioner you need to emphasize the importance of assessment design to those decisions. A project assessment should yield honest, understandable, and accurate information for all community members.

Consider what sort of decisions stakeholders will be making. Community groups will probably want to use the assessment results to modify and improve project action, as well as to “pat themselves on the back” for any success measured. Grantmakers and funders will most likely be making decisions about how much funding to give the community in the future, or even whether to continue funding the improvement program at all (or any related programs). University-based researchers involved in community improvement assessment will need to decide how they can best assist with monitoring and data reporting. Steps leading to a successful assessment might include the following;

1. Community stakeholders have to want to do an assessment. The first step is internal. They have to be motivated by the SCD practitioner to do the appraisal, or else it will be half-hearted, if it happens at all. And the practitioner needs to make sure the community is clear on the purpose of the assessment. Why do you want to do it? For example, if your project was to reduce the flow of revenues out

of the community, you may want to find out if your program has led to more diverse policies encouraging local consumerism and locally owned business development.

2. The community needs to assess conditions in terms of the objectives it worked hard on developing during the action planning process. One big advantage of having specific objectives is that your objectives will guide your development and assessment of indicators. For example, suppose your objective is to reduce the percentage of homes with septic tank systems in their yard to 15 % by May 2012. That is fine. And then your assessment standard is easy to identify: it is simply the percentage of homes with septic systems on that target date.
3. For each community objective and associated strategic actions defined during the objective definition work by the community, the SCD practitioner can encourage planning for criteria and indicators, which will provide reliable and valid measures for each of their objectives when assessment of action projects begins.
4. The SCD practitioner can prepare community members to be able to collect data on each of these indicators, including some data that may require field collection (Fig. 12.3). Sometimes you can find the indicator data you need from existing sources. For example, if you were interested in increasing library borrowing or in reducing curb-side garbage pickup, you could gather existing data from the library or city/town waste disposal department. But sometimes data on your chosen indicators may not be available. Suppose, for instance, your number one issue was stop-light synchronization on major community thoroughfares to save gasoline consumption and decrease greenhouse gas production. The key information here unfortunately may not exist. In those cases, the local police might be willing to help collect it; or you and your group might need to collect it yourselves. Either way, if you can assemble “before” and “after” statistics on your chosen indicators, you can use them to help determine whether your program or initiative made a positive difference.
5. Use the results to adjust the program or intervention as necessary. Is the community meeting the objectives they had planned? If so, no adjustment may be needed. If you are not meeting those objectives, the data may indicate what changes need to be made to get back on track. For instance, in our example on residential homes converting from septic systems to a less polluting form of residential sewage disposal, if the percentage of homes that changed is not very high, you might want to implement some type of education program or other promotional strategy to encourage more homeowners to move away from septic systems. This process illustrates the method of adaptive management discussed earlier.

Benefits of Assessment

There are many reasons why assessments are valuable. Let us look at a few examples of ways in which assessment can benefit a community group.



Fig. 12.3 In order to assess the progress of projects in a community that are derived from wanting to achieve certain objectives, especially in the environmental sector, field sampling will be required to measure change in indicator(s)

- *Success is reinforcing—it brings more resources your way.* It stands to reason that the more successful the community group’s work proves to be, the more support and encouragement it might receive from the overall membership of the community and maybe even from funders. Assessment can document your accomplishment, with facts, figures, and examples.
- *Failure is instructive.* Even if the community’s work falls short of its goals—and even if your program falls flat on its face—that knowledge can be helpful too. It may be painful in the short run. Yet negative feedback, or a negative assessment, can really help the community in the longer-range scheme of things.

- *Assessment can make you feel good.* Being able to see successes and the value of the community's work will obviously boost spirits and motivate stakeholders to continue with the work.
- *Assessment raises the chances of further action.* Once the community has progressed in measuring improvement in some areas, you know what has worked and what has not for the community group. You can modify the tactics that did not work as well as planned, and reinforce those areas that were successful.
- *Finally, the assessment can help community leaders understand important aspects of the initiative.* O.K. you have just tabulated data measuring progress in several indicators of community improvement. The results may indicate that some part of an initiative worked really well. For example, the enhancement of riparian vegetation significantly decreased eroded sediments into local streams. On the other hand, no one is showing up to the community's monthly information meetings to continue the success achieved on erosion control along stream banks in the community. Maybe it is because the meetings are held only during the day, or maybe the meeting location is too far away from most of the people affected by this issue in your community.

Development of Indicators

In review, when a community decides to design a program of SCD, community leaders and stakeholders will decide upon a particular framework as discussed in Chap. 10, to guide their work. This framework will organize the interdependencies of natural (environmental), social, and economic components of an overall resource system. And in the process the SCD practitioner will encourage an all-inclusive dialogue among community stakeholders to establish core values and goals they wish to achieve in addressing these values. It is also assumed that the community will create a number of objectives characterized by specific projects to achieve its set of goals. The issue then arises—how do you know when you have achieved any objective?

Activities that achieve sustainability require synchronized, multi-dimensional analysis about the consequences of proposed actions on future public well-being and environmental health. Examination of the Connections among environmental, economic, and social concerns leads to Choices for action free of unintended Consequences (the 3 Cs of sustainability). But how do you know if you experience unintended consequences? Criteria characterizing the objective and its action item must be identified and then the next step is to define indicators that measure the rate at which the criteria are being changed with respect to the standards set for achievement of the objective. For example, improved water quality might be one *criteria* of a community wishing to recover its environmental aquatic habitats. So the *indicator(s)* to measure the criteria of water quality might include oxygen concentration (objective of increasing) and nitrogen content (objective of

decreasing). Targets would be set for the anticipated pattern of change of these indicators, informed by the baseline measures for these indicators, and they would be routinely monitored to measure progress toward that change (Fig. 12.3)—characterized by a target or benchmark.

Importance of Baseline Measures

Using baseline measures can be very effective in helping you to monitor what effect the community's Strategic Sustainability Plan efforts are having. By giving community leaders one way to measure the success of community projects, baseline measures can be enormously helpful to overall community efforts (Whitman and Wadud 2009). There are several points that highlight the importance of baseline measures as part of a community's assessment-indicator program.

- *Baseline measures can tell you whether your efforts are working.* To plan an effective program, you have to know how much of an effect your efforts are having. You need to have an idea of the level of the problem prior to your efforts to know whether you are really making a difference at all. Recording baseline measures, which you can then compare with whatever the numbers are after your intervention has started, will help you figure that out.
- *A baseline can help you make sense about something that might be too massive and complicated to understand otherwise.* A question like “How well are our schools working?” might be overwhelming to try to answer. However, keeping track of baselines, in such measures as standardized test scores or high school graduation rates can help you better understand the bigger picture.
- *A baseline can help you decide whether this is a good time to start an intervention or whether a particular intervention is appropriate.* Say you are working to decrease fatal car accidents in your county. One of the ways you are thinking about doing this is to start a program to encourage seat belt use. Getting some idea of how many people in your county are consistently using their seat belts will help you decide whether you should spend any time and resources on such a project. The rate of seat belt use will be your baseline measure. If 98 % of local citizens are already using their seat belts most of the time, you may want to explore other possible interventions for decreasing fatal car accidents.
- *Baseline measures can help you tell if you are using methods that are not working.* If there is no change in the behavior compared to the baseline, you can stop wasting your time with an ineffective method.

Remember that a good baseline will include information gathered at several points over a period of time, rather than simply a snapshot of information gathered over, say, a single weekend.

What Is an Indicator?

Once you have chosen criteria that characterize your action projects, decide exactly what you are going to measure, and for how long—the indicators that will monitor the criteria. For example, will you measure biological oxygen demand (BOD) in the local streams of the community for a year to characterize water quality? Will you measure the number of alcohol-related automobile fatalities over a 4-week period to characterize the real problem of drunk driving? It is possible that someone else has already measured these things; if so, then you will just need to verify (and, if necessary, update) the information. Otherwise, you or someone else will need to measure these indicators.

The role of an *indicator* is to make complex systems understandable and change perceptible. It measures a problem or condition to show how well a system is working. Indicators point the way and mark progress toward community sustainability objectives. An indicator creates a *snap shot* of a resource's economic, social, and environmental system conditions and provides the opportunity to better understand past trends so that the decision-makers can influence future directions of improvement or development.

A good indicator alerts one to a problem before it gets too bad and helps one to recognize what needs to be done to fix the problem. Likewise, an effective indicator or set of indicators helps a community determine where it is, where it is going, and how far it is from chosen targets in sustainability criteria that reflect desired resource conditions, described by the objectives deemed most important from community dialogue. Indicators will tell decision-makers and society in general how they are doing toward the achievement of sustainable use of each resource.

An indicator can provide baseline comparisons that can be used to identify a change in trends. An indicator can be the number of alcohol-related car accidents per month throughout the community, the number of people planting trees in order to accomplish low-impact development (LID) strategies for preservation of water, or the number of low-energy light bulbs bought in local stores in a year.

First and foremost, the indicator needs to be relevant: it should tell you what you need to know. Monitoring bicycle sales would not tell you much about tobacco use, but it might be related to heart-attack prevention or the use of open space. Ask yourself these questions:

- Does this represent what is most important and pertinent to the community as suggested by their choice of Strategic Sustainability Plan objectives?
- Does this show some facet of the long-term well-being of the community?
- Is this measure showing what it is supposed to measure and not some by-product?
- Can this measure be compared to progress in similar communities on this issue?

Indicators are as varied as the types of systems they monitor. Therefore, in addition to relevancy, there are certain characteristics that effective indicators have in common:

- *Important to Sustainability.* The indicator links economy, society, and environment, advancing local sustainability, but not at the expense of other regions.
- *Available.* There has to be a way to find the information you are looking for. If you cannot collect or find the data relatively easily yourself, and no one else is keeping track, then this particular indicator is not a good choice.
- *Understandable.* The indicator is clear to the community at large and reflects stakeholder concerns. It can be compared to existing and past measures to define trends and identify stresses.
- *Chosen by the community group who will use the indicator information.* The use of community-level indicators is most likely to be effective, and to yield the best information, when it is part of a participatory process—developed and accepted by the people in the community.
- *Usable in practice.* The whole point of choosing indicators is to use them to inform and guide your work. If they cannot be used in practice, they are not the ones you want.
- *Statistically measurable.* The easiest way to show that your information is important is to subject it to statistical measurement. If you can demonstrate, for instance, that stream turbidity and BOD have both significantly decreased since you began an erosion control program in the stream vicinity of several large farms, that is pretty good evidence that your initiative is having an effect.
- *Logically or scientifically defensible.* You must be able to convince people that the link between your indicators and the issue they are concerned about is real. In some cases—as in the drunk-driving deaths example above—it is obvious. In others, it may take the results of previous scientific studies to show the connection.
- *Reliable.* Not only do you have to be able to collect the information, you have to be reasonably certain that it is accurate. Either you have to get it yourself, or get it from a source that you know you can trust. And the information should be able to focus on a long-range view, reliable up to 2 decades or more. The indicator(s) must also measure an appropriate geographic area and/or an appropriate time interval.
- *Reflective of community values.* You are unlikely to gain support for what you are doing if the indicator(s) you are looking at are not in line with what the community thinks is right.
- *Attractive to the local media.* The more interesting and newsworthy your indicators are, the more likely the local media are to report on them and publicize your cause.
- *Provides early warning of changes.* Can measure movement toward or away from a specified target of an objective.
- *Outcome (results) oriented.* Focuses on measuring achievements instead of amount of effort or expenditures.

Criteria and the indicators that illustrate their change from an action or intervention can range from the very specific and focused—the rate of drunk-driving deaths in motor vehicle accidents—to the more subtle and indirect—the percentage of local

restaurant patrons ordering non-alcoholic beverages. In addition, while all indicators that the target community members in their Strategic Sustainability Plan decide upon should be considered important, “key indicators” have the potential ability to be integrative in bringing together several key issues of the community that cross the boundaries of environment, social well-being, and economic health (Whitman 2011a). Key indicators can also fit into the realm of surrogate indicators for something that is not able to be measured directly thus providing an indicator for criteria that might not have existed without the surrogate substitution. These key indicators provide the major “big picture” perspective.

The Sustainability Test for Indicators

Beyond the general outline described above for guiding the development of indicators, the “sustainability” part of the plan deserves careful attention. In earlier chapters (Chaps. 3 and 10) it was strongly recommended that the SCD practitioner helps community members to select a sustainability framework that they would continuously apply as a lens in deciding on objectives and strategic actions. For example, The Natural Step, the 3-Overlapping Circles Sustainability Map, and the Triple Bottom Line were some frameworks suggested for community consideration.

The practitioner can continue to encourage the use of the chosen sustainability framework during the strategic sustainability plan action projects phase of the program by subjecting indicator development to the same evaluation process. In this way, consistency will be maintained in the integration of environmental, social, and economic outcomes measured by agreed indicators of progress in program implementation.

A systems perspective for assessing specific community sustainability objectives, like the theoretical example of improving the quality of water resources, through development of criteria and indicators, is represented by the model in Fig. 12.4. One of the steps in choosing indicators after planning objectives have been formulated include examining those objectives for their resource sustainability—interdependencies among environmental, social, and economic elements of the particular resource and its objective to achieve sustainability (see top part of Fig. 12.4). This process is accomplished systemically through the identification of all associated capital assets as well as the appraisal of directionality relationships in the system elements. As the top part of the conceptual model suggests, this assessment will support the development of stakeholder core values that address systemic components of what the community perceives as most important.

Systemic Indicator Application

After the development of objectives, criteria can be identified that establish the conditions deemed necessary to protect all the perceived beneficial uses and

Conceptual Model for Sustainability Indicator Development

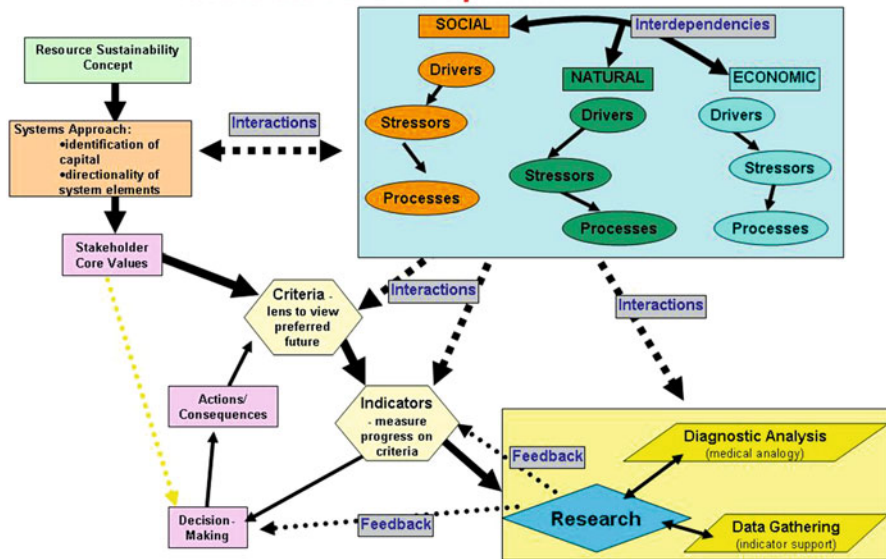


Fig. 12.4 A conceptual model demonstrating the process of indicator development to measure progress on actions intended to address objectives of a sustainability plan. Different aspects of indicator development in this conceptual model are described in the text

protective actions of, for example, water assets. Criteria provide a lens through which to evaluate the preferred future status of water, characteristics that best define water sustainability (Flint et al. 2002) based upon the community’s core values. The definition of criteria is extremely important in this system (Fig. 12.4), for by choosing to develop criteria, stakeholders, community leaders, and resource managers are rejecting the traditional, less participatory path of moving from expressed stakeholder core values directly to the making of decisions (as suggested by the dotted line from “stakeholder core values” to “decision-making” in Fig. 12.4). The choice of appropriate criteria can guide communities toward their desired outcomes, as defined by their objectives, and introduce a process for measuring progress toward achieving these objectives.

The measuring of progress is in the form of the indicator. Communities need a believable means of setting sustainability objectives and then determining the degree to which these are achieved. Policy-makers also need “early warning signals” of poor performance that can enable appropriate adjustments (Flint 2004). After agreement on criteria that describe the desired sustainability improvements in community resources, and baseline measures are established, indicators to measure sustainability can be defined.

Once indicators and corresponding data bases are agreed upon, the practitioner can assist community members in setting benchmarks or targets for each indicator.

These targets will help identify, for example, water resource criteria that are “sustainable.” Unsustainable criteria will only present long-term problems for the region of concern.

The outcome of the indicator measures might suggest the need for more research and other variables that are important in better understanding a system like water resources. Such activities are an important form of feedback for social learning and adaptive management. The criteria/indicator model will require system diagnosis to explain undesirable trends that may be shown by indicator measures. Such diagnosis (Heintz, personal communication, May 12, 2003) is a key element in adaptive management processes that can be designed to direct the use of resources within a sustainable framework, to help understand what the system conditions are, and to alert managers when indicators tell the community leaders something is wrong (e.g. high body temperature in humans). With time and continued application of this strategy, a dialogue will also evolve on research needs to (1) address recognized data gaps for additionally needed indicators and (2) build our understanding of system processes important to the community as a whole.

Indicator Examples

Indicators—measures that show what the conditions are for the community or a large part of the community—can be useful in evaluation, assessment, accountability, and policy change. You can research and identify indicators—either gleaned from available information, such as census data, or collected locally by observation and other methods—that will help you understand issues and trends for just about anything that affects the community. Rabinowitz (2009—http://ctb.ku.edu/en/tablecontents/chapter38_section10_main.aspx) and Whitman (1994—http://ctb.ku.edu/en/tablecontents/sub_section_examples_1371.aspx) offer many lists of popular indicators that have been used in a number of different community development projects through the years. These can assist your advisement to your SCD client community when they get to the point of relevant indicator development.

Sustainability Indicators: Case Histories

To repeat, SCD requires an integrated view of the world—it requires multidimensional indicators that show the links among a community’s economy, environment, and society (Hart 1999). Indicators of a sustainable community are useful to different communities for different reasons. For a healthy, vibrant community, indicators help monitor its health so that negative trends are caught and dealt with before they become a problem. For communities with economic, social, or

environmental problems, indicators can point the way to a better future. For all communities, indicators can generate discussion among people with different backgrounds and viewpoints, and, in the process, help create a shared vision of what the community should be.

There are two case histories in which Seattle area communities have chosen to use indicators in order to assist all community members in understanding improvements in key quality of life issues. As a result, the communities have become better informed about what can improve their communities and have a continual record of how improvements have occurred (or not depending upon the indicator) through their own behaviors or policy changes in local governments.

Communities Count

Communities Count began as an advocacy action within King County (WA, USA) government in the early 1990s to promote information on issues and changes in those issues that the community believed were important to their quality of life on the Puget Sound. Since its inception, this advocacy effort reporting on indicators important to the King County bioregion has become a useful tool for public information and education. Every 3 years the public looks for an update to the indicators reported upon. The purpose of developing a set of environmental, economic, social and health indicators for King County that reflects the wealth of knowledge and experience of both residents and technical experts is to: (1) Provide a widely accepted index for monitoring the health and well-being of King County communities, (2) Inform funding decisions, and (3) Engage citizens in following progress.

Communities Count began through an extensive process, where residents expressed their opinions on what they value in their families and communities, what they think creates and sustains healthy people and strong neighborhoods, and what social, health, and economic problems they were concerned about. More than 1,500 King County residents participated in a series of focus groups and seven public forums held across the county. The indicators selected were the most meaningful to residents and those scientifically considered most important to the overall health and well-being of people and communities.

Communities Count indicators have been used in important ways. The reports have shaped policy discussions, informed program development, and helped to identify funding priorities. The Initiative can point to many examples of how the 3-year reporting has made an impact on local planning and action.

The Communities Count program firmly believes in empowering local communities with timely information. The Communities Count Partnership is committed to improving community health and well-being through information advocacy—providing accurate and timely reports on conditions that matter to King County residents. Every three years, Communities Count reports on 38 social, economic, health, environmental, and cultural indicators. The report is used by

city and county governments, public agencies, foundations, human service funders, nonprofit agencies, community-based organizations, and residents.

A complete review of the design and format for all 3-year indicator reports of the Communities Count program can be obtained from <http://communitiescount.org>. The most recent report (2008) can be viewed at <http://communitiescount.org/index.php?page=archives&year=2008>.

B-Sustainable

Knowing where we are helps us better understand our choices for getting to where we want to be. B-Sustainable empowers sustainability advocates and practitioners with the information they need to take effective action—both independently and together.

When Sustainable Seattle produced its first indicator report, “Indicators of Sustainable Community”, in 1993, the work was ground-breaking because of its participatory nature. The work resulted in an “Excellence in Indicators Best Practice” award from the United Nations. Since then, many communities have followed suit in engaging community members in developing indicators.

Today, indicators are more plentiful and the challenge has become to present this information in a way that is accessible, meaningful, and actionable. The project also recognizes that indicators, in and of themselves, are not enough to drive change. For indicators to be useful, they must be developed with the active participation of those that will use and learn from them. In a sustainable community, participation extends to include everyone.

To meet these challenges, Sustainable Seattle set up to build on the efforts of citizen groups and government agencies to create a new generation of community sustainability indicators. In doing so the present day B-Sustainable Information Commons was designed as the collaborative effort of many individuals and organizations. B-Sustainable is more than simply an indicators website. It is:

- A regional resource of relevant, trusted, and actionable information.
- A participatory process for identifying goals, indicators, and actions based on cross-perspective community dialogues.
- A framework that supports meaningful understanding of the sustainability challenges the Pacific Northwest region faces.
- A gateway to in-depth information including the latest research reports on regional sustainability issues.
- A network for sharing information about progress toward sustainability in the Central Puget Sound region.
- And a forum to promote sustainability strategies, initiatives, and actions.

B-Sustainable uses a sustainability indicators framework to make a wealth of information public accessible. The framework is organized around 22 sustainability *goals* defined by *indicators* that answer the questions: What is happening? Why is it

happening? And why is it important? Each goal is assigned to one of four environments denoted by a color: green for the Natural Environment, blue for the Built Environment, red for the Social Environment, and gold for the Personal Environment. Typically, a goal has a set of 10–12 indicators referred to as an *indicator map*. An indicator can be shared by more than one goal. In addition, each goal is linked to *objectives, strategies, initiatives, and actions*.

I believe that the most significant and informative aspect of the B-Sustainable indicator frameworks are the identification of “upstream” and “downstream” indicators. This format suggests a system’s approach to the evaluation of the target or status indicator by showing indicators of effects or driver positions upstream of the target as well as impacts or outcome positions downstream.

The SCD practitioner, student, or community member can explore the content and resourcefulness of the B-Sustainable program by visiting <http://www.b-sustainable.org>. It is quite clear from the content at this URL how one can use the site as well as search and navigate easily to every indicator represented in the overall framework. Note that the indicators represented are intended to characterize the Puget Sound bioregion of the Pacific Northwest.

Framework for Overall SCD Program Evaluation

Community Program Evaluation will help you understand why things worked, or did not work as you thought they should. Basically, community program evaluation means to determine the value of the work. Stakeholders and all interested community members have developed and implemented an initiative in their community, as described in previous chapters, and now they want to know how well it is working. Evaluation provides decision-makers in the community with this feedback.

In many avenues of life, we get feedback right away. There is no ambiguity. But with more complex events, such as environmental improvements, the results are not always as clear. That is why you need to put more energy and thought into finding out how you did. And that is basically what evaluation is all about—giving the community information on the value of its work.

Steps and Standards of Program Evaluation

SCD program evaluation helps you to understand and improve community development practice with methods that are useful, feasible, proper, and accurate (Hampton 2009). The framework described here is a practical non-prescriptive tool that summarizes in a logical order the important elements of program evaluation (Milstein et al. 2009).

The six connected steps in the evaluation practice framework are actions that should be a part of any evaluation. The steps are as follows:

- Engage stakeholders
- Describe the program
- Focus the evaluation design for assessing the overall program
- Gather credible evidence from program outcomes
- Justify conclusions
- Ensure use and share lessons learned

The second part of the framework is a basic set of standards to assess the quality of evaluation activities. There are 30 specific standards (Milstein et al. 2009), organized into the following four groups:

- **Utility**—The utility standards are to be certain the evaluation is truly useful—that it answers questions the end users need (and want) to know.
- **Feasibility**—The feasibility standards are to ensure that the evaluation makes sense—that the steps that are planned are both viable and pragmatic.
- **Propriety**—The propriety standards ensure that the evaluation is an ethical one, conducted with regard for the rights and interests of those involved.
- **Accuracy**—The accuracy standards ensure that the evaluation findings are considered correct.

These standards help answer the question, “Will this evaluation be a ‘good’ evaluation?” They are recommended as the initial criteria by which to judge the quality of the SCD Program evaluation efforts.

Evaluation is a powerful strategy for distinguishing SCD programs and interventions that make a difference from those that do not. It is a driving force for developing and adapting sound strategies, improving existing programs, and demonstrating the results of investments in time and other resources (Whitman 2011b). It also helps determine if what is being done is worth the cost. This recommended framework for program evaluation is both a synthesis of existing best practices and a set of standards for further improvement. It supports a practical approach to evaluation based on steps and standards that can be applied in almost any setting. Because the framework is purposefully general, it provides a stable guide to design and conduct a wide range of evaluation efforts in a variety of specific program areas. The framework can be used as a template to create useful evaluation plans to contribute to SCD program understanding and improvement (Milstein et al. 2009).

The main product you will want to generate from the overall SCD Program evaluation is a report that you can share with everyone involved in implementation of the community’s Strategic Sustainability Plan. What should this report include (Hampton 2009)?

- **Effects expected by key stakeholders:** Find out what important people want to know. Be sure to address any information that you know they are going to want to hear about!
- **Differences in the behaviors of key individuals:** Find out how your community’s efforts have changed the behaviors of your targets and agents of change. Have any of your strategies caused people to cut down on unsustainable behaviors, or

increase behaviors that lead to more sustainable lifestyles? Are key people in the community cooperating with plan implementation?

- Differences in conditions in the community: Find out what has changed: is the public aware of the community's sustainability efforts through improvements in key community characteristics? Do they support the work? What steps are they taking to help achieve the community's objectives? Have overall community efforts caused any changes in local laws or practices?

You will probably also include specific tools (e.g., brief reports summarizing data), a final comprehensive report, quarterly or monthly reports from the indicator evaluation system, and anything else that is mutually agreed upon between the community and the Oversight Committee.

Revisit the CSA Scorecard Process

At the beginning of the SCD initiative with the target community, the practitioner might have convinced the Community Oversight Committee to include a Community Sustainability Assessment (CSA) survey—described in detail in Chap. 6—as one of the initial evaluation tools to help the practitioner and consultant team better understand the community—what it believed was important and what community members understood about the topic of sustainable development. If this was the case then the CSA scorecard provides a baseline against which to measure progress on awareness and desire for achieving a more sustainable community. The community's re-taking of the CSA could offer an excellent quantifiable evaluation tool in order to determine progress and improvement that might have resulted from the SCD planning process.

Therefore, at some point after implementation of the Strategic Sustainability Plan developed from the Design Charrette, community leaders might plan to have community members engage in another CSA survey to compare scores after a lengthy period (possibly 6 months to a year after initial strategic action implementation) against the original scores. The evaluation of CSA score differences between these two periods could be extremely informative to community leaders on how they proceed with continuing implementation of the strategic sustainability plan. The potential for significant improvement in CSA scores after implementation of the strategic plan compared to the baseline scores at the beginning of the SCD initiative could also be very stimulating to the community, causing them to invest more of their time in the project and work harder toward SCD goals and objectives.

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Chapter 13

Sustainability and Governance

In recent years, through the advancement of sustainable community development (SCD) programs around the globe, new approaches and techniques have been defined, tested, and proved successful in making constructive use of local and regional government rules, policies, and services. The codification of sustainability principles indicates that citizens and government officials can work together to find new approaches and ways of doing business that mitigate unnecessary bureaucratic resistance to achieving community sustainability goals. In today's environment of increased public participation in community governance and politics, evidence shows that governance improves with cooperation between citizens and officials. And cooperation works as well in the private sector as the public sector.

In governance and government policy, sustainability must become a mainstream imperative, not an afterthought (Stanborough 2011). Government attempts to modernize public services will not be fully successful unless environmental issues, social justice, and quality of life are included. By using sustainable development as a baseline for its agenda, government can significantly enhance chances for long-term improvements to public services, as well as real benefits for taxpayers. In addition to providing greater value for money for both the long and short-terms, integrating sustainable development into government modernization programs can also bring a better balance between economic, environmental, and social benefits, rather than unstable trade-offs that are often made now.

This chapter will focus upon the need, development, and implementation of sustainable communities and integrated economy-building rules—laws, regulations, and ordinances, which are the concrete expression of our values. They channel entrepreneurial energy and investment capital and scientific genius. The best rules honor a sense of place and prize rootedness, continuity, and stability as well as innovation and enterprise.

Promoting Sustainability Governance

Among the tools for building a healthy community is the option of discouraging people from using unsustainable products and engaging in unhealthy practices. In a free society, the government or some other entity cannot treat everyone as a child and simply forbid the use of anything that might be unsustainable. In some situations—where a product or practice is immediately and severely harmful to people or the environment, or where it threatens others who are not using it—a ban may be legitimate. In others, however—where reasonable use of a product causes no ill effects, and it is only overuse or improper use that is unsustainable—a ban may not only be inappropriate, but also itself be harmful physically as well as politically (most important medications are dangerous if taken in large quantities, for example, but banning them would put health and lives at risk).

In addition to legally restricting unsustainable products and practices where that makes sense, there are a number of other ways to modify people's access to them and/or their behavior in using them (Duxbury and Jeannotte 2011). Some are physical (less, and less visible, shelf space for unhealthy snacks; keeping cigarettes behind the counter) some are informational (media stories about the risks of particular products, limits on advertising to encourage harmful consumerism) and some involve policy changes on the part of government, businesses and industries, or institutions. The goals in all cases are to make sure that people understand their choices to the best of their capacity and are encouraged to make the most sustainable choices possible.

Community-level indicators, as we discussed in the last chapter, can help determine where governing policy change is needed and whether a change in policy is having the desired effect (Stanborough 2011). Many states and communities, for example, have reformed property tax laws to help seniors and lower-income people stay in the homes they have owned for many years. These reforms came about because of (community-level) indications that these groups were being forced out of their homes by high taxes. Checking the records of home sales in the community 2 years before and 2 years after such reforms might tell you whether fewer seniors and lower-income residents are selling their homes, or at least whether the neighborhoods formerly most affected are becoming more stable.

Cultural Change and Governance

Because communities are social systems, over time, as people respond to changes in their environment, feedback is received that establishes and continually reinforces a dominant set of thought patterns, perspectives, values, management styles, problem-solving approaches, and behavior that are unique to the specific community. These traits constitute the culture of a community or organization (Doppelt 2010). Every culture reflects widely held beliefs about the nature of reality. These shared worldviews hold a culture together. Culture synchronizes thought patterns, perspectives, and behavior within a social system.

Leveraging Transformation in Governance

To overcome resistance and transform community culture, sustainability change leaders must find leverage points. These are points in a system where a small shift in one thing will eventually generate big changes in everything else. Think of a spaceship hurtling toward the moon many miles from Earth. If the ship's direction is off-kilter by even the slightest margin, it may miss its destination by thousands of miles. A slight change in direction of one degree or less, however, may shift the direction of the ship and guide it to safe landing. That slight change is the leverage point.

Finding key change levers is not always easy. Complex systems such as communities make it difficult to identify them. Often, leverage points are counterintuitive. Because they are difficult to find, managers often focus on the wrong things and push on the wrong levers (Martínez i Illa and Rius i Ulldemolins 2011). For example, all too often, executives believe that better responses to compliance regulation will lead to major change. Bigger pollution control devices are installed on smokestacks to reduce emissions. Better sorting of hazardous waste is introduced to reduce contamination. While these actions can be important as transition steps, they are reactive and consequently not effective levers of change. They do not trigger fundamental change to intrinsically flawed linear production systems or unthinking community designs. Thus, they cannot activate a transformation to sustainability.

Research suggests that changes in governance systems provide the greatest overall leverage for transformation toward sustainability. What is a governance system? One respected international academic journal on community governance says that "Governance . . . includes the modes of allocating decisions, control, and rewarding rights within and between economic sectors (Stanborough 2011). In other words, governance systems are three-legged stools that shape the way

- Information is gathered and shared,
- Decisions are made and enforced, and
- Resources and wealth are distributed.

These factors form the way people perceive the world around them, the way they are motivated, within their power and authority. These are the drive shaft and steering mechanisms of a community or organization.

Because communities are social systems, each of the three legs of the stool of governance influences the others. For example, the information an individual or group has access to shapes their ability to make informed decisions. The roles and responsibilities people have in decision-making influence the type of information they desire and the way resources may be allocated. The way that resources and wealth are distributed often determines the levels of commitment people have to the community and affects the type of information they want and role they are willing to play in decision-making. Each factor influences how power and authority are distributed within a community.

The three key legs (pillars) of governance do not play out randomly. Patterns of governance are determined by the core purpose of the social system in which they operate. The goals and guiding principles of a community mold its system of

governance (Clark and Gilmour 2011). For this reason, the introduction of sustainability-based goals and principles may initiate a chain of events that leads to the breakup of old patterns of governance and the introduction of new ones.

Governance Involves More Than Formal Authority

When people typically think about governance, they associate it with the decision-making role played by community leaders, top executives, boards of directors, legislative bodies, and other formal authorities. This view is too narrow. Issues of power and authority are more often than not the most dominant influence on organizational effectiveness, and power in any community is a function of much more than formal authority. Power is generated by the information one has access to, the resources at one's disposal (financial, human, technical), the level of support one receives from others within and external to the community, the nature of the informal networks and coalitions people belong to and influence, and by official position (Kanter et al. 1992).

As a super-organization, for example, communities are not single-focused monoliths. They consist of individuals and groups with constantly changing interests, needs, and allegiances. Legislators, boards of directors, governors, and other "official" leaders must continually jostle for power with the various internal sources of formal and informal power as well as power brokers external to the community setting (such as regulators, unions, stockholders, nongovernmental organizations, customers, suppliers, and other communities). These entities hold different but often equally influential forms of clout.

Power may be temporarily concentrated in one individual or one network of people. However, unless many other power brokers agree with the direction set by these players, overt or covert power struggles may erupt. The jockeying for control often leads to dramatic reallocations of resources or changes in community or organizational direction as one entity temporarily exerts control only to be overthrown by another. For this reason, the true governance system of any community should be thought of as the formal and informal, acknowledged and unspoken mechanisms that determine how power and authorities are exercised (Clark and Gilmour 2011).

Because so many fundamental changes are needed, and because the transformation requires many years, it is nearly impossible to set a community on a path toward sustainability without long-term buy-in and support from a majority of the power brokers that influence that community.

Sustainability Requires New Forms of Governance

The need to create allies among the various internal and external sources of power that influence the direction of a community is one of the primary reasons why governance systems must often be adjusted when striving for sustainability. A second reason why governance systems must often change is the need to

construct feedback mechanisms that allow information about the community's environmental and socioeconomic effects to reach the often-insulated top-level executives. Providing stakeholders with credible information will expand understanding and better equip them to resolve problems. Meaningfully involving them in decision-making will generate ownership and personal responsibility. Equitably distributing resources and wealth will increase motivation and commitment. These are the keys to overcoming resistance and unleashing the potential of people to work toward sustainability (Rabinowitz 2011a). The failure to change the way communities govern their affairs is a primary reason why reengineering and other quality improvement programs have failed to transform culture and thus failed to achieve their goals (Caldwell 1994; Gross et al. 1993; Hall et al. 1993; Spector and Beer 1994).

Finally, governance systems must often be altered when shifting toward sustainability because information, decision-making, and resource and wealth allocation mechanisms in sustainability-focused communities and organizations must be fundamentally different from those employed in the old industrial model. The traditional linear cradle-to-grave production scheme makes it more or less irrelevant for every unit and function of an organization or business that a community relies upon for its welfare to be completely knowledgeable about how every other unit operates. Even with dramatic efficiency improvements, the take-make-waste production model is essentially a "batch and flow" system where each work center or unit does its job and then passes its output down the line to the next work center or function in the process. This is as true in the community public sector as it is in private businesses (Doppelt 2010). Because each unit operates for all intents and purposes independently from every other unit (in fact, in cradle-to-grave organizations, units often compete against each other to demonstrate superiority or gain advantage), leaderships are the only ones with the broad perspective that allow them to see how the whole thing operates. Thus, patriarchal governance patterns emerge, which are focused primarily on *vertical* relationships. The emphasis is on who has authority over whom and who reports to whom.

Circular cradle-to-cradle-oriented production, on the other hand, by its very nature, requires an emphasis on *horizontal* relationships. In order to design and construct processes, products, and services that can be continually recirculated while causing no environmental or socioeconomic harm, those at the beginning of the economic value chain must have intimate knowledge and understanding of the operational procedures and needs of those in the middle and end of the value chain. In short, communities relying upon business schemes structured around a borrow-use-return economic model require the seamless integration of all units and functions in planning and decision-making. Patriarchal, vertically focused organizations have a very difficult time producing this type of close assimilation. Only whole-systems-based governance schemes can emphasize the horizontal as much or more than the vertical.

Advocating for Social Planning and Policy Change

Advocacy is the process of informing people about your issue and its importance and persuading or otherwise convincing them to do something about it. It is aimed at anyone who can help—policy makers, those affected, the media, the general public—and it should be relentless from the start of the campaign. It will not guarantee that the community will be successful, but its absence will almost surely guarantee that it will not.

Why Engage in Legislative Advocacy?

Advocating for what they believe in comes naturally to many people, so directing their efforts toward legislative advocacy can accelerate the integration of sustainability policy into local government. Often legislative action—making something into law or appropriating public money—is the most effective way to bolster a cause or make the gains you hope for. Under other circumstances, legislative action is the only way to accomplish your goal. Appropriating public money, for instance, can only be done by legislative bodies, at least at the highest level. If you want to assure public funding for something, the best way to do it is to build that funding into the federal, state, or local government budget (Rabinowitz 2011b).

An SCD practitioner can assist community members in better understanding how legislative advocacy can lend focus to their issues. Advocacy, if done right, forces community members to define clearly what they need and to communicate that clearly to others. It also makes it necessary for everyone to speak with one voice and to stick to a common purpose in order to accomplish what they set out to do.

Advocacy creates its own positive publicity. Speaking out on behalf of an issue, conducting various kinds of public events, and getting coverage in the media all add to public awareness and understanding of what the community is advocating for. Legislative advocacy also can often gain the community powerful allies. Working with and getting to know lawmakers and familiarizing them with concerns can make them into advocates for a community's cause as well and will increase the likelihood that they will listen to stakeholders and their constituents on other issues. Establishing personal relationships with legislators gives the community advocacy group credibility with other lawmakers and with the community at large. In addition to legislators, you may find yourself in other powerful company. Depending upon your issue, you may find yourself thrown in with business and corporate leaders, officials of national organizations, celebrities, and others who can be important allies.

Successful legislative advocacy depends on the existence of a well-organized advocacy group within the community (Rabinowitz 2011b). In addition to paying careful attention to the timing of its efforts, there are several basic things an advocacy group must do:

- Gather its allies.
- Create a coherent structure for coordination of the effort.
- Do its homework to build a solid foundation on the issue and on its contacts.

- Define its message.
- Create an effective and reliable communication network.
- Cultivate the media.
- Take the long view and be prepared to keep at it tenaciously for as long as the issue exists.

In addition, advocates need to establish, maintain, and update their alliances and communication with, and approaches to, legislators and local lawmakers. By forming ongoing personal relationships with legislators and aides, and by acquainting legislators with the real people affected by their policy and the consequences of their votes, community advocates can make sure that their issues are understood and considered. If you can develop and sustain an organized effort that incorporates all or most of these suggestions, you have an excellent chance of engaging in successful legislative advocacy.

The Community Tool Box of the Work Group for Community Health and Development at the University of Kansas, Lawrence, KS, has listed a number of Web sites describing further activities related to legislative advocacy for influencing policy development and change at http://ctb.ku.edu/en/dothework/tools_tk_content_page_253.aspx.

What Is Social Planning?

Social planning is the process by which policymakers—legislators, government agencies, planners, and, often, funders—try to solve community problems or improve conditions in the community by devising and implementing policies intended to have certain results. These policies may take the form of laws, regulations, incentives, media campaigns, programs, or services—a wide range of possibilities (Rabinowitz 2011a). A community or state Board of Health that adopts a regulation banning smoking in particular places, for example, is trying both to protect the public from second-hand smoke and to reduce smoking in general.

There is a long history in the USA and elsewhere of social planning. Traditionally, this has meant that policymakers decided what they thought was good for a community or a population and imposed policy that was meant to bring about the results they wanted. At best, this has meant programs that benefited large numbers of people—Franklin Roosevelt’s New Deal, Head Start, and various public health programs. At worst, social planning has been used largely for the benefit—economic or political—of the policymakers and their friends and supporters. In other cases, well-intentioned planning has led to negative consequences. Urban renewal in the 1950s and 1960s, for instance, by clearing “slum” neighborhoods, was meant to make cities into better places to live—safer, more attractive, and economically healthier. In fact, it often had that effect only for the people who moved into new housing and businesses after the original population had been displaced and given nowhere else to go. In many cases, it destroyed vital, unblighted communities.

Why Engage in a Participatory Social Planning Process?

In today's community development environment, many federal and other granting institutions stipulate community participation as a requirement for funding. However, determined politicians can bypass that requirement by appointing "community boards" that merely rubber-stamp whatever policy the politicians put forth. In addition, community participation is a process that demands time, commitment, organization, and a good deal of work from everyone concerned (Rabinowitz 2011a).

Why, then, is it worth it to policymakers—who usually have the ability to impose their own plans—to involve the community in social planning and policy change? There are, in fact, a number of compelling reasons, both short and long-term:

- *Community participation makes it more likely that you will come up with policy that is effective.* Without the knowledge of the history and social structure of the community that community members can contribute, there is a risk of serious error. Attempting to repeat something that did not work in the past, or assuming that particular groups will work together, when actually they have been at odds for years, can undermine a community development effort before it starts. Furthermore, community members can inform policymakers and planners of the real needs of the community, so that the most important problems and issues can be addressed.
- *Community participation leads to community ownership and added support of whatever initiatives come out of a social planning effort.* When people have a hand in planning and decision-making, they feel that whatever plan is implemented is theirs, and therefore they will strive to make it work. The same is rarely, if ever, true about plans that are imposed on a community from outside.
- *Policymakers—particularly elected officials—can gain politically from involving the community.* They will be seen as respecting their constituents and will also gain respect and credibility if initiatives they sponsor prove effective. If they can help improve the quality of life for community members, their political capital will increase.
- *Community members can inform policymakers about changes in circumstances that demand changes in policy over time.* What is effective or appropriate today may not be so in 5 years. Community participation puts eyes and ears in the community to pick up changes that policymakers may not be aware of and to keep programs and initiatives from becoming outmoded or stale.
- *Community participation can create community relationships and partnerships among diverse groups who can then work together.* By involving all sectors of the community, it can bring together groups and individuals who would normally not have—or might not want—contact with one another and help them understand where their common interests lie.
- *Community participation helps keep community building going over the long run.* By placing planning and decision-making power partly or wholly with the community, the process assures that those who started the effort will remain interested and involved, and not be distracted by other issues or by changes in the political climate.

- *Community participation contributes to institutionalizing the changes brought about by changes in the policy.* Community members are far more likely to buy into policy that has been created with the participation of all sectors of the community. Their support over time will lead to permanent change.
- *Community participation energizes the community to continue to change in positive directions.* Once community members see what they can accomplish, they will be ready to take on new challenges. Community participation can change their attitude about what is possible—probably the single most important element to creating changes.

Why Should Community Members Engage in Social Planning?

While it might seem obvious that community members and stakeholders would want to participate in planning and the carrying out of policy, that is not always the case. They may feel it is someone else's problem or that they simply do not have the time or energy to be involved in a planning effort. People who have not had the opportunity to be decision-makers often find the prospect intimidating. Because they have not had experience in functioning in meetings, planning, and other similar activities, they feel awkward and find it easier to let others make the decisions (Duxbury and Jeannotte 2011).

They may also feel that they have little to contribute or that they will not be listened to even if they are at the table. It can take time and effort to make it possible for community members to contribute. The SCD practitioner should realize that they may need training and/or mentoring in order to become comfortable with the procedures and assumptions of a participatory process. They may have the skills to participate, but need to be motivated to do so. Establishing trust in the process and the policymakers may require a lot of community organizing—door-to-door canvassing, personal conversations, and small meetings in people's houses—before the community is ready to take on the risk or the burden of participation. The rewards for the community, however, can be great (Rabinowitz 2011a). Many of the reasons for the community to embrace participation are reflections of the reasons why policymakers would want it. Some of them are as follows:

- *Participation provides the opportunity to educate policymakers to the community's real needs and concerns.* When policymakers plan in a vacuum, their plans usually fail, because they do not account for the realities of the situation and the real needs of the population they are aimed at. Community members can help policymakers understand their lives—the difficulties they face, the strengths they bring, and what they feel must be addressed.
- *Participation allows community members to help create policy that really works to meet their needs.* By participating in their development, community members can see policies put in place that actually improves their lives, rather than having no effect or imposing added burdens on them.

- *Participation affords community members the respect they deserve.* Rather than being seen as victims or nuisances, community members engaged in a participatory social planning process are seen as colleagues and concerned citizens working to improve their community. They are respected both as human beings—as should always be the case, but often is not—and for the skills, knowledge, and effort they contribute to the process.
- *Participation puts community members in control of their own fate.* The participatory social planning and policy development process results in citizens deciding what policies will work for them and gives them the opportunity to change those policies if they are not working. It puts into practice the motto of the Back of the Yards Neighborhood Council in Chicago, founded by legendary organizer Saul Alinsky: “We, the people, will work out our own destiny.”
- *Participation builds community leadership from within.* Those who take part in the process both learn and exercise leadership skills and also start to see themselves as having the capacity to be leaders. The most important step to leadership, and to taking action to influence events that affect you, is to believe that you have the ability to do so.
- *Participation energizes the community to take on other issues or policy decisions in the future, and to see itself in control of its future.* Thus, the SCD process will continue over time.
- *Participation leads to long-term social change.* As community members take more control over more areas of their lives, as a result of the skills and attitudes gained from the participatory process, they will create and institutionalize changes that improve the quality of life for everyone in the community.

Community-Based Research to Support Policy Changes

Community-based research broadly defined is the research conducted by, for, or with the participation of community members. It includes, for example, action research, feminist research, and other forms of participatory research. For the purposes of our definition, “community” is not defined exclusively by geographic region but includes communities of interest, occupation, history, language, etc.

More often than not, community-based research involves the collaboration of community members (represented by grassroots activists, community-based organizations, workers, etc.) and experts (represented by university researchers, professional scientists, etc.). At its best, the outcome of such collaboration can have powerful and long-lasting results that reflect the investment of each party and the benefits of working together (Rabinowitz 2011c). Advocacy research differs from scientific and other academic research, in that it seeks to influence the making of policy.

Research can be a powerful tool for helping you to influence the formation and modification of policy on your issue. If you understand how to use it, it can lead to better services and real social change. Whether the point of community member research is to determine what appropriate policy should be, to call attention to an issue or need, to urge the adoption or abandonment of a specific practice or approach, to expose corruption or wrongdoing in government or business, or to protect the public, it can have a profound effect on the life of your community.

Research can help to assure that an issue is accurately identified and then addressed effectively. It can help you, as an advocate, to establish a solid base for advocacy, and to keep you honest, by making sure you do not fall into the trap of advocating on the basis of ideology, rather than responding to the real needs of the situation and the community. While research can, and should, be carried out by grassroots community groups of activists or those affected by an issue, it is often more likely to be heeded if it is the product of an individual or group with some research credibility. Among those whom you might ask to conduct or collaborate on research on your issue are academics in the field, think tanks, government agencies, professional associations, government-appointed commissions, organizations that work closely with the issue, watchdog organizations, and law enforcement.

Particularly good times to conduct or present the results of research are those when policy is at a crossroads, and the community-based research can help to push it in the right direction (Brown 2011). These include when there's a policy vacuum in a particular area; when policy on the community's issue is under legislative review; when there is a critical situation and no one seems to be reacting to it; when policy change or formation is under discussion, and it is important that difficult, but crucial issues are not ignored; when current policy needs to be evaluated; or when policy seems headed in exactly the wrong direction (Rabinowitz 2011c). There are a number of steps to take to use research to influence policy:

- Define how you are trying to influence policy. You could be trying to find out what policy should be; pushing policy in a given direction; advocating for funding and other support for addressing an issue; or advocating for or against certain practices or approaches.
- Identify your audience—legislators, the general public, etc.—and what kind of evidence they will respond to.
- Use existing evidence to help you get started and to make your work easier.
- Do the actual research, attending to what your audience will accept and understand.
- Analyze your results, and abide by them, even if they are not what you expected.
- Present your results, using basic principles of communication to reach your target audience.
- Continue research, even if you have been successful in changing policy, so that you can both show the success of that change and be aware of the need for more as the needs of the community change.

Linking Sustainability to Governance

Before we get into just how you might go about integrating sustainability into forms of authority or control, let us discuss some of these different forms and their methods. Some are direct—passing a law—and some quite indirect—public education. Each of them can be effective in the right circumstances and/or in combination with one or more of the others.

- *Laws and ordinances.* One common way to modify unsustainable behavior is through laws and ordinances that specifically restrict the use of particular products or practices or set an extra cost to them. Some of the different ways that laws and ordinances operate are as follows:
 - Forbidding the sale or possession of products outright. Most currently illegal drugs were once legal, for instance, until laws were passed banning their distribution and use.
 - Restrictions on the distribution of products. It is illegal in the USA to sell alcohol to people under 21 or cigarettes to people under 18.
 - Making specific practices illegal or requiring others. Many communities have laws against drinking in public, for example. Exceeding the speed limit or not wearing a seat belt is both subject to fines (or worse, for repeat offenders) in the US state law.
 - Restrictions on specific activities. In many places, smoking is not allowed in restaurants and/or bars. It is usually also forbidden on public transportation and often in other indoor public spaces.
- *Regulations.* There are two kinds of regulations. The *first*—regulations made by government agencies—often have the force of law. Rather than setting out universal regulations, laws give agencies discretion in setting regulations in their areas as well as the power to enforce them. These kinds of regulations might include:
 - Labeling requirements for food and products that contain harmful chemicals or might cause harm if misused—solvents, cleaners, paint, bleach, etc.
 - Inspection requirements at food packing plants, slaughterhouses, etc.
 - Workplace safety regulations.
 - Certification requirements for drugs and medications.
 - Limits on the amounts of pollutants that industries can emit, as well as limits on waste disposal. The second type of regulation is set by a business or other organization or institution to control its own internal functioning. These may be similar to government regulations, but the major difference is that the regulating body has the final say on whether and how it is enforced. There may or may not be an internal grievance procedure, but court is only an option if the regulation is illegal or unconstitutional. Some examples are as follows:
 - (a) Employees must be nonsmokers because of health-care costs.
 - (b) The school district allows vending machines with only healthy food and drink—fruit, nuts, water, and fresh juices—in school or other district buildings.

- (c) Anyone working with certain tools or in certain places must wear safety equipment.
 - (d) Company drivers who are stopped for speeding a certain number of times will lose their jobs.
- *Taxes or other economic measures.* While similar to laws and government regulations, taxes and similar measures use economics to modify unsustainable use of specific products or practices. Sometimes, the money raised from such measures is used to further encourage sustainable practices—a portion of cigarette taxes may be set aside for antismoking education in schools, or for health care, for example. Sometimes, as in the case of the option of buying “pollution credits,” the measure can be designed to cause enough financial pain that the payer will simply meet the required standard. Some examples of economic measures are as follows:
 - Cigarette taxes are often used to discourage smoking.
 - Gasoline taxes are sometimes used to encourage people to drive less, thus reducing pollution and, in some cases, encouraging travel by foot, bicycle, or public transportation.
 - The current Massachusetts universal health-care coverage law requires businesses of a certain size to provide healthcare plans for all employees or to pay a fixed cost per employee to cover state-sponsored health care for those who are uninsured.
 - *Voluntary actions taken by retailers or other businesses and industries because of community pressure or because of corporate civic responsibility.* Many businesses—particularly those that deal directly with their customers, such as supermarkets and department stores—are responsive to public opinion. When it is clear that those customers are concerned about a product or business practice, these businesses often make adjustments. Many supermarkets now label foods with their country of origin, for instance, and/or with some indication of their contribution to overall health. Large corporations as well, concerned with profits, generally know that they have to be aware of their public image and to address community and/or environmental health concerns. By the same token, some large corporations have policies of displaying community-friendly and healthy corporate behavior. These may apply both internally and community-wide and extend to everything from the food in the employee cafeteria, to exercise opportunities available to employees, to corporate attitudes toward the global environment. Some examples of voluntary actions businesses might take to modify access to unhealthy products and practices are as follows:
 - Reducing shelf space for chips and soda in favor of healthier snacks, and/or stocking more organic foods.
 - The elimination of unhealthy food in employee cafeterias
 - Employee assistance programs offering counseling and substance abuse treatment

- Recycling of waste and/or use of recycled and sustainable materials in their operations.
 - Put a cap on the amount of overtime an employee is able (or asked) to work.
 - Removing cigarette vending machines from bars, stores, etc.
 - Ceasing to stock or restricting access to products that are still legal, but whose safety is in question.
 - In practicing life cycle assessment, companies might not purchase supply chain materials from producers that do not practice social responsibility.
- *Physical barriers.* Access to some unhealthy products or practices can be limited by actually placing physical obstacles in the way. Some ways of obstructing access to unsustainable products and practices:
 - Placing speed bumps on pass-through streets in residential neighborhoods.
 - Placing candy above the reach and eye level of young children on “impulse-buy” shelves next to supermarket checkout lines or eliminating candy on such shelves.
 - Placing cigarettes behind the counter, where customers have to ask for them.
 - *Enforcement of existing laws and regulations.* Sometimes the most effective way of modifying access to unsustainable products and practices is simply to enforce what is already on the books. Some existing laws whose vigorous enforcement can make for a more sustainable community:
 - The sale of alcohol and tobacco to underage customers.
 - Air and water pollution control laws.
 - Ordinances against smoking in bars and restaurants or other public spaces.
 - Food inspection and handling laws and regulations.
 - Building codes, especially those regarding the use of unhealthy chemicals and VOCs (volatile organic compounds) sometimes regulated by OSHA and EPA.
 - *Public education.* Public education may not seem like a method of modifying unsustainable behavior toward unhealthy products and practices, but it can be the first step toward making change. Giving people information about the things they may have used without thinking can keep them healthy in any number of ways. The health warning on cigarette packs, poison control directions on household substances, and TV programs that focus on the reasons for healthy eating and exercise all can affect what products people use and what they do. Some other examples include:
 - Contents and nutrition labeling on packaged food.
 - Antismoking advertising campaigns.
 - The printing on goods of their origin of production to encourage local consumerism and local business ownership.
 - Investigative journalism that examines—in newspapers or on radio and TV—such issues as the nature of waste produced by certain industries, the effects of particular prescription drugs, or causes and impacts of global warming.

Carrying-Out a Sustainability Policy Proposal

An SCD practitioner may decide to assist the client community extend its Strategic Sustainability Plan to modify or implement governance/advocacy policies as described above (Martínez i Illa, and Rius i Ulldemolins 2011). Here are some guidelines, which can be added to ones already mentioned. Note that nearly every effort has to include an advocacy component to be effective.

1. *Assemble a diverse group, with representatives of at least the sectors identified in the “who” part of the section, to plan and spearhead the effort.* The more of the community that is represented, the more sectors you can bring into play, and the more everyone will feel that this is a community-wide effort, not one conceived by a small elite group. In addition, broad representation brings a range of ideas and helps to ensure that the concerns of all elements of the community are addressed.
2. *Determine the readiness of the population to change behavior.* Sociological research has extensively studied the behavior of community members in the face of large-scale change. Study results show that people go through a series of stages in behavior change. In order to effectively change their behavior, they have to:
 - Know about the issue that the behavior concerns
 - Understand its importance
 - Believe they are capable of change
 - Desire to make the change
 - Implement the change
 - Maintain the change
3. *Decide what kind of modification you are going to work for.*
 - How risky is the product or practice with respect to community sustainability? Eating large amounts of French fries may have a long-term negative effect on many people, but simply buying and eating an order of fries in a fast food restaurant is not likely to cause a calamity. Abusing alcohol, on the other hand, can have immediate and serious effects.
 - How unhealthy is the product or practice to others? This may be the more important question from the point of view of the community. There are limits to how far you should go in a free society to protect people from their own desires, but no one has a right to endanger others for his own pleasure or advancement.
 - Are the unsustainable effects generally known by users such as consumers? If not, have they only been recently discovered or have they been covered up by producers or sellers? If the latter, is a lawsuit or criminal prosecution appropriate? Is a social marketing campaign in order?
 - Does the product or practice present important advantages, despite its threats to health? Many dangerous products are used as medicines or pain relievers.

(Morphine—an addictive drug—is used for pain relief in hospitals.) The way they are regulated is meant to minimize the danger both to those for whom they are prescribed and for others (potential addicts, for example). It makes little sense to try to modify access to the point where a product or practice cannot be used positively.

- Can the situation be changed without resorting to regulation or some other exercise of power? Convincing a merchant to change policy—to give more shelf space to healthy foods, for instance—because it is good for business and will be seen as a community service is ultimately far more effective than legislating the amount of shelf space, which is likely to make him resentful. It is almost always smarter to become a partner than to become an enemy.
 - Who controls availability, distribution, and choice of use? The producer? The user? The seller? Someone else? In the case of baby formula in developing countries, the choice to use it is controlled not by the direct user—the baby—but by parents. Their choices in turn are controlled to some extent by doctors or nurses. The doctors' choices are controlled to some extent by the distributor, who may offer them incentives to hand out and recommend the use of formula. The answers to these questions can tell you whom to target and how.
4. *Target local lawmakers to pass laws and ordinances.* The task here is largely advocacy, and most of the guidelines for that activity can be followed here. The difference is that community members, rather than the lawmaker, are starting the effort. The community will have to demonstrate the need and demonstrate that there is full community support. Stakeholders may have to be willing to settle for a resolution that is not exactly what they wanted but is a step in the right direction. Finding a champion from among lawmakers' ranks is crucial, not only because that person can help the community through the political minefield but also because it gives them access, through the particular legislator, to all the members of the lawmaking body.
5. *Approach agencies to institute or change policies or regulations.* Most local, state, and federal agencies are empowered by law to set policy and sanctions which they or the local, state, or federal government will then enforce. The guidelines here are similar to advocacy in that the community should:
- Establish personal relationships with people in the agency. When you call, you want to be able to ask for a specific person and to have that person know you and be willing to return your calls.
 - Learn the structure of the agency, so that you will know who makes the decisions and whom you have to reach in order to get things done. Sometimes, the decision-makers are influenced by particular people, and if you can find out who they are, you may be able to get results through them.
 - Find an in-house champion to help you push the regulation and guide you through the bureaucracy. This is sometimes even more important when dealing with an agency than with lawmakers, since agency bureaucracies can be mazes of unwritten rules that only those in the agency—and sometimes not all of them—know how to negotiate.

- Present the alternative that you want, with the understanding that it may be changed in the process of becoming policy. Be prepared to settle for something acceptable, but not perfect.
 - Know how to bring pressure to bear on the agency if you get no results. That may mean calling in legislators or other elected officials, applying the force of public opinion, or even exposing agency incompetence or collusion with those it is supposed to regulate, if those are the reasons for lack of change.
6. *Negotiate with business or industry for changes in their internal or external policies or practices.* You may be concerned with a business's internal policies and try to encourage it to shield employees from unhealthy practices by sponsoring healthy ones—healthy food in the cafeteria and vending machines, free gym memberships, no-smoking policies, etc. Or you may be more focused on the business's relationship to the community and advocate for better waste disposal, recycling, or pollution controls. You may be asking retailers to change where and how they display certain items or to stop stocking some things altogether.
- The ideal here is to make businesses and industries partners in your effort. Include them in the planning team. Give them credit and public praise at every opportunity for their civic responsibility—pictures in the paper and on TV, stories in community newsletters, acknowledgment in public presentations.
 - Offer your assistance. If you are trying to persuade an industrial plant, for instance, to make a major change, try to help managers come up with a plan for how to do so. Research government programs that provide support for installing antipollution equipment, for instance. Connect businesses with concerned academics and scientists to find innovative ways of reducing waste and pollution . . . and saving money.
 - When dealing with business and industry, just as with agencies, it is important to understand the structure of the operation. You should find out whom you actually have to talk to in order to initiate action and how to get to that person or group.
7. *Conduct a public education campaign.* A public education campaign might stand on its own, if information is the only issue here, but is more likely to be part of a larger effort and to be combined with other activities listed above. Its purpose is usually both to inform the public about an unhealthy product or unsustainable practice, and to gain public support in modifying access to it. Consumer groups were able to convince the government to require nutrition labels on food in the USA at least partially because citizens became concerned about what was in the food they were putting on their tables. A list of guidelines for running a public education campaign can be found above.
8. *Conduct a social action campaign.* The best course is nearly always to accomplish the community's goals by persuasion and finding common ground with policy makers and/or opponents. When that is simply not possible, the community may need to mobilize its stakeholders to apply enough pressure to get movement on modifying access. The steps to conducting a campaign can be found above under Social Planning.

9. *Keep at it.* Regardless of what kind of modification the community is seeking, and of how they go about it, one thing is sure: whether or not the community members get what they are aiming for, the work is not over. If you are successful, you will need to maintain your success and not let your gains slide. If you do not succeed, you will need to try a different strategy, and to keep up the pressure either until modifications are in place or until it becomes clear, the community does not want what it is asking for anymore.

The Community Tool Box of the Work Group for Community Health and Development at the University of Kansas, Lawrence, KS, presents several case histories regarding the Influencing of Policy Development for the reader to review at http://ctb.ku.edu/en/dothework/tools_tk_summary_page_508.aspx.

Sustainable Community Development Code Framework

It is very difficult to transform communities that base their regulations of business and industry on compliance-based methodologies that are usually dependent on a linear take–make–waste economic paradigm, compared to sustainability-focused enterprises. Because it is so tough for communities to change, it is imperative that a credible guiding framework be used. A sound theoretical basis and an effective change model are especially important because the use of flawed or incomplete policy strategies cause many change efforts to fail. To avoid the boomerang effects of failed change initiatives, sustainability policy plans must explicitly focus on altering the culture of the community, as described earlier.

Increasingly, communities across the USA are targeting the top-level issues of land use and development as a critical pathway to achieving sustainability, from climate change, water conservation and renewable energy to transportation, food security, and affordable housing. The problem is that land use and development policies are often at odds with sustainability goals. The Rocky Mountain Land Use Institute (RMLUI), in coordination with the University of Denver, Sturm College of law, has pioneered a Code Framework (<http://www.law.du.edu/documents/rmlui/sustainable-development/Introduction-and-Table-of-Contents.pdf>) that can assist communities in building upon their implementation of a Strategic Sustainability Plan to the next level of governance policy supporting sustainability.

Novel, comprehensive, and user-friendly, the Code Framework embeds the best sustainability ideas in land use laws by way of an information and evaluation framework that aligns means with ends. The SCD code framework is sustainable at its core, multidisciplinary in its approach, and contextually oriented. It fully encompasses environmental, economic, and social equity. It is innovative and distinctive by linking natural and man-made systems, incorporating useful features of other zoning systems (for example, performance and form based) and responds to regional climate, ecology, and culture.

It allows communities to seamlessly audit and upgrade their development laws to remove barriers, create incentives, and fill regulatory gaps based on a core set of sustainability objectives. The framework is not a one-size-fits-all in its approaches

but instead is very flexible in enabling communities to customize their land use and development rules according to their own particular political, economic, and environmental circumstances. It provides key information on and access to best-in-class models from other jurisdictions to help position communities for success.

In contrast to self-directed strategies, the RMLUI Sustainable Development Code Framework could serve as an alternative tactic for the formulation of sustainability policies. The procedures for how a community might go about creating a policy change proposal can be useful for learning and understanding how and why to pursue new governmental policy formulation supporting a more sustainable community. With this awareness, the application of the RMULI Code Framework will be much easier for the community to deal with, guided by the SCD practitioner. The available topics covered in the SCD Code Table of Contents are linked to the following web site. (<http://www.law.du.edu/index.php/rmlui/rmlui-practice/code-framework/model-code>). These can offer an excellent means to assess an alternative approach to code development that might supplement the community's efforts in pursuing the discussion of policy advocacy and development.

Creating Model Ordinance Examples

The remainder of this chapter is devoted to a select group of communities that have pursued efforts at creating local ordinances, laws, regulations, and other policies to promote the practice of SCD through codification in the rule of law. Although there are many more case histories than the few presented here, these will provide examples to the community you, as a practitioner, are assisting on how to proceed with ordinance development. In describing these few case histories, there will often be references made to many more communities in similar situations that I did not take the space to detail here. Most importantly, each cited case history illustrates how the community can conduct a thorough audit of local policies to determine which advance sustainability and which stand in the way of progress. Following this audit, communities wanting to advance sustainability legislation will be in a position to remove policy barriers and create policy incentives.

Process Used to Create Model Ordinances (MN)

An effective process was used to create the model ordinances presented in the Minnesota Planning Guidebook (2000): "From Policy to Reality—Model Ordinances for Sustainable Development" (http://www.nextstep.state.mn.us/res_detail.cfm?id=316). This guide and its detailed process offers legal tools to help local government steer changes in their communities that reflect the aspirations

of their comprehensive and other plans. Communities can adapt these model ordinances to their own special circumstances. The Minnesota Guide includes a five-step process:

1. Identify the kinds and range of sustainable development ordinances that have been enacted by local governments or written as models.
2. Set priorities for the potential ordinance subjects according to the typical needs of Minnesota communities.
3. Adapt existing ordinance language to the range of needs for Minnesota communities.
4. Create new model ordinance language for important topics for which no model could be identified.
5. Provide application and implementation language for the model ordinances, noting where local governments might need to identify local priorities and where Minnesota law restricts or overrides local decision making.

The explanation of these five steps can be found on page 7 of *From Policy to Reality: Model Ordinances for Sustainable Development* (<http://www.mnplan.state.mn.us/pdf/2000/eqb/ModelOrdWhole.pdf>). This guidebook provides model ordinances for a number of sustainable development topics, including:

- Growth management, including both zoning and subdivision regulations, and ordinances creating growth management programs
- Community resources protection, including an overlay district for natural resources and ordinances ensuring sustainable use of valuable local resources
- Urban design, including ordinances to stage new development and use land efficiently, promote infill, protect historic resources, and direct appropriate commercial development to retail nodes
- Infrastructure, including public infrastructure in roads, sewers and schools, private infrastructure in septic systems, and management of storm water
- Resource-efficient buildings, including efforts to increase energy efficiency and minimize construction and demolition waste, and resource-efficient procurement practices
- Economic development, including linking sustainable development goals to governing language for an economic development authority and performance standards for commercial and industrial investment

In conjunction with the State of Minnesota, the CR Planning Group on “Community Resources” (<http://www.crplanning.com/susdo.htm>) has developed language for a set of ordinances dealing with the authority of creating more sustainable communities throughout the State of Minnesota. These model ordinances include: Adequate Public Facilities Ordinance; Agriculture and Forest Protection District; Model Community Conservation Subdivision District; Downtown Mixed-Use District; Energy Efficiency Ordinance; Highway Commercial District; Landscaping and Maintenance of Vegetation; Local Food Networks; Natural Resources Performance Standards; Design Standards for Pedestrian-Oriented Districts and Corridors; Planned Unit Development Ordinance; Solar Energy Standards; Stormwater and Erosion and Sediment Control Ordinance; Travel Demand Management Performance Standard; Transit-Oriented Development; Village Mixed Use District; and Model Wind Energy.

Sustainable Communities Initiative: Sustainability in Local Policy

“Rules” are laws, ordinances, and regulations that can strengthen your community. The *New Rules* project (<http://www.newrules.org/about-new-rules-project>) of the Institute for Local Self-Reliance offers a comprehensive resource for policymakers, organizers, and activists looking for innovative public policies adopted around the world to make communities vibrant and strong. Local policy tools are organized and presented by sector.

The New Rules Project started back in 1998 and continues to bring fresh new policy solutions to communities and states to ensure that they are “designing rules as if community matters”. The New Rules Projects features a number of policy areas (<http://www.newrules.org/policy-areas>) and several key programs and initiatives (<http://www.newrules.org/new-rules-project-programs>), which provide good references that can guide communities in the fulfillment of their goals for more livable and sustainable places.

Salt Lake City Ordinances

There are a number of new sustainability ordinances, many listed below, that Salt Lake City leaders plan to adopt—these ordinances, according to local leaders, would make the city’s sustainability plan the most comprehensive in the country. Said ordinances address:

- Climate change and air quality
- Water quality and conservation
- Energy conservation and renewable energy
- Mobility and transportation
- Urban forestry
- Housing accessibility and diversity
- Community health and safety
- Food production and nutrition
- Recycling and waste reduction
- Open space, parks, and trails

Salt Lake City’s Sustainable Code Revision Project is a groundbreaking initiative to incorporate sustainability provisions into zoning and subdivision ordinances (<http://www.slcgov.com/slccgreen/code>). There are three phases for this project. Focusing on 10 key areas of sustainability listed above, the community looked at current city policies and goals and compared them to current zoning and subdivision ordinances.

Mormon pioneers who settled the valley lived sustainably out of necessity and efficiency. Today Salt Lake’s residents pick up their bikes more often, belong to food co-ops, want to see a reduction in traffic, or in other ways get involved with the governance of the community. Most expect that the ordinances proposed will be

passed by the city's legislature because of the community's advocacy and promotion of policy proposals.

Code and Ordinance Sustainability Recommendations (VA)

The final step of moving sustainability from the realm of unrealized goals into actual implementation at the local government level is to incorporate sustainability strategies from updated comprehensive plans into local codes and ordinances. Although this process is relatively easy to describe, it is extremely difficult to undertake (<http://www.sustainable.org/governance/policies-ordinances-a-taxes>).

There are several reasons why this is true. The proposed codes and ordinances must be developed to accomplish exactly what is called for in the adopted comprehensive plan and avoid any unintended consequences. Virginia is a Dillon Rule state, meaning that local governments cannot do anything unless specifically authorized to do so by the state legislature. Local codes and ordinances are legally enforceable and must be crafted to be consistent with the provisions of the Virginia Code as well as other local codes, ordinances, and regulations. In addition, local land use codes and regulations powerfully impact property owners' rights pertaining to development type and intensity and must be carefully reviewed to avoid any undue impact. Finally, the codes and ordinances as developed must be enforceable and not create an undue administrative burden for either local government or for the public.

Due to the high degree of complexity involved in changes to local codes and ordinances, it is not the intent of the state to actually create the revised codes and ordinances that will be necessary for Charlottesville and Albemarle County to implement the sustainability strategies adopted in their comprehensive plans. Rather, the state will create a plan for the development of the required codes and ordinances, which is detailed in a section of the Internet link listed above.

Maryland Sustainable Communities

Sustainable Communities Tax Credit—Governor Martin O'Malley (2011) announced the recipients of the latest round of Sustainable Communities Tax Credits, which will help create 740 construction jobs in projects that will revitalize communities and promote green building practices around the state. The credit program is part of the Sustainable Communities Act, which the General Assembly approved in 2010 to guide policy development in sustainable development for Maryland. The law integrated the work of the departments of Planning, Transportation, Housing and Community Development, and Business and Economic Development on projects and policies that promote the goal of sustainable development.

Sustainable Communities Legislation—The Maryland General Assembly passed and Governor O’Malley signed two important Smart, Green and Growing bills in the 2010 General Assembly session for the future of growth, development, and sustainability in Maryland. MD legislators join their community of partners, advocates, and stakeholders in implementing the *Sustainable Communities Act of 2010* (House Bill 475—http://www.mdp.state.md.us/PDF/YourPart/Sustainable-Communities/SustainableCommunitiesAct2010_HB475.pdf) and supporting the *Maryland Sustainable Growth Commission* (House Bill 474 and Senate Bill 278—http://www.mdp.state.md.us/PDF/773/20100503/MD_Sustainable_Growth_Commission.pdf). Overall, these new Smart, Green and Growing laws inspire new thinking for sustainable growth and development in Maryland and guarantee that objectives can be achieved.

The Sustainable Communities Act represents a renewed partnership of state and local leaders from the public and private sectors. The law continues the state’s progress toward renewing and sustaining investment in local established communities. This legislation is an important step toward coordinating resources in ways that acknowledge the interdependence of economic, environmental, and social investments, as detailed in the act’s Web site above.

International Law and Policy

There are significant examples of regulations, ordinances, and laws in European countries and other international regions that have developed either model or presently enforced language for sustainability policies in law. Probably the most profound of these advancements is the amendment made to the Republic of South Africa Bill of Rights. That amendment is repeated below with an appropriate Internet link so that the reader can review the history behind this groundbreaking statement codifying sustainability and its actual meaning.

Constitution of the Republic of South Africa, 1996. Chapter 2: 7–39 Bill of Rights: Section 24—Environment (<http://www.info.gov.za/documents/constitution/1996/96cons2.htm>; <http://www.info.gov.za/documents/constitution/1996/96cons2.htm#24>)

Everyone has the right

1. To an environment that is not harmful to their health or well-being; and
2. To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that
 - (a) Prevent pollution and ecological degradation;
 - (b) Promote conservation; and
 - (c) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

In another bold move, Bolivia is set to pass the world's first laws granting all nature equal rights to humans. The Law of Mother Earth, now agreed by politicians and grassroots social groups, redefines the country's rich mineral deposits as "blessings" and is expected to lead to radical new conservation and social measures to reduce pollution and control industry.

The country, which has been pilloried by the USA and Britain in the UN climate talks for demanding steep carbon emission cuts, will establish 11 new rights for nature. They include: the right to life and to exist; the right to continue vital cycles and processes free from human alteration; the right to pure water and clean air; the right to balance; the right not to be polluted; and the right to not have cellular structure modified or genetically altered. The law, which is part of a complete restructuring of the Bolivian legal system following a change of constitution in 2009, has been heavily influenced by a resurgent indigenous Andean spiritual worldview, which places the environment and the earth deity known as the Pachamama (<http://en.wikipedia.org/wiki/Pachamama>) at the center of all life. Humans are considered equal to all other entities.

Sweden and New Zealand are taking steps to make the transition to the post-petroleum age. This transition will give their citizens not only reduced carbon emissions but also greater domestic control of their energy supply. Eventually, they hope to eliminate their dependence on unstable foreign energy sources based upon enacted government policies and regulations.

In 2005, Sweden declared the goal of becoming fossil-fuel independent by 2020. This would make Sweden the world's first oil-free nation. In 2009, new government leadership in Sweden modified the former prime minister's oil-independence goals, announcing a new energy plan to increase the country's renewable energy production to 50 % by 2020; make the nation's vehicles fossil-fuel independent by 2030; and have zero net emissions of greenhouse gases by 2050. Other countries striving for carbon neutrality, termed the Carbon World Cup, include Norway, New Zealand, Iceland, Costa Rica, and the Maldives. Sweden started a trend of working with local communities to make the nation energy-independent, setting an example for other nations to embrace.

The various policies and regulations have helped Sweden to achieve its ambitious goal of carbon neutrality. Its population of nine million receives about half its electricity from hydropower and the rest from nuclear power. Fossil fuels are used mostly in the transportation sector. Sweden's effective strategy of diversifying its energy sources and implementing energy efficiency has paid off: the use of oil has dropped from 70 % of the total energy supply in 1970 to about 30 % in 2009. Renewable energy consumption has increased from 34 % in 1990 to 44 % in 2007. By 2020, the government plans for a 40 % reduction in its greenhouse gas emissions, with half the country's energy to come from renewable sources.

In 2007, New Zealand announced intentions to commit to 90 % renewable electricity by 2025. In addition, the government outlined a target for reducing by half the per capita emissions from transportation by 2040. New Zealand also set a goal of a net increase in forest area of 250,000 hectares by 2020. In today's global marketplace, consumers are increasingly concerned about ethical and environmental

issues, and the carbon footprint of products and services is becoming an issue. To protect markets and the nation's reputation, we need to act preemptively.

These policies are backed by New Zealand's track record of innovative environmental programs. At the core of New Zealand's successes lies its government's green plan, the Resource Management Act (RMA), adopted in 1991. One of the world's model green plans, it focuses on watersheds rather than on political boundaries. It supports sustainable management of resources and accounts for the social and environmental costs of economic development. The RMA was created with the input of environmental groups and New Zealand's indigenous people, the Maori, who make up 15% of the country's population of four million. The RMA successfully integrates the needs of local communities with policy objectives at the national level.

The International Council for Local Environmental Initiatives (ICLEI) is one of the most successful international programs embracing a global and local approach to sustainability through community partnerships with government and its authorities. Founded in 1990, ICLEI (<http://www.iclei-europe.org/about-iclei>) emerged from a United Nations sponsored conference, the World Congress of Local Governments for a Sustainable Future, attended by over 200 local government officials from 43 countries. ICLEI's membership has since grown to more than 700 cities, towns, and counties representing over 300 million people. Its international campaigns, including Cities for Climate Protection, involve working with local governments to build awareness of CO₂ emissions, to create action plans with CO₂ reduction targets, and to monitor results. ICLEI's campaigns incorporate a "five-milestone" structure: (1) establish a baseline; (2) set a target; (3) develop a local action plan; (4) implement the local action plan; and (5) measure results.

ICLEI has successfully supported alliances of local governments, businesses, and nonprofits worldwide to find solutions to the challenges of climate change through policy and regulation formulation. By connecting the lessons learned from its work with hundreds of communities to the needs of local cities, ICLEI lends a local perspective to global issues. ICLEI USA, for example, will work with the Clinton Foundation and Microsoft to develop a web-based tool for global standard accounting and software to allow communities to share data on greenhouse gas emissions. In this way, there will be an internationally recognized standard for evaluating city programs for greenhouse gas reductions.

The final set of rules and policies that is becoming extremely important and somewhat effective on the international scene has to do with the recognition of the "rights of future generations." Three examples of visionaries—from New Zealand, Israel, and Hungary—show that the mandate for a Guardian for Future Generations (http://www.worldfuturecouncil.org/future_justice.html) is entirely dependent on a country's legal and cultural reality. Each country has distinct values, rights, duties, and goals in its constitution and in its basic laws. In New Zealand and Hungary, mandates are limited to the protection of the environment and cultural heritage; the Israeli Commissioner, on the other hand, oversaw 12 policy areas and was closer to a holistic protection of living conditions for future generations.

On the European level, the World Future Council has developed proposed legislation for a Guardian to protect the overarching aims of the EU as defined in the Lisbon Treaty (similar to a constitution in its legal status). Article 3 lists three aims: “to promote peace, its values and the wellbeing of its peoples”. This article could provide the basis for deciding which policy decisions should be scrutinized for their impact on the well-being of future generations. An EU Guardian for Future Generations with the mandate to represent the voice of future generations would directly support EU commitments on sustainable development: integrated policy making and intergenerational solidarity.

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Chapter 14

Key Community Issues for Change

Successful sustainable community development (SCD) incorporates multiple characteristics that are contained within the comprehensive functional framework of the community. These features offer the opportunity to achieve the maximum social, economic, and environmental benefit in the community. That is unless there is something that is undesirable regarding the character of these features such as their degraded nature or loss of capital. If so then any of these features that need fixing can be identified by the community and if the will is there something can be done.

The manner in which we develop and re-develop our communities employing these characteristics can have significant and long-ranging impacts on economic competitiveness, social, and environmental health. In this chapter the SCD practitioner can review a number of different community characteristics that affect stability, preventing communities from achieving sustainability. The characteristics range from natural resources, to the weather, to the transport of people, to the way people build and create their environments.

I must admit that I have listed water issues as first in a list of many characteristics that communities must be concerned with. In doing this I advocate for “water” as the most important issue that communities and society in general will face in the years to come—even ahead of climate change that we hear so much about. In support of the importance of water, and not to lessen the importance of climate change, it is relatively obvious that communities in nature as well as in human societies are going to be able to adapt to climate change conditions to some degree. But no facet of life can adapt to the disappearance of water supplies.

This chapter is intended to provide brief background on some of the more common issues that communities face. If one chooses to go into more detail on any of these issues there are plenty of Internet sources to do research on. To find additional information regarding some of the community characteristics described below along with a review of legislation and model ordinances to enhance and protect many of these, I suggest you visit the following two Web sites:

- Institute for Local Self Reliance—New Rules Program (<http://www.newrules.org/policy-areas>).
- Minnesota Planning Environmental Quality Board—Model Ordinances for Sustainable Development (<http://www.gda.state.mn.us/pdf/2000/eqb/ModelOrdWhole.pdf>).

Water Supply

Water resources management is one of the most important challenges the world faces. It is difficult to think of an element more essential to the health of human communities or their economy than water. Humans cannot live for more than several days without water, shorter than for any source of sustenance other than fresh air. In meeting their demand for water, people extract vast quantities from rivers, lakes, wetlands, and underground aquifers (Fig. 14.1) to supply the requirements of communities, farms, and industries.

Water runs like a river through our lives, touching everything from our vigor and the fitness of natural ecosystems around us to farmer's fields and the production of energy and goods we consume. It is therefore critical that efforts intended to be sustainable fully consider the health and function of aquatic ecosystems when making economic and social decisions on water allocation and use within communities (Flint 2004a). And there is a growing recognition that functionally intact and biologically complex watershed ecosystems provide many economically valuable commodities and services to communities (ecosystem services), besides direct water supply. These services also consist of flood control, transportation, recreation, purification of human and industrial wastes, habitat for plants and animals, production of fish and other foods, and marketable goods (Flint, et al. 1996).

Besides being an integral part of the ecosystem, water is a social and economic good. Demand for water resources of sufficient quantity and quality for human consumption, sanitation, agricultural irrigation, and manufacturing will continue to intensify as populations increase and as global urbanization, industrialization, and commercial development accelerates (Flint and Houser 2001). For example, worsening drought, population growth, and record wildfire seasons in recent years have called sharp attention to the need to make more efficient use of our water supply. And ironically, water is no longer just a western issue in the USA. We're drinking, irrigating, and using water faster than precipitation can replenish groundwater from the Great Plains to the Chicago suburbs to the Florida Everglades (Burger 2011). The summers of 2002 and 2011 in the USA will be remembered for putting Americans from coast to coast through one of the worst droughts in decades.

There is also mounting evidence that the way we grow—land development patterns—can exacerbate problems with both water quality and quantity. For instance, to municipal water providers water availability is a three-part equation, balancing water supply (surface and ground plus storage), water treatment capacity,



Fig. 14.1 Stream flow through a coastal forest

and water distribution capacity. Each part of the equation poses costs and challenges to communities in the form of acquiring adequate water rights and investing in and maintaining the treatment and distribution infrastructure. In the next 20 years, the US population will increase by approximately 53 million and the nation will be forced to rise to the challenge of balancing citizens' drinking, bathing, irrigation, and commercial processing needs with a finite supply of freshwater.

And in addition to the circumstances already described earlier, a lesser acknowledged fact is that increasing water shortages or inequitable access to safe water can cause poverty and environmental degradation in communities and regions that can lead to hunger, resulting in civil unrest and human conflict. And with conflict comes disputes, even war, that can best be alleviated by the sustainable use of these resources. Globally, Israelis and Palestinians have argued for years over how to share the Mountain Aquifer beneath the West Bank (Daggett 2011). While the Syrians press for an Israeli withdrawal from the Golan Heights, water not land is the crucial issue with the Golan Heights providing more than 12% of Israel's water requirements (Chellaney 2011). In North America, Canada and the USA signed a treaty approximately 10 years ago that states no water can be removed from the Great Lakes basin. Mexico and the USA have a long-standing treaty for maintaining water flow in the Colorado River that the USA has had major difficulty in meeting in recent years. There is constant conflict in the Missouri River among navigation, power generation, and environmental concerns (Flint and Wade 2010). There are also conflicts in water between northern and southern California, while Maryland is in control of Virginia's water destiny.

Fig. 14.2 Sustainable water use through rain barrel collection off the roof of the house



A skilled SCD practitioner should be able to share these and other facts with their client communities in an effort to assist community members in better understanding the major issues related to a guaranteed quality supply of water to their communities (Flint 2006). For a community desiring to develop a Strategic Sustainability Plan to promote improvement in its community through future years, there are a number of issues that community members should consider regarding their supply and equitable use of water by all community stakeholders. Some of the goals communities can consider regarding water might include:

- Reduce community per capita water use while retaining attractive landscapes;
- Strategically plan to meet future needs of growing populations;
- Protect ground and surface water supplies from unsustainable depletion;
- Eliminate wasteful water use practices;
- Reduce wastewater treatment volume and associated municipal expenditures; and
- Promote the increased use of harvested and recycled water for irrigation needs as indicated by the rain barrel collection system in Fig. 14.2.

Water management strategies are able to be applied across many components of sustainable community development. Because of their more compact nature, sustainable residential developments can use up to 35% less water for lawns than a typical low density subdivision, and up to three times less herbicides and pesticides. There are numerous opportunities to improve water use and management using green roof technology in buildings, and designing parking lots and roadways in

a manner that allows for the ground to absorb water rather than removing it. The reestablishment of wetlands in degraded rivers and streams is another approach to improving water quality and quantity management while also providing opportunities for habitat and amenity space.

And with proper planning the reuse of water can become a real possibility in many settings seeking more sustainable design. My work in Dauphin Island illustrated the community's recycling of its wastewater treatment plant's discharge onto the community's golf course for daily watering (Flint 2010). In the Industrial Ecology Park setting of Kalundborg DN the Statoil Refinery recycles its bio-treated water to the Asnes Power Station as cooling water. Likewise, the Novo Nordisk plant recycles treated wastewater to the GYPROC Gypsum plant for its processing and production purposes.

A skilled practitioner can demonstrate to communities that the principles and goals of SDC initiatives suggest communities attend to conserving valuable water resources. Communities can reduce costs of water and wastewater systems by implementing an effective water conservation program. Water conservation plans are intended to reduce demand for water, improve the efficiency in use, and reduce losses and waste of water.

Failing to establish water conservation provisions at the local level can have a significant impact on the future growth, the economy, and the food supply of a community. Because water is essential to life one can argue that eventually communities must improve their conservation efforts and decrease their water usage. The implications of waiting to address this problem are costly and damaging in the long run. Communities that have embraced water conservation measures have enjoyed significant reductions in overall water consumption for both residential and nonresidential development.

Climate Change

Today's climate change is a reality to me. But I am no activist. It's just that I seem aware of the consequences more than many. Already we're losing control of the situation. The Earth is remarkably resilient; she's hugely capable of repairing herself. But this climate change trend is accelerating too quickly, and a hundred chain reactions are under way.

Global Warming

Climate change refers to a change in the state of the climate that can be identified by changes in the average and/or the variability of its properties (e.g., temperature, precipitation), and that persists for an extended period, typically decades or longer. Climate in a narrow sense is usually defined as the average weather over a period

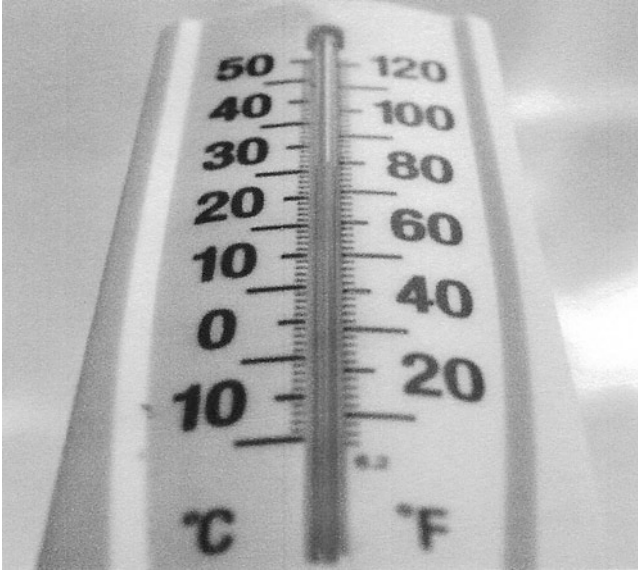


Fig. 14.3 Thermometer measuring temperature

of time ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization. Climate change may be due to natural internal processes or external forcing, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.

Protecting the climate is the defining challenge of our time. Every era has its opportunity to improve the world. This is ours. How we deal with the very real threats to the stability of the climate will shape our future, the economy, and the sort of a world we will leave to our grandchildren. It will determine whether many species, perhaps even our own, will prosper or languish.

Humans are altering the earth's atmosphere, causing changes in global climate that will affect our environment and communities for centuries to come (Leiserowitz et al. 2010). There are many indications that these changes are already underway: temperatures are increasing, glaciers are retreating, snowpack is disappearing, spring is arriving earlier, the ranges of plants and animals are shifting, and seas are rising. Within a handful of decades, climate in many parts of the USA is expected to be significantly warmer than even the warmest years of the twentieth century, increasing the risk of drought, flooding, forest fires, disease, and other impacts across many regions.

The temperature of the Earth (Fig. 14.3) has risen by about of 0.74 °C over the last century. While that may seem like a small increase, it has had profound effects on the planet's physical and biological systems, which, in turn, have impacted society. A large majority of the climate science community has very high confidence that

the net effect of human activities since 1750 has been one of warming. They also conclude that most of the observed increase in global average temperatures since the mid-twentieth century is very likely due to the observed increase in anthropogenic greenhouse gas (GHG) concentrations.

Greenhouse Gas Effects

We now know there are forms of pollution—global pollution—which individuals in one place may emit and which then affect the whole world (Houghton 1997). One example of this is ozone depletion by chlorine-containing chemicals: very small quantities of these emitted into the atmosphere, for instance from leaking refrigerators or from aerosol cans, can reach the stratosphere. This may be only perhaps in parts per trillion, but reactions in the stratosphere can cause free chlorine to be released that catalytically destroys ozone, rapidly affecting the whole atmosphere.

Global warming is a second and a more important example of global pollution than ozone. Carbon dioxide that I cause to be emitted, because I drive my car or use electricity or in many other ways, enters the atmosphere, and rapidly spreads globally, much of it remaining in the atmosphere for 100 years or more. Now, because carbon dioxide is a GHG, it causes the average global temperature to increase, significantly affecting the climate. So everybody in the world is affected.

Greenhouse gasses are increasingly linked to global warming and are seen as the primary culprit. GHGs are made up of carbon dioxide, methane, and nitrous oxides (Leiserowitz et al. 2010). They contribute to global warming by trapping radiation from the sun, blocking it from leaving Earth's atmosphere and thereby increasing temperatures worldwide (Fig. 14.4). The bulk of GHGs emitted in the USA are associated with transportation (primarily cars and trucks) and energy generation and usage.

Scientists have been working for decades to track the increase of GHGs in the Earth's atmosphere and the subsequent rise of temperatures. Due to anthropogenic (human) activity, the planet is warming more quickly than it would under natural conditions; the primary precipitant is the burning of fossil fuels. In 2001, the United Nations' Intergovernmental Panel on Climate Change (IPCC) found that Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. Most of the observed increase in global average temperatures since the mid-twentieth century is very likely due to the observed increase in human-caused GHG concentrations.

But we have observed that the nature and rapidity of the change in temperature over the twentieth century and beginning of the twenty-first century are very different from that over the previous 1,000 years (Fig. 14.5). The years of 1998 through most of those up to 2010 have been the warmest years in the global instrumental record (Leiserowitz et al. 2010). For example, each of the first

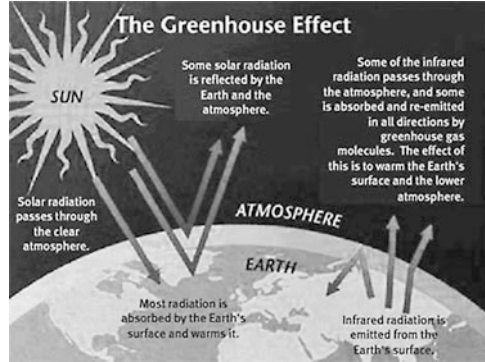


Fig. 14.4 Illustration of how the greenhouse above the Earth works to trap greenhouse gases

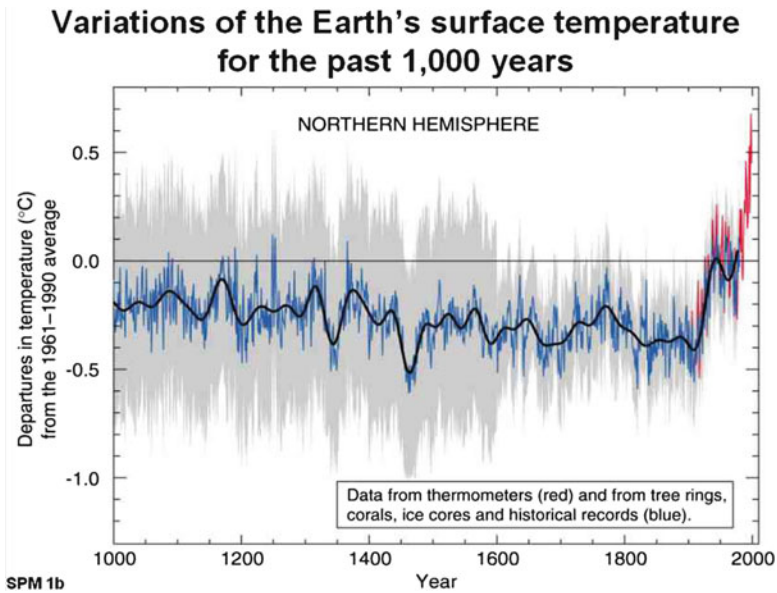


Fig. 14.5 Variations of the Earth's surface temperature for the past 1,000 years. From: Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change, Summary for Policymakers, Fig. 1(b)

8 months of 1998 was the warmest of those months in the instrumental record—suggesting that the earth really is warming up. We can easily remember the lack of much winter weather in 2012 and the early start to a horrific tornado season.

We know for certain that carbon dioxide, one of the GHGs, is increasing because of the burning of fossil fuels—the isotope signatures of atmospheric carbon confirm that (Fig. 14.6). Its increase since the end of the industrial revolution has been about

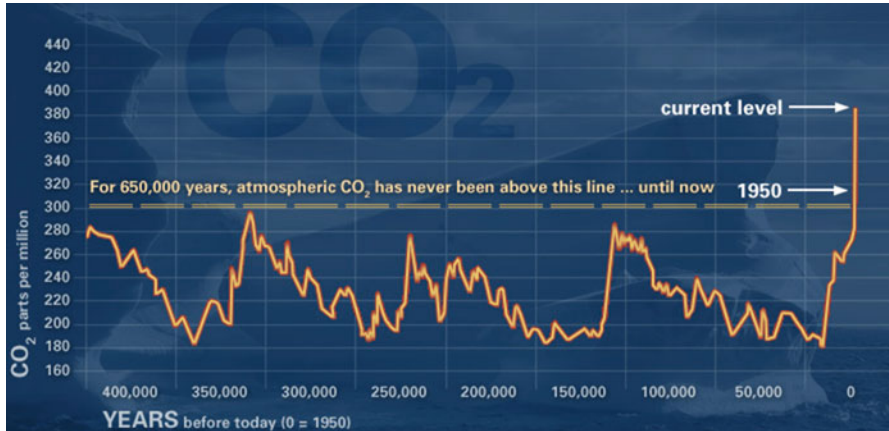


Fig. 14.6 Graph of CO₂ atmospheric concentrations as measured from ice cores and more recent direct measurements provides evidence that atmospheric CO₂ has increased since the Industrial Revolution. Graphics developed from data obtained from the NOAA Satellite and Information Service, NESDIS, NOAA Paleoclimatology, Ice Core Gateway (<http://www.ncdc.noaa.gov/paleo/icecore/>)

30% (Kerr 2009). The figure shows the global average surface temperature over a much longer period, including the last ice age which finished about 20,000 years ago. The last warm period occurred about 120,000 years ago. The temperatures for these curves are determined from an ice core bored out by Russian scientists from the Antarctic ice cap. You will notice that the curves of temperature and CO₂ content track each other well. Part of this is because carbon dioxide influences the temperature, but it is also because other factors that depend on temperature are controlling the carbon dioxide content in ways that are not yet well understood.

Carbon dioxide levels now are about 365 ppm. By the year 2100, if we carry on burning fossil fuel in a “business as usual” way without caring about its effects, carbon dioxide concentrations will rise to 600 or 700 ppm (Fig. 14.6). If the whole world decided to work very hard indeed so as to stabilize carbon dioxide concentrations, we could possibly stabilize at about 450 ppm (Center for Science in the Earth System 2007). But that is still a very dramatic increase, taking carbon dioxide concentrations far beyond any level they have shown in the atmosphere for millions of years.

Global GHG emissions will continue to grow over the next few decades due to increases in the human activities that generate GHG, notably the combustion of fossil fuels and certain land use practices. Continued GHG emissions at or above current rates would cause further warming and induce many changes in the global climate system during the twenty-first century that would very likely be larger than those observed during the twentieth century (Leiserowitz et al. 2010). Higher temperatures would cause further widespread change, including: a decrease in snow cover and sea ice; an increase in frequency of hot extremes, heat waves,

and heavy precipitation; an increase in tropical cyclone intensity; precipitation increases in high latitudes and likely decreases in most subtropical land regions, sea level rise, and accelerated species extinction, among many other impacts.

The key results of the IPCC's Fourth Assessment Report (Jorgensen and Nodvin 2011) in the area of causes of climate change are:

- It is extremely unlikely (<5%) that the global pattern of warming observed during the past half century can be explained without external forcing. These changes took place over a time period when non-anthropogenic forcing factors (i.e., the sum of solar and volcanic forcing) would be likely to have produced cooling, not warming. Attribution studies show that it is very likely that these natural forcing factors alone cannot account for the observed warming.
- It is very likely that anthropogenic greenhouse gas increases caused most of the observed increase in global average temperatures since the mid-twentieth century. Without the cooling effect of atmospheric aerosols, it is likely that greenhouse gases alone would have caused a greater global mean temperature rise than that observed during the last 50 years.
- It is very likely that the response to anthropogenic forcing contributed to sea level rise during the latter half of the twentieth century, but decadal variability in sea level rise remains poorly understood.
- The observed pattern of tropospheric warming is very likely due to the influence of anthropogenic forcing, particularly that due to greenhouse gas increases.
- Difficulties remain in attributing temperature changes at smaller than continental scales and over time scales of less than 50 years.

Climate Action Planning

A pronounced and swift change in climate change mitigation policies and related sustainable development practices could lessen the trends in warming observed to date. Public decision-makers have a critical opportunity—and a need—to start preparing today for the impacts of climate change, even as we collectively continue the important work of reducing current and future GHG emissions (Center for Science in the Earth System 2007). There are significant lags in time between what actions might be taken on the ground and the concentration of GHGs that will continue to impact the atmosphere for years to come. If we wait until climate change impacts are clear to develop preparedness plans, we risk being poorly equipped to manage the economic and ecological consequences, as well as their long-lasting lag times, and to take advantage of any potential benefits.

There are three principles that are frequently put forward as those that should govern such action. First there is the Precautionary Principle that is included in the Climate Convention and thus states that lack of full scientific certainty should not prevent appropriate action being taken. The second is that polluters should pay for the damage of their pollution, a well-known principle that has been built

into environmental legislation for a long time. It can be applied, for instance, through the taxation of pollution or through the setting up of trading arrangements. The third principle, the most difficult to apply, is that of equity—intergenerational equity and international equity. At the moment 55% of carbon dioxide emissions are produced by the richest one sixth of the world's population, the USA alone being responsible for 25%. Just 3% is emitted by the poorest one sixth of the world. There is obviously a great inequity here.

Preparing for climate change is not a “one size fits all” process. Just as the impacts of climate change will vary from place to place, the combination of institutions and legal and political tools available to public decision-makers is unique from community to community. Preparedness actions will need to be tailored to the circumstances of different communities. It is therefore necessary that local, regional, and state government decision-makers take an active role in preparing for climate change, because it is in their jurisdictions that climate change impacts are felt and understood most clearly.

Land use and zoning regulations can play an important role in helping to reduce GHG emissions through:

- Encouraging development patterns that allow less reliance on autos for mobility and result in reduction in vehicle miles traveled and corresponding greenhouse gas emissions.
- Preserving existing trees that can sequester carbon dioxide and require the planting of new trees.
- Promoting alternative energy generation such as solar and wind power that do not generate GHGs as do oil, gas, and coal-fired power plants.

Emissions reduction efforts to address the issue of climate change focus on two primary GHGs: CO₂ and methane. CO₂ is released when fossil fuels—oil, coal, and natural gas—are burned to power our cars, produce electricity, or heat our buildings. Methane is emitted in urban areas when garbage and waste products decompose, primarily in landfills and through the significant thawing of the Arctic tundra. With the exception of the tundra sources, local and state governments can play a key role because they directly influence and control many of the activities that produce these emissions. Decisions about land use and development, investments in public transit, energy-efficient building codes, waste reduction, and recycling programs all affect local air quality and living standards as well as the global climate.

If current low-density, “sprawl” development patterns in many communities continues and expands, the ability to reduce Vehicle Miles Traveled (VMTs) in the future will be seriously impeded. Once development patterns are set, it is extremely difficult to affect travel patterns and preferences. Low-density development makes cost-effective mass transit nearly impossible. The same is true for preservation of mature trees that absorb huge quantities of GHGs and sequester them for many years that might be needlessly cut to accommodate new development. Additionally, if communities do not take steps to accommodate and encourage alternative energy sources such as wind and solar, current development patterns may prohibit retrofitting in the future.

As an example of what a community can do to contribute its own efforts toward the global problem of climate change, we can examine the actions in Portland (OR, USA). The Portland Climate Action Plan identifies objectives and actions in eight categories to put Portland and Multnomah County on a path to reduce carbon emissions 80% from 1990 levels by 2050. The Plan:

- Proposes an interim goal of a 40% reduction in emissions by 2030.
- Establishes objectives to achieve the interim goal.
- Focuses principally on major actions to be taken in the next 3 years to shift Portland and Multnomah County's emissions trajectory.

To draft this Climate Action Plan, City and County staff worked with a steering committee and working groups to identify the objectives and actions most likely to foster the long-term changes necessary to achieve such ambitious goals. Key criteria in developing the actions were the magnitude of emissions reductions, the scale of economic and community benefits, and the ability of local governments to facilitate their implementation. For more detail on the actual structure of a climate action plan for communities and cities go to the Climate Protection Manual for Cities (<http://www.climatemanual.org/Cities/index.htm>).

Hope for the Future

Global climate change is being recognized as a fact of life in most circles. Tangible evidence is accumulating on an almost daily basis. Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level (Fig. 14.7). Many natural systems, on all continents and in some oceans, are being affected by regional climate changes. Observed changes in many physical and biological systems are consistent with warming. As a result of anthropogenic emissions, atmospheric concentrations of N₂O now far exceed preindustrial values spanning many thousands of years, and CH₄ and CO₂ now far exceed the natural range over the last 650,000 years. Most of the global average warming over the past 50 years is very likely due to anthropogenic GHG increases and it is likely that there is a discernible human-induced warming averaged over each continent. Anthropogenic warming over the last 3 decades has likely had a discernible influence at the global scale on observed changes in many physical and biological systems. How can we ignore the polar bears constantly loosing ice to support their way of life?

It all comes down to whether communities choose to ignore the signs or develop some sort of strategy to make their own contributions to the solution of a global problem. With current development policies and emissions trends, global GHG emissions will continue to grow over the next few decades. For the next 2 decades a warming of about 0.2 °C per decade is projected from many different computer model emission scenarios. Continued GHG emissions at or above current rates



Fig. 14.7 The over-wash of Gulf of Mexico waters on Dauphin Island during hurricane Katrina in 2005

would cause further warming and induce many changes in the global climate system during the twenty-first century that would very likely be larger than those observed during the twentieth century (Kerr 2011).

Some planned adaptation (of human activities) is occurring now; as illustrated earlier with the Portland community. More extensive adaptation is required to reduce vulnerability to climate change. Unmitigated climate change would, in the long-term, be likely to exceed the capacity of natural, managed, and human systems to adapt. A wide range of mitigation options are currently available or projected to be available by 2030 in all sectors, with the economic mitigation potential at costs that range from net negative up to \$100 US/t CO₂-equivalent, sufficient to offset the projected growth of global emissions or to reduce emissions to below current levels in 2030.

For example, Canada has made a commitment under the Kyoto Treaty to reduce its CO₂ emissions by 6% below the 1990 level by 2010. In reality, that means a 25% reduction in the level that emissions will rise to under our current patterns of energy use. The average Canadian household produces 4–5 tons of CO₂ emissions from their home energy use, and a further 3–5 ton from burning fossil fuels while driving. By designing a community with energy efficient homes, where the residents can walk or cycle to local shops and jobs, this can be reduced by up to 45%, a challenge which the International Council for Local Environmental Initiatives (ICLEI) and the Federation of Canadian Municipalities (FCM) are encouraging municipalities around the world to embrace. A good place to begin is buildings where overall they produce 35% of the total carbon dioxide emissions in the USA.

Many impacts can be reduced, delayed, or avoided by mitigation. Delayed emission reductions significantly constrain the opportunities to achieve lower stabilization levels and increases the risk of more severe climate change impacts. Making development more sustainable by integrating climate change adaptation and mitigation measures into sustainable development strategy can make a major contribution towards addressing climate change problems. Although the problems are complex, we know enough today to take the first effective steps on adaptation and mitigation.

Energy

The consequences of continued climate change will impact cities, regions, and ecosystems all over the world, mostly in a negative manner, whether through the death of the world's coral reef systems, the warming of the oceans which is causing the northward movement of the salmon, or the increased frequency and intensity of floods, droughts, and hurricanes.

Energy is the force of industrial economies, both literally and figuratively that drives global climate change. And in the face of this, I bet you breathe a sigh of relief each time the price of gasoline plummets toward \$3 a gallon? Thinking \$100-a-barrel oil was just a passing inconvenience? Think again. The era of cheap oil is over. But, countries outside oil-rich OPEC (the Organization of the Petroleum Exporting Countries) seem unable to increase production further, even with the enticement of high prices. The world's oil production could plateau sometime about 2030 if the demand for oil continues to rise. Unless oil-consuming countries enact crash programs to slash demand, analysts say, 2030 could bring on a permanent global oil crunch that will make the recent squeeze look like a picnic (Kerr 2008).

It took 140 years for the world to consume its first trillion barrels of oil (personal communication, oil information analyst Richard Nehring of Nehring Associates in Colorado Springs, Colorado, May, 2010). Now, if long-running trends continue, the world will demand its next trillion barrels within just 30 years. Some oil analysts working from their best estimate of how much oil remains in the ground—dubbed “peakists”—see world production reaching its limits in the next few years or a decade and then declining.

Fossil Fuel Economy

The USA can help itself, but it's going to be tough: insulating the economy from the worst oil price effects “takes a long time, 10–15 years.” Communities will need to seriously push for further improving the efficiency of cars and light trucks, to bringing on biofuels, to producing more oil in the USA. There is the need for a comprehensive plan and infrastructure with measurable goals. We don't have that now.



Fig. 14.8 Industrial complex with coal-fired power plant in Ontario, Canada

The energy available to people limits what they can do and influences what they will do (Casillas and Kammen 2010). Currently, the energy sources upon which we largely depend—coal, natural gas, and oil—have many negative impacts on all three components of human lifestyles: social, economic, and natural (Cleveland 2009). Air pollution and GHG emissions (Fig. 14.8), primarily from power plants, cars, and buildings, cause respiratory diseases and drive climate change, which in turn adversely affects economic productivity and environmental health (Hurricane Katrina’s destruction of New Orleans is but one possible example).

Further, the instability of oil and gas markets and declining availability of oil have high costs for local governments and their constituents (Kerr 2008). The most cost-effective way to reduce these negative impacts is to increase energy efficiency—that is, squeezing more productivity out of the energy we use, which enables us to use less of it. But communities must not get caught in the trap of thinking that since they might become more efficient then they can fuel more cars and don’t need to enact further conservation measures.

By consuming less energy, we reduce the need for energy production in the first place and realize immediate savings. Coupling that with using clean energy from locally available renewable sources including solar, wind, biogas, and biomass can bring communities closer to energy independence and economic sustainability.

Alternative Energy Strategies

Thirty years ago renewable energy was a novelty. Twenty years ago it was little more than a cottage industry. Today the \$100 billion renewable energy industry threatens to overturn the bigger-is-better foundation of the existing, twentieth-century fossil-fueled electricity system, which can then open the door for sustainable energy production (Cleveland 2009).

Sustainable energy is about finding alternative ways of structuring the energy sector and alternatives to our fossil-fuel based economy. Its goal is to provide plentiful, reasonably priced energy to all sectors of society safely and to support the health of our economy, people, and environment without limiting the ability of future generations to meet their energy needs. Energy savings and a shift to adoption of renewable forms of energy are key approaches to achieving this.

Local solar power hits the sweet spot of cost-effectiveness and economic value for communities. The Golden State of California has covered over 50,000 roofs with solar PV in the past decade, but could it also save 30% or more on its current solar costs? It turns out switching energy policies could save ratepayers billions. If 2011 is a banner year and the state sees 1 gigawatt (GW) of installed capacity, the savings to ratepayers of a CLEAN program (over 20 years) would be nearly \$3 billion.

Local governments' facilities and operations use significant amounts of energy. Due to their relatively large power and fuel purchases, as well as involvement in smart development and economic improvement plans, they possess many opportunities for promoting clean energy initiatives. Leading by example, local governments can green their own facilities and operations, influence the private sector, and work with local groups to educate, empower, and challenge their local residents. They can help inspire change and drive innovation.

The incorporation of both active and passive solar techniques is integral to any discussion of alternative community energy strategies. But without careful consideration of solar access during the planning stages of new development, future opportunities for the installation of both active and passive features can be dramatically reduced or even eliminated altogether.

Zoning regulations play a significant role in the implementation of solar energy technologies at the local level, defining where, how, and when they may be used. Many communities have recognized the importance of addressing solar access within their zoning regulations and have taken steps to define the degree to which solar energy will be allowed, encouraged, or even required (Cleveland 2009), such as for example on the rooftops of homes.

The implications of not establishing provisions for solar access at the local level are significant. At the most basic level, the opportunity for a community to reduce its energy consumption is diminished substantially. Without provisions in place to insure solar technologies are permitted and that access to them is protected, solar technologies become more difficult and costly to implement—and therefore, may be passed over by all but the most “green” developers and homeowners.

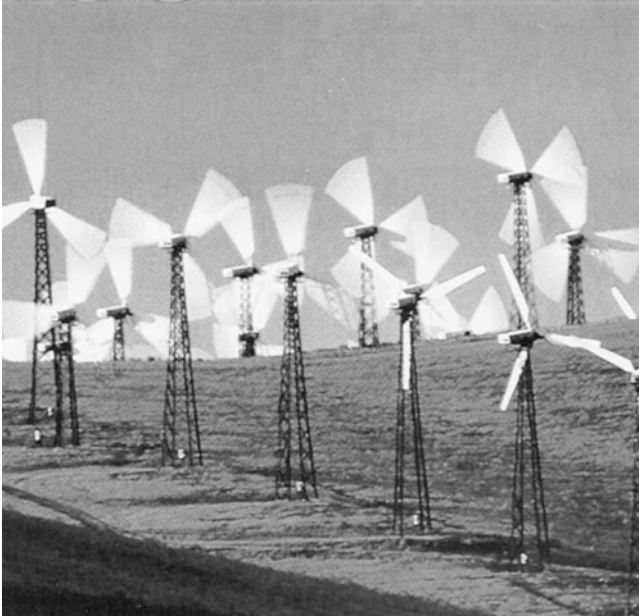


Fig. 14.9 A field of energy generating windmills

Some utility companies are also increasingly, though tentatively, supportive of measures that encourage solar access for new and existing development. As they grapple with aging and overburdened power production facilities, utilities are faced with the prospect of having to construct costly new power plants and infrastructure to accommodate the ever increasing demand for power. This cost is in turn transferred to power consumers. But, communities that choose to enact solar access provisions can, to a certain point, help insulate their constituents from such cost increases without detrimentally affecting utilities. In addition to promoting a measurable reduction in energy usage, solar access provisions can also help ensure that the conversion of homes from traditional energy sources to solar energy over time can be accomplished relatively easily. Homes that are predesigned to accommodate solar devices, not only from a site planning standpoint, but from a plumbing, wiring, and structural standpoint can make future installations much easier and less costly.

As interest in renewable energy is increasing, wind is readily being recognized as an abundant resource in much of the USA. Wind energy could reliably supply at least twenty percent of the nation's electricity, and perhaps more (Fig. 14.9). At the end of 2007, wind turbines supplied approximately 1% of all US utility power generation. Wind power development is expanding in the USA as technologies develop and improve, and the ability to harness wind in a variety of rural and urban settings is increasing (Cleveland 2009). Wind power technology has diversified in the last decade, with the development of turbines of more sizes and configurations, and of quieter and more efficient design. This range of new turbine types enables wind power to be harnessed in a much wider variety of settings than ever before.

A US household with average energy demand (10,565 kWh, according to the Department of Energy) that uses the typical mix of US utility energy emits 16,376 lb of carbon per year. In 2000, the U.S. EPA estimated the annual carbon emissions of an average US passenger car at 11,450 lb per year. Thus, on average, each home that is powered 100% by wind, which emits no carbon, reduces emissions equivalent to taking 1.4 cars off the road. Wind power has other benefits as well, such as reducing dependence on foreign oil, providing dispersed back-up energy in the event of grid failures, and better air quality.

And just imagine what a tree can do! In regions that experience hot summers, where asphalt and concrete surfaces absorb heat, tree planting turns out to be one of the most cost-effective ways of reducing energy use and emissions. A Chicago study found that in one summer day besides the lower temperatures, 120 acres of canopy cover could absorb up to 5.5 lbs. of carbon monoxide, 127 lbs. of sulfur dioxide, 24 lbs. of nitrogen dioxide, and 170 lbs. of particulates.

Local community governments can lead by example in establishing renewable energy and efficiency policies and goals, and an implementation plan to achieve them. The primary goals of a community examining the option of alternative energy sources for enhancing the sustainability of the community should include:

1. Remove regulatory obstacles and streamline processes for the installation of solar and wind technologies. For example, pass a resolution that the local government will save power on transport and build green. Consider adopting the Kyoto Protocol by signing on to the Mayors' Climate Protection Agreement
2. Form an integrated clean energy team as partners to implement the clean energy program, including the local government, local utility and fuel providers, businesses, nonprofits, and farmers. This team can help to develop, stimulate, promote, and attract local green energy initiatives and businesses as an economic development opportunity
3. Create and adopt sustainable energy principles, plans, and incentives including a measurable goal such as 10% energy reduction in community operations by 2020 with a certain percentage of the savings staying with the departments that achieved them
4. Implement protective regulations to ensure that property owner investments in solar technologies are protected
5. Adopt the U.S. Green Building Council's LEED Green Building Rating System—Leadership in Energy and Environmental Design—for Existing Buildings as a performance standard to upgrade and operate city buildings to higher efficiency
6. Provide incentives for the use of solar technologies in new construction and in the renovation of existing homes
7. Require that new homes meet ENERGY STAR home standards
8. Make renewable energy use and efficiency part of standard procedures. Modify requests for proposals, specification, and contract language to ensure sustainable energy policies and procedures are an integral part of each project. Modify building and vehicle codes and standards
9. Adopt purchasing policies for ENERGY STAR equipment and computers



Fig. 14.10 Pacific sea otter off the coast of California, US

10. Build bike trails and lanes and provide bike racks
11. Develop a few demonstration renewable energy projects as models, e.g., a renewable energy commercial center, housing project, school, or vehicle fleet
12. Promote an overall reduction in energy usage. Document energy use and respective savings and monitor performance over time.

There are new case studies appearing each day concerning the efforts of community alternative energy planning (e.g., Madison WI: <http://www.renewwisconsin.org> and <http://www.cityofmadison.com/sustainability/city/renewable.cfm>). Check them out.

Environmental Protection

In the early twentieth century, the biggest threats to wildlife were over-hunting and over-fishing. People are still the biggest threat to wildlife as illustrated by the state of many oceanic fisheries around the world, as well as the grey wolf and grizzly bear in Yellowstone. The primary reason is destruction of critical habitat by development. One-third of all species in the USA are at serious risk, such as the sea otter in the Pacific coastal waters (Fig. 14.10). In fast-growing states like Florida, Texas, and California, the threats to native ecosystems have been rated extreme. These problems have been exacerbated by global warming and climate change, which are putting additional stress on wildlife. Fortunately, and often because of the value of wildlife to their local economies, local governments across the USA are taking action to preserve wildlife habitat and biodiversity in their communities. If action is not taken quickly and decisively, however, we will witness a major species extinction event caused exclusively by humans, because it will result mainly from habitat destruction. The resulting loss will be immeasurable not only in economic terms, but also in terms of human's quality of life and the character of our communities.



Fig. 14.11 A flock of American Egrets flying in wetlands along the Gulf Coast of the US

Human–Nature Interactions

Unfortunately many people take our environment for granted. When we flip the light switch we expect the light to go on. We don't much care why or how that happens. And most people aren't particularly interested in the intricate workings of our solid waste system of disposal and recovery, unless that system breaks down or rates skyrocket. But there is a growing awareness among communities around the USA that natural resources are integral to almost everything they do.

With this growing awareness, the sustainable design of human communities is acknowledging that all natural resources are limited, and will respond to the patterns of natural ecology (Flint and Houser 2001). Depending on the type of community, natural resources can mean everything from an individual tree along a right of way to a native plant community tucked inside a park or conservation area, to forest land managed for timber resources.

Any land-use plans and building designs should include only those with the least disruptive impact upon the natural ecology of the region in which the community calls home. Likewise, density of human settlements must be most intense near neighborhood centers where facilities are most accessible, as well as to eliminate urban sprawl from disfiguring and making the surrounding wild areas dysfunctional.

In addition to concern regarding natural wild lands, productive farmlands in the USA are also in significant jeopardy of loss. If the current pattern of development continues, remaining farmland will be paved over in the next several decades. It is not only loss of farmland which worries people—it is also loss of habitat, wetlands (Fig. 14.11), forest cover, and recreational green space which can be used for parks, nature reserves, or trails.

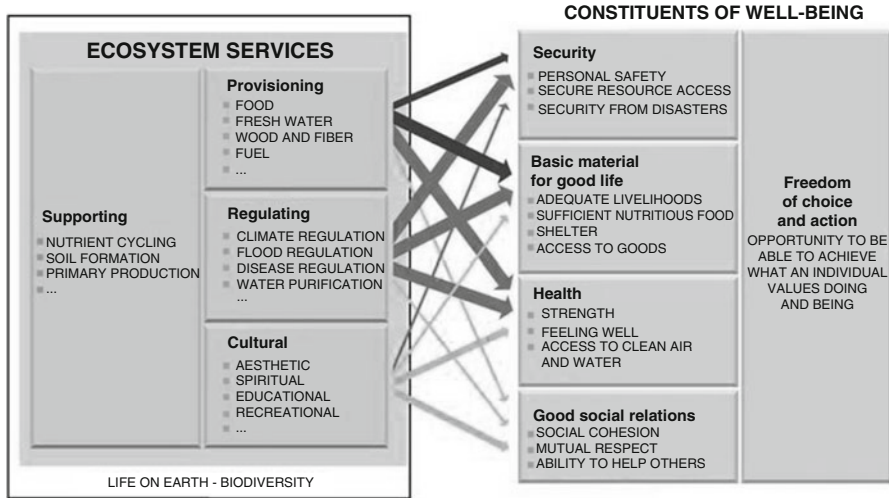


Fig. 14.12 Demonstration of the many ways that ecosystem services provide for human well-being

Ecosystem Services

The idea of ecosystem services is relatively new in the realm of SCD initiatives. Practitioners should be able to assist their client communities, however, in recognizing the many ecosystem services that the environment their community sits in possess (Perrings, et al. 2010). An accomplished practitioner should continually be encouraging the consideration of ecosystem services identity and protection in every act community members take regarding the development of their Strategic Sustainability Plan. By definition ecosystem services represent a collection of services provided by the Earth’s ecosystems that are usually not a part of economic analyses but that are indispensable for any human endeavors (Perrings et al. 2010). These include, for example: clean air and water, plant pollination, climate regulation, soil regeneration, ozone protection, shade and shelter, etc. Many of these services and the human benefits they provide are illustrated in Fig. 14.12.

These services offer incalculable benefits to markets, economies, and societies but neoclassical economics do not account for these benefits (or the costs to replicate them through human means) in economic measures or calculations. Therefore, they go un-valued, creating false economic affects, known as externalities and lead to faulty economic planning and decisions. Some ecological economic theories, however, strive to correct these deficiencies for more sophisticated and sustainable economic planning in community settings. The result is that an ecosystem services framework can balance resource conservation and use according to how societies value consumptive (e.g., food and fuel) and nonconsumptive (e.g., health and aesthetics) services provided by ecosystems (Perrings et al. 2010).

As an example in guiding community member decision-making, an article in the *New York Times* (http://www.nytimes.com/2011/08/09/science/09profile.html?_r=3) discussed the importance of ecosystem services, or putting a value on ecosystems through the Natural Capitalism Project (NCP). This effort works to quantify in biophysical and dollar terms the value of conserving the forest and its wildlife, as well as many other kinds of ecosystems and natural resources, especially the biodiversity of regions.

The analysis of community resources and potential identity and importance of ecosystem services in its region can easily be facilitated with the application of a Geographic Information System (GIS) if such technology is available to the practitioner. If not, another form of analysis can be derived from identifying overlay features for a community region and mapping these on separate overlay sheets to obtain an integrated perspective of different resources of concern.

Action Planning

An overlay district puts the initial burden of natural resource management on the local government. But in participatory sustainability planning community members should assume part of the inventory process. Community stakeholders should be intimately involved in addressing community specific inventories of all the features mentioned in an overlay district and any regulations should be flexible to add or remove related mapped areas as the local government sees fit for environmental protection, preservation, conservation, or restoration.

Part of the planning process that results in an overlay district includes the community defining its “green infrastructure” as recognized vividly in Fig. 14.13. Green infrastructure is a term that refers to the basic elements of the community’s natural systems (Burger 2009), or what Phillip Lewis refers to as the “hole in the donut” (1996). Green infrastructure (woodlands, wetlands, native plant communities, parks, open space, etc.) is distinguished from “gray” infrastructure (roads, buildings, and sewers). Both gray and green infrastructure are crucial community investments. Gray infrastructure, however, depreciates over time and ultimately must be rebuilt, whereas green infrastructure can appreciate in value with proper management (including careful management of development to allow only uses that do not degrade the infrastructure).

In their deliberations and action planning, communities should identify green infrastructure in and adjacent to their boundary to integrate into the important considerations they give to business development, transportation, agricultural growth, and residential design and layout in the form of conservation-based development. Green infrastructure has three basic components: land, water, and vegetation.

1. The land component includes everything from agricultural areas, open space, and wetlands to vacant lots and community gardens. Open spaces refer to more than parks, golf courses, and cemeteries. They include such areas as utility corridors, wildlife habitats, greenways, vacant lots, and even business parks.

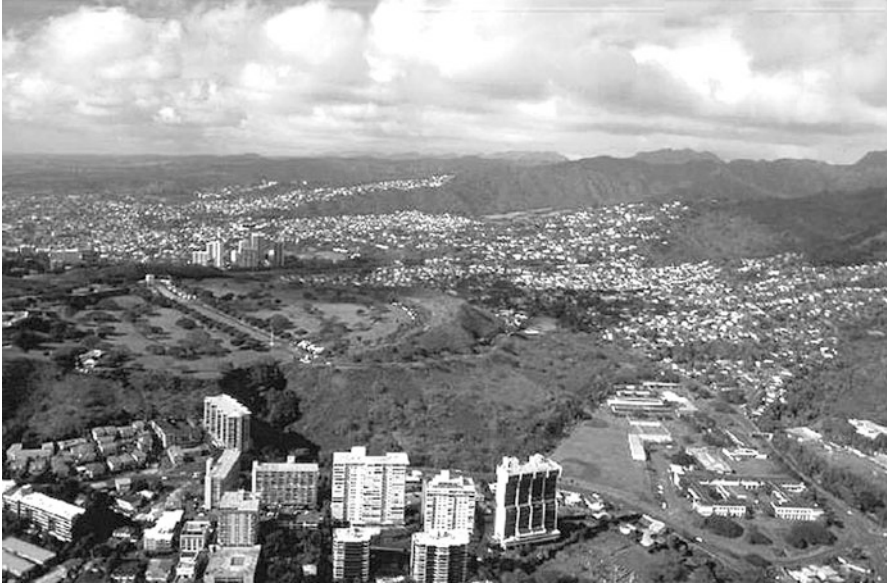


Fig. 14.13 Aerial view of a suburban development demonstrating their preservation of green space as represented by the “hole in the donut” (Lewis 1996)

2. The water component is wetlands, lakes, streams, rivers, and oceanic coastal areas. They are often critical in a community’s green infrastructure because they drive the sustainability of the various habitats for wildlife and vegetation through water quantity and water quality. Water components of green infrastructure also provide recreational opportunities.
3. The vegetation component includes forested areas, woodlots, native remnant populations, prairies, meadows, wetlands, etc. Particularly in urban areas, the vegetation component of green infrastructure should include street trees, park trees, and private property greenery.

An example of how the SCD practitioner can involve community members in the identification of places important to them in the community setting, including natural resources that offer ecosystem services, comes from the Dauphin Island project that I directed in 2007. The consultant team in this project developed an Internet, online mapping process for all community members to access and mark online their most favorite or important things about the Dauphin Island community. A demonstration of this “Most Important Places” mapping can be seen at http://eeeeee.net/dauphin_island/di_mapping_places.htm.

In highlighting different forms of green infrastructure, the skilled practitioner can consistently promote their consideration in every stage of decision-making that community members engage in. This way the environment and its resources as well as ecosystem services will continue to be a guiding framework for the development of strategies to advance economic development and societal well-being within the community.

An accomplished SCD practitioner should be able to guide community members in their deliberation of how to best protect and utilize the environmental resources and ecosystem services in their region that they are able to identify as important (Perrings et al. 2010). For example, communities in Minnesota developed environmental zones that protect resources and functional values identified by their “Model Community” program design as providing benefits to the sustainability of their communities. This kind of ordinance is intended to protect and rehabilitate the “green infrastructure” identified on the series of overlay district maps of areas that contain native vegetation and natural features and/or natural resources that contribute to the health, welfare, and quality of life of the people of the community. Community member decisions were made regarding identified resources indicating the community has a right and responsibility to protect and conserve these areas and features for a variety of reasons including:

- Natural communities and the wildlife habitat they provide;
- Contribution to the human community’s health and safety (i.e. flood control, purification of stormwater runoff, etc.);
- Contribution to historic and symbolic needs;
- Recreational purposes;
- Aesthetic and quality of life contributions;
- Protection and conservation of natural resources within and adjacent to the natural area for the community’s long-term environmental and economic benefit.
- Provision of educational, scientific, and artistic resources.

The SCD practitioner will undoubtedly experience a significant amount of vested interest by community members in the whole topic of natural resource protection, including those important in the provision of ecosystem services, and how best to regulate and control the use of these resources in the community. In many circumstances, I advise the practitioner to rely upon the World Conservation Union’s (ICUN) Communication, Education and Public Awareness (CEPA) toolkit (http://www.cepatoolkit.org/html/topic_EB4F6A65-6A05-419D-A5B2-C7EFA0C8734F_B6F868C6-C970-41DD-BEC3-377E1EF7916D_1.htm). Communication, education, and public awareness are important instruments for conservation and sustainable use of biodiversity. CEPA provides the link from science and ecology to people’s social and economic reality in the community setting. It supplies the “oil” for the implementation of the Convention on Biological Diversity. CEPA deals with the processes that motivate and mobilize individual and collective action. It comprises a range of social instruments including information exchange, dialogue, education, and marketing.

Food Systems

In today’s global markets, local communities are constantly faced with difficult and diverse issues concerning regional food security. It is important that an SCD practitioner recognize and bring to the attention of their client communities the

fact that many of the food supply issues community leaders will face are significantly affected by global drivers. For example, is it sustainable to have a head of lettuce travel an average of 1,200 miles to reach our local farmers market or grocery store? Is it sustainable to be purchasing fruit from Chile in US grocery stores in February? Can everyone in the community afford to consume these imported products? What does the transport of these products do to the community's greenhouse gas (GHG) footprint? And how do subsidies to support these food imports discourage local producers?

Community Food Security

Food security is one of those topics that does not necessarily come to mind when a community discusses sustainability strategic planning. In order for sustainability planning and action directed toward community food security to be most effective, community stakeholders must establish a vision that represents the integration of everyone's core values and then design a framework that will provide questions of inquiry to guide research, strategy development, and policy assessment/implementation with regards to the issue of food systems and the security they represent to local communities. The vision will concisely articulate where community members are wanting to go with food security issues and the framework will conceptualize how stakeholders will get to where they want to go and identify how they know when they have arrived—quantitatively measuring progress (indicators) toward achieving goals and objectives of the community's purpose in having this concern.

Broadly defined, the “food system” is the sequence of activities linking food production, processing, distribution and access, consumption, and waste management, as well as all the associated supporting and regulatory institutions and activities (Burger 2009). The food system impacts many facets of modern life including energy consumption, the environment, public health, economic development, and social equity.

While agriculture remains America's primary land use (Fig. 14.14), with almost 1 billion acres of land devoted to agricultural uses, farmland in metropolitan areas is disappearing rapidly. In addition, there is a clear trend towards greater concentration of ownership and increased vertical integration of the various processes within the food system. This integration has led to a significant decline in the number of mid-size “working farms” (farms between 50 and 1,000 acres) and a corresponding increase in the number of larger farms (farms over 2,000 acres).

Globalization has also transformed our food system. Food comes from increasingly distant sources, the average food item traveling at least 1,500 miles. While the USA considers itself the breadbasket of the world, the value of food imported into the USA exceeded the value of food exported from the USA for the first time in 2006. Globalization has also led to increased consumer ignorance regarding the sources of the foods they consume.



Fig. 14.14 Aerial view of a large Midwestern farmscape

Changing food systems have also had significant negative impacts on public health. Federal farm policy and subsidies have encouraged the overproduction of commodities such as corn and soybeans, which has resulted in significant repercussions for farmers, rural and urban communities, and public health. Artificially low prices have led to heavy use by the food industry of products such as hydrogenated vegetable oil and high fructose corn syrup, which directly lead to obesity and related illnesses. At the other end of the spectrum, in 2005, 11% of all US households were “food insecure” due to a lack of sufficient food (Burger 2009). Both obesity and food insecurity have disproportionate impacts on African Americans and Hispanics. Minority and poorer neighborhoods tend to contain fewer supermarkets on average, contain a higher density of convenience stores offering fewer healthy food options, and contain an above average number of fast-food outlets.

Healthy, abundant, and affordable food supplies for any region are consistently becoming more difficult to guarantee (Ranganathan and Hanson 2011). For example, should people in Wisconsin really expect to eat strawberries from Florida in the January? And more importantly, do these attitudes truly represent secure and sustainable conditions for places wanting to change for a better quality of life?

Fig. 14.15 Local farmers market in Seattle, WA, US



Few zoning ordinances adequately address urban agriculture and animal husbandry. Most cities prohibit the raising of fowl, such as chickens, even though there is no public health issue associated with low quantities of fowl. Thus, communities are unable to benefit from the producing of healthy, organic eggs, while chickens eat biodegradable garbage.

In addition, increased composting can help diminish waste. In most large cities, there is an unrealized potential for urban gardening. Nationwide, there are hundreds of thousands of vacant lots. The utilization of these lots for urban agriculture is so attractive: because it has a “regenerative effect”. Vacant lots are transformed from eyesores—weedy, trash-ridden, dangerous gathering places—into bountiful, beautiful, and safe gardens that feed people’s bodies and souls.

Access to local food markets is critical if farming is to survive as a viable economic activity, and if locally produced foods are to be widely available. Farmers’ markets are a popular and very effective way to promote and market local food production (Fig. 14.15). Some of the most successful and sustainable markets are year-round public markets such as those in Santa Fe, New Mexico; Seattle, Washington (Pike Place Market); and Vancouver, British Columbia (Granville Island Farmers Market). Some cities have set goals for local food production; Toronto, for example, hopes to supply 25% of its fruit and vegetable production from within the city limits by 2025.

In an effort to combat the social inequities of our current food system, communities can explore a variety of land use strategies. These strategies attempt to limit the number and density of fast-food restaurants, improve the nutritional value of foods sold in smaller shops and convenience stores, and support the establishment of full-service supermarkets in underserved areas. In San Francisco, for example, when rezoning threatened neighborhood food access, a special use district was formed to encourage the siting of a supermarket. In Arcata, California, the City Council capped the number of fast-food restaurants at any one time to nine (the current amount). This ordinance essentially barred a fast-food restaurant from locating within the city unless it replaced an existing restaurant at the same location.

Transfer of Development Rights and Agricultural Protection zones requires a sophisticated and costly administrative system that few communities have adopted, requiring strong regional or state land use control, generally lacking in most rapidly growing areas. Additional tools that may gain more widespread usage include conservation easements and outright purchase of productive agricultural area by land trusts or local communities. However, zoning codes often treat agriculture as a holding or transitional zone until urban development encroaches.

Overly simplistic zoning standards serve as a barrier to a wide range of agriculturally affiliated uses such as wineries. Zoning commonly bars wineries and similar value added uses from agricultural districts because they are categorized as “manufacturing,” which is allowed only in industrial districts. “One-size-fits-all” approaches to planning do not fully capture the nature of varied land uses and the differences in potential impacts of similar land uses, especially with regards to protection of food system elements.

In summary, communities around the USA are faced with decreasing levels of public health among low income groups, rising food insecurity, rising costs of production and distribution, continued contributions to global warming, loss of local production, and social inequities (Ranganathan and Hanson 2011). An accomplished SCD practitioner can assist target communities with the development of strategies for design of more equitable and secure food systems in their respective region. The potential sustainability benefits to community integrative planning toward more secure and equitable food systems are many, such as: energy consumption to food production ratios can be significantly lowered; the average distance a food item travels (the lower, the better) is more controllable; a higher percentage of community demand can be met from agriculture within the community; and the average distance to healthy food (absence of food deserts) will also decrease.

The SCD practitioner can encourage community discussions over the course of strategic planning regarding (1) incentives for regional diversified agricultural strategies, (2) the linking together of production, demand, and distribution into an effective, seamless strategy, (3) the continued protection of regionally important ecosystems, (4) the improved welfare of residents, and (5) the enhanced economic environment of the community to produce a system of regional food security leadership that becomes a model for others to emulate.

Agriculture and the Environment

The food system dilemma also extends into the environmental domain. On average, eight calories of energy are needed to produce one food calorie. In addition, growing, processing, and delivering the food consumed by a family of four each year requires more than 930 gallons of gasoline, roughly the same amount used to fuel the family's cars. Moreover, in 2000, approximately 10% of all energy used in the USA was consumed by the food industry. These rates of consumption have serious effects on global warming. Globally, approximately one-third of the total human-induced warming effect due to greenhouse gases (GHG) comes from agriculture and land use change.

Because of its overriding importance locally and globally, more emphasis is needed on the impacts of agriculture on the environment as one of the major outcomes from increasing food needs to feed people. As ecosystem services continue to degrade, soil fertility diminishes, and rainfall runoff and soil erosion increase (Perrings et al. 2010). Continuing to rely on improved seeds and chemical fertilizers is likely to yield diminishing returns. And beyond declining productivity of cropland, other worrying trends are converging to threaten food security, including rising populations, climate change, and competing demands for water, land, and crops. These trends beg an obvious and increasingly urgent question. Can the current food production system feed a growing population in a changing climate while sustaining ecosystems? The answer is an emphatic “no.”

And then on top of these already pressing impacts from agriculture on the environment, the idea of crop growth to produce bioenergy enters the picture. Some researchers suggest that the world's current energy needs can be met by crops grown for biofuels. Other scientists have gathered data that suggest only 10–49% of current global energy consumption can be supplied by the growing of crops. And the higher production levels are at the expense of significant conversions of biofuel croplands from forested areas and other agricultural lands devoted to human crop consumption.

As another form of biofuel, in 2003 the nation's 238,000 stock feeding operations produced 500 million tons of manure; the Environmental Protection Agency estimates that over half of this manure was produced by a relatively small percentage of facilities known as Concentrated Animal Feeding Operations (CAFOs—feed lots). Health threats from CAFOs include: chronic and acute respiratory illness, injuries, infections, nuisances such as flies and odor, the spread of stronger strands of *E. coli*, and environmental problems such as ground water contamination. One promising method to reduce odors and generate renewable energy from livestock manure in CAFOs is anaerobic digestion. The effective management of livestock is essential to public health and the environment in rural agricultural areas.

A new approach is imperative and overdue, one in which the world feeds more people—an estimated 9 billion by 2050—with less ecological impact. To be successful, this new approach must address both how we produce and how we use food. Three global case studies are described at <http://www.thesolutionsjournal>.

[com/node/977](#) that might prove to better inform local communities around the world on how to best apply agricultural practices that achieve secure food systems without the corresponding impacts on environmental resources.

A commitment to self-sufficiency within the community and region regarding food supply is a worthy dialogue in order to buffer unwanted, unsustainable impacts from other regional and even global influences. If this approach, although lofty and possibly unattainable in the end, is taken by community members in their development of a Strategic Sustainability Plan that in part advances socioeconomic aspects of the community, stakeholders should feel assured that their work (1) will provide the maximum of opportunities so that every participating producer in the community will have several alternatives to make money, (2) will guarantee all people in the region will have access to affordable and safe food, and (3) will promote the health and integrity of the regional environment as an integral part of all decision-making.

Waste and Garbage

Across the country, many communities, businesses, and individuals have found creative ways to reduce waste and better manage trash or garbage through a coordinated mix of environmentally friendly practices that includes source reduction, recycling waste (including waste composting), and waste disposal. According to the Environmental Protection Agency's latest waste disposal data, source reduction avoided the creation of 55 million tons of trash in 2000. Instead of making 293 million tons of waste that year, the USA only made 238 million tons. The waste stream was 19% smaller than it could have been (Ackerman and Mirza 2000).

Solid Waste

Every year, the USA generates approximately 4.6 lb of trash per person per day. Less than one-quarter of it is recycled; the rest is incinerated or buried in landfills. With a little forethought, we could reuse or recycle more than 70% of the landfill waste, which includes valuable materials such as glass, metal, and paper. This would reduce the demand on virgin sources of these materials and eliminate potentially severe environmental, economic, and public health problems.

Waste reduction is as important as recycling in saving natural resources, energy, and waste disposal space and costs, and in reducing pollution risks. Waste reduction also can reduce the toxic substances in waste. Individuals can help reduce waste by making environmentally aware decisions about everyday things like shopping and caring for the lawn.

According to the EPA, yard waste composting contributed to almost half of our waste reduction. Mulching lawnmowers are increasingly commonplace, and many homeowners simply leave their grass clippings on the lawn instead of bagging them

for waste disposal or for composting in centralized compost piles. Some Americans have created backyard waste compost piles or bins for yard clippings and some types of food wastes.

Waste reduction also has stemmed from changes to product packaging, such as product manufacturers switching to plastic from heavier materials such as glass, metals, and paper. The use of plastic is only one example of manufacturers' ongoing pursuit of lightweight products. Aluminum has replaced steel in a number of applications because it is lighter. Newspaper and magazine publishers practice waste reduction by using smaller and thinner sheets of paper while continuing to make a quality product. Source reduction—manufacturers finding ways to make, package, and transport their products from less raw materials at a lower unit cost—is just smart business and is capitalism at its best.

The waste reduction practices of individuals can make a big difference. Some jurisdictions have tried to incentivize waste reduction. Pay-as-you-throw programs, where residents pay for trash collection based on the amount of waste they produce, have had an impact. They have been particularly effective at encouraging less yard waste. The best way to discover where people can reduce waste is to actually sort through their trash. What does a family throw away as waste? What materials take up the most space? Is anything reusable or repairable? Can people reduce the amount of disposable products they use? Can people substitute environmental friendly products and packaging made of reusable, recyclable, or nonhazardous materials? If someone is throwing away unusable leftover products as waste, could they purchase these products in smaller sizes in the future?

Incineration of solid waste does generate energy, but at a cost—it may release toxins into the air and create ash that requires disposal in hazardous waste landfills, and that takes us back to our starting point: Cities are running out of places to put their trash.

Asking someone to take a community's solid waste away is just shipping the problem from one place to another. As our population grows, former outlying areas are becoming bedroom communities, and their residents mount stiff opposition to plans for expanding existing landfills or creating new ones, even in return for some perks. And as local and state government officials cope with the costs and problems of their own waste disposal, they are less willing to import other communities' waste and the pollution it generates.

Of the above alternatives for dealing with solid waste, the best option for the Earth is to recycle. This is where the SCD practitioner should constantly remind the client community that as Bill McDonough states—"waste is food for another production activity" just as we constantly observe in the natural world. Recycling works and it does so in several ways. It reduces the monetary and environmental costs of landfills and incineration. It substitutes used materials for virgin materials, thereby reducing the demand for natural resources. It conserves energy and it creates jobs in the community. Many US communities now actively recycle.

The downside to recycling might be that opponents argue that recycled goods are more expensive and that recycling takes away needed jobs. However, as more consumers choose to purchase recycled products and as recycling technology

improves, the cost of these goods goes down, making them more competitive in the marketplace. And while diverting materials from landfills does take away disposal jobs, these jobs are often replaced by jobs in the growing recycling industry.

Sewage

Solid waste going into landfills has a serious impact on the environment, but it's not our only disposal concern. Wastewater also needs to be managed in order to reduce threats to public health, safety, and the environment. Wastewater can consist of industrial waste, human waste (or sewage), or runoff from rainwater.

All of the wastewater produced by a city eventually ends up in a river, lake, or ocean. On its way, this wastewater flows through a sewage treatment plant. In conventional sewage treatment plants, bacteria remove up to 90% of biodegradable organic wastes before the sewage moves to a sedimentation tank, where remaining solids and microorganisms settle as sludge. The sludge is incinerated, dumped in the ocean or a landfill, composted, or used as fertilizer. The remaining wastewater, still containing oxygen-demanding wastes, suspended solids, nitrates, phosphates, and toxic metal compounds, may pass through additional advanced sewage treatment before being discharged to the river, lake, or ocean.

Conventional sewage treatment is an expensive process that uses a lot of energy. During periods of heavy use or rapid growth, increases in wastewater volume add to that expense. As a taxpayer, you may be asked to fund short-term measures to cope with temporary crises or to approve longer term capital outlays for upgrades to your community's sewage system and treatment plant.

Besides wastewater from sewage, there is urban runoff: water that flows down streets and into storm drains. In some coastal communities, urban runoff flows untreated into the ocean. When this happens, the runoff also transports contaminants such as gasoline, oil, paint, heavy metals, pesticides, human and animal waste, and trash. These contaminants pose a severe threat to the ocean as an economic, recreational, and biological resource as well as to the community's residents and economy.

As a possible solution for sewage that seeks a more natural and less expensive approach to sewage treatment, the city of Arcata, California has implemented an effective low-tech alternative: an artificial wetlands waste treatment plant. Currently, more than 150 cities and towns in the USA use natural and artificial wetlands to treat sewage. In the first stage of Arcata's system, sewage is held in sedimentation tanks where the solids settle out as a sludge that is removed and processed for use as fertilizer. The remaining wastewater is pumped into oxidation ponds; here, as in conventional treatment plants, bacteria break down the waste. About 1 month later, the water is released into a series of artificial marshes, where it is further filtered and cleansed by reeds, cattails, and bacteria. The purity of the water increases as it is subjected to the wide range of activities that result naturally from daily cycles of photosynthesis.

In some communities the water is diverted at this point to fish hatcheries. The remaining nutrients in the water support algae as food for the fish, thus contributing to a source of food for people. As an additional bonus, the Arcata marshes and lagoons serve a wildlife sanctuary and city park, providing habitats for otters, seabirds, and other marine animals and attracting many tourists.

Hazardous Waste

Hazardous waste presents immediate and long-term risks to humans, animals, plants, and the environment. It requires special handling for detoxification or safe disposal. In the USA, hazardous waste is legally defined as any discarded solid or liquid that

- Contains one or more of 39 carcinogenic, mutagenic, or teratogenic compounds at levels that exceed established limits (including many solvents, pesticides, and paint strippers);
- Catches fire easily (such as gasoline, paints, and solvents);
- Is reactive or unstable enough to explode or release toxic fumes (including acids, bases, ammonia, and chlorine bleach); or
- Is capable of corroding metal containers such as tanks, drums, and barrels (such as industrial cleaning agents and oven and drain cleaners).

The EPA has a list of more than 500 specific hazardous wastes.

The primary sources of hazardous waste materials are businesses such as metal finishers, gas stations, auto repair shops, dry cleaners, and photo developers, all of whom produce many toxic waste products. These by-products include sulfuric acid, heavy metals found in batteries, and silver-bearing waste, which comes from photo finishers, printers, hospitals, schools, dentists, doctors, and veterinarians. Heavy metals, solvents, and contaminated wastewater result from paint manufacturing. Photo processing also creates organic chemicals, chromium compounds, phosphates, and ammonium compounds. Even cyanide can be a by-product, resulting from electroplating and other surface-treatment processes.

If people think industry is the only source of hazardous waste, they may be surprised. There is hazardous household waste as well. There are nontoxic alternatives to many of these household products that, when disposed of, do not constitute hazardous waste. Otherwise there are basically two approaches to addressing the challenges of hazardous waste. One is waste management, and the other is waste prevention.

Handling Wastes

Waste management is based on the premise that a high volume of waste is the unavoidable result of our modern lifestyle and of economic development

(Ackerman and Mirza 2000). The objective is therefore to manage waste and minimize its impact. Waste-management strategies include burying, incinerating waste, or exporting it to some other state or country.

Preventing waste is a true “front-end” (proactive) approach; it views waste either as material that should not be created in the first place or as a potential resource that can be used as raw material for another process. The fundamental objectives of this approach are to reduce the use of new raw materials and energy and to recycle waste products back into usable resources.

In dealing with waste in communities, the bottom line is that waste materials typically sent to landfills represent an extraordinary, untapped resource to communities everywhere (Ackerman and Mirza 2000). Only 30.6% of the more than 236.2 million tons of municipal solid waste produced in the USA in 2003 was recycled. The remainder was trucked to landfills or incinerators due to the difficulty of sorting and separating contaminated materials.

Public pressure to find alternatives to both options is growing and landfills are disappearing. The average life of a US landfill is now less than 20 years, and only 10–12 years in the population-dense Northeast. Strict political policies throughout the country are restricting the development of new landfills, thus trucking distances to remaining landfills are ever increasing. There is a pressing need for better waste management methods in which the treatment and handling of municipal solid waste (MSW) promotes a clean and healthy environment and the sustainable use of the Earth’s resources.

The need for all forms of waste reduction and alternative forms of treatment emphasize activities that involve job creation, technical assistance, and research/analysis of state-of-the-art methods to reduce waste and create economic development. Examples of new programs to further address waste handling problems focus on scrap-based manufacturing, zero waste campaigns—a philosophy that encourages the redesign of resource life cycles so that all products are reused—building deconstruction—the selective dismantlement of building components, specifically for re-use, recycling, and waste management—product responsibility for manufacturers, and healthy rehabilitation of buildings.

The skilled SCD practitioner should make sure they keep the focus of the client community on the many benefits of discussing garbage and waste issues in the community with an open mind and plenty of imagination. “Reclamation Centers” are an idea that can be evaluated by community members to address the majority of a community’s needs for waste management, serving as a catch-all for all associated activities: recycling, reprocessing, and land filling.

Land Use

Land-use change is a general term for the human modification of Earth’s terrestrial surface. Changes in land use date to pre-history and are the direct and indirect consequence of human actions to secure essential resources. This may first have occurred with the burning of areas to enhance the availability of wild game and

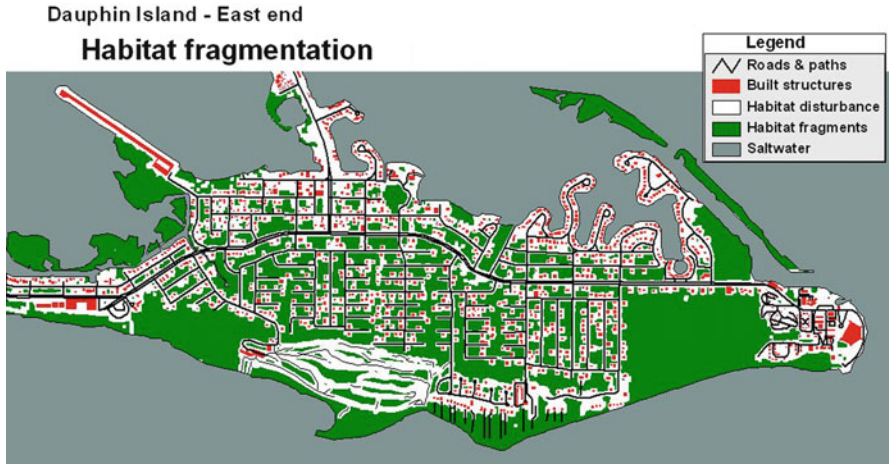


Fig. 14.16 Different landuse characterizations using GIS for Dauphin Island, AL, US

accelerated dramatically with the birth of agriculture, resulting in the extensive clearing (deforestation) and management of Earth’s terrestrial surface that continues today (Ellis 2010). More recently, industrialization has encouraged the concentration of human populations within urban areas (urbanization) and the de-population of rural areas, accompanied by the intensification of agriculture on the most productive lands and the abandonment of marginal lands. Thus, current rates, extents, and intensities of land use are far greater than ever in history, driving unprecedented changes in ecosystems and environmental processes at local, regional, and global scales. These changes in land use affect the greatest environmental concerns of the human populations today, including the pollution of water, soils and air, climate change, and biodiversity loss (Lloyd 2009). Monitoring and mediating the negative consequences of land use while sustaining the production of essential resources has therefore become a major priority of researchers and community policymakers around the world.

Land use is defined in terms of patterns of human activities such as agriculture, forestry, and building construction that alter land surface processes including biogeochemistry, hydrology, and biodiversity, as illustrated in the different land uses observed on Dauphin Island, AL (Fig. 14.16). Social scientists and land managers define land use more broadly to include the social and economic purposes and contexts for and within which lands are managed (or left unmanaged), such as subsistence versus commercial agriculture, rented versus owned, or private versus public land (Ellis 2010). While land cover may be observed directly in the field or by remote sensing, observations of land use and its changes generally require the integration of natural and social scientific methods (expert knowledge, interviews with land managers, etc.) to determine which human activities are occurring in different parts of the landscape, even when land cover appears to be the same. For example, areas covered by woody vegetation may represent an undisturbed natural shrub land, a forest preserve recovering from a fire, re-growth following tree

harvest (forestry), a plantation of immature rubber trees (plantation agriculture), fallow agriculture plots that are in between periods of clearing for annual crop production, or an irrigated tea plantation.

Biodiversity is often reduced dramatically by land use change (Lloyd 2009). When land is transformed from a primary forest to a farm, the loss of forest species within deforested areas is immediate and complete. Even when unaccompanied by apparent changes in land cover, similar effects are observed whenever relatively undisturbed lands are transformed to more intensive uses, including livestock grazing, selective tree harvest, and even fire prevention. The habitat suitability of forests and other ecosystems surrounding those under intensive use is also impacted by the fragmenting of existing habitat into smaller pieces (habitat fragmentation), which exposes forest edges to external influences and decreases core habitat area.

Land use plays a major role in climate change at global, regional, and local scales. At a global scale, land use change is responsible for releasing greenhouse gases to the atmosphere, thereby driving global warming (Houghton 1997). It can increase the release of carbon dioxide to the atmosphere by disturbance of terrestrial soils and vegetation, and the major driver of this change is deforestation, especially when followed by agriculture, which causes the further release of soil carbon in response to disturbance by tillage.

Changes in land use and land cover are important drivers of water, soil, and air pollution. Perhaps the oldest of these is land clearing for agriculture and the harvest of trees and other biomass. Vegetation removal leaves soils vulnerable to massive increases in soil erosion by wind and water, especially on steep terrain, and when accompanied by fire also releases pollutants to the atmosphere. This not only degrades soil fertility over time, reducing the suitability of land for future agricultural use, but also releases huge quantities of phosphorus, nitrogen, and sediments to streams and other aquatic ecosystems, causing a variety of negative impacts (increased sedimentation, turbidity, eutrophication, and coastal hypoxia).

Sustainable land management is a central challenge in the managing of Earth systems and resources. On the one hand, land management must ensure a growing supply of food and other resources to human populations, which are expected to grow for decades to come. On the other hand, management of land to procure these resources is linked with potentially negative consequences, as discussed earlier in the form of climate change, biodiversity loss, and pollution. Moreover, local alteration of land use and its cover can have global consequences, requiring local and regional solutions to global problems and the cooperation of the world's policymakers, land managers, and other stakeholders in land management at local, regional, and global scales.

Mixed-Use Development

Largely a post-World War II phenomenon, the word sprawl describes what its name evokes: formless, spreading, inefficient consumption of land. A “sprawling” landscape generally has no center and few public spaces where people congregate.

Many Americans feel that sprawling development has accrued too many costs: The environment has suffered as Americans make more and more vehicle trips, new houses gobble up farmland and scenic countryside, and new sewer lines and septic tanks damage the water supply in many areas. Civic participation also suffers as we spend more time stuck in traffic, know fewer of our neighbors, and inhabit a privatized landscape with few public squares or “third places.” In addition, as varying ethnic groups and social classes live in isolation from each other, there is less of a sense of unity and shared fate.

The sprawl model also negatively affects small locally owned stores. When permissive zoning laws allow large megastores to locate on the outskirts of town (with generous tax breaks often thrown into the deal) to meet the growing needs of suburbia, money is siphoned away from the local businesses, further undermining a sense of place and community, especially in small downtowns.

It is this sprawling, low density style of development which is chiefly responsible for the loss of farmland, the weakening of the sense of community, and rising CO₂ emissions from local travel. In response to these problems (Holz 2001), a new approach has been developed known as the new urbanism, or traditional neighborhood development (TND). TND features a grid pattern of narrower streets, sidewalks, smaller setbacks, front porches, the clustering of homes (reducing the need for expensive infrastructure), greater protection of green space, the use of urban design codes, town squares, and village centers planned as attractive gathering places, buildings with living up and retail down, and steps to encourage pedestrian and bicycle travel, in addition to cars.

In Charleston, South Carolina, a study showed that depending on the way it was designed, for the same number of houses, a proposed development could provide either 30 acres or 400 acres of green space. When green space is protected through “smart development,” studies show that nearby property values can increase from 5 to 50%, as homeowners place value on the amenities of green space and views, both of which act as ecosystem services to the community.

In New Jersey, a study which looked at the years 1990–2010 comparing low-density sprawl development to planned green development showed that the green development model would save taxpayers \$9.3 billion in avoided capital costs, while saving 175,000 acres of farmland. A recent review of North American studies on infrastructure costs and urban form found that on average, publicly borne capital costs for roads are reduced by 25% and 15% for water and sewer infrastructure in compact development compared to current development patterns.

Sustainable community developments not only impose far less demands on public finance for infrastructure capitalization and maintenance but also help to ensure quality of life by preserving green spaces and reducing pollution. Metropolitan development patterns are increasingly being recognized as key variables in understanding and controlling pollution. Some research has suggested that the indirect environmental impacts associated with the spatial arrangements of businesses and related transportation impacts outweigh the impacts of direct emissions associated with industrial processes and operations.



Fig. 14.17 Illustration of inner-city mixed use development with living upstairs and retail shopping downstairs

Turning farmland into housing is also an expensive option for local tax payers, because of suburban sprawl's high development costs. A study in Virginia showed that an acre of farmland generated \$1 in taxes for every \$0.21 that it cost in municipal services, while rural low density housing cost \$1.20 for every \$1 that it generated in taxes. At the current rate of urban growth in Ontario (Canada), it is estimated that within 25 years, 20% of the remaining arable farmland in the province will be lost to low density urban developments. This degree of loss in farmland raises concerns regarding long-term food security in Ontario, which must increasingly rely on imported food as local production diminishes. In the USA, from 1996 to 1997, at the local and county level, more than 100 governments sought voter approval for tax increases or bond referendums to curb suburban sprawl by buying undeveloped land (Ellis 2010).

To move away from sprawl development models, a practitioner can recommend the concept of mixed-use development to their client communities. Just as the name implies, mixed-use development is the use of a building, set of buildings, or neighborhood for more than one purpose (Fig. 14.17). Since the 1920s, zoning in some counties has required uses to be separated. However, when jobs, housing, and commercial activities are located close together, a community's transportation options increase. In addition, mixed-use developments may have higher property values. Often located in existing urban areas or as part of a new town center, mixed-use development provides a range of commercial and residential unit sizes and options. In planning zone terms, this can mean some combination of residential, commercial, industrial, office, institutional, or other land uses.

Mixed-use development (or what some call TND) includes orienting household gathering spaces (porches, entryways) toward the front of the home, streets, and sidewalks that accommodate pedestrians first and automobiles second,

neighborhood-oriented commercial development, and other design that emphasizes a unique sense of place. Neighborhood design includes a mix of land uses, both apartment and second-story residential in traditional downtown areas of small cities, and community gathering places such as small diners, stores, and coffee shops. Emphasizing neighborhood design practices in subdivision and zoning ordinances enhances sustainability and preserves existing neighborhoods with elements of traditional neighborhood design.

The mixed-use development model can be described as a traditional town or village center such that it is a compact central area where the pedestrian function and interaction of people and businesses is fostered and maintained (Miller and Miller 2003). The purpose of this district is to recognize the existing center, strengthen it, and allow it to intensify and expand where appropriate, usually in relationship to some transportation mode. Note that the standards for compatibility with existing buildings may also be appropriate in areas in or around historic districts.

In the 1990s–2000s, mixed use emerged as a key component of Transit Oriented Development (TOD), TND, Livable Communities, and Smart Development principles. For example, TOD refers to development located within walking distance of a nearby transit mode that “mixes residential, retail, office and public uses in a walkable environment, making it convenient for residents and employees to travel by transit, bicycle, or foot.” TOD functions as a district, with the bulk of the defined development occurring within a quarter to half mile of the transit station, or a 5–10 min walking distance. Due to the proximity of the transit station, automobile use is discouraged. Short-term parking is generally allocated for the retailers within the TOD and for transit riders.

Approaches to mixed-use development today include such features as increased intensity of land uses, increased diversity of land uses, integration of previously segregated uses, walkability, transit access, environment, and open space. The benefits of mixed-use development include that it activates urban areas during more hours of the day, increases housing options for diverse household types, reduces auto dependence, increases travel options, and creates a local sense of place (Miller and Miller 2003).

Conservation-Based Development

Regional land development activities done in isolation or segregated from one another, not thinking equally about natural resource conservation, economic security, and social well-being for all, and resulting in sprawl across the rural landscape, as in Fig. 14.18, cause a number of major problems including:

- Destroying the economic and environmental value of resource lands
- Creating an inefficient land-use pattern that is very expensive to serve
- Threatening economic viability by diffusing public infrastructure investments
- Destroying the intrinsic visual and functional character of the rural landscape
- Eroding a sense of community.



Fig. 14.18 Depiction of traditional subdivision development in residential design

Using a conservation-based approach to development protects the watershed by working with the landscape, making it a higher priority than in most traditional approaches to development that in the end serves better in the preservation of community character. Conservation-based development is the practice of integrating environmental and social issues into the meeting of economically viable mixed-use development of both urban and rural landscapes (Arendt 1996). The concept of conservation-based development covers many different issues: from the environmentally sound use of rural lands; to the protection of natural, ecological, and agricultural resources; to the maintenance of small town and village integrity; to the assessment of urban sprawl consequences. Conservation-based development can effectively deal with and anticipate impacts of urban sprawl on adjacent rural districts (Joris and Deck 2008). The intent in using this strategy is to integrate the valuable natural assets of a region with related economic and other development objectives toward sound, “win-win” scenarios of community improvement as shown in the clustering of homes in Fig. 14.19. Employing conservation-based development practices will help a developer to:

- Make thoughtful choices about where new development should/should not go, to improve water quality and natural habitat protection
- Understand how good environments (open space preservation; coastal bay ecosystem health; forested and agricultural land protection, etc.) will in-turn support healthy economies (value-added agriculture, ecotourism, enhanced commercial fisheries, etc.)
- Formulate rational strategies for using already developed land and resources more efficiently to enhance community revitalization
- Link land-use development with conservation and protection of economically valuable watersheds

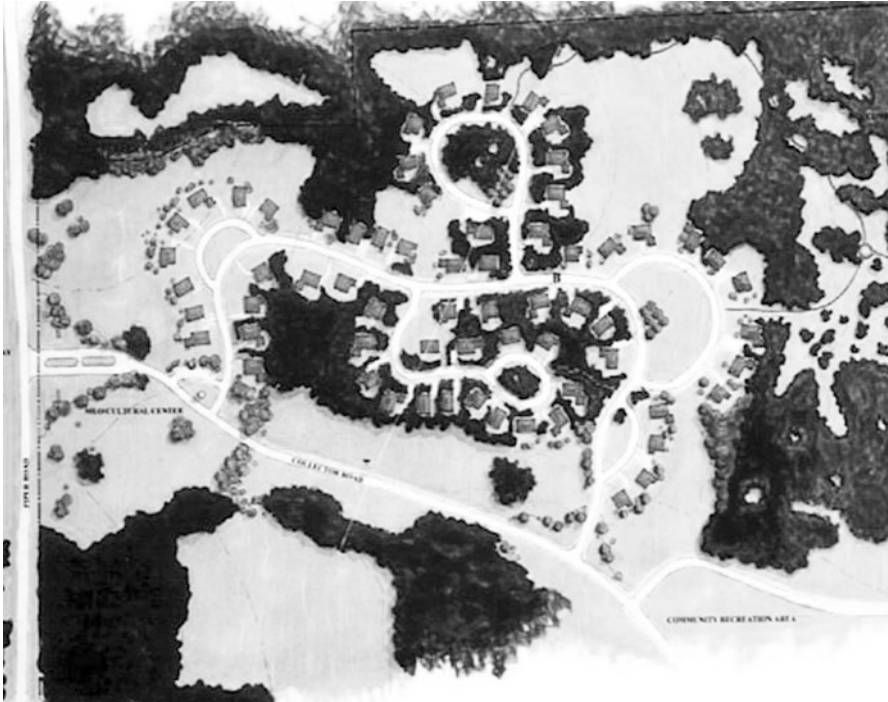


Fig. 14.19 Example of conservation-based, clustered development for designing subdivision residential living

- Develop rural, sustainable communities through grassroots empowerment and enhancement of social and cultural assets
- Set up regulatory mechanisms that are fair, clear, consistent, and far-sighted
- Offer a better quality of life in an equitable way for all citizens of the region.

Conservation-based development serves as a tool some land developers now use that is intended to minimize the amount of disturbance to the natural landscape by preserving onsite resources identified during the planning stages of development (Joris and Deck 2008). Resources commonly targeted for preservation include wetlands, streams and ponds, riparian buffers, natural or sensitive habitat areas, steep slopes, viewsheds and open fields or agricultural lands.

The goal is to successfully integrate a development with its environment and unique natural surroundings, rather than having the environment functioning apart from the development altogether. Such an approach minimizes the site disturbance footprint by confining development to within existing open spaces and taking advantage of site topography by constructing roads on natural ridgelines. A conservation-based development typically involves a multidisciplinary approach whereby a team of scientists, engineers, planners, and landscape architects conduct site assessments to identify features of interest to preserve from which a design layout is generated (Arendt 1996).

Minimizing the amount of disturbance to the natural landscape is commonly achieved by reducing lot sizes, property setbacks, and clustering buildings so supporting infrastructure like roads and utilities disturb as little area as possible (Fig. 14.19). Minimizing impervious areas is another technique for limiting disturbance. Impervious surfaces cause stormwater to runoff rapidly as concentrated flow, conveying pollutants like sediment, metals, and oils to nearby water bodies. Minimizing these surfaces and their connectivity, and using alternative materials like porous pavement or interlocking pavers, allows precipitation and runoff to infiltrate. Infiltration of stormwater runoff helps to recharge groundwater and decreases the volume of peak flows by increasing basin lag times. The maintenance of natural drainage ways and preservation of natural areas and riparian buffers involved with a conservation-based development affords many opportunities to limit erosion and treat stormwater runoff locally.

Many conservation-based developments result in lower net costs for developers primarily due to savings in road building, earthwork, and stormwater management (Joris and Deck 2008). Developers can also spread the stormwater out over the property, rather than concentrating it in one location, allowing for additional building area. Conservation-based developments often result in many amenities for the future landowners as well. Walking trails and picnic areas and/or access for water-based recreation within the common “open space” areas are often available for new residents in conservation-based development communities.

Low Impact Development

Low Impact Development (LID) has emerged as a highly effective and attractive approach to controlling stormwater pollution and protecting developing watersheds in already urbanized communities throughout the country. Several LID practices and principles, particularly the source control approach and the use of micro-scale integrated management practices, have the potential to work effectively as stormwater quality retrofits in existing community areas as well (Holz 2001).

LID stands apart from other approaches through its emphasis on cost-effective, lot-level strategies that replicate predevelopment hydrology and reduce the impacts of development. By addressing runoff close to the source, LID can enhance the local environment and protect public health while saving developers and local government’s money.

LID is simple and effective. Instead of large investments in complex and costly engineering strategies for stormwater management, LID strategies integrate green space, native landscaping, natural hydrologic functions, and various other techniques to generate less runoff from developed land, such as the swales. LID is different from conventional engineering. While most engineering plans piped water to low spots as quickly as possible, LID uses micro-scale techniques to manage precipitation as close to where it hits the ground as possible. This involves strategic placement of linked lot-level controls that are customized to address specific pollutant load and stormwater timing, flow rate, and volume issues.

One of the primary goals of LID design is to reduce runoff volume by infiltrating rainfall water to groundwater, evaporating rain water back to the atmosphere after a storm, and finding beneficial uses for water rather than exporting it as a waste product down storm sewers or combined sewer overflow systems (Holz 2001). The result is a landscape functionally equivalent to predevelopment hydrologic conditions, which means less surface runoff and less pollution damage to lakes, streams, and coastal waters.

LID is economical. It costs less than conventional stormwater management systems to install and maintain, in part, because of fewer pipe and below-ground infrastructure requirements. But the benefits do not stop here. The associated vegetation also offers human “quality of life” opportunities by greening the neighborhood, and thus contributing to livability, value, sense of place, and aesthetics. This myriad of benefits includes enhanced property values and re-development potential, greater marketability, improved wildlife habitat, thermal pollution reduction, energy savings, smog reduction, enhanced wetlands protection, and decreased flooding. LID is not one-dimensional; it is a simple approach with multifunctional benefits.

Opportunities to apply LID principles and practices are infinite—almost any feature of the landscape can be modified to control runoff (e.g., buildings, roads, walkways, yards, open space). When integrated and distributed throughout a development, watershed, or urban drainage area, these practices substantially reduce the impacts of development.

LID is grounded in a core set of principles based on the paradigm that stormwater management should not be seen as stormwater disposal and that numerous opportunities exist within the developed landscape to control stormwater runoff close to the source (Holz 2001). Underlying these principles is an understanding of natural systems and a commitment to work within their limits whenever possible. Doing so creates an opportunity for development to occur with low environmental impact. The principles are:

- Integrate stormwater management early in site planning activities
- Use natural hydrologic functions as the integrating framework
- Focus on prevention rather than mitigation
- Emphasize simple, nonstructural, low-tech, and low cost methods
- Manage as close to the source as possible
- Distribute small-scale practices throughout the landscape
- Rely on natural features and processes

LID uses a systems approach that emulates natural landscape functions such as bio-swales. A near limitless universe of runoff control strategies, combined with common sense and good housekeeping practices, are the essence of a LID strategy. Basic strategies, also known as integrated management practices, rely on the Earth’s natural cycles, predominantly the water cycle, to reduce land development impacts on hydrology, water quality, and ecology. Integrated management practices combine a variety of physical, chemical, and biological processes to capture runoff and remove pollutants at the lot level.

LID is much more than the management of stormwater—it is rethinking the way we plan, design, implement, and maintain projects—LID includes integrating land and infrastructure management. Comprehensive programs usually complement LID practices with broader issues such as: considering where growth disturbance should occur; increasing awareness of the cumulative impacts of development; involving the community and raising watershed awareness; developing direct social marketing of LID retrofit actions to households, institutions, and commercial establishments; creating a rational institutional framework for implementing stormwater management, and establishing an authority to guide and administer stormwater management activities.

LID is economical. It costs less than conventional stormwater management systems to construct and maintain, in part, because of fewer pipes, fewer below-ground infrastructure requirements, and less imperviousness. But the benefits do not stop there. Space once dedicated to stormwater ponds can now be used for additional development to increase lot yields or be left as is for conservation. The greater use of on-lot multipurpose landscaping/vegetation also offers human “quality of life” opportunities by greening neighborhoods and contributing to livability, value, sense of place, and aesthetics. Other benefits include enhanced property values and re-development potential, greater marketability, improved wildlife habitat, thermal pollution reduction, energy savings, smog reduction, enhanced wetlands protection, and decreased flooding.

Transportation

While public transit has not been the dominate transportation mode in this country for the last 70 years, the USA once led the world in public transit use. In the early part of the twentieth century, the rapid population growth of American cities provided ideal settings for introducing new transit technologies. Grid-style street systems, ample land for expansion, thriving economies, mass immigration, and a general willingness by the public to try new transportation technologies fostered a streetcar revolution that swept across the country. By 1920, Americans living in cities were averaging more than 250 transit trips per year, mainly on the nation’s 65,000 km of electric railway. During this period, walking was the dominant transportation mode and transit greatly extended the range of the pedestrian. Hundreds of cities were served by privately operated streetcar lines, often providing transportation to new developments on the edge of town and provided by the developers of these areas. In both Denver and Boulder, recent reconstruction of downtown streets revealed rails laid down by these systems during this time (Rutsch 2008).

However, following World War I, Americans increasingly bought cars, such that by 1930 one in every four households owned a car. Following World War II, the automobile became synonymous with the American way of life and essential for accessing the single family detached homes, malls, and office parks of increasingly segregated land use patterns (Moore and Johnson 1994).



Fig. 14.20 Streetscape safely designed for multiple uses

Coming full circle, in a 1996 US national home-buyers survey, almost three-quarters of the respondents indicated that they would like to live in a community where they could walk or bicycle everywhere. In 1995, a Louis Harris poll found that 21 million Americans would be willing to ride a bicycle to work, at least occasionally, if they could do so on a safe bicycle lane or off-road path, and 13% of all Americans said that they would be willing to ride a bicycle to work on a regular basis if they had the facilities to do so. And yet in today's real estate market, this option is very rarely available. But available or not, there are a number of elements to the transport of people and goods that should be discussed here.

Complete Streets

The desire for safe streets that function well for all users is a timeless idea. Since the early part of the last century, street design has been an interdisciplinary affair, often occurring in the context of a larger vision for the community. Designs were guided by the uses planned along the street, the needs of pedestrians, horse drawn carriages, bicycles, and even streetcars. In urban environments, conflicts between these street users were commonplace and various design solutions were devised to address these challenges.

With the mid-twentieth century rise of the automobile, however, the focus on street design shifted; driven by new physical and safety considerations related to the size, weight, and speed of the automobile. Specialists in traffic engineering emerged. A new professional language was created. Roadway standards were developed, and attention was increasingly focused on moving vehicles quickly; minimizing delay for motorists; and increasing the personal freedom, access, and mobility afforded by the automobile (Green 2009).

As suggested earlier, today, there is a growing public desire for a return to more walkable and bikeable streets that support livable communities (Fig. 14.20). Increasingly, local and regional agencies are working in support of street and



Fig. 14.21 Inner-city bus traffic

transportation network design that encourages walking, bicycling, transit use by all users, including children, seniors, and disabled.

A complete street is safe, comfortable, and convenient for travel via automobile, foot, bicycle, and transit. This concept was initially championed by cycling advocacy groups seeking increased accommodation of cyclist needs in roadway design. Their initial research revealed a changing attitude among the majority of Americans. For the first time in decades, surveys are showing a preference for expanding existing public transportation and building new bikeways and sidewalks rather than expanding existing highways and building new highways.

Public Transit

The near exclusive reliance on auto travel in most metro areas has produced a 75% single occupant vehicle (SOV) commute mode share, a peak hour vehicle occupancy of 1.08 people per vehicle, increased travel times, and increasing traffic congestion. The Texas Transportation Institute's periodic report on congestion shows that the average American annually spends more than 47 h in congestion resulting in a cumulative national cost of 3.7 billion hours of travel delay and 2.3 billion gallons of wasted fuel with a total cost of more than \$63 billion. At the same time, road infrastructure funding is severely lacking for both maintenance and system expansion (Rutsch 2008).

Despite the long history of auto-centric planning and financial subsidies, recent trends show that public transit may be once again starting to play a significant role in American metropolitan areas (Fig. 14.21). Vehicle miles of travel (VMT) leveled in 2003 and actually declined in 2006. In 2005, for the first time in nearly a century, national transit ridership increased faster than VMT. Since 1995, transit ridership is up 25.1% compared to a 22.5% increase in VMT.

A number of factors suggest that increased transit use is a more sustainable transportation option. One factor to consider is the direct relationship between SOV use and energy consumption. Over the past 20 years, the USA has consumed about a quarter of the world's petroleum production with the transportation sector accounting for 68% of US consumption. Travel behavior shows that once a person leaves home as a SOV driver, they tend to make virtually all trips during that day in the car. By contrast, a transit rider tends to be a pedestrian at one or both ends of the transit trip, and will make a majority of trips during the day as a pedestrian with the associated energy savings. On average, the typical public transit rider consumes half the oil consumed by an automobile user. This helps to curb the problem of limited oil supplies and is a clear step toward sustainability.

Because most transit riders are also pedestrians, air quality and increased health benefits are positively correlated with improved public transit use (Rutsch 2008). Increased transit use is a traditional strategy to improve air quality and frequently, public transit utilizes alternative fuels. Alternatively fueled vehicles, compared to private vehicles, produce 95% less carbon monoxide, 92% fewer volatile organic compounds, 45% less carbon dioxide, and 48% less nitrogen oxide on average per passenger mile. Potential health benefits stem from improved air quality, increased activity levels, and reduced stress. Transit users tend to walk more because the traditional urban settings that support pedestrians and transit generate about half the automobile trips of similarly sized modern-day suburbs.

There are also major safety benefits associated with pedestrian and public transit traffic. In terms of fatalities per million miles of travel, all modes of transit are far safer than personal vehicles. Depending on vehicle type, public transit is 26–79 times safer than auto travel, potentially resulting in an estimated 190,000 fewer deaths, injuries, and accidents annually as well as \$2 billion to \$5 billion in safety benefits, based on 1994 data.

While often overlooked, increased transit use also contributes to sustainability by improving both personal and regional economics. A two adult “public transportation household,” defined as a household located within 0.75 miles of public transportation, with two adults and one car saves an average \$6,251 every year, compared to an equivalent household with two cars and no access to public transit services. Household savings on transportation also translate into significant regional effects. In Portland, Oregon, residents of the metro area drive an average of four miles per day less than the average nonmetro area, resulting in an estimated 2.9 billion miles of reduced vehicle travel. This translates to a direct cost savings to the region of \$1.1 billion. These travel cost savings result in an estimated \$800 million dollars staying within the local economy.

Urban Bicycling

In the USA, approximately 63% of trips take place within a “bikeable distance” (five miles from origin to destination). Yet, more than 82% of trips five miles or less are made by automobile whereas only 1.3% of such trips are made by bicycle.

For all trips, less than 1% are made by bike. However, some cities have demonstrated that the bicycle does have a place in the traffic system. For example, in Boulder, Colorado, the bicycle accounted for 21% of commute trips and 14% of all trips. Davis, California is also notable as 17% of all trips in the city are made by bicycle. In larger cities, the bicycle has a place in commuter travel, being used for 5% of such trips in Portland, OR; 2% in San Francisco, CA; and 1% in Chicago, IL.

The European approach to bicycle mobility demonstrates the importance of the bicycle as an integral part of the transportation system (Green 2009). For example, in the Netherlands, the bicycle is used for almost a quarter of all journeys, and for distances up to 7.5 km it is the most popular means of transport. In fact, in 2005, 35% of all trips up to 7.5 km were made by bicycle. Notably, bicycle use is dependent on the distance covered. Approximately 70% of all journeys in the Netherlands are shorter than 7.5 km. Nevertheless, the strong position of the bicycle over short distances (35%) extends into the total modality split with the bicycle being used for 27% of all trips.

High quality bicycle-friendly infrastructure is a prerequisite to the bicycle achieving and retaining a full status position in a traffic system and to a higher proportion of bicycles in the modal split. It begins with an integral design at the network, connection, and facility level. The quality of facilities offered to cyclists should be assessed with the same criteria as the quality offered to other road users.

Cyclists also need facilities to park their bicycle safely, easily, and tidily. The fear of theft leads to reduced use of bicycles. In high bicycle-use areas establishing public parking facility requirements is a dynamic process that is not satisfied with simple formulas. For example, points of departure (homes), destination points (companies and institutions as well as service and retail centers), and transfer points (public transport stops) have different parking needs. In city centers, for example, the type of bicycle storage facility can encourage or discourage cyclists. For instance, the introduction of free, supervised storage is very effective in stimulating the use of bicycles and reducing theft.

Pedestrian Mobility

Much can be learned from European cities about pedestrian mobility. In Europe, conscious land use decisions are made to keep civic and municipal functions in the city center, create highly attractive environments, and provide housing around these areas. Additionally, Europeans have been pedestrianizing parts of their city centers and contributing to the attractiveness of the areas, thereby making them places where people want to visit, shop, and live. They have achieved this by gradually taking space away from cars and parking and returning it to the pedestrian (Bratzel 1999). Notable American cities such as Boulder, CO; Portland, OR; and Minneapolis, MN have also successfully pedestrianized urban spaces.

In 2000, 16.6% of all deaths were due to poor diet and physical inactivity. This category may soon overtake tobacco as the leading cause of death. Walkable

neighborhoods, communities, and cities can significantly reduce this inactivity. Furthermore, the average annual traffic death rate is 50% higher in the top ten most sprawling metro areas than in the ten least sprawling metro areas additionally encouraging the walking pedestrian.

In system planning and developing implementation codes, it is critical to carefully consider the vulnerability of pedestrians, walking distances, environments, and public safety (Moore and Johnson 1994). A reverse-design sequence, which begins with the desired patterns of the slow modes of transport, is an efficient and cost-effective approach that takes into account the interests of pedestrians, particularly the most vulnerable, the elderly and children. Additionally, attractive crossings, squares, and frontages extend the distance and time that pedestrians are willing to walk.

Street networks also influence trip route and mode selection depending on the way destinations are connected. High connectivity networks contain a large number of blocks and intersections per unit of area, whereas low connectivity networks have fewer blocks and intersections over the same area. Frequent intersections increase the ability to travel a shorter and more direct route between origin and destination. This is critical to foot travel because it increases the number of trips taken on foot. Moreover, increased street connectivity has been positively correlated with reductions in miles traveled by vehicle and increased pedestrian trips.

Key elements of pedestrian environment design include sidewalk plans, access to desired uses, access for persons with disabilities, ease of street crossing, managing walking distances, scale, security, visual interest, climate, noise, air quality, and efficient and unobtrusive parking.

Automobile Parking

Parking is an often overlooked factor of the urban design equation. In the typical American downtown, between 30 and 40% of land is consumed by parking spaces. According to the 1990 Personal Transportation Survey, parking is free for 99% of all automobile trips. As a result, individuals have an incentive to make single occupancy trips at any time of the day. These decisions have enormous social and environmental costs that are often ignored (Moore and Johnson 1994). While each individual may be acting rationally, the collective outcome is most decidedly irrational; this is evidenced in the increased traffic congestion and all its attendant costs, sprawling urban environments, increased vehicle miles traveled, and clogged streets due to cruising for parking. In addition, though drivers perceive parking to be “free,” parking is actually enormously expensive. Parking expert Donald Shoup has noted that, “[We] don’t pay for parking in our role as motorists, but in all our other roles—consumers, investors, workers, residents, and taxpayers—we pay a high price. Even people who do not own a car have to pay for free parking.”

The costs of parking are tremendous and go largely unnoticed. Newer, multilevel parking structures can cost in excess of \$30,000 per space. While open parking lots

are relatively inexpensive, there is an obvious land-use cost involved as the land could be put to more valuable use. Since there are many more parking spaces than there are cars, conservative estimates tell us that the parking supply is worth at least twice as much as the total value of the nation's vehicle stock. When maintenance and construction are added together, each structure parking space costs at least \$125.00 a month. Additionally, it is estimated that the average structure parking space has an external cost of \$117.00, which comprises negative externalities like emissions and congestion, and impervious surface caused pollution.

The challenges presented are often the result of municipal zoning codes that require developers to provide minimum parking. Minimum requirements in turn are due to demand assumptions which often fail to account for alternative means of transportation. Failure to implement alternatives results in the aggregate financial, social, and environmental costs.

One of the biggest factors affecting parking is vehicle driving. Communities are now addressing these costs through model codes designed to limit car use and parking demand. While some communities are new to model code adoption, communities from California to Germany are actively reducing car use and parking demand by refocusing development on model parking codes. As a result, developers are building more sustainable urban environments where hidden parking costs are diffused and eliminated.

Community Transportation Choices

Some communities have found a promising new course for handling growth and their transportation problems. Planners refer to these ideas as “livable” or “sustainable” communities (Steg and Gifford 2005). By whatever name, these plans focus on people, rather than on cars.

The job of a skilled SCD practitioner should be to focus the goal of community members on developing their knowledge about the energy and environmental aspects of moving people and goods. Objectives of their investigations might include the following:

- Improve transportation energy efficiency and reduce emissions through roadway design, traffic operations, and community design and planning
- Advance the use of sustainable fuels, technologies, and energy efficient transportation modes
- Increase understanding of the economic and environmental impacts of renewable fuels and encourage use of sustainable transportation energy sources
- Investigate economic models that encourage more efficient passenger and freight movement.

To further encourage communities in solving their perceived transportation problems, the Obama Administration's Partnership for Sustainable Communities developed six livability principles to guide the Partnership and assist these



Fig. 14.22 Boeing 787 landing at Boeing Field in Seattle, WA, US

communities (<http://www.sustainablecommunities.gov/aboutUs.html#2>). The first of these principles was “to provide more transportation choices to communities.” This principle emphasized developing safe, reliable, and affordable transportation choices to decrease household transportation costs, reducing energy consumption and dependence on foreign oil, improving air quality, reducing greenhouse gas emissions, and promoting public health.

A sustainable transportation system is one in which people’s needs and desires for access to jobs, commerce, recreation, culture, and home are accommodated using a minimum of resources (Hancock 2001). Applying principles of sustainability to transportation will reduce pollution generated by gasoline-powered engines, noise, traffic congestion, land devaluation, urban sprawl, economic segregation, and injury to drivers, pedestrians, and cyclists. In addition, the costs of commuting, shipping, housing, and goods will be reduced. And probably there are also ways of reducing airline miles (Fig. 14.22).

Transportation’s Impact on Other Issues

Portland (OR, USA) is a city that has been at the forefront of efforts to reduce urban impacts by protecting the environment, improving transportation alternatives, and enhancing the quality of life in its communities. In the 1970s, Portland adopted

Fig. 14.23 Conceptual model showing the different drivers and outcomes from traffic congestion and automobile pollution in Washington, DC, US. See text for explanation



an urban growth boundary, which designated areas for development and for protection. Through 2008, it has continued to maintain and revise that important boundary. The city has also supported mass transit, light rail, and trolley-use while encouraging pedestrianism and bicycle travel. It has worked to integrate transit improvements with environmental protection. The city and region are working to implement green streets and livable streets policies that provide for pedestrian connections, streetscape improvements, and drainage systems that can reduce the negative impacts of overall street networks on streams and associated habitat (Girling and Kellett 2005).

In my own experiences of working with communities around the USA on different issues that either directly or indirectly involve concerns for types and patterns of transportation, I can tell two stories that not only relate to problems of transportation but also bring in solutions to other concerns for sustainability that demonstrate the interconnected solutions available in the context of the 3-overlapping circles or 3-legged stool symbolism when truly thinking in a sustainability mode. In the late 1990s, I initiated an investigation into some of the causes and solutions to so many “orange” air days (high air pollution days) occurring in the metropolitan Washington DC (USA) region regularly during most summers. I evaluated the many different drivers and influencing factors on air quality and since the DC area does not possess much industrial production, I concluded that the majority of the air quality issue days were related to automobile traffic. I developed the flow chart illustrated in Fig. 14.23 to dissect the problem and begin to identify the different causative agents, as well as their potential solutions, to improving air quality in the metropolitan area.

Urban air quality was most directly affected by traffic congestion in Washington, DC. This congestion was influenced by a number of different factors, most of which had to do with inadequate traffic law enforcement. Stop light synchronization in the city was another factor that played a major role in traffic backup on a regular basis. And then there was always the issue of new building and street construction. Instead of being temporally coordinated through the control of permit letting, so that construction would be concentrated in certain areas instead of throughout the city, the processes of construction in the city (e.g., street blockage, crane operation, etc.) always slowed traffic movement and again significantly contributed to congestion.

The flow chart (Fig. 14.23) further indicates that the rates of traffic congestion contributed significantly to two issues important to the city's economy. More congestion translated into increased loss of work productivity through both lateness and/or tiredness of employees from being caught in traffic. Congestion also contributed significantly to the emissions of greenhouse gases (GHG) and other contaminant emissions which often made doing businesses in DC uncomfortable.

As suggested by the above illustration, more emphasis on mixed-use development creating more neighborhood centers requiring less car transport, as well as more emphasis on extensive mass transit availability within the city limits both could have more calming effects on traffic congestion. And indirectly, these two measures would result in additional sustainability measures for the city such as environmental protection and improved economic impacts.

The economy could be enhanced by discouraging free parking for more than 30,000 government employees, which influenced them to drive their cars into the city daily. Without free parking many would not drive their cars each day. In addition, the consideration of a car toll on cars coming into the city would also discourage car use and provide additional revenue.

With regards to environmental protection, the additional encouragement of mixed-use development would lessen the need for cars, create more green space that could adsorb GHGs, contributing significantly to enhanced environmental conditions and generally create a better quality of life for city residents.

The second experience I would like to share is related to research and discussions I had with colleagues for different NGOs in Seattle, WA (USA) when I lived and worked there in the mid-2000s. I would regularly affirm to colleagues and governmental officials when they would listen that I could list a number of ways of eliminating the continuous traffic jams on I-5, which was the main highway going through the city of Seattle. This interstate highway was usually congested with traffic more than it wasn't and it was rare during daylight hours when one could travel the speed limit through the Seattle metropolitan area on I-5.

As in the Washington DC example earlier, attempting to solve transportation problems in Seattle in many cases could also provide solutions to many other issues facing the development of more sustainable communities. For example, Seattle's dominant industry is tourism requiring a healthy service-oriented workforce. Unfortunately most of the members of this workforce cannot afford to live in Seattle and must travel to the city from the suburbs on I-5. Development of more affordable housing for this workforce in the city would solve both the industry's problems as well as remove a large number of commuters from the I-5 corridor each day. Additionally, if Seattle and this entire part of the Cascadia Pacific Northwest focused more on buying goods and services locally there could be a significant decrease in the number of trucks hauling goods to this region on I-5, the major north-south route for the region. This change could have effects both on traffic and on the emission of GHGs to the local air each day.

The consistent enforcement of traffic laws could also have a positive effect on traffic flow on the I-5 corridor. Encouraging vehicles to travel the minimum speed limit and persuading slower moving vehicles to stay to the right on the highway, out

of the passing lanes, would significantly effect traffic flow. The improvement of city streets and traffic light synchronization so that people would be more prone to travel on local streets than on the highway would keep I-5 much more clear, making through traffic on the highway less congested. The strategy of improving local streets to encourage their use along with promoting more car pooling and use of public transit in the Seattle area would again lessen the traffic impacts on I-5 and in the process save significant amounts of energy while further reducing GHGs.

The bottom line is that I believe if the above strategies were pursued in Seattle and its surrounding communities you could get on I-5 at anytime day or night and be assured that you could travel a minimum of 45 mph with no problems. This kind of innovation and imagination injected into local community thinking in solving problems like the Seattle I-5 congestion issues is what sustainable community development is all about. It is the kind of integrative thinking that the accomplished SCD practitioner can lead community members through on a regular basis.

The need for communities with sustainable transportation systems is undeniable. The challenge is to develop (1) the tools (ongoing), (2) the models (still limited and incomplete), (3) a design process that emphasizes integrated and holistic sustainable solutions, (4) a means for reliably assessing those sustainable solutions with benchmarks and environmental accounting (Green 2009), and (5) a source of transportation-design professionals able to balance the demands of access and safety with those of environment, ecology, and quality of life. There is also the issue related to citizen expectations and behaviors. What must occur before individuals are willing to reduce the use of their cars and rely more on walking, biking, and public transit?

In closing, many aspects of current development policies and practices work contrary to the goals and tenets of SCD. Much of this can be traced to this nation's reliance on the private automobile as the dominant form of mobility. Land use policies, zoning regulations, and building practices naturally grew to reflect the capacities and characteristics of the auto-based system; these policies, regulations, and practices have now been replicated throughout the country. Advocates of sustainability, however, suggest that we work, now while there is time and energy, to balance our reliance on the private automobile with other, more sustainable practices and policies.

Green Building

Buildings are deceptively complex. At their best, they connect us with the past and represent the greatest legacy for the future. They provide shelter, encourage productivity, embody our culture, and certainly play an important part in life on the planet. In fact, the role of buildings is constantly changing. Buildings today are life support systems, communication and data terminals, centers of education, justice, and community, and so much more. They are incredibly expensive to build and



Fig. 14.24 An Israel green building

maintain and must constantly be adjusted to function effectively over their life cycle. The economics of building has become as complex as its design.

Data from the U.S. Energy Information Administration illustrates that buildings are responsible for almost half (48%) of all greenhouse gas emissions annually. Seventy-six percent of all electricity generated by US power plants goes to supply the building sector and buildings often contribute to health problems such as asthma and allergies due to poor indoor environmental quality. And since the events of 9/11, safety has become paramount in buildings, with security-related expenditures one of the fastest rising expenses.

Green building (also known as green construction or sustainable building) refers to a structure and use process that is environmentally responsible and resource-efficient throughout a building's life cycle: from siting to design, construction, operation, maintenance, renovation, and demolition (Prowler 2011). This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort as illustrated in depiction of the Israel green building in Fig. 14.24.

Although new technologies are constantly being developed to complement current practices in creating greener structures, the common objective is that green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, and other resources
- Protecting occupant health and improving employee productivity
- Reducing waste, pollution, and environmental degradation.



Fig. 14.25 Green building design illustrating several of the different principles of green building such as passive solar, plants for shading, etc.

Green building often emphasizes taking advantage of renewable resources, e.g., using sunlight through passive solar, active solar, and photovoltaic techniques and using plants and trees through green roofs, rain gardens, and for reduction of rainwater runoff. Many other techniques, such as using packed gravel or permeable concrete instead of conventional concrete or asphalt to enhance replenishment of ground water, are used as well.

While the practices, or technologies, employed in green building are constantly evolving and may differ from region to region, there are fundamental principles that persist from which the method is derived:

- Siting and structure design efficiency
- Energy efficiency
- Water efficiency
- Materials efficiency
- Indoor environmental quality enhancement
- Operations and maintenance optimization
- Waste and toxics reduction.

The essence of green building is an optimization of one or more of these principles (e.g., Fig. 14.25). With the proper synergistic design, individual green building technologies may work together to produce a greater cumulative effect.

On the aesthetic side of green architecture or sustainable design is the philosophy of designing a building that is in harmony with the natural features and resources surrounding the site. There are several key steps in designing sustainable buildings: (a) specify “green” building materials from local sources, (b) reduce loads, (c) optimize systems, and (d) generate on-site renewable energy. These key steps are fully integrated into the Whole Building Design approach to green, sustainable

building practices which consists of two components: an integrated design approach and an integrated team process.

Integrated Design Approach

The “integrated” design approach asks all the members of the building stakeholder community, and the technical planning, design, and construction team to look at the project objectives, and building materials, systems, and assemblies from many different perspectives. This approach is a deviation from the typical planning and design process of relying on the expertise of specialists who work in their respective specialties somewhat isolated from each other (Prowler 2011).

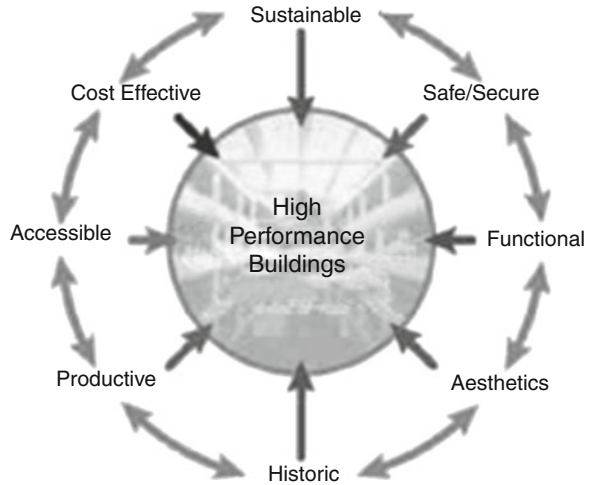
With integrated design and today’s proven technologies, we can build buildings that actually create more energy than they use—buildings that are not just less toxic, but actually promote the health and well-being of resident, employees, and visitors—buildings that purify their own water, clean the air, and grow their own food—this is sustainable green design.

In building design and construction, sustainability is a mode of thinking and acting responsibly. A sustainable building is one in which the site, design, construction, occupancy, maintenance, and deconstruction of the building are accounted for in ways that promote energy, water, and material efficiencies, while providing healthy, productive, and comfortable indoor environments and long-term benefits to owners, occupants, and society as a whole. It is thought that local actions relating to building design and construction have a long-term global impact.

Significant amounts of electricity are used in buildings. Much can be done to reduce this at little or no cost—or in many cases with actual savings in cost. Better building standards, better heat insulation, more efficient lighting, use of direct solar energy to heat buildings, use of local combined heat and power plants are just some of the possibilities. The basic technology to do a great deal is already available. But it is not enough to show what can be done on a few demonstration buildings. Millions of buildings have to be brought to a much higher standard of energy efficiency. That is a very large challenge to governments, to industry, and indeed to all of us. Changes have not only to be made in the way we use energy, but changes are also required in the way energy is generated. We have to move away from using fossil fuels and learn to use renewable energy sources such as biomass (e.g., fast growing willow), wind, and solar energy.

Each design objective is significantly important in any project, yet a truly successful one is where project goals are identified early on and held in proper balance during the design process; and where their interrelationships and interdependencies with all building systems are understood, evaluated, appropriately applied, and coordinated concurrently from the planning and programming phase. A high-performance building cannot be achieved unless the integrated design approach is employed. According to the Whole Building Design Guide of the National Institute of Building Sciences, in buildings, to achieve a truly successful holistic project, certain design strategies (<http://www.wbdg.org/design/designobjectives.php>) must be considered in concert

Fig. 14.26 Conceptual framework illustrating how high performance buildings are designed within the context of sustainability. Reprint permission from Richard Paradis of the National Institute of Building Sciences and the Whole Building Design Guide



with each other. Whole Building Design provides the strategies to achieve a true high-performance building: one that is cost-effective over its entire life cycle, safe, secure, accessible, flexible, aesthetic, productive, and sustainable (Fig. 14.26).

Integrated Team Process

Whole Building design in practice also requires an integrated team process in which the design team and all affected stakeholders work together throughout the project phases to evaluate the design for cost, quality of life, future flexibility, efficiency; overall environmental impact; productivity, creativity; and how the occupants will be enlivened. The Whole Building process draws from the knowledge pool of all the stakeholders across the life cycle of the project, from defining the need for a building, through planning, design, construction, building occupancy, and operations (Prowler 2011).

To create a successful high-performance building, an interactive approach to the design process is required. It means all the stakeholders—everyone involved in the planning, design, use, construction, operation, and maintenance of the facility—must fully understand the issues and concerns of all the other parties and interact closely throughout all phases of the project.

A design charrette—a focused and collaborative brainstorming session held at the beginning of a project—encourages an exchange of ideas and information and allows truly integrated design solutions to take form. Team members—all the stakeholders—are encouraged to cross fertilize and address problems beyond their field of expertise. The charrette is particularly helpful in complex situations where many people represent the interests of the client while other constituencies have ideas that are in conflict with the client. Participants are educated about the issues

Fig. 14.27 The wholeness of nature and the Earth. Reprint permission from Richard Paradis of the National Institute of Building Sciences and the Whole Building Design Guide



and resolution enables them to “buy into” the schematic solutions. A final solution isn’t necessarily produced, but important, often interdependent, issues are explored.

It is not enough to design the project in a holistic manner. It is also important to determine the effectiveness and outcome of the integrated design solution. Consider conducting a Facility Performance Evaluation to ensure that the high-performance goals have been met and will continue to be met over the life cycle of the project. Consider retro-commissioning to ensure that the building will continue to optimally perform through continual adjustments.

A Holistic Design Philosophy

The concept of “wholes” is not new. In 1926, Jan Christian Smuts, a South African Prime Minister and philosopher, coined the term “holism.” He believed that there are no individual parts in nature, only patterns and arrangements that contribute to the whole (Fig. 14.27). Buckminster Fuller also said back in 1969 while working on the space program: “Synergy is the only word in our language that means behavior of whole systems, unpredicted by the separately observed behaviors of the system’s parts or any subassembly of the system’s parts” (Prowler 2011).

If the SCD practitioner is working with a client community that is considering new building construction as part of its strategic sustainability plan, the practitioner can share the concepts of integrated design in the new construction considerations. Through a systematic analysis of these interdependencies, and leveraging whole building design strategies listed earlier to achieve multiple benefits, a much more efficient and cost-effective building can be produced. For example, the choice of a mechanical system might impact the quality of the air in the building, the ease of

maintenance, global climate change, operating costs, fuel choice, and whether the windows of a building are operable. In turn, the size of the mechanical system will depend on factors such as the type of lighting and controls used, how much natural daylight is brought in, how the space is organized, the facility's operating hours, and the local microclimate. At the same time, these same materials and systems choices may have an impact on the aesthetics, accessibility, and security of the project. A successful Whole Building Design is a solution that is greater than the sum of its parts.

The environmental impact of buildings and related systems cannot be easily overstated, nor can the contribution of more sustainable design, construction, and reconstruction. For sustainable community building design, the 3Rs include construction wastes recycling, the use of environmentally sound building materials, and the provision of in-house recycling areas. Buildings take up significant amounts of land, modify natural hydrological cycle, affect biodiversity, have major impacts on water and air quality, and are the final resting place of over 90% of all extracted materials from the earth. A typical 1,700 sq.ft. house requires the equivalent of an acre of clear-cut forest, and produces 3–7 tons of construction wastes. New home construction consumes 2/5ths of all the lumber and plywood used in the USA.

In Texas, the City of Austin has developed a very successful Green Builder Programme which encourages builders to construct and homeowners to buy “Four Star” homes, which have been rated for factors ranging from nontoxicity to energy efficiency and recyclability. When green design approaches were used in a New York City office retrofit, the client paid 27% less than the \$52 per sq.ft. normally incurred by the city.

US buildings alone are responsible for more CO₂ emissions than those of any entire country in the world except China (Kinzey et al. 2002). But green building saves energy and money. The energy savings from green building result primarily from reduced electricity purchases and from reduced peak demand. On average, green buildings are 28% more efficient than conventional buildings and generate 2% of their power onsite from photovoltaics (PV). The financial benefits of 30% reduced consumption at an electricity price of \$0.08/kWh are about \$0.30/ft²/year, with a 20-year NPV of over \$5/ft², equal to or more than the average additional cost associated with building green (Kats 2003).

Economic Security

Stable, global economic activity is directly dependent upon the state of human and natural resources in our world today. And over the last few decades people and institutions have come to better understand that society's collective demand on resources is becoming greater than the productive capacity of the Earth, potentially resulting in serious social, economic, and environmental consequences unless we can find means to use fewer resources in more efficient ways. In addition, social and economic disparities among the expanding global population are wide and growing,

resulting in more international conflict among the haves and have-nots. Human consumption of resources and waste production is clearly unsustainable, with dire consequences for our way of life if not addressed (Brown 1999). And the consequences for future generations are sobering.

The spread of industrialism over the last two centuries and more recently the technological revolution in computers has made life easier and longer for a growing share of humanity. But it is also taking a great toll on the health of the planet, because the more we improve lifestyles the more hidden costs there are on the environment. Currently, governments subsidize environmentally harmful activities such as driving, logging, and mining, tilting the economy in the direction of resource waste and pollution (Hawken et al. 1999). Taxing harmful activities instead would force consumers and companies to pay the full environmental costs of their actions and free up billions of dollars to support wind power, recycling, and other technologies and practices essential to building a sustainable industrial economy. But presently the political will is not present to take such bold steps.

It would be hard to find a more all-encompassing, harmful and powerful immorality than the seemingly innocent concepts that currently rule our economies. It is not so much the concepts on their own—they have served a historically useful role. The real evil is the continued dominant use of these ideas long after they have become seriously out-dated and destructive (Daly 1996). This is indeed the basis of the problem, and until we can replace these concepts with a more Earth-friendly approach, our prospects are grim.

The terms “sustainability” and “economics” are often paired these days, in presidential speeches as well as Wall Street reports. But what does “sustainable economics” really mean? What—or whom—is to be “sustained”? Many would argue that sustainable economics is about making the global economy sustainable without sacrificing the benefits of industrialism. Any politician you hear speak in 2012 refers to the urgent need to “grow” the US economy with more jobs and income. But where does the premise of limits on natural resources come into play in this statement for the ordinary citizen? It seems politicians cannot understand we are well beyond any real abilities to “grow” our economy (or the global economy for that matter) and instead must begin thinking about subsistence strategies and seeking a better “quality” (not quantity) of life for everyone. Let’s compare traditional economics with what many are coming to know as sustainable economics.

Conventional Economy

Economics is broadly concerned with the core question of how to allocate scarce resources to meet unlimited needs. People have wants that often exceed the limited resources available to them. As a result, a variety of ways have been invented to decide upon answers to four fundamental questions: What is to be produced? How is production to be organized? How are goods and services to be distributed? What

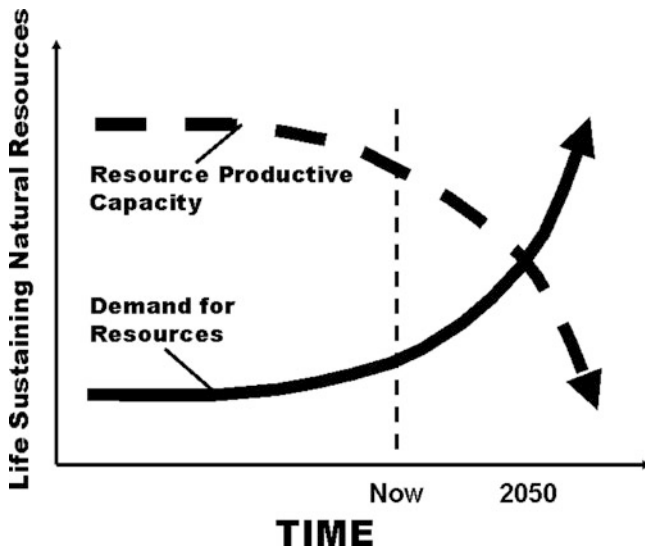


Fig. 14.28 Hypothetical graph showing past and present trends for human resource demand and natural resource production. The future suggests that demand will have exceeded production

is the most effective allocation of the factors of production (land, labor, capital, and management)?

Under the conventional economy model human demand for goods and services, unlike in past times, is the cause for many of our global environmental and social problems today. The totality of the human economy is measured by throughput. It is calculated as the total number of people multiplied by their consumption of resources and waste production. Thus, there is consistently a dependence of economic activity on human and natural resources. There is considerable evidence now that the use of natural capital by many parts of our economy, in the process of throughput, has exceeded the regenerative and absorptive capacity of the environment (Fig. 14.28; Daly 1996). The bottom line—society’s collective demand on resources is nearing the productive capacity level of the Earth (natural resource capital versus human demand projections illustrated in Fig. 14.34). The problems of climate change, global warming, and dwindling oceanic fisheries are commonly reported examples. These issues provide evidence that we have exceeded the capacity to maintain population numbers of our important fish species and the atmosphere to absorb our carbon dioxide, methane, and nitrogen oxide wastes.

In sum, there are no limits to growth in wisdom and other forms of human development, but there are physical limits to growth in the consumption of resources, and there are physical limits to how much waste can be dumped into the biosphere. And these impacts continue to grow because of our increasing population, technologies, and affluence (Gibson 2002; Flint 2004b). It is past time to fully take advantage of our limitless human wisdom and knowledge to solve our problems related to limited natural resource availability.

Sustainable Economy

The sustainability paradigm shares similarities and differences with its conventional cousin. Like the conventional school of thought, sustainability also concerns itself with questions of scarcity, needs, and distribution. But the sustainability paradigm begins with a fundamentally different question: How can we create an economic system that enables individuals and communities to thrive, while also sustaining the capacity of the environment to support this (Callenbach 2011)?

The question reflects the fundamental assumption of the sustainability paradigm: economic activity occurs within, and depends upon, larger ecological systems. In other words, the economy is contained within the environment (Daly and Farley 2004). This is more than an assumption—it is a basic scientific fact that informs the models, practices, and policies that distinguish sustainability from conventional economic thinking.

In an economics context, the substances and materials of the environment are often referred to as “natural resources.” The term “resources” implies that the environment is merely a set of materials for humans to use—an assumption which flies in the face of the biological reality that all species (including humans) are part of the environment. Sustainability-minded people often use “natural materials” as an alternative to “resources” to more accurately reflect the fact that the environment supports all life forms, not just humans.

This being the case, the sustainable economics paradigm is grounded in some basic scientific ideas that can help place the topic in a more integrated and relevant format regarding life on Earth (Costanza et al. 1997). To provide a context in characterizing a sustainable economy, the core principles described below are applied to an everyday item: a jar of strawberry jam.

1. *All materials come from the environment.* The environment is the ultimate source for all raw materials used in any economic activity. For the jam, essential materials include not only soil and solar energy, but also silica (for the jar), metal (for the lid), and trees (for the label). Technically, even a plastic jar is not “man-made” since it is derived from crude oil, the decayed remains of plants and animals.
2. *Economic activity involves the transformation of natural materials.* Transformations occur at all stages of a product’s life cycle, including extraction of raw materials, manufacturing, distribution, consumption, and disposal. For example, making the jam required growing berries (perhaps with machinery powered by diesel fuel) and cooking them (powered by electricity from a coal-powered plant). Moreover, making this energy available involved its own set of transformations, such as mining, refining, and combustion. All of these stages create outputs—wastes. This leads to the next idea.
3. *The environment is the final “sink” into which all wastes go.* The wastes produced through jam making (or any economic activity) go back into the environment in one form or another: The glass jar may end up in a landfill. The carbon emissions from processing the jam will go into the atmosphere. As

described in the next principle, these wastes do not—and physically cannot—disappear.

4. *There is no “away.”* The First Law of Thermodynamics—a scientific law as basic as gravity, but far less known—states that energy (including the potential energy in matter) cannot be created or destroyed but only transformed. This means that the wastes (outputs) produced through economic activity can change in physical or chemical form, but do not leave the environment. For example, the plastic bag the jam was carried home in can break into small pieces but it does not decompose. The carbon emissions will circulate through the carbon cycle. If leftover jam was composted, it will return to the soil as valuable nutrients. (In this case, “wastes” are not polluting, but serve as nourishing food for next year’s crop.) In reality, then it is impossible to throw something “away” since outputs are continually changing form within the environment.
5. *The environment provides critical life-sustaining services.* Consider the many—and often invisible—ways the environment plays a role in producing the jam: Wetlands surrounding the strawberry field absorb fertilizer runoff; trees absorb the carbon emissions while providing oxygen; organisms in the soil maintain its fertility. The conventional paradigm tends to ignore the value of these life-sustaining ecosystem services, whereas the sustainability paradigm counts them. In fact, a landmark 1997 study assessed them to be worth \$33 trillion per year—almost double the global output of human-made goods and services, valued then at \$18 trillion. And while such research invites speculation and debate, it also underscores the importance sustainability places on the value (intrinsic and otherwise) of the essential services provided by ecosystems.

In the ecological economics conceptual illustration shown in Fig. 1.2 (Chap. 1), the placement of the economy in the center reflects the fact that it is contained by the environment, not a suggestion that human activity is the center of the world (Daly and Farley 2004). The core principles add up to a simple fact: the economy exists within, not apart from, the environment. This raises several critical questions: Does our culture—and the economic systems that result from it—acknowledge this fact? To what extent are we designing production processes, markets, and policies to reflect the reality of interdependence? To what end are current indicators such as the GDP serving the well-being of the larger system? Preliminary answers to these questions can be found by exploring a few other conceptual differences between the sustainable and conventional economic paradigms.

Full cost accounting: In conventional economics, indirect or unintended impacts such as pollution are considered “externalities.” For example, the carbon emissions produced by driving are not counted in the price of gas. In the jam example, the carbon emissions and other wastes are not reflected in the jam’s price, creating hidden subsidies that make it artificially cheaper. However, our natural assets—air, water, land, soil, forest, wilderness, fishes, and wildlife—are the underlying base of all our economic activity and are required to support a growing human population. Conventional economics (market costs) rarely reflect the inclusion of environmental or social cost components, such as resource replacement



Fig. 14.29 Exxon Valdez oil tanker with spilling oil being tended to after it went aground in 1989 in Prince Edward Sound

costs or the potential costs associated with clean-up or environmental damage (Daly 1996).

Paul Hawken said that the most damaging aspect of the conventional economic system is that the expense of destroying the Earth is largely absent from the prices set in the marketplace (Hawken et al. 1999). The damage to the environment after it has been stripped, cut, burned, or spilled upon is not counted in the Gross Domestic Product (GDP). While we focus on earning our living, we tend to ignore what we have been given by nature for no payment. Air, water, and other essentials of life provided freely by nature are treated as valueless, that is, until scarcity and privatization render them marketable (Korten 1995).

One mechanism for advancing this principle is to identify economic incentives that will influence more wise resource use. The challenge is to define and implant the principle in a way that minimizes adverse effects on individuals and groups, or on our international competitiveness. Prices for natural resources should be set to recover the full social and environmental costs of their use and extraction. Many environmental values cannot be priced in monetary terms and hence pricing policies will form part of a broader framework of decision-making.

A perfect example is when the Exxon Valdez oil tanker ran aground (Fig. 14.29) in Prince William Sound, Alaska in 1990s (Flint and Houser 2001). The millions of gallons of spilled oil killed millions of animals and cost millions of dollars to clean up. The jobs created and materials manufactured related to clean-up activities of the polluted water and beaches, as well as the aid provided to impacted communities,

made the US GDP go up. In contrast, the lost natural resources did not cost anything according to our national methods of accounting. Therefore, the fact that communities made money from clean-up costs, with no accounting loss related to natural resource damage, suggests that we should get more oil tankers to run into rocks more often. As preposterous as it may sound, most nations, including the USA, presently don't value natural resources not traded in the market place. If full-cost accounting practices were in effect, the Exxon Valdez oil spill would be viewed in terms of a cost, not as a benefit as reflected by the GDP.

The Commons: Air and water are examples of environmental “commons” that all species depend on—but which are limited and/or degraded by overuse. How we allocate these needs—and whether we recognize them as basic rights—are the policy questions surrounding “the Commons.” In the conventional economic paradigm, overuse of the Commons is often framed as the unavoidable “tragedy” of open access; consider the overgrazed field described by Garrett Harden in his article “The Tragedy of the Commons” (Hardin 1968). Sustainability also recognizes the potential for overuse, and seeks policy solutions that are equitable and sustain the Commons; this may mean a mix of market incentives, regulation, cultural norms, and community ownership. Some of these policy approaches overlap with conventional economics, demonstrating again common ground between the paradigms.

Long-term Vs. short-term return: A sustainability framework recognizes that the well-being of human, economic, and environmental health is connected across time, place, and scale—often in vast and long-term ways. In this view, short-term actions are assessed by their long-term consequences. In contrast, the conventional paradigm tends to focus on short-term measures: profits, GDP, or stock returns. And, while these short-term actions certainly matter in a sustainability paradigm, they do not define “success” to the same extent as they do in the conventional economic paradigm.

Quality Vs quantity (“More Versus Better”): Both sustainable and conventional economics are concerned with the question of “utility” (well-being). The sustainability paradigm measures well-being through *qualitative* development in health, happiness, and satisfaction of real needs, not wants! On the other hand, the conventional paradigm tends to emphasize *quantitative* growth, with the assumption that “more” is “better.” Consider, for example, the GDP: A rise in the GDP is considered good news, yet the GDP can rise as a result of spending on crime, illness, or environmental clean-up. The indicator does not differentiate between beneficial economic growth and “gains” made through spending on negative things such as disease. Sustainability indicators, on the other hand, consider economic growth within a broader framework of community and environmental well-being (Daly 1996). Of course, sometimes more is better, and sustainability recognizes this. Having more food or water is better for someone who is hungry; however, the sustainability paradigm would consider not only quantity of calories or food, but also the quality of nutrition (chewing gum versus a container of milk) as well as broader impacts on the individual, environment, community, and economy.

The “more or better” question is also reflected in each paradigm’s approach to global economic issues. To change the world we must meet head-on the differences between growth (conventional economic goal) and development (sustainable economic goal). Clarifying this confusion is essential to understand sustainable community development’s true potential. Development cannot be equated to growth because growth implies a quantitative increase in physical size of something (e.g., population or economic expansion), which will always face limits (Daly 1992). Continued growth in the political context implies increasing endlessly which can mean the growing quantity will tend to become infinite in size. As an example, politicians often call for continued economic growth in order to remain healthy, as judged by more jobs and more money flow to meet expanding consumer needs. But, why, you might wonder, are there increased consumer demands? The answer lies in commercial advertising, which is geared specifically toward stimulating dissatisfaction with the present moment and what we have—bigger is better, more is better, tomorrow will be better.

We all understand how this is not possible in the context of Earthly limitations. Earth is finite, one size, not growing. Thus, there is no such thing as sustainable growth because growth will inevitably hit physical limits. Consider the fate of oil in our world today. You can only “grow the pie” so much and when you do the gap between the haves and have-nots only enlarges (Callenbach 2011).

Development on the other hand, is the realization of a greater potential—qualitative improvement, recognition of possibilities, transition to a fuller or better state, working with what we have and simply adding value for the benefactor’s well-being. Growth means getting bigger while development means getting better—quantity versus quality (Maser 1997). Sound development can be represented as a mode of improvement that preserves natural capital (Daly 1996)—enhancement in welfare without physical growth, progressive social betterment without growing beyond ecological carrying capacity.

A sustainable society is one that lives within the self-perpetuating limits of its environment. That society is not a “no growth” society. It is, rather a society that recognizes the limits of growth and looks for alternative means of improvement. In this way, humanity can concentrate on developing its full potential instead of being distracted by unrealistic growth desires.

Another issue of concern in using one’s imagination regarding the many alternatives to developing more sustainable economies in community development is that (as noted earlier) conventional economics tends to define economic activity in terms of consumers, producers, and markets, with money being the means of exchange (with a token nod to barter and “traditional” economic systems). The centrality of money in this framework omits other exchanges, relationships, and “currencies” that may be more prominent in the lives of low-income, homeless, and/or immigrants: barter, repairing, and nonmonetized networks of exchange (car sharing, community gardening, etc.). In contrast, a sustainability paradigm provides opportunities to examine and find the value in these types of exchanges.

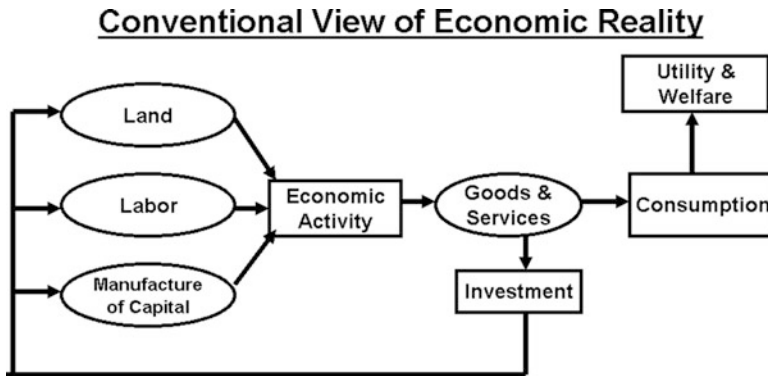


Fig. 14.30 Conventional view of how today's economic reality is thought to function

Today's Reality of Conventional versus Sustainable Economies

For the added benefit of the practitioner working to assist a client community, in better understanding the difference between conventional economies and those economies that would be judged sustainable, it might help to offer the following with a corresponding diagram that illustrates the details between conventional and sustainable, including a real-life example.

Fig. 14.30 shows the conventional picture of the major factors involved in economic activity. It begins with the three “factors of production”: land, labor, and manufactured capital. *Land* was initially included in recognition of the importance of agriculture, but as industrialization progressed it has been broadened to represent all raw materials, like minerals and timber. *Labor* covers all direct human inputs into economic activity, although in practice it has been treated largely as a simple head-count (e.g., how big is the “labor force” or how many unemployed). *Manufactured Capital* refers to buildings, tools, and equipment. The oval labeled *Economic Activity* stands for the process by which labor, with the aid of manufactured capital, converts land (as raw materials) into *Goods and Services*. Some of these goods and services need to be *Invested* back into the factors of production to either maintain or improve them. Whatever is left over can then be *Consumed* to produce *Utility or Welfare* for individuals and households. At first glance, this picture seems fairly reasonable. After all, it would not have survived as the dominant view of economics if it was totally absurd. Yet it misses many important facets of real economic life and distorts even those it does include. It will help, in understanding these deficiencies, to compare it to Fig. 14.31.

To ground these concepts, let's look at how they can be used at a personal level. Think of the major activities of your day. They could likely be put into categories such as self-care (sleeping, eating, bathing, etc.), paid work (including commuting and other associated activities), household activities, recreation, shopping, and so on. Each one of these activities (1) takes time, (2) draws on the five capitals in Fig. 14.31, (3) has impacts back on the five capitals, and (4) affects your experienced quality of

Sustainable View of Economic Reality

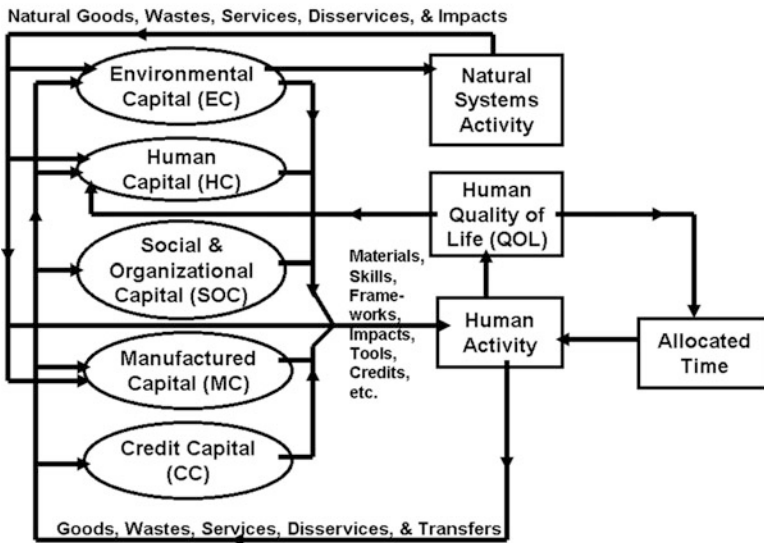


Fig. 14.31 Sustainable view of how our economic reality should appear today

life (QOL). Let’s assume that your goal is to maximize your on-going QOL, while also minimizing any adverse impacts on any of the five capitals. Achieving this goal (or even coming close) requires a complicated balancing act. Fig. 14.31 can reflect this while Fig. 14.30 can’t. Consider, for example, the time you spend on paid work. According to Fig. 14.31 it would be “rational” for you to choose a job that

- Provided direct job satisfaction (input to QOL)
- Placed you in a healthy environment with clean air and water (output from EC, input to HC)
- Didn’t depend on nonrenewable resources or unsustainable use of renewables (draining output from EC)
- Minimized pollution and other negative inputs to EC
- Gave you opportunities to learn (input to HC)
- Had a low level of stress and other hazards to your health (avoiding negative inputs to HC)
- Had a sufficiently orderly social structure so that you could efficiently focus on your own task (output from SOC)
- Enabled you to participate in shaping the organizational routines and culture (input to SOC)
- Provided you with good tools in a pleasing and efficient building (output from MC)
- Paid you enough to cover your expenses in the rest of your life (CC).

Figure 14.31 says that all these things (and more) need to be taken into consideration as you pursue your goal. Figure 14.30 takes a much simpler approach: the only

purpose of having a job is to earn money so that you can consume goods and services when you are not on the job. From the conventional point of view it is not “rational” to consider anything other than the amount you are paid. From the new point of view it is not rational to consider *only* what you are paid. Which approach seems more realistic to you? Which approach is reflected in the great bulk of our laws, institutions, and cultural assumptions?

We can take this comparison even further. In the model represented by Fig. 14.31, it would be perfectly rational for people to reduce their need for income by living as efficiently as possible within their household, and then to use this reduction to allow them to work under conditions that provided more direct QOL and/or required less time in paid work. Furthermore, it would be perfectly rational for a society as a whole to encourage all of its members to do this, developing new social and economic institutions if necessary. The net result would be an increase in per capita QOL accompanied by a decrease in the production of goods and services (which is measured by the GNP). Such a decoupling of QOL and GNP is impossible in the conventional view. As you can see from Fig. 14.30, maximizing Utility/Welfare implies maximizing Consumption, which implies maximizing the production of Goods and Services—there is no other way!

Dauphin Island Case Study

Enhancement and diversity of the Dauphin Island (AL, USA) economy can be achieved by focus upon a number of new project areas in the community that can contribute to the Island’s economic resiliency and sustainability in light of a number of changing conditions over time (http://eeeeee.net/dauphin_island/dauphinisland.htm). These can include, but are not limited to:

- Public transit system development
- Effective island branding
- Island entry fee—maintenance of environmental resources, parking costs, launching costs, infrastructure depreciation (also head count method for limiting cars on island)
- West end windmill farm for electric power generation
- Homestead exemption on property taxes for generational residents to increase affordability
- Dual economy to enhance affordability—resident discount card in all retail stores
- Workforce housing locations
- Mixed-use commercial with upstairs retail owner living or employee rental
- Reversing rural economic leakage
- Identify best ways to capture monies from outside the island
- Looking at parking fees as a source of revenue and a way to control resource overburdens
- Golf club expansion/marketing and Isle Dauphine Club development

In order to promote Dauphin Island's future economic well-being, community strategic planning participants in 2007 believed that several things could/should happen to maintain a healthy economy. First and foremost the development of new retail and basic services is needed to make Dauphin Island a functional and viable community. This can be done by offering business motivations that include the design of effective business promotion programs and incentives to encourage the development of cottage industries on island. Planning and project implementation for an aesthetically pleasing community is needed to attract a diversity of people made up of permanent residents, part-year and seasonal residents, as well as week-long visitors, weekenders, and day-trippers. And most stakeholders are adamant about developing a small-town feel in this planning/building process that balances retail and basic services that both support tourism and address permanent resident needs.

One of the real concerns for many long-standing (generational) residents of the island is finding ways to maintain a level of affordability. Higher prices for goods and services for visitors, escalating insurance rates, high real estate values, and age/background of permanent residents, all act as challenges to many wanting to continue to make Dauphin Island their permanent home. There is an opportunity among these challenges to explore a potential solution to the growing problem of affordability. The town could look at creating a "dual" economy to meet affordability needs of residents while fully capitalizing on visitor/tourist spending. There are several "Loyalty Credit Card" programs around the USA now that target the use of credit cards to serve certain issues. And then there are the retail store-dedicated cards that provide automatic discounts to members. A metaphor for this strategy would be the membership card you use in your local chain-grocery store such as Safeway or QFC. These technologies are growing everyday and might offer Dauphin Island a community-wide means of providing more affordability to permanent residents and the town's labor force.

The economic stability of Dauphin Island is important and affects almost every other element of life in the community. But as one of the strategic planning Design Charrette stakeholder topic groups stated, "never let economic drivers overpower or take precedence to the branding concept of the Island." And this branding concept will most certainly turn-out to have a major focus on the valuable natural and cultural assets the island possesses. These cannot be degraded at the expense of bad economic decisions.

Reversing Economic Leakage

The Dauphin Island public consultation processes of 2007 resulted in stakeholder appreciation for the need to attract new developers and investors to the community. In order to achieve this objective, stakeholders believed the town should be more creative with its zoning and land-use regulations in order to improve infrastructure and enhance economic development in an environmentally sound manner. The major

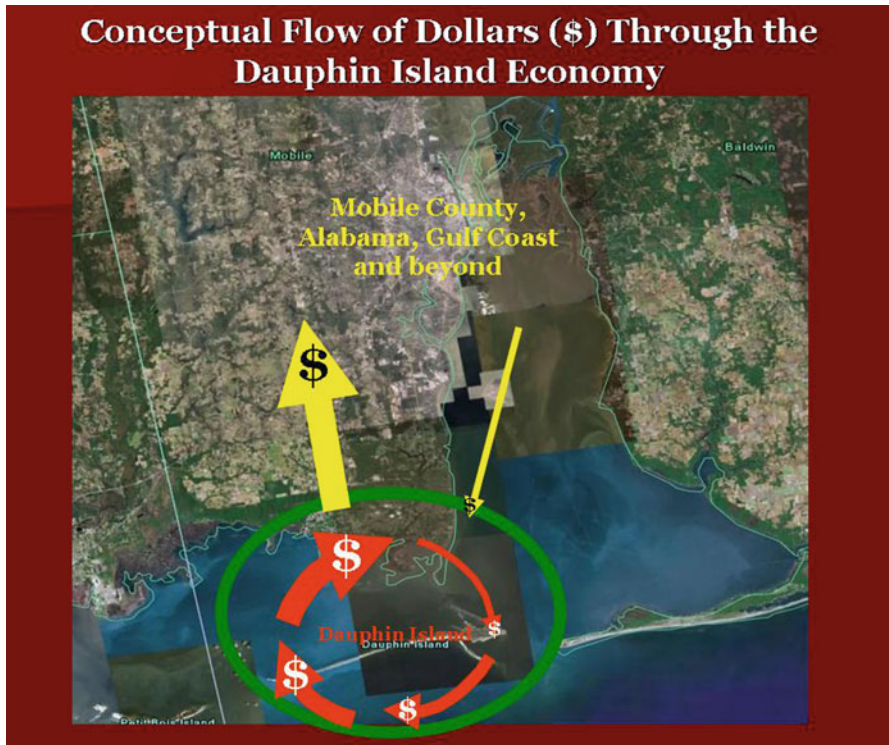


Fig. 14.32 Illustration of the dynamics of economic leakage from Dauphin Island, AL, US. See text for further explanation

economic problem facing Dauphin Island was the typical rural economic leakage that occurs in small towns across America (Flint 2010).

To reverse this potential for continued economic decline it was believed that opportunities should be discovered to add value to assets Dauphin Island possesses, to keep more money in the local economy and less flowing out to the larger regional economy of the County of Mobile and southern Alabama (Fig. 14.32). Stakeholders suggested that economic activity be diversified; the degree of local ownership balance outside interests, and the town have the capacity to change with a changing market place by expanding to new markets and/or adding value to existing assets in order to achieve more economic security. Likewise, they stated that policies be developed to promote fair and affordable access to housing and cooperatively (internal and external) developed programs put in place to promote the affordability of goods and services to residents and employees (even in contrast to tourists) in order to keep money circulating in the community as a further guard against economic leakage (Fig. 14.32), as well as to enhance social equity.

As discussed earlier, the idea of a “dual economy” was one of the alternative strategies discussed by stakeholders to make living on the island more affordable to longtime residents and the workforce. This strategy consists of local goods and services provided to residents at different (less) costs than to visitors and tourists. It would also encourage the labor force on the island to spend their paychecks locally instead of going off-island to large chain stores. In response to these discussions, the community conducted an intensive examination into its internal assets (environmental, cultural, historic, etc.) in order to reverse their significant rural economic leakage patterns and to regain their sense of community around the environment of a small fishing village, which had been their history.

Conclusion

Many environmentalists and economists argue in favor of a sustainable economy. This system has a variety of implications, but basically means that the population and quantity of goods would remain constant over time. At first, it means that the society would desire a constant GNP, with some sectors growing and others declining at an equal and opposite rate. Overall, the economy would continue to achieve the same level of output each year.

First, those sectors of the economy that increased the sustainability of the environment, such as renewable energy or the production of long-lasting goods, would be encouraged to grow. If new technology made growth possible without decreasing sustainability, growth would be promoted. Second, the country would try to maximize the use of renewable resources. This would mean relying on wind, water, the sun, or another renewable resource for power production, rather than burning fossil fuels, of which there are limited supplies. Third, the sustainable economy would seek to achieve economic resiliency and ecological responsibility. It would view biological capital as being of equal importance to financial capital. Fourth, an incentive system would be used to reward those who minimize the toll they exert on the environment and produce long-lasting items for human use. Materialism would be discouraged, and people would be encouraged to use only essential goods and services to meet their needs, not their “wants.” Rather than consuming our natural resources, the sustainable economy would seek to use what we have already taken and leave natural resources as a backup supply. Finally, a sustainable economy would attempt to build a more equal society. While trying to minimize the number of goods people used, the economy would also try to equalize what goods people have.

As an SCD approach, the implementation of the sustainable economic paradigm offers community members an opportunity to build a foundation of economic thinking that is integrated, holistic, and inherently connected to peoples’ lives and communities. The approach builds bridges to people from all backgrounds, invites them to explore real-world issues through an interdisciplinary lens, and equips community members with skills to be effective citizens.

For example, poorly conceived discussions of sustainability among different community stakeholders often attempt to balance conservation and development activities, which suggests sacrifices, perhaps for both human and ecological imperatives. For instance, a strategy might involve some further loss of ecosystem integrity “balanced” by some restriction in immediate extractive gain (Gibson 2002). But this approach is deceptive because in the absence of “full-cost accounting” decision-making to ensure that unavoidable or inevitable projects at a minimum guarantee environmental and social benefits is flawed, not representing the true value of environmental goods and services. The result is net ecological loss.

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Chapter 15

Case Study Examples of SCD

We have seen how disregarding the integrative effects of environmental, social, and economic issues has a significantly damaging consequence on communities. The arguments for sustainable development are clear and becoming universally accepted. Thus, for a community to improve and develop in the long-term, it must answer the following questions about its environment in the socioeconomic context of the community:

- What are the advantages and benefits of formally including these integrative considerations in community planning and management systems?
- How can municipal decision-makers best manage the social, economic, and environmental demands placed on the community?
- Where are the entry points for integrating these considerations into community planning and management?
- What are the arguments for integrating the environment into the socioeconomic development strategies of the community?

Increasingly, the manner in which we develop and redevelop land is being viewed as a key determinant in the social and environmental health and economic well-being of communities. However, there is no universally acceptable definition of sustainable community development to underpin all client projects because each community development target has its own characteristics that result in unique opportunities and constraints. But according to Steven Peck (Peck and Dauncey 2002), there are three major scales, or levels, at which actions in support of sustainable community development and barriers to implementation take place:

- The building level, where important features include urban design, the use of renewables, improving energy efficiency, facilitating the 3Rs (reduce, reuse, recycle), and using “green” materials.
- The development site level where important features include the integration of ecological protection, use of alternative sewage and stormwater management, conservation-based building footprint, and encouraging alternatives to auto use.

- The planning and infrastructure level that include features such as promoting higher density, supporting affordability, supporting sustainable communities with vibrant local economies and adequate community services, and implementing regional growth management and protection of watersheds and other significant ecological resources.

According to Peck, successful holistic sustainable community development incorporates multiple features (known as the 12 features of sustainable communities), listed below, to achieve the maximum social, economic, and environmental benefits. The manner in which we comprehensively develop and redevelop our communities in the context of these separate features, but in an integrative fashion, can have significant and long-ranging impacts on a community's economic competitiveness and its social and environmental health. The features include:

- Ecological protection
- Transportation-oriented density and design (TOD)
- Urban infill
- Mixed-used development in village centers (MUD)
- Local economy
- Sustainable transport
- Affordable housing
- Livable community
- Sewage, stormwater, and low-impact development (LID)
- Water supply and protection (watershed management)
- Energy conservation
- The three "R"s

What to Look For

The social, economic, and environmental challenges that communities face today, as highlighted in the selected case studies briefly described below, coupled with the speed of urban expansion, have encouraged the development of new and innovative approaches to local governance. Local leaders are becoming increasingly aware of the benefits of citizen participation in urban decision-making. Governance approaches that encourage community stakeholders to have a say in the management of their place provide several entry points for the inclusion of public wisdom regarding environmental, social, and economic issues in holistic, integrative planning.

Several of the case studies in this chapter show that some communities do integrate the environment, citizen well-being, and economics into their community planning and development strategies. Key drivers for this depend on local circumstances but include commitment by the political leadership and the governing administration. A number of case studies also highlight community promotion of environmental assets in the course of marketing. For example, Whistler and Dauphin Island recognized the importance of their natural ecosystems as tourist attractions and the beneficial impact of tourism on the local economy.

A healthy and attractive environment is important in community marketing: it is virtually impossible for an unattractive place to move into higher-value economic activity. A community's environmental credentials, and therefore its marketability, are strengthened if prospective investors can see that sustainable resource use has been factored into the development strategy, especially the cost of known restraints such as finite water supplies, energy costs, the economic and job-creating potential of eco-efficient industries (e.g., waste recycling and renewable energy), and local agriculture (Swilling 2006).

Aside from the goal of sustainable development and the impetus to maximize economic, social, and environmental benefits that the case studies below all promote, integrating the environment in community planning and management has additional attractions on a very local scale. The municipality's budget may benefit from environmental policies that encourage recycling and produce income from the sale of recyclable resources, while at the same time needing less landfill space. Energy efficiency can reduce municipal spending. Eco-efficiency can result in lower operating costs for local businesses, giving the city a competitive advantage (Swilling 2006). Energy systems planning could enhance the competitiveness of local industry, while solar water heating, district heat and power systems, micro-cogeneration (combined heat and power systems), and methane production all benefit the local economy. Circular economy methods like local industrial planning have the potential to reuse water resources. An integrated development policy can also help stimulate the local economy by planning for sustainable neighborhoods. This might include sustainable construction involving energy efficiency and the use of compact fluorescent lighting, rainwater tanks/water-conserving irrigation systems, renewable energy alternatives (such as solar water heaters, insulation, geothermal heating, and cooling systems), and neighborhood-based sewerage systems (Swilling 2006).

I suggest the reader explore the following case studies on sustainable community development and look for decision-making processes, gaps, and success factors; challenges and barriers; and strategies to understand how communities are able to integrate information, identify their community priorities, and implement their plans. Identify the key elements, processes, and barriers of sustainable community plans and their implementation in these case studies. You might specifically consider the following questions if you visit the links to each case study on the Internet and review their conduct and outcomes in more detail.

- What does sustainable development look like?
- How do they do it?
- What are the key elements, processes, decision-making tools, actors, and roles that allowed for moving from planning to implementation?
- What are communities doing to become more sustainable?
- How do communities identify and prioritize activities, policies, and programs to advance sustainability?
- What are the linkages between communities, sustainability, and community capital assets?

This chapter of case studies highlighting a few of the many outstanding efforts around North America, and the international setting of Sweden, is intended to address these questions. The case studies demonstrate the diversity and breadth of approaches that communities are using to promote economic health, environmental quality, and social equity. Collectively, they attempt to use the varying dimensions of sustainability and illustrate the interrelatedness of community issues. They offer new perspectives that are participatory, long-term, and often driven by a common community vision. And two of the case study communities chose to employ The Natural Step (TNS) as their guiding framework for planning (Whistler and La Crosse).

Where the problems or issues are similar, however, often the approach is vastly different. Many programs, on the other hand, contain common elements such as comprehensive and participatory planning, visioning processes, integrative approaches, and collaborations among citizens, businesses, public agencies, and nonprofit organizations. The stories are rural and urban, local (in some cases neighborhood level) and regional, and encompass a variety of issues from job creation to community democracy. Project sponsors vary from nonprofits to businesses to local governments. Many of the initiatives have sustainable development as a stated goal, while others do not use the term explicitly.

Though these profiles can serve as valuable sources of information for other communities, they are also examples of success stories and therefore should serve as inspiration for all readers. The stories are a message that citizens are exploring new ways of doing business and of opening up exciting possibilities—often well in advance of political leadership. Unusual partnerships are coalescing between businesses, governments, and nonprofits to step up pollution prevention and save money; developers are reducing costs by designing for the environment; neighborhoods are adding value to their property by creating green spaces; and low-income farmers are staying on their land by connecting with organic food consumers in the city. Together, these examples tell a story of a new wave of American ingenuity and know-how, of citizens solving problems from a new perspective. If the reader has other stories of communities working toward sustainability, send them to me and I will continue to log success stories.

Village Homes, Davis (CA, USA)

When Village Homes was built in the 1970s, the local realtors refused to show anyone around the 70 acre, 240-home development because they did not think anyone would want to live there. There were no front roads, no storm drains, and the houses all faced the same way—for solar gain. Today, it is one of the most sought-after subdivisions in Davis, and Coldwell Banker Residential identified Village Homes as “Davis’s most desirable subdivision.” The crime rate is a 10th that of Davis as whole, and in 1995 the homes sold for 13 % more than the equivalent-sized homes in a traditional post WWII subdivision located across the road.

The unique and sustainable design features of this planned project included 12 acres of greenbelt and open space, and 12 acres of common agricultural land. A whole-system approach to design was employed, and although it was not referred to this in the 1970s, the concept of conservation-based development was employed to preserve as much open space as possible. The houses are clustered into groups of eight and are surrounded by common space. The early residents were responsible for the landscaping and design of the green space in front of their housing clusters. Twenty-five percent of the acreage is open space (agricultural and recreational).

The project included early ideas on mix-use development in that 4,000 square feet of commercial office space was built on the site. In addition, thanks to the agricultural space, by 1989, much of the Village Homes residents' food was being grown in the neighborhood. The agricultural areas include commercial fruit and nut orchards, a commercial organic produce farm, home-scale garden plots, and edible landscaping along pathways and roads.

Vehicle access was by the back lanes only, with pedestrian lanes for walking and cycling. The "front streets" were designed by the residents as grassy areas, gardens with shrubs, etc. Pedestrian paths and traffic calming designs with narrow streets encouraged a strong sense of community and high property values. The compact design encouraged residents to walk rather than drive for their daily needs. The grocery store is a 10 min walk away, and the largest employer—the university—is nearby.

Affordable housing was a priority of the project plan. A "sweat equity" program allowed several low-income construction workers to buy homes, and some apartment units were part of the development project as well. The local Homeowners Association owns and manages the household commons, greenbelt commons, agricultural lands, and the community center, and handles the revenues from office space and some rental units. There are frequent community events, and 80 % of the residents participate in community activities. Community barbecue pits encourage spontaneous evening gatherings. The turnover rate is very low, with most residents preferring to remodel and add on, rather than move to a larger home.

The narrower streets produce less stormwater runoff, which is handled by simple infiltration swales and on-site detention basins instead of storm drains, saving nearly \$200,000 (1980 dollars). These savings were invested into public parks, walkways, gardens, and other amenities. All the houses are passive solar designed, with natural cooling and solar hot water. The overall design, with reduced pavement and more space for trees, lowered ambient air temperature and reduced the need for air-conditioning. Annual household bills are half to one-third less than those of surrounding neighborhoods, because of the locally grown food and the energy savings.

When Village Homes went through the planning process in the 1970s, the plans were opposed by the planning staff, the public works department, and the Federal Housing Authority (FHA). In normal circumstances, the opposition from multiple organizations would have killed the project, and Village Homes would never have been built. At the time, however, three of Davis's City Council members were environmental activists who were willing to deal with the risks of the potential project. The police had concerns about patrolling the narrower streets, and the fire officials worried about maneuvering their fire trucks. The FHA questioned the inclusion of

agricultural uses, fearing that it would reduce property values. The engineers opposed the natural drainage system, saying that it would not work, and would harbor “vermin.” In order to get approval, Michael Corbett, the developer, had to put up a bond to pay for retrofitting with storm sewers in case the system failed. Soon after, Davis was hit with a 100-year storm, when the Village Homes system worked fine, and also handled some of the runoff from the neighboring subdivisions, whose storm sewers failed. The developer was eventually able to obtain infrastructure financing for the first 10 acres, was able to buy the land over a 5-year period, and raised \$120,000 from 13 investors, who realized a 30 % return on their money. For more details on this project, go to <http://www.ecocomposite.org/building/villagehomes.htm>.

Vancouver (BC, Canada)

In the mid-1990s, in response to regional concerns of air quality and goals of densification and family housing in the downtown, the Vancouver City Council gave instructions to its Planning Department and Real Estate Services to begin planning a model sustainable urban neighborhood with a focus on housing for families for an 80 acre site in the downtown, along False Creek (between Cambie and Main Streets, north of West 2nd Avenue.). The planning began with economic feasibility studies in 1996. Development planning began in 1997, using a three-step process: developing a policy statement, creating an official development plan (ODP), and rezoning the development parcels. Following these stages, development began as the market allowed.

The Southeast False Creek (SEFC) policy statement was adopted by City Council in October 1999, following over 2 years of planning work, including the widest public involvement process ever undertaken for the policy statement stage of any single development in the city. The ODP, which located buildings, streets, parks, etc., and ensured that the intent and targets set in the policy statement would be met, was adopted by City Council as a bylaw in 2003, giving it legal status. The third and final step in the planning process is the rezoning of the site, into development parcels, with legal rights and responsibilities, permitted land uses, densities, and form of development guidelines attached to each parcel. These parcels can be then sold for development. The zoning and associated guidelines will ensure that it is built as planned. The development plan was ultimately implemented into a design as depicted in Fig. 15.1.

Following consultant studies and much public consultation, the city settled on an approach to sustainability which noted that to be classified as “sustainable,” at the neighborhood scale, SEFC needed to make a significant contribution to the larger goals of global sustainability, as summarized below.

- Promote a healthy social community;
- Promote a stable, diverse site and context economy, which assists all in meeting their needs;



Fig. 15.1 A depiction of a section of the Southeast False Creek (SEFC) mixed-use development project in Vancouver, British Columbia, Canada

- Reduce the consumption of nonrenewable energy and resources;
- Reduce the production of waste and pollution; and
- Enhance the health of the environment, both locally and globally.

Bringing these essential goals as a guiding framework to the table for every decision helped give the planning team, stakeholders, and the public clarity and guidance on how to proceed in policy and design. These goals, in addition to many other more conventional city-building objectives, formed the basis for the creation of the policy statement. The policy statement outlined a vision and detailed policies to achieve one of the first complete, “high-density,” sustainable urban neighborhoods ever planned. It was approved by the City Council in 2005. For more details on this plan, go to <http://vancouver.ca/commsvcs/bylaws/odp/SEFC.pdf>.

Resort Municipality of Whistler (BC, Canada)

As a resort community, Whistler is known as a backcountry retreat, alpine playground, international phenomenon, “hot” property, and premier destination resort. Inspired by its natural surroundings and heritage, Whistler has always been

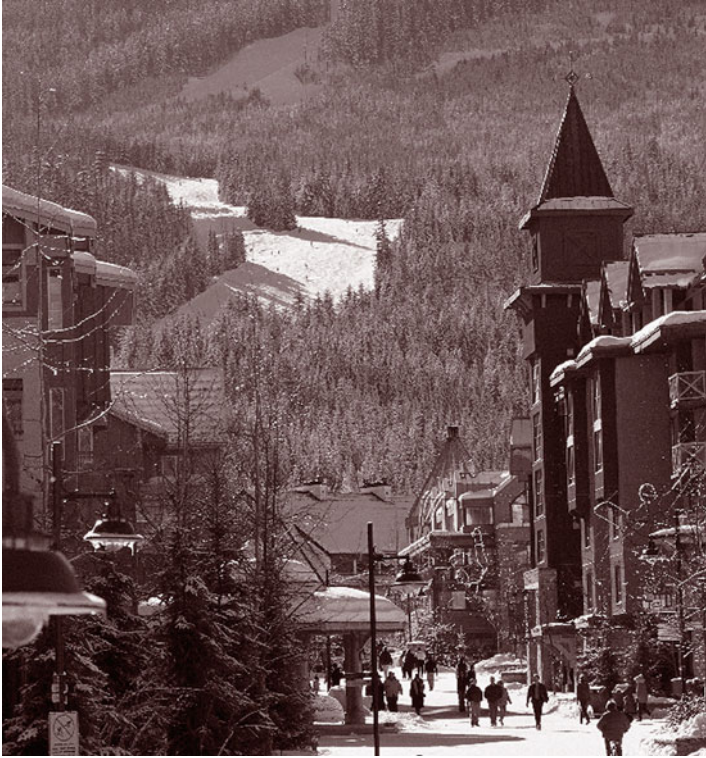


Fig. 15.2 The village area of the Resort Municipality of Whistler showing the ski slopes in the background

visionary and thoughtful about planning. Presently, Whistler owes much of its success to the growth and development guidelines established by the Comprehensive Development Plan (CDP) and Official Community Plan (OCP). In 2002, however, the Whistler community indicated that it wanted to explore its role as a sustainable premier destination resort. As such, the resort community posed the following strategic questions:

- When is the quality of place eclipsed by quantity of place?
- When does an environment that was uniquely fresh become stale?
- How can individuals be influenced to make decisions that have long-term benefits?
- When does the icon fail to live up to the visitors' or residents' expectations?

The resort community was clear in its desire to sustain its uniqueness; however, it was ready to “jump the curve” and explore a new direction, one that would differentiate it from its competitors in the twenty-first century (Fig. 15.2). The Resort Municipality of Whistler commissioned a Background Report that summarizes the elements needed to create a sustainable future at Whistler.

The report directs government to engage various criteria in defining sustainability for a successful destination resort community. The paper (http://www.whistler2020.ca/fp/asp/public/getFile.asp?field_name=FILE&class_name=DOCUMENT&instanceid=1975461&context=1959039) is an important part of *Whistler2020*, a planning program conducted by the municipality directed at developing a comprehensive plan for the community that merges the issues of economic, social, and environmental sustainability.

Building on the resort community's previous 5-year vision, *Whistler2020* was developed in four phases over 3 years of consultation and community collaboration before it was adopted in 2005. The planning program incorporated the criteria and principles of TNS in its development. During Phase 1, "success factors" were identified. In Phase 2, five alternative futures were explored and assessed by the community. Phase 3 involved crafting a preferred future and developing the draft plan with the involvement of 16 community task forces. In Phase 4, the preferred future was transformed into the *Whistler2020* vision, and the 16 strategies were completed with ongoing action planning by the strategy task forces and on-the-ground implementation through the involvement and commitment of a broad spectrum of implementing organizations throughout the community.

Consultants facilitated public consultation to examine baseline environmental quality and define sustainability indicators to support evaluating alternative futuring scenarios by the community and government in assessing and choosing their preferable future. Consultation supported long-range planning to enhance environmentally sound economic development in tourism and recreation. Conflict resolution was an important process during public consultation to encourage community agreement. The overall process assisted the public in understanding issues surrounding sustainability and how best practices should be applied to the key economic development issues. The consultation design guaranteed that the public's considered opinion was recorded and reconciled through further consultation and that the comprehensive sustainability plan was set for execution.

Drawing on local and external knowledge, *Whistler2020* informs decision-making, optimizes use of limited resources, and provides a framework for aligning community efforts in a common direction. For more detail on the *Whistler* program, go to <http://www.whistler2020.ca/whistler/site/genericPage.acds?instanceid=1967751&context=1930511>, the "*Whistler2020*, Second Edition" link.

Chequamegon (WI, USA)

The "Sustainable Chequamegon Initiative" (SCI) refers to the sustainable development movement in the communities of the Chequamegon Bay region (WI, USA) initiated in 2005 by the Alliance for Sustainability. It is a name that describes a group of people "on fire" about working together to make significant and positive change. It also is a name to lend a "sense of place" for these regional, collaborative

efforts. People on the shoreline view the same night sky and see each other's twinkling lights from around the bay, and an environmental challenge to one community is a challenge to the others.

A new spirit took root among hundreds of citizens in the Chequamegon Bay region in the Spring of 2005 following an international conference in Ashland sponsored by the Alliance for Sustainability, entitled "Sustainable Sweden: the Eco-municipality Movement." The conference was the outcome of many slideshow presentations to local governments and other institutions by an Ashland city councilor, who had visited Sweden the preceding summer. She visited several of Sweden's 70 "eco-municipalities" that are known throughout the world for having moved toward a sustainable society over the past 20 years.

These municipalities all have adopted TNS, a scientific framework based on sustainable principles to bring about systematic changes in business, government, education, energy production, waste disposal, transportation, and agriculture. After hearing these presentations, 13 entities, including three city councils, two tribal councils, and four educational institutions, donated at least \$1,000 each to cosponsor the "Sustainable Sweden" conference that was held in February 2005 at the AmericInn in Ashland. This conference was a turning point for the Chequamegon Bay region. Over 200 participants listened to Torbjorn Lahti, father of the eco-municipality movement in Sweden, and Sarah James, coauthor of *The Natural Step for Communities*, present their experiences and stories of many communities in Sweden who have embraced and moved toward sustainable communities. Attendance included elected officials, mayors, city and tribal employees, educators, business owners, builders, planners, and interested citizens.

The main focus of the conference was to have participants brainstorm, discuss, and prioritize potential local community action projects that would be based on sustainable development principles outlined in TNS. In the end, over four dozen projects were identified. Several organizational meetings following the conference moved many of these initiatives forward. In June 2005, a delegation of Swedish municipality leaders came to present their success stories to 450 area residents in the Big Top Chautauqua tent. They received a standing ovation for their ideas and for the work local citizens had begun. In July 2005, the Washburn City Council reached national recognition for passing an eco-municipality resolution. In early fall, the City Council of Ashland followed suit. Together, Washburn and Ashland became the first two communities in the United States to pass eco-municipality resolutions. These resolutions guide the governments to use TNS in policy decisions.

In October 2005, 90 people joined a first round of Study Circles. These 9 discussion groups, of 8–12 citizens each, met one night a week for 2 months in homes, businesses, and libraries throughout the Chequamegon Bay region to discuss the book *The Natural Step for Communities* by Torbjorn Lahti and Sarah James and how the sustainable development ideas described in the book might be incorporated in these communities.

In January 2006 a public celebration of outcomes from these Study Circles led to a second round of Study Circles and the formation of three organizational committees, including the Planning and Organization Committee, which spent 2 months compiling a strategic plan for 2006–2011.

The strong collaborative spirit, rare between small towns, is the core of this growing movement. Leaders of SCI see a tremendous opportunity to harness the passion and energy people have for developing a more sustainable way of life. The need for a sustainable economy and a new way of life is apparent in our modern wasteful society. People in this region recognize that we cannot rely solely on outside factors to provide food and energy. Stakeholders believe that the word “waste” in this region will become known as a “reusable resource.” They no longer want to rely on energy production from fossil fuels that are causing unprecedented changes to our environment. People believe that the definition of a sustainable community is one in which people take pride in meeting most of their needs locally, thereby creating a sense of place and a feeling of collaboration among its residents. They believe that they can meet the needs as a region by protecting natural resources that provide the base for quality of life and an economy.

Sustainable development through the use of TNS principles has been proven to work for over 70 communities in Sweden. The leaders of SCI believe the Chequamegon Bay region, with its energetic people, provides a unique opportunity to develop a sustainable community in North America based on the principles of TNS. A significant foundation for sustainable development is already here; people now need the financial resources to move this work forward. Their overarching vision is to use the emerging techniques and experiences in the Chequamegon Bay region as a strong rural model for sustainable community development in North America. For more details on this plan, go to <http://www.allianceforsustainability.org/sustainable-chequamegon-initiative.html> or <http://ashland.uwex.edu/files/2010/05/FinalDocumentSCIStrategicPlan4-11-06.pdf>.

Swedish Communities (Scandinavia)

In a world that is transforming at an unprecedented time and scale, the world’s communities are seeking examples of places that can help guide us through the challenge of creating a new world. What we have already realized in this transition is that our current activities are undeniably affecting every community and every person, some very positively and some very negatively.

Within this challenge, every community is addressing sustainable development whether they know it or not. In its most basic definition, sustainable development is the transformation of our society that creates an environment in which every citizen is able to meet his/her most basic needs without sacrificing either economic development or environmental protection.

For those searching for such positive examples of transformation, they need not look much further than the communities in Sweden. A second place ranking in the 2004 United Nations Human Development Index only confirms that Sweden has become one of the world’s best places to live and certainly not by chance.

One of the keys to Sweden’s place as a leader in sustainable development has been through an ongoing commitment by its communities and by its people toward sustainable development. Through their actions in sustainable development, these communities and their people are creating an entire country that is moving

closer to providing each community member with the ability to meet their basic needs in a marketplace of vibrant economic activity and within the fragile limits of the natural world.

Sweden as a nation has set a goal to become a sustainable society. As part of this goal, Sweden has established 15 objectives to guide itself to become a sustainable society. The 15 objectives can be examined at <http://www.sustainablepittsburgh.org/scdn/ecoMuni.html> that tells the brief story of this country's bold movements toward sustainability. You will also be able to read about the six principles that Sweden has developed to support its objective achievement at the same link.

Dauphin Island (AL, USA)

The Dauphin Island (AL, USA) community recognizes the importance of the island's natural resources and ecologic systems toward improving future economic development and societal well-being (as exemplified by conduct of activities such as fishing tournaments). But at the same time, the town shows great concern for potential uncontrolled growth that might degrade these resources and the community's quality of life. Likewise, the town's people recognize that there is real possibility for significant change on the island landscape in the years to come because of recent natural disasters. Wanting to be in control of their own destiny has motivated stakeholders to engage in a strategic planning process and build consensus on coordinated sustainable development programs to improve resource management, land use, economic vitality, and community growth over the next several decades.

The Dauphin Island community has a "clean slate" to start with in its efforts to reinvent itself. The importance of this opportunity to the community is obvious from its recent economic decline. But the chance for Dauphin Island to solve many of its problems holistically is also important to Alabama in general because the island serves as a storm buffer protecting the mainland from storms. It also provides a recreational area—still in its natural conditions—to residents of Mobile County, the State of Alabama, and beyond. In initiating the project, community leaders asked a number of important questions that included the following:

- How can the Dauphin Island Community come together to develop a common vision of what the island should be in 30 years?
- How can we plan for and develop improvements to island infrastructure that are environmentally sensitive and hurricane resistant?
- How can we engage in economic revitalization and expansion of money-making opportunities including tourism and business growth in a way that capitalizes on its community assets?
- Can we manage growth through the implementation of Smart Development concepts sustaining the unique environmental quality of the island, including the beaches, dunes, maritime forest, wetlands, and marshes that make the island a special place?

- How can we maintain and improve housing diversity so that workforce and other affordable housing for island commercial/retail establishment workers will be available?
- How can we improve/expand our arts/community/recreational facilities and opportunities and access to the water?
- How can we improve provision for social/community services on the island?
- How can we better work both independently and interdependently as a community?
- Can we better coordinate our governing activities, financing activities, and the organizational capacity of the current entities?

Approximately 1,000 Dauphin Island stakeholders participated (through surveys, workshops, Internet programming, personal conversations, etc.) over 8 months in 2007 to identify important areas and strategic actions that will move the community toward sustainability. Major areas identified for potential improvement included community development, environmental protection, economic improvement, unified governance, and means for capitalizing on the island's cultural assets and tourism/recreational resources. Large-scale measures the community believes were needed include (1) redesign of a downtown village business district—that retains a small-town feel—closely linked with all other commercial efforts, (2) new and improved efforts by the four island governing entities to cooperate in a more flexible, adaptable manner, (3) the development of programs for sustaining the island's beaches and dunes, (4) promotion of LID on the island's east end to protect a major source of drinking water (groundwater) and all other natural resources, and (5) evaluation of potential redevelopment of the island's west end beach area, including the consideration of alternative improvement concepts—in contrast to single-family, large square-footage homes—that can equally provide significant revenue sources to the town.

The outcome of an intensive consultation program was the design of a long-term strategy and implementation plan (http://www.eeeee.net/dauphin_island/di_final_report.htm) to create a more resilient community able to balance economic development with environmental protection and conservation. SCD practitioners assisted the community in identifying how a strategic planning process could better inform the island's comprehensive plan and enhance future community resiliency. This project was recognized as a finalist in the International Association of Public Participation's (IAP2) 2009 Project of the Year Award (http://www.eeeee.net/project_of_year.htm). The international recognition by IAP2 acknowledged the diversity of environmental, social, and economic issues addressed by the project, as well as the project's promotion of the IAP2 Core Values in public participation. For more detail on the project, go to http://www.eeeee.net/dauphin_island/dauphinisland.htm.

LA Crosse (WI, USA)

As both consumers and stewards of our valuable natural resources, the City of La Crosse and La Crosse County feel a particular responsibility to reduce consumption of fossil fuels, lessen impacts to their natural environment, and ensure that the needs

Fig. 15.3 Water conservation strategies implemented in La Crosse, WI (USA), in the form of rain barrels to collect and reuse the rain water draining off of house roofs



of citizens are met fairly, efficiently, and cost effectively. The environmental and social impacts of City and County operations are tremendous, including the need for electricity and natural gas to run facilities, the amount of diesel fuel and gasoline consumed to provide emergency services, plow snow, and haul solid waste, and the demands that go with providing vital social services, to name a few.

Sustainable community development is a solution for lessening these environmental impacts, ensuring that the La Crosse area continues to prosper economically, and for attaining social equity. The City & County of La Crosse *Strategic Plan for Sustainability* documents the vision, goals, and actions for both organizations in their efforts to adopt and implement sustainability in long-range planning, policy efforts, and daily operations. This coordinating document records current efforts toward sustainability, identifies a baseline for various efforts and also new projects and programs, and helps prioritize where the City and County should focus their efforts, laying out the action steps and priorities necessary today for achieving this broad vision in the future (Fig. 15.3).

In 2007, both the La Crosse Common Council and La Crosse County Board of Supervisors adopted resolutions endorsing TNS model for sustainable community development and established the Joint Oversight Committee on Sustainability to oversee the development of the *Strategic Plan for Sustainability*. The committee began meeting in July 2007 and has been working since to raise awareness of sustainability and TNS framework and establishing the baseline of information related to energy consumption and other sustainability indicators.

To assist the efforts of the committee and support the strategic planning process, a joint City–County staff working group was convened. The staff working group included representatives from various City and County departments such as Public Works, Solid Waste, UW-Extension, Facilities, Finance and Purchasing, and Planning. The staff identified a number of sustainability projects and conducted

research and analysis to help move these items forward. The projects included researching the use of B2 and B5 bio-diesel fuel for the city fleet, sharing information among facilities staff regarding lighting and energy audits, researching environmentally preferred products and drafting a sustainable purchasing ordinance at the county, and studying the feasibility and applicability of a car-sharing program for the La Crosse area.

The culmination of the planning process and foundation for the City and County action plans was a series of training workshops that occurred in the summer of 2008. In July and August, Sustainability Associates led a series of sustainability training, visioning, and action planning workshops with a broad group of City and County staff and elected officials. These training workshops helped to raise awareness of sustainability, TNS framework, current *sustainable* projects and programs at the local level, and led to the development of the broad vision, goals, and actions for the City and County sustainability effort.

The following *vision statement* was compiled by the Joint Oversight Committee on Sustainability to guide the *Strategic Plan for Sustainability* and its subsequent implementation:

City & County of La Crosse Strategic Plan for Sustainability—As governing bodies of the City and County of La Crosse, we recognize a shared, collaborative responsibility to lead our organizations in accordance with the principles of sustainability. Using The Natural Step framework as our guide, we will work toward effective, affordable, sustainable government operations that meet the needs of the present while minimizing our negative impact on future generations. We will strive to lead by example and, whenever possible, support citizens, businesses and organizations in our community that are interested in adopting sustainable practices.

The action plans for the City and County of La Crosse outline the specific goals and actions that will help move each organization forward. The action items are broken out by department and categorized into an estimated time frame for completion including short-term (within 1 year), longer-term (within 1–3 years), and ongoing efforts. A critical component of the strategic plan is the establishment and measurement of indicators. The indicators represent critical information for each of the four systems conditions of TNS. The indicators are a component of the comprehensive baseline of data that were collected for the strategic plan. Finally, the *Strategic Plan for Sustainability* is meant to be reviewed and updated at least every 5 years in order to stay current with new trends and developments in sustainable community development. For more details, go to <http://www.sustainablelacrosse.org> or <http://www.sustainablelacrosse.org/PDF/Final%20Joint%20Plan%2005-14-09.pdf>.

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Chapter 16

Financial Sources for Sustainability Actions

Ever since the concept of sustainable development was articulated and received worldwide endorsement, the gap between perceived need for action (demand) and its financing (supply) has been growing ever wider. If a community is at the action point in carrying out an integrated, systemic approach to planning for a sustainable future—then the most intricate, challenging, but important issue left is financing project actions. The hope is that community leaders encouraged by the SCD practitioner will have been researching the types and availability of specific funding for planned actions of the project’s implementation long before execution is planned to begin (Nagy 2009). Well before this point research and the beginning of dialogue should have commenced regarding State, Federal, and private funding programs available to assist the community in implementing its sustainability roadmap.

Developing diverse means for finding money can and should be done in a straightforward manner. And with enough time and effort, it’s a process that can be richly rewarding. However, it’s something that can’t be done haphazardly and then be expected to turn out successful. “If we need it, it will come,” isn’t a safe philosophy for members of community groups to live by. It is not like just stopping down at your local bank for a withdrawal. Many groups will say, “The planning of what we are going to do to achieve community sustainability is really important. Let’s do it, and worry about the money later.” Later, unfortunately, ends up meaning headaches and frustration, and being in the red (Gruder et al. 2007).

There are many different ways of identifying, researching, and seeking funding for the implementation of the community strategic sustainability plan. Some indeed are relatively straight-forward and obvious. Others may really require community member imagination. But sometimes imaginative approaches turn out to be the most successful. Some approaches to fundraising that are relatively common in community development projects are as follows.

Where to Start in Thinking About Financial Support?

Finding and keeping money for an organization to do its work is a constant challenge for those who have the task of keeping a community development group financially afloat. Sometimes, it is a headache some would rather avoid, but financial sustainability is an essential goal for most SCD organizations. Financial sustainability allows you to stay in the game long enough to accomplish your goals and is one of the important elements to the process of institutionalizing sustainability. The SCD practitioner can guide the community in thinking strategically about funding needs to develop a vibrant and diverse approach to support a significant number of projects for a long time to come.

And it is not always solely major strategic sustainability projects that need funding for their implementation. Often, community groups need to pay for things that have little to do with active SCD work. Think about rent for the office, the gas bill, and the salaries of any needed staff. These things can add up quickly and, all too often, they sneak up and become the focus of one's work before we even realize what has happened (Nagy 2011a).

Below are listed a number of salient tactics that can be pursued by a community group. Following this, the financial planning work that the target community should be thinking about will be discussed and then some of the strategies listed below will be described in greater detail. Those not described can be reviewed in further detail at http://ctb.ku.edu/en/tablecontents/chapter_1046.aspx.

1. *Marketing your organization*: No matter what other strategies you use in pursuit of financial sustainability, you will need to think about marketing the client community and its work. Marketing, at least in a commercial sense, is a concept with which you are probably familiar. We've all seen commercials, giveaways, and sponsorships of events by corporations, but how about marketing by and for community groups? For example, a community organization wishes to develop a process of stakeholder engagement and community improvement strategies for a 20 year plan implementation which will lead to increased community resiliency and sustainability. In return, the community needs facilitation assistance, referrals of other successful programs, and resources to allow the improvement planning to proceed. The concept of marketing requires you to look at everything you do as potentially helpful or harmful to your campaign. When the receptionist at your office picks up the phone, you probably don't think of that as part of marketing, but it certainly is. How they greet the caller says a lot about the organization: what you do, how professional or casual you are, and so on. The SCD practitioner can convince the target community that marketing is much more than simply raising money. Think about the following as also important with regards to marketing:

- Image-building
- Friend-raising
- Membership development

- Community relations
- Political activities
- Citizen education

You're not just trying to raise money.

2. *Becoming a line item in an existing budget:* A line item is a part of a budget that is dedicated to one general need. The community members group may be picked up as a line item by the associated jurisdiction (*e.g.*, town) or another organization, especially if its operating costs aren't too high. For example, in 2007 both the La Crosse Common Council and La Crosse County Board of Supervisors adopted resolutions endorsing The Natural Step model for sustainable community development and established the Joint Oversight Committee on Sustainability to oversee the development of their Strategic Plan for Sustainability. The committee began meeting in July 2007 and has been supported by a line item in both jurisdiction budgets ever since. Alternately, an organization with available funds may decide to pick up one of the specific community programs as a line item.
3. *Acquiring public funding:* Another way to sustain the community's SCD initiative is to obtain public money or resources. This is often money appropriated from a state legislature, city council, or other similar governing body. By working with legislators, community stakeholders may be able to acquire public funding for support of the actions related to the community's Strategic Sustainability Plan on an annual or regular basis.
4. *Applying for grants:* Another source communities often use to work toward financial sustainability is grant funding. Grant money may come from public sources or from local or national foundations. Many communities have some community foundation or local trust whose funds must be spent locally, so take advantage of them.
5. *Soliciting in-kind support:* In-kind support simply refers to resources other than money that are available to your community group, usually from other supportive organizations, institutions, or businesses. In-kind support includes those resources you would have otherwise needed to pay for with money. For example, the local bakery might donate pastries and drinks as refreshments for participants in a community workshop. When someone volunteers to give you a service, supplies, or free help, you're receiving in-kind support. In-kind support may come from within your organization or from the broader community. It should not be seen as inferior to cash donations, but as an equally important part of the resource pool available. Seeking in-kind support is a core part of a sustainability plan. If your group is going to succeed, you'll need more than just money: you'll want goods, people, and services, too.
6. *Developing and implementing fundraisers:* A fundraiser is an event sponsored by an organization or individual interested enough in supporting the community's plan and implementation of community improvements to raise money for the community group and its programs. Fundraisers usually imply that the supporting organization or individual will provide a product, a service,

or an event that will allow others to contribute money to the community group for its community improvement and sustainability work. Examples of fundraisers include percentage of a day's business sales from a super market, funds collected from a car wash, or proceeds from a formal dinner, usually with a silent auction. In each case, the target community group receives money for a product (daily business sales), service (car wash) or event (formal dinner) as funds to support the community's SDC cause. Of course, there are fundraisers and there are FUNDRAISERS. That is, there are the cookie-jar events that raise enough money to replenish the pantry, and there are the six-figure-and-up mega-events. Although the underlying spirit is the same, the activities connected to each type of fundraiser will be somewhat different.

7. *Incorporating activities or services in organizations with a similar mission:* In this strategy, the community group starts an activity or service with the goal that, within a few years, that activity will be taken on by another organization. An alternative method is for the SDC community group simply to plan the activity with representatives from the collaborating organization that will be responsible for the program and its funding. This strategy can be especially useful for community coalitions.
8. *Sharing positions and resources:* Another strategy for sustaining your SCD initiative is collaboration with other organizations. Collaboration can take place in a variety of different ways, from writing grants together, to sharing such resources as space, equipment, or staff. The important thing to remember when collaborating is to think carefully about whom your natural partners are, and whether you share enough of a philosophical and practical base to work together successfully. Although resources may be one important reason to collaborate, it's generally not enough if it's the only thing you have in common.
9. *Developing a fee-for-service structure:* A fee-for-service structure requires that a user of services provided by the community through the Strategic Sustainability Plan pay for some services as they receive them. For example, the SCD community group might sponsor leadership training for the community and charge fees for sessions involved in this training. Of course, charging fees may make the community group's services less available for people with little money. To counteract this, some groups can use a sliding scale, to make services available to more people. It's also not uncommon to have a policy of helping everyone regardless of ability to pay; if potential clients are unable to pay, the fee is waived.
10. *Pursuing third-party funding:* Third-party funding takes place when someone not directly involved in work being done by the community stakeholders provides resources that allow two other parties to interact. The funder in these instances is called the "third party." For example, a private business may pay for the salary of someone from a nonprofit organization to work with a community member group on project implementation contributing services in the person's area of expertise. Usually, the third party has some interest in providing financial support.

11. *Securing endowments and planned giving arrangements:* An endowment is a gift given to an organization which is invested in that community organization to the extent that an annual income is produced. An organization uses the interest earned by the fund and leaves the principal to gain further interest. An endowment may be the result of a grant, bequest, or cash contribution. Planned giving arrangements are gifts that are donated to the community group and can be used immediately—they do not need to be invested. These charitable gifts may be acquired through wills, trusts, gift annuities, life insurance, securities, and real estate. Some planned giving arrangements are referred to as deferred gifts. Deferred giving is an arrangement between a donor and the community organization in which the donor earmarks funds for the organization’s future use. When the funds become available to the organization is decided upon by the donor.
12. *Establishing membership fees and dues:* If formal fundraising is not the easiest way for the community members to raise funds for the SCD initiative, the group can always explore the use of membership fees or dues. This may be a bit more difficult in the fluidity of a group of community members, but it has its advantages, such as:
- Dues are a simple form of income to generate.
 - Because they come from your own members, dues test commitment to the group.
 - Membership dues increase the organization’s self-reliance.

The main drawbacks:

- Dues tend to yield less money than outside sources.
- Sometimes, not enough potential members can afford paying dues to make dues collection worthwhile.
- Dues make money a condition of membership, which may be contrary to the community’s principles.

Some coalitions skirt this last point by calling dues “donations” or “sponsorship fees.” Similar to that which can be used for fee-for-service programs, a sliding scale can lighten the burden for some members. You may also have different support expectations for organizations and single individuals.

The above list of strategies should provide an idea of the more typical possibilities available for initially funding and continuing to financially support a sustainable community development initiative. It is important to remember that no one option is best and there is no need to choose only one of the strategies. Certainly, with the assistance of the SCD practitioner, the community group can choose from among these alternatives. They are not mutually exclusive; they can be combined. And more alternatives can always be found. In fact the more diverse the funding sources are to an SDC project, the more stable and resilient the implementation of the Strategic Sustainability Plan actions will be.

The question remains, however: how does a community group make the right decisions about funding sources and who should be approached? What is the best

way to choose among strategies, and pick the one (or several) that makes most sense for the target community (Nagy 2009)? The community members group should review the steps listed below with the guidance of the SDC practitioner, decide which steps make sense to pursue, and don't be afraid to modify the process to better meet the needs of the community.

1. *Decide who will make these decisions.* A financial sustainability committee, developed as part of the larger community stakeholder group might be appropriate to form for this task and further guidance as fund seeking continues throughout the entire implementation phase of the SDC project.
2. *Always have the vision and objectives in mind as the Committee or full community membership begins this work.* This should help to orient the community to what is important to think about as it discusses possibilities for seeking funds and certainly be an asset in having discussions with potential funders.
3. *Brainstorm possible strategies for community funding.* Start with the list given in this section, but be sure to think about the options in the context of the community's own unique conditions. Which of the above fund seeking possibilities definitely won't work? Which need to be modified for the target community situation? How? Are there other possibilities that are unique to the community and its circumstances?
4. *Gather input from key people.* The more people community members listen to, the more the community stands to gain from different perspectives.
5. *Choose the strategy or strategies that make most sense for the community.* Diversifying funding by using several different strategies is often very helpful for community groups. By having multiple funding sources, you are less likely to be in trouble if one source dries up.

Remember to be careful that the community members don't use all of their time and resources trying to earn money or obtain resources. It's an easy trap to fall into. Try to strike a good balance. Also, take advantage of the community's current resources and talents. If the group has someone who is very good at writing winning grants, for example, write lots of grants. If, on the other hand, the community has had excellent luck with state legislators, then work with them to continue getting state funding. In short—build on what works.

Long-Term Project Financial Planning

Developing a plan for financial sustainability, as with any plan, takes a lot of work to be done right. It's intricately linked with the idea of institutionalizing your organization and its programs as a whole. By creating an effective financial plan, members of the community will be able to do more to make their vision a reality and have their objectives achieved (Nagy 2009).

The point where stakeholders want to implement their goals and objectives is not the time to become territorial and greedy about the ownership of specific projects as

well as the overall SCD initiative. Instead this is the time for building relationships, partnerships and sharing. When all groups take a vision and objectives to heart, everyone wins. You can gain powerful allies; the groups with which you work can partner with you to meet some of their own objectives, and the people you help can only benefit by having additional organizations on their side. Promoting the adoption of your vision and objectives can be a lot of work, but it can result in new and exciting opportunities for your initiative and the people in the community who have been a part of it.

The implementation of the community's Strategic Sustainability Plan actions must include objectives, strategies, and action steps to get and keep obtainable financial resources. All of this should be made very clear as part of the community's funding strategy. For example, the things that need to be paid for will include a list of all objectives, different projects (short-term and long-term), and specific needs of the different action programs that evolved from the Strategic Sustainability Plan. Having a clear understanding for the amount required to sustain each different project is a necessity. Those community members making decisions should have a good accounting of current resources, as well as required resources from potential funders for each specific action item of the SCD initiative.

Funding opportunities can also include information on potential matching fund organizations that can collaborate with the community group, the identity and profile of potential funding organizations or individuals that can be approached with financing requests, as well as the funding capacity of each organization, individual, or funding source. And finally, how will monies or other forms of support be requested (e.g., grants, letters of request, person-to-person dialogue, etc.) and by whom and when?

Planning for financial support is just one part of the community's overall program for institutionalization not the reason for its existence—or yours! It lets community members concentrate on their real purpose, whether that purpose is protecting the community's environment or helping businesses grow and diversify. So, while it's important to take care of the money, don't allow yourself and/or others to get so caught up in it that they forget what they are really trying to do.

To get things started consider the following step-by-step method for how to develop a financial sustainability plan. To obtain detail on these various steps the reader is referred to http://ctb.ku.edu/en/tablecontents/section_1297.aspx.

1. Decide who will develop the plan.
2. Let everyone know what you are doing.
3. Conduct an internal audit.
4. Determine how much money you need.
5. Decide how much money you want.
6. Compare the amounts set out in steps three, four, and five.
7. Set objectives.
8. Consider the available possibilities.
9. Decide which funding possibilities you will follow up on.
10. Strategize how to get what you want.

11. Develop a timeline.
12. Develop a draft of your plan.
13. Incorporate feedback on your plan.
14. Implement your plan.
15. Monitor and evaluate your progress.

Finding support for a specific program means that you will need to draw upon your skills in networking, communicating, and forging good working relationships with those whose support you want. It's a good way to make sure that a program becomes institutionalized, whether or not your own initiative or organization remains. Financial sustainability is an uphill battle, and the challenge to get to the top can be one of the biggest frustrations we face in SCD work. It always helps to network, to keep informed about what's going on, and to develop connections with others. It also helps to have someone in your community group who will take on the task of scouting and tracking those financial support opportunities that might be available to the community.

Marketing the SCD Initiative to Secure Financial Support

Marketing can be a powerful tool to help your organization succeed in its quest for financial sustainability. Although many in the community might be against the idea of having to market your efforts in the implementation of the Strategic Sustainability Plan, they should realize that they do some marketing anyway in the way the organization presents itself every day. According to the Amherst H. Wilder Foundation "Marketing is a process that helps you exchange something of value for something you need." These kinds of exchanges occur all the time (Nagy 2011b). Take the example of a neighborhood revitalization coalition project. Members might want businesses to move to the area to provide jobs and improve the economy of the area. In exchange, they might offer a semi-skilled work force and tax breaks.

So why should the community think about using the idea of marketing itself as an organization to gain important financial support? By focusing the community group's energies and making a concerted effort to do it better, you can:

- *Obtain more resources to survive and thrive.* If your organization is known as an effective group that works hard and gets important things done, people will want to jump on the bandwagon. Marketing lets the right people know about your successes, and also how and why they can add to them by support of your different SCD projects.
- *Gain valuable insights on your community.* As part of a marketing plan, you will be asking people what they think. This will give you a better understanding of why some people don't give to your organization at all, why others do support your group, and how you can convince both groups to donate more.

- *Better focus your current resources.* With the knowledge you gain through marketing, you will have an improved understanding of the best ways to use resources your organization already has to reach your goals.

In its simplest form, marketing the community's SDC initiative for financial support means letting everyone in your community know your group exists and what it does, encouraging everyone in the community to like the ideas behind the Strategic Sustainability Plan, and convincing people to support the initiative, either through their financial giving or individual participation. Doing these things, however, can get a bit tricky. To meet the challenges of marketing the community organization, you should develop and follow a marketing plan. Discussion of twelve points that are important parts of marketing your community group can be found at http://ctb.ku.edu/en/tablecontents/section_1333.aspx for your review.

Marketing can be used honestly and well as a very powerful tool to help your organization or group succeed. The successful use of marketing can help your organization live a long, successful life in the community. After all, you have built something to be proud of with your group or coalition—don't you want to let others be a part of it?

Obtaining Public Funding

Community members should be thinking about making sure the community group can continue for the long-term. In order for that to happen, you obviously need a number of things: a competent and committed staff, an organizational structure that works, appropriate space, community support, and *money*. Stable, adequate funding is the Holy Grail for just about every organization that sees itself as more than temporary. There are many possible sources of stable funding, but one of the most readily available—and probably the largest—is public funding. A share of it may provide the foundation you need if you want to institutionalize the community group (Rabinowitz 2011).

Public funding—money that comes from public revenues at the federal, state, and local levels—can be a secure source of funding for your community. Public funding, in its simplest terms, is taxpayers' money, and the funding of health, human service, environmental, community development, and other public service programs is one of the ways it's spent for the common good.

In order to take advantage of it, however, it's important to understand its drawbacks as well as its positive side. On the one hand, it's probably the largest potential funding source available, can be a much longer-term prospect than other funding sources, and may be earmarked for exactly what you do. On the other hand, it can come with restrictions, procedures, and bureaucratic hassles that challenge your mission and make involved community members lives complicated and difficult. You have to weigh the positives and negatives, and decide whether public funding is right for your organization.

Once you've decided to apply, your first hurdles are learning about the availability of appropriate funding for your organization, and making the organization eligible to receive it. Networking can also be important in positioning yourself to acquire public funding. Then there's the matter of actually going through the writing of a proposal to tell the jurisdiction you're seeking funds from what you are going to do with them as part of your community SCD work. Each of these steps in this process—conceptualization, writing, and assembling the final product—has its own tasks and pitfalls, and needs appropriate attention. If you can successfully make it through this process, then the community group might end up with a major piece of stable funding that will help you further the mission and philosophy of the SCD organization for years to come.

If you've decided to apply for public funding there are a number of ways in which government agencies and municipalities spread the word when they have money to give out. They're often concerned that as many organizations as possible have the chance to apply, so that they can pick and choose to get the best projects. But not always—they may want to limit applicants to certain categories or to certain organizations, or they may have very strict requirements that only a small number of organizations can meet. Politics can play a role here as well. They also have a legal obligation to make sure that the news is widely spread, so that there's no favoritism or discrimination involved in the application process. The link at http://ctb.ku.edu/en/tablecontents/section_1333.aspx will provide you with a number of ways of tracking the availability of public funds for financing a community SDC project.

There's more to getting your community group in a position to acquire public funding, however, than simply meeting eligibility requirements. Public money for a given project or activity may be available each year, but it may also generally go to those organizations which have been funded before. In other words, it may be hard to break in. Especially if you're a new organization, you'll have to make yourself known to policy makers, funders, and others in your area by networking.

Establish relationships with your federal and state legislators and/or their aides, and with local officials. Make appointments to talk to them about what you do, and show how your work meets their and their constituents' needs. Invite them to visit your organization and watch it in action. You can help to educate them about your project. In turn, they can inform you about funding availability, get your community group through the 501(c)(3) non-profit and state tax-exempt processes, and help you make your case with funders.

Also establish relationships with individuals at agencies that might fund you. Ask for their help in getting eligible, let them know about your work and why it's praiseworthy, and get to know them as human beings. If they have spent time in helping you then in respect of that time they will probably pay more attention to your group than otherwise. It's much easier to deal with a bureaucracy in the form of the real people who staff it, and they're more likely to take your application seriously if they know and respect you.

Attend meetings, conferences, etc. where you'll meet others doing the same work you do. The more people you know in the field, the more legitimate you'll seem in their and funders' eyes. Also try to join coalitions and collaborate whenever

you can. It will improve your organization, make you friends and contacts, and establish you as someone people want to work with. All of this will not only bring you friendships with a lot of interesting and like-minded people, but will put a face on your organization, give you personal connections when you need them, and ultimately help you get a foot in the public funding door.

Soliciting Contributions

Obtaining support through successful grants and submitted proposals for public funds is important to the financial sustainability of many community organizations. However, we all know competition for grants can be tough. You may consider what types of other resources may be available within the community.

Contributions for example, are donations of money from individuals, businesses, and other organizations in the community. Contributions may help meet the funding needed in order to run day-to-day operations for the community group.

A community group may ask for small contributions differently than large ones, and may find creative ways to solicit funds (Wolff 2011). Major donors, those who give large amounts of money, may be treated differently, for instance, and offered some special recognition for their generosity. Contributors may be offered something—membership, recognition, a monthly organizational newsletter, a small gift donated by a business supporter—in return for their contribution.

Depending on the size and needs of your community organization, you may want to think about whether to pursue major donors or not. Community contributions are typically in the \$10 to \$100 range, with a few of up to perhaps \$500. Major donors to large organizations and institutions may give millions, although a major donor for most community-based organizations would probably contribute a few thousand—say, \$2,000–\$5,000. The questions for any small organization are that of how much time and effort it takes to get a donation of that size, and whether it has the resources to invest in what may or may not be a successful effort. At a minimum, major donors should be met with as often as possible, introducing them to your organization and its work, conducting guided tours of facilities and programs, and offering conversation with participants and staff. You might also discuss financial arrangements that can provide the best tax advantages for the donor. If you have the time, energy, and connections for this, it may be worth it. If it will detract from the quality of the organization's work—unless it holds a promise of a really major donation, one that could advance the organization to another level—it's probably not worth it.

Asking for money from the community can take a variety of forms. The very first thing you should do is make a plan for soliciting contributions. If you plan well, your request will go much more smoothly, and is more likely to yield the results you hope for. To read about the different elements of a community fundraising plan go to http://ctb.ku.edu/en/tablecontents/section_1340.aspx.

Seeking Corporate Resources

One way that the gap is closing between the realization of sustainability initiatives and the financing of action projects and programs is through the growing recognition for social responsibility at the corporate level. Corporations look at ways of helping the communities in which their facilities are located as a form of social responsibility that can become very important to their bottom line (Nagy 2011c). This being the case, community groups can try to tap into corporate funding sources for part of their fiscal needs.

Similar to corporate funding, corporate giving is any kind of support for not-for-profit organizations or causes that comes from members of the for-profit world. While most people tend to think of corporate giving as cash-money, it can occur in a lot of different ways. You might think of corporate giving as anything you obtain from a business person in a professional capacity or an organization that you would have had to pay for if they hadn't offered it.

So how does a community group go about trying to obtain corporate funding and giving? The process can be broken down into two parts, preparation and execution. Time spent to thoroughly research possibilities will pave the way to a smooth execution of your request.

Preparation

- Consider what your organizational needs are. You might break your needs down into two general categories: immediate needs (we really need a new copier; this building could use a coat of paint) and long-term needs (we need a stable, continuing source of funding for our programs; we need to implement ongoing staff training). Another way to think of this is, "If someone could give your organization anything, what would you ask for first? And then what?"
- Research local companies or national companies with a strong presence in your community. Information on local companies can be found from the chamber of commerce, by talking to people around town, and, of course, by requesting information from the company itself. When you are doing your research, some of the basic things that you will want to learn about corporations include:
 1. Who makes a point of giving? That is, which specific corporations have a history of giving?
 2. When the companies have given resources, who have they given them to? Look at both organizations and specific issues that each company has funded. As we stated above, many larger corporations only make donations in one or two areas.
 3. How does the company tend to donate resources? As cash? Executives on loan, or flex time for their employees? Gifts of equipment or services that the company produces?

4. Who are the CEOs, VPs, Board members, and other important higher ups in the company? Knowing something about them personally (if that's possible) might give you a better idea of causes they are likely to support or be against.
5. How much money are the corporations willing to give? You may be looking for \$25,000, but the maximum award from a promising foundation is only \$10,000. Again, this isn't necessarily a stopping point—it is possible to apply to more than one source at a time—but again, it's something that may figure into your calculations.
6. What are the requirements of the corporation for asking (and receiving) assistance?
7. What's going on in the local business scene? Another way you can "prepare" is to stay knowledgeable about it. For example, you might want to read the business section of your local newspaper, or even more specialized local business newspapers or journals.

Execution

- Make personal contact with representatives from the corporation. If you can, you might try to meet with representatives from the corporation to get a better idea of what they want in their proposals, and just more of an overall feel for the company and its giving policies. If you know someone who works at the company, you already have a foot in the door. And before you go to that meeting, be well prepared. You should thoroughly understand the company's work and its giving policies. And be prepared with thoughtful questions, but—and this is important—NOT thoughtful questions that are answered on page one of their annual report. When you meet with a representative from the company, you should also be prepared to answer tough questions about your own organization. If you have a "press pack" of informative papers, brochures, etc. about your organization, bring that along to leave with the corporation.
- Make your formal request for assistance. Write your proposal, carefully following the guidelines stated by the corporation. In your proposal, you should be very explicit about the benefits to both the corporation and the community at large.
- If appropriate, celebrate! If you've managed to obtain some much-needed resources, congratulations! Finding the resources you need takes a lot of time, careful consideration, and elbow grease. When you've managed to put these together and get what you need, it's time to pop the champagne and congratulate yourselves on a job well done.
- Follow up. If you did get help from the corporation, thank them—in person, with a handwritten card, or (better yet) both. Let them know specifically how their contribution has helped your organization. Further, make sure that you continue to keep them informed of your organization's work. They might just see another program they would like to fund!

Innovative and Imaginative Funding Alternatives

As we discussed earlier in this section, public funding can be very stable or not stable at all. It also may come with restrictions and regulations that make it difficult to do some of the things you want to do. The wise course is to try not to depend too greatly upon it. Your organization will probably be best off if it has many sources of funding (Hayes et al. 2011)—a diversification of funding. The most desirable is money that comes with no strings at all—from community fundraising or memberships, for instance—but it’s unlikely, unless you’re quite small and willing to stay so, that you can raise enough no-strings money to run your organization.

The optimal situation will most likely be one in which pieces of your funding come from several different layers of government, from private foundation grants and community organizations, from community events and fundraising (including membership), and from business and industry partners (perhaps as fee-for-service). If your funding is diverse enough, then losing one piece of it won’t be a disaster. It can be replaced with something else, and the organization can continue doing what it was founded to do.

Dauphin Island SCD Project Example

My experiences in sustainable community development work have shown that when it comes to funding SCD projects, often communities can come-up with some very innovative and imaginative ideas about how to obtain money for their plan implementation. These ideas go well beyond the traditional fund raising processes discussed above. For example, in my Dauphin Island (AL, USA) project in 2007 numerous stakeholders suggested that the bridge bringing cars onto the Island should have a toll associated with it to be collected by the Town of Dauphin Island.

The Island is a unique setting that only has a large bridge and a ferry service to allow cars to come on the Island and leave it. In its SCD planning discussions during 2007 community members in general also showed significant concern about traffic congestion on the Island during certain times of the year related to holiday beach going and eco-tourism. The result of these two very different issues was the suggestion that a toll should be placed on the bridge for non-residents that would provide extra money to the Town, especially for support of SCD projects. Since the toll might serve as a disincentive for visitors to cross the bridge and come to the Island, it was further suggested that as an alternative a free bus service be available to transport people across the bridge during peak travel periods. This would also offer a potential solution to the concern for congested traffic on the Island during

peak tourist times which would indirectly also offer protection to the pristine environment of Dauphin Island.

Whistler (BC) Sustainability Program

In 2002 I served as an SCD practitioner for the Resort Municipality of Whistler, British Columbia (BC, Canada) and provided consultation with other experts on the Municipality's application of The Natural Step in their development of a plan that would build upon what the Resort area was already doing well from both a business and sustainability perspective. One of the major concerns of both the Municipality government and the general public was the consistent availability of a qualified labor force for the many different aspects of the Whistler economy.

Geographically, Whistler is relatively isolated in the BC Sierra Nevada Mountains, with closest other towns being many miles away. This is especially problematic in the peak winter tourist period (skiing) when workers need to travel any significant distances on snow-packed roads. In addition, Whistler is a very expensive place for workers to live where in many cases wages are not proportionate to housing and cost of living expenses.

One of the community suggestions that evolved from this situation of labor force cost of living was the idea of a "dual economy" for the Municipality. In its simplest form, a dual economy would mean that the labor force members in Whistler would pay one price for goods and services in the community and the tourists visiting the area would pay a higher price for the same goods and services. Affordable housing strategies would also be included in this idea of a dual economy. This process could be easily implemented through the use of "resident" identification cards (like a credit card) that would be monitored by a computer system, linked to business cash registers/computers, and local ATMs to tally different price schedules, just as we regularly experience with club member loyalty cards in many large grocery store chains today. The higher prices paid by tourists in this system could be applied to offset the prices paid by the members of the local labor force and also applied to funds that support the continuation of the SCD programming in Whistler.

The development of a "resident" card for reducing the Whistler labor force cost of living might also provide the opportunity for partnering with a local or regional bank that would facilitate the community in gaining an income itself from the use of the card by its holders in the community. For example, through its alliance with ShoreBank Pacific, an American commercial bank providing capital to community development projects, Ecotrust of Portland OR (USA) began to offer the Salmon Nation card, an affinity or reward card supporting its programs throughout the bioregion (Edwards 2010). This is an example of the benefits of linking global and local partners, where the established assets and reach of a financial institution are used to support the needs of local communities (Gronewold 2009).

Community Business Incubator

One of the primary emphases of most community sustainable development projects is to improve the economic circumstances of the town, city, or region. As part of the SCD strategic plan communities will examine the different assets they possess in the community and ask of these assets; “How can we capitalize on what we have in the way of resources to enhance our economic development?” The identity of previously untapped resources coupled with an entrepreneurial spirit in the community can lead to opportunities for new business development. Unfortunately, in many of these situations the entrepreneur who proposes the new business does not possess the start-up funds and/or other resources (e.g., building or other infrastructure) to begin a viable business process.

Communities that experience these kinds of situations have often instituted a Business Incubator program for the potential new business prospects in the community. The incubator concept is intended to provide aspiring entrepreneurs with a minimum of business start-up funds and space to do the business activities. The idea of the incubator implies that involved business owners will find themselves all together in one facility which offers all the traditional business functions that a new aspiring business owner might not be able to afford on their own. This includes secretarial services, office supplies and functions (e.g., copying machines, computers, etc.). Therefore the involved entrepreneur can devote most of their time and resources to the actual growing of the proposed business (Panayotou 1995).

To pay back the community’s initial investment a business that takes advantage of the incubator program can return an agreed percent of dividends from the business’s early profits if the proposed business is successful and moves out of the incubator into its own place of operations.

A business incubator in the community’s early focus on economic development also provides new forms of commerce for community members that discover they can add value to their business products from previously unnoticed resources in the community. Adding value to a business process or raw product means that more money is kept in the community, rather than outsourcing the potential returns elsewhere. The business incubator can offer a mechanism to the business owner in testing his/her ideas on adding value to already produced goods in a way that does not disrupt the owner’s business production already up and running. Again, the investment of the community in the initial start-up of an added-value business process can be returned with dividends to provide additional financial support to the community for other projects in the Strategic Sustainability Plan.

Micro-Grant Programs

Micro-grants are small, one-time-only, cash awards given to community groups and others for short-term community projects, or more importantly, seed funds for start-up projects that will then be able to obtain further funding from other sources because of the confidence and success achieved from the micro-grant.

Many coalitions and other organizations are using micro-grants to stimulate community action and increase the sponsoring organization's visibility, while broadening the audience for the organization's work (Wadud 2009). Micro-grants are potentially powerful as well as cost-effective interventions. When used correctly, they can engage citizens in creative community betterment efforts, and generate real accomplishments citizens can take pride in.

Micro-grants may seem like a good idea to community groups, but since they usually involve using some of the group's own money at the start stakeholders might need a little more motivation to initiate this kind of program, other than the potential payoff of attracting other funders eventually. Benefits of a successful micro-grant program include:

- They inspire creative and innovative thinking.
- They are an excellent way to involve “hard to reach” or “yet to be reached” people, because they are awarded to groups (like parent teacher associations, scouts, neighborhood organizations) that have access to many more citizens than traditional health and human service organizations. This can work to the benefit of the overall SCD project of the community by engaging still more people in the community improvement processes.
- Many grass-roots groups are not eligible for traditional grant funding. For example, they may not have federal tax-exempt status (a common grant requirement), or, they may not have another organization to act as a fiscal conduit for them. Thus, micro-grants give them a chance to get hold of resources that would otherwise go only to bigger fish.
- The small amounts of money (the usual range being \$400–\$2,000 per micro-grant) tend to discourage large agencies from applying, while encouraging smaller, innovative groups who might not otherwise respond.
- Micro-grant money tends to buy products, not staff. In-kind contributions of staff time increase with micro-grant use. And having to make money go a long way forces people to bring other resources into play, thus increasing the amount of matching and volunteers projects receive.
- They can bring new partners into your efforts.
- They can build political and community support.
- And maybe most importantly the “seed money” from a micro-grant may be enough to encourage future grants of more magnitude from funders that otherwise would not have paid attention.

Communities, when given the right stimuli and information, can clearly be good at devising new and different kinds of financial support mechanisms to meet their needs. The SCD practitioner can help immensely in this regard by always keeping the community thinking about what it possesses in the form of different kinds of capital and continually encouraging the community stakeholders to “think outside the box.” Another excellent resource for learning the “ins and outs” of SCD project financing can be found at the Smart Communities Network web site in the section devoted to “Finance and Sustainability Introduction” (<http://www.smartcommunities.ncat.org/financing/intro.shtml>).

By now the practitioner has been successful with the target community in raising funds for the SCD project work. If this is the case, then an organizational budget will be a necessity for the community group. Devising a budget process that examines the organization's priorities, and using it to produce an accurate, balanced budget for the coming fiscal year will help community leaders keep control of the organization's finances, and will help guide the work of the organization. A rational and accurate budget will allow the organization to keep good relations with your funders by making it easier for you to give accurate reports and to spend their money as you have promised. It will improve your reputation in the community, by showing you to be a responsible organization that pays its bills on time and keeps careful track of its money. And it will make your life easier and less stressful by giving you clear guidelines about what you can spend and when. Actual detail on the development and management of organizational budgets can be found at http://ctb.ku.edu/en/tablecontents/section_1303.aspx.

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Chapter 17

Final Thoughts

We are a species (us humans) that have adapted to the Earth over several hundred thousand years. Out of that came cities, empires, technologies, languages, systems of governance, and philosophical outlooks. And as a species we have been very successful in coming to dominate the planet. But from another point of view we have not done so well.

A community maintains a shared identity grounded in its history, which must be passed from one generation to the next if the community is to know itself throughout the passage of time. History, in turn, is a reflection of how we see ourselves and thus goes to the very root by which we give value to things. Our vision of the past is shaped by and in turn shapes our understanding of the present. And the present shows that benefits have been narrowly dispersed and tightly held. And we find ourselves as humans over-consuming the resources that sustain us. Throughout our history in fact, the benefits of the collectively created civilizations have not been well distributed, nor used for the benefits of everyone. And thus, most if not all previous civilizations have failed.

Where We Are and What We Can Do?

Presently, instead of building capital, many communities, businesses, and other institutions are depleting it. When natural resources are used up faster than nature can replace them, when people are uneducated and unhealthy, when infrastructure is not maintained, all of these forms of neglect deplete the capital base you require to meet your needs in the future. The underlying intent of a sustainable community development (SCD) plan is to ensure that future generations continue to have the same opportunities as community members have now with no new constraints on the use of community capital in providing the ability to meet their needs. In reality,

Some of my thoughts here have been influenced by the writings of Douglas Carmichael in the December 2010 newsletter of Millennium Alliance for Humanity and the Biosphere (MAHB).

maintaining and even increasing the assets available to people living in the future is an important operating principle.

These circumstances suggest the need for strategizing how to nudge people and institutions toward new situations for creativity and judgment with due recognition of the resistance people will mount to defend existing ways of earning a living, managing careers, and maintaining community stabilities. But even if people accept that 30 years from now we will be in real trouble they still feel deeply that there are so many other problems that will get us in deep trouble that it is tactically unsound to focus on the longer range (grandchildren's lives) if near term catastrophes—failure of world economy, nuclear war, etc.—are more immanent. I believe that a large number of people accept the problems related to global sustainability but also expect other issues to intervene, including major social, economic, military, and health catastrophes.

So, the momentum of the existing society results in large part from people being deeply attached to their present resources and incomes. Change threatens the expectations of stability in these arrangements over time, especially change that offers no alternative “in time”. Asking a person to step out of a leaky boat, without offering them a better one, won't work. Staying in a leaky boat when there is no alternative is not stupid. And we who are focused on the sustainability problems of the globe need to stop being contemptuous of those who are not—yet—with us. People are smart within their circumstances and we want them to be equally smart about a global ecosystem's perspective.

Most of the population, perhaps all of it, is embedded in this way into existing institutional structures that will endure in time, and each in a timeframe that has a schedule to its unfolding. One of the key jobs of community governance is to keep the anxiety of their citizens at a minimum. This is one reason why organizational change is so hard. Leaders try to limit the perception of change. Change management efforts in organizations led by consultants are usually defeated by next level down of community members who tame the initiative, making it fangless, in order that nothing real happens. This is also true at the level of national governments where change is seen as giving opportunities to alternative parties waiting in the wings.

Organizational change is hard because the action of people at all levels to keep the organization functioning are informal, unrecognized, and undocumented. The secretary outside the boss's office in traffic control central who has a systems view is continually being the glue and the grease that keeps things going, but she is not going to allow environmental issues with a thirty year time frame affect the flow of the many seconds long encounters she needs to manage. Change threatens these informal procedures felt to be necessary to work flow. “We must change our ways to prevent ecological corrosion.” What ways, How? Who bears the costs, who benefits? No wonder people are skeptical.

Character distribution (mix of circumstances and temperament) is surprisingly constant through history and each epoch must give room for each type. The balance of ethically, aesthetically, and healthy people seem to be constant across societies and history. Any model of the future must include an assessment of what we are to

do with the range of human temperaments and characters, not to assume that, with the right logic, all will align.

Society in its current form, of culture institutions and private perspectives, is too removed from sustainability for any adequate path to emerge from it as it is. So, society itself must change, we might conclude. Human capacity built upon the will of people to engage in work toward common aspirations and fueled by a mindset in tune with methods of sustainable development is the way of shifting society to a more productive and long-lasting state. And many already have, although maybe naive about the difficulties ahead.

The subtitle of this book “A Participatory Framework for Change” says it all! In a bottom-up direction, the book has focused upon the many individuals in communities and their full *participation* in the further improvement of their community situation. To understand sustainability as a journey of consciousness and participation community members must relate the idea to their own core values (not somebody else’s) and the issues derived there from. Through the assistance of a skilled SCD practitioner, community members are encouraged to embrace a *framework* to assist them in their work, to guide their pursuit of more sustainable lifestyles. The use of this framework encourages the building of capacity by the community for the understanding and awareness needed to seek improved well-being in a community-wide way, not simply as individuals. And the critical mass of participation by many community members employing a universal framework that focuses the group and adds capacity to their human resource value has proven through evidence from the many case history studies provided in this book to lead to *change* in communities.

But, as emphasized above, this cannot be an assumed outcome without a well developed facilitation strategy and a lot of hard work. Besides the expression of intent of a community or corporation to change and become more sustainable, there needs to also be development of a “mindset” that will really enact the systemic approach that successful outcomes in sustainability plans and actions demand. Possessing a mindset toward the inclination for sustainable development provides an open door for the person or institution to think about and act upon sustainable issues as a form of habit that builds capacity among like-minded people. This being the case, an actual definition of the phase is not as important as the second nature or philosophical mindset the person has for the subject.

Take for example the Millennium Development Villages (MDV) project that is now serving 14 clusters of communities in Africa. In the short-term this project has been very successful at community development and improved well-being of community residents (Hinchberger 2011). But serious questions are being raised about what the exit strategy is for the donor agencies and whether the reliance upon outside resources will eventually leave communities dependent again after these resources have disappeared. It comes down to the long-term building of capacity for self-sufficiency in these communities and development of a mindset for continued change. Critics emphasize this issue as a weakness in the MDV project.

On the other hand, Coppock et al. (2011) demonstrate how building the capacity of a certain sector (women) of Ethiopian communities can lead to overall long-term

community improved well-being. The researchers used an action-oriented approach to build capacity among thousands of individuals to diversify livelihoods and improve living standards, which included many individuals participating in education and action-taking. The conclusion of these studies was that human capacity building can be a driver for change, generating hope and aspirations that set the stage for the use of new information, methodologies, and a changed mindset.

The reactions of nations and societies, institutions and people, to global sustainability issues over the next few decades will be very complex. Material and economic disparities and the associated disproportionate impacts they exert on different societies to-date has resulted in the degradation of ecological resources as well as the potential for conflict, often growing into circumstances of war and terrorism (Lash 2001). This book's mission is to discuss seriously and systematically the difficulties and opportunities of getting societies to engage with these issues, in a very tricky period when the science is pretty good but the social response, from politics to economics, are focused elsewhere because lack of public familiarity with scientific methods hinders a ready translation of science into personal choices (Bernard and Young 1997).

The contents of this book will play a significant part in moving society to a more sustainable way of life. A first step will be recognizing that threats to societal and ecological well-being are woven together in mutually reinforcing ways (Gibson 2002). If we can begin to judge proposed actions and policies for their economic value, as well as for their ecological and evolutionary affects, we will be following a model of sustainability by associating different human values (those wanting a strong economy and those valuing the natural environment) with the multiple dynamics of natural systems. Corrective actions must be woven together to have positive outcomes for multiple objectives and informative feedback for needed changes to stay on-track, in contrast to the carrying out of policy that is based solely on short-term economic benefits. The brilliance of the sustainability movement is its demand for seeing things as interconnected and interdependent—its ability to provide a bridge between disciplines and interests, between the pieces of the whole and the whole itself (Hodge 2004).

Sustainable community development that is well facilitated by a knowledgeable practitioner exposes citizens to the ramifications of their thoughts and actions on others, their local environment, and the surrounding landscape, as well as motivating and organizing people to direct change within the context of a responsible and shared vision for a collective future. Achieving sustainability is not, however, merely about a series of technical fixes, about re-designing humanity or re-engineering nature, in our continuing desire to compete in the global economy. Even the best technologies, policies, and regulations will not put society on a sustainable course without a fundamental shift in our thinking and actions, along with extensive engagement of all global citizens.

The new development transition is about creating communities that make efficient use of land and infrastructure, and require less material and energy,

while providing decent living conditions, rather than trying to tinker with different problems in isolation. This new vision would unify concerns with habitability, efficiency, and environment, concerns that are currently fragmented in different agencies and disciplines. The economic transition in pursuing community development that is comprehensive and integrated means moving towards a system of production, distribution, and decision-making that is harmonized with equity, sustainability, and human fulfillment. It would balance multiple objectives: eradicating human deprivation, reducing inequality, staying within environmental carrying capacity, and maintaining innovation.

The discussions of tools and strategies and the stories from real life presented in this book are a message that citizens are exploring new ways of doing business and of opening up exciting possibilities—often well in advance of political leadership. Unusual partnerships are coalescing between businesses, governments, and nonprofits to step up pollution prevention and save money; developers are reducing costs by designing for the environment; neighborhoods are adding value to their property by creating green spaces; and low income farmers are staying on their land by connecting with organic food consumers in the city. Together these examples tell a story of a new wave of American ingenuity and know-how, of citizens solving problems from a new perspective.

And through the tools and strategies discussed here, as well as in other good sources referenced, community members are beginning to put aside some of their day-to-day concerns in recognition of the bigger picture that nature and people are endlessly and inescapably under the influence of one another through connecting relationships. Thus, the goal of SCD is to create and maintain these thriving social, economic, and ecological systems that are intimately linked because humanity depends on services of ecosystems for its wealth and security (Gibson et al. 2005).

According to the principles of “new localism,” people are beginning to view communities and regions not only as places of residence, recreation, and consumerism but as places that nurture active and informed citizens with the skills and productive capacity to generate real wealth and the authority to govern their own lives (Kates and Clark 1996). In these circumstances, to those fully embracing the concept, sustainability is a vibrant set of actions which enable all people to realize their potential, meet their needs, and improve their quality of life in ways which simultaneously protect and enhance our Earth’s life-support systems (Folke et al. 2002). In addition to providing greater value for money both for the long and short-terms, integrating sustainable development into a community’s modernization program can bring a better balance between economic, environmental, and social benefits, rather than crude trade-offs that are often made now in decision-making.

The essence of the individual and community search for a meaning to sustainability relevant for their setting therefore, is to take the contextual features of economy, society, and environment—the uncertainty, the multiple competing values, and the distrust among various interest groups—as givens and go on to design a process that guides concerned groups to seek out and ask the right questions that will help them progress through incremental improvements toward common goals despite challenges (Norton 2005). This process should be

characterized by features that include: flexibility; diversity and stability (ecologic, economic, socio-cultural); respect for other people's dignity; consideration of unintended consequences (change is the norm, not the exception); and notions of enoughness and reversibility.

Listing of SCD Tool Kits for Practitioners

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