The Ecology of Place

Planning for Environment, Economy, and Community

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favouring urban areas to New Urbanist developments to gated communities—in an attempt to create the various elements of civic life and demonstrate how to foster greater caring, participation, and face-to-face interaction within a community.

Chapter 7 discusses the next logical steps in promoting more sustainable places—where to go from here. It does this in a number of ways and at a number of jurisdictional levels. It begins with some thoughts about how to go about changing or modifying the prevailing ethic of land and land use. It identifies the elements of a new ethic of environment and community and the short- and long-term actions that might promote such an ethic. It then moves to a discussion of more specific actions that can be taken at local and regional levels to begin to move in the direction of sustainable places, including such things as establishing a system of indicators of sustainability, visioning strategies and other techniques to engage the public in a dialogue about the future, different types of strategic intervention, and suggestions for building partnerships in support of sustainable places. The chapter also identifies a number of potential policy changes and initiatives at the federal level that would assist localities and regions in moving in the direction of sustainability. These initiatives include reforms in the tax code, adjustments to federal subsidies and financial incentives, environmental policy reform, and demonstration projects, among others. While these are not discussed in great depth, it is important to acknowledge that part of the work must be done at the national level and to identify the essential elements of a long-term national agenda of sustainable places.

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Envisioning Sustainable Places

How do concepts of sustainability translate into a vision and plan for sustainable places? What is a sustainable place? What does one look like, and would we know one if we saw it? What would be the distinguishing characteristics of such places? What follows is an initial exploration of these questions and an attempt to visualize what sustainability can mean at community and regional levels.

Sustainable Places Acknowledge Fundamental Ecological Limits

Whether they are called "green communities," "green cities," or "ecocities," sustainable places seek to limit environmental impacts and the consumption of natural resources. Cities and urban developments have tremendous ecological impacts, and the seriousness of the environmental crisis to which they contribute suggests the need for a fundamentally new governance and management approach—one that acknowledges and implements a new ecological paradigm. As Mark Roseland observes in Toward Sustainable Communities, "Cities provide enormous, untapped opportunities to solve environmental challenges, and local governments must and can pioneer new approaches to sustainable development and urban management" (Roseland 1992, p. 22).

Concern for environmental protection and conservation are not new to the planning and design fields, and the creation of sustainable communities builds on these concerns. Important early examples include Ian McHarg's groundbreaking Design with Nature (1969) and the attention paid to carrying capacity, protection of sensitive lands, watershed planning, and ecological land planning (e.g., Schneider, Godschalk, and Axler 1978; Godschalk and Parker 1975; Spinr 1984; Steiner 1991; Marsh 1991; Thunow, Toner, and Erley 1975; Salvesen 1990). What is new, perhaps, is the commitment and priority given to respecting ecological limits in the planning, design,
and operation of our communities. Planning for sustainable communities is not simply a matter of avoiding a few wetlands, or saving a few acres of open space, or putting in place a few nonpoint best-management practices. Rather, it requires considering ecological limits and environmental impacts at every step of community development and in every aspect of community design, from the energy efficiency of buildings to the regional transportation system to how the industrial and commercial sectors in the community go about business. Planning for sustainability means reorganizing the social, physical, and political-economic landscape in very fundamental ways.

What will guide communities in determining how far to go in reducing their environmental impacts? How will we know when ecological sustainability is reached? A good place to start, perhaps, is with local and regional indicators, and with a concerted effort not to exceed the natural carrying capacity of regional-level ecosystems or bioregions (for a discussion of bioregion delineation, see Sale 1991). The notion offered by the National Commission on the Environment that we should be living off our ecological interest (as opposed to depleting natural capital) does have clear, although not uncomplicated, applicability to such actions as groundwater extraction, air and water contamination, use of agricultural and forest lands, and maintenance of biodiversity and habitat. Sustainable communities seek to live, develop, and operate within these natural “limits.”

A sustainable community is a place that seeks to contain the extent of the urban “footprint” and strives to keep to a minimum the conversion of natural and open lands to urban and developed uses. The evils of urban sprawl are many and well documented (e.g., Kunstler 1993; Roseland 1992; Downs 1994). From an environmental or conservation point of view, loss of habitat and many other serious forms of environmental degradation find their roots in wasteful and destructive development patterns and in the economic and social system that encourages them. Increasingly, to have an effective environmental policy (whether the concern is with biodiversity loss, air quality, or coastal management) first requires an effective urban policy.

Sustainable communities, then, are places that exhibit a compact urban form. This is quite a challenge in the United States, where the trend has been in the other direction (Downs 1994). How we may bring about this compact form is discussed extensively in Chapter 3.

The 1994 "Full House" study, for example, renewed significant concerns about preserving remaining farmlands while "satisfying the demand for residential building, industrial sites, parking lots, shopping centers, schools, and recreation areas" necessary to accommodate further population increases (Brown and Kane 1994, p. 166). In sustainable places, the conservation and protection of natural and undeveloped land is a primary goal that is not easily overruled by proposals for housing or other uses that could be accommodated within existing urban areas. A different physical form accompanies such a vision and includes compact development patterns, higher densities, and more land-efficient development projects; a more sensible and sustainable transportation system, with less reliance on automobiles, more availability of public transit, and more opportunities for walking and bicycling; greater emphasis on infill, adaptive reuse of buildings, and rejuvenation; protection and avoidance of ecologically sensitive lands; and avoidance and conservation of natural hazard areas, including flood plains, high-elevation zones, and areas subject to wildfires and landslides. Curtailing the consumption of land at the urban periphery becomes a critical part of preserving biodiversity, important ecological functions, and productive lands essential for sustaining current and future populations. Serious urban-growth containment, then, becomes a central part of preserving these essential natural and biological resources.

Sustainable places seek more broadly to minimize the extent of their "ecological footprint," to use William Rees's important concept. To provide food, housing, and energy for a community's population requires a tremendous drain on collective ecological capital—the equivalent of five hectares per year per North American resident. These consumption levels can be supported only by drawing upon the resources and carrying capacities of other regions and nations. Sustainable places seek to better understand these extra-local resource demands and to minimize the extent to which the carrying capacities and resources of other bioregions are "appropriated." A sustainable place, therefore, thinks beyond its own local and regional ecological limits and capacities. It seeks every possibility to reduce these demands through energy-efficient buildings and transportation, other sustainable building practices, use of renewable energy sources such as solar, or pricing policies that discourage waste.

This necessarily raises the question of whether sustainable places should aspire to being self-sufficient in terms of the resources they require and the environmental impacts they generate. This is not an easy question to answer, and there is no hard and firm standard. Much of the current sustainability literature identifies self-sufficiency as a desirable goal (e.g., Sale 1991). The problems arise when cities (and nations) exploit and degrade the environments of other regions and nations to satisfy wasteful and opulent patterns of development and consumption at home.Trade among cities, regions, and nations, however, is not itself a bad thing and is, in fact, central to the functioning of our global economy. Reducing the unnecessary import of resources and goods from other regions, as well as the export of wastes
and pollutants, should be an important goal. Local food production is preferable, for example, because it results in lower energy consumption, less pollution, and healthier food. It may not be possible, for climatic or other reasons, to produce certain foods locally, however. Becoming self-sufficient in the sense of reducing unnecessary imports—things that are or could be produced locally—and minimizing or ceasing the export of wastes and pollutants, is a desirable goal.

Sustainable Places Are Restorative and Regenerative

Some definitions of sustainability imply preservation of the status quo—simply protecting or ensuring that the conditions of the present are not diminished in the future. But the ethical imperative of sustainability calls for more: it calls for energetic efforts to reverse the degradation already brought about and for passing along to our children and their children a planet where both the natural and built environments are of a higher quality and condition.

There are, unfortunately, reasons to be skeptical about our ability to meet these challenges, given current global trends of population growth, consumption, and environmental degradation. Yet at local and regional levels, the higher standards implied by sustainability are not only more conceivable, but necessary from a practical as well as an ethical standpoint. Indeed, there are encouraging examples of efforts to restore the environment, or at least important pieces of the environment. These range from recreating prairies in the Chicago area to reintroducing the red wolf in North Carolina to the reforestation efforts under way in a number of places (see Baldwin, Deluca, and Pletsch, eds. 1993; for a good discussion of ecological restoration as a new perspective on the relationship between humans and nature, see Jordan 1993).

Sustainable Places Strive for a High Quality of Life

To be a viable paradigm, sustainability must incorporate a strong social component. Along with ecological issues, then, sustainable communities are equally concerned with social and human sustainability—creating and supporting humane living environments, livable places, and communities that offer a high quality of life. Characterizing the social dimension becomes much vaguer and more subjective than defining the environmental or ecological dimension; we cannot rely as readily on such measures as natural car-

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ing capacity. Terms such as livability and quality of life, in turn, beg for definition and description and, ultimately, may be up to the community itself to clarify.

It seems fairly clear, however, that current patterns of urban development in the United States are becoming more socially and psychologically stifling. We have created, or allowed to be created, urban and suburban places that will not stand the test of time. Increasingly, downtown urban areas are devoid of activity after 5:00 p.m.; meanwhile, suburban and edge cities lack charm and a sense of place and depend heavily on the automobile. The zealous separation of land uses promoted by conventional zoning and the scattered, sprawling development patterns that characterize much of our contemporary landscape require an increasingly dysfunctional transportation system that is plagued with traffic congestion and long work commutes (Fig. 2.1). People are increasingly isolated from one another and from a connection to the larger community.

The creation of vibrant and active urban spaces is surely an important part of making places more livable. Europe abounds with urban places that bubble with aliveness—streets such as Las Ramblas in Barcelona or Stroget in Copenhagen, for example (Jacobs 1993). The characteristics of these timeless communities are neither mysterious nor surprising: walkability,
mixed land uses and activities, a density of people and commerce sufficient to create vital, active places of activity, and pedestrian and public spaces that encourage this activity. The successful renaissance of several U.S. cities—Baltimore is a good example—has recreated this kind of energy while at the same time increasing the efficiency of land use and encouraging greater use of public transportation.

Concern with the social dimensions of sustainability suggests that a sustainable community is one that addresses a host of related goals, including adequate and affordable shelter, health care, and other essential services to residents; a safe and crime-free environment; and humane and stimulating work environments. Marrying social and environmental concerns, then, is a major characteristic of a sustainable community.

“Place” Matters in Sustainable Places

“Sense of place” is also an important dimension of sustainability. Many Americans have little attachment to place largely because many of the places we build are not deserving of attachment, or because we have been quick to demolish those community features that have traditionally provided meaning in our daily lives. Absent this feeling of attachment, it is little wonder that we are so quick to uproot ourselves when a new employment opportunity arises, the local school system fails to deliver, or a new exurban development promises “country living with all the amenities.” Ultimately, this pattern of mobility feeds a vicious circle: the more we move around in search of the elusive “better” place to live, the less we invest in our communities, such that those few features that do provide a sense of attachment are being abandoned.

To foster a sense of place, communities must nurture built environment and settlement patterns that are uplifting, inspirational, and memorable, and that engender a special feeling of attachment and belonging. A sustainable community also nurtures a sense of place by understanding and respecting its bioregional context—its topography and natural setting, its rivers, hilltops, open lands, native flora and fauna, and the many other unique elements of its natural context. A sustainable community respects the history and character of those existing features that nurture a sense of attachment and familiarity with place. Such “community landmarks” may be natural—a meadow or an ancient tree; an urban creek—or built—a civic monument, a local diner, an historic courthouse or clock tower. Finally, in a sustainable place, special effort is made to create and preserve places, rituals, and events that foster greater attachment to the social fabric of the community.
binovitch 1992). Curitiba illustrates how important integration, holism, and creativity are in moving toward sustainability.

Sustainable Place Implies a New Ethical Posture

Sustainability is fundamentally about adopting a new ethic of living on the planet. This ethic expands substantially the "moral community" to which respect and duties are owed. Almost every definition of sustainability and sustainable development implies a substantial extension of the moral community to include future generations—perhaps many future generations—in the decision making of the present. Sustainability significantly focuses our moral attention away from the present, and from short-term time frames, to much longer time horizons. It is an ethical posture much more respectful of the natural world. Aldo Leopold (1949) foresaw much of this thinking some sixty years ago when he talked of the need for a new land ethic, one that would change Homo sapiens from conqueror of the land community to "plain citizen" thereof.

A sustainable community ideally embodies and implements an ethical framework in which physical and social form, consumption of land and resources, and basic operating principles are severely moderated with the interests of the future in mind. This framework also imagines other ways of expanding the moral community: geographically and spatially, for instance. A sustainable community considers the impacts of its actions and policies on neighboring jurisdictions and the region in which it is situated, as well as its continental and global impacts. Such morally inclusive visions are illustrated in the actions of the Chesapeake Bay communities that consider the impacts their developments will have on the Bay’s water quality, or the efforts of cities such as Toronto and Portland, Oregon, to address their role in global climate change by curtailing carbon dioxide emissions. (For a more extensive discussion of expanding the moral community and ethical land use more generally, see Beal 1989, 1994b.)

In many ways, then, the idea of a sustainable community represents a deeper and more modern vision of Leopold’s land ethic. The policy implications of such a new ethical posture are many. Calls for five-hundred-year planning (Tom 1986) no longer seem ludicrous, but perhaps even conservative. Such a moral time frame is clearly different from traditional comprehensive local planning, which considers the relatively short time intervals of fifteen, twenty, or twenty-five years. Looking so far into the future may also call for new planning techniques and visioning methods. Such a new ethi-

cal perspective emphasizes creating urban environments of enduring value, protecting the basic environmental and ecosystem functions essential for existence, and avoiding irreversible actions such as destruction of natural landscapes, species extinction, and the loss of cultural and historic resources. Such a perspective implies caring for soils, forests, oceans, and other life-giving renewable resources; reducing waste at all levels; and restraining ourselves from passing along an increasingly toxic environment to those who follow us.

The ethical underpinnings of sustainability go beyond obligations to the environment. The ethic also emphasizes equity in the distribution of social goods and resources, an effort to improve the lot of the least advantaged in society and eliminate environmental and other forms of racism.

How the new ethic will take hold is uncertain. Further thoughts about this are given in Chapter 7, but education, public discourse, and advocacy by the planning field are some of the likely avenues. As fanciful as they sometimes seem, we should consider mechanisms that will include explicit representation of the interests of future generations—a sort of future-generations ombudsman, something like the Seventh Generation rule of the Iroquois tribe (see Beal 1994a). Also critical is an ethic of place building and nurturing a responsibility to place and to community. The principles of bioregionalism—which emphasize the importance of identifying with, understanding, and committing to one’s bioregional “home”—are helpful in this regard (e.g., Sale 1991).
cussed earlier—auto and highway dependency and the separation of land uses, for example—have played important roles.

A sustainable community, then, is one in which diversity is tolerated and encouraged, where there is no sharp spatial separation or isolation of income and racial groups, where all individuals and groups have access to basic and essential services and facilities, and where residents have equality of opportunity (Bentley 1993).

Issues of equity also arise when considering the current patterns of use and exploitation of the world’s resources, and these are not irrelevant in discussions about U.S. growth and development patterns. It has been frequently observed that, while the developed world accounts for only a small percentage of the world’s population, its use of natural resources and its generation of waste and pollution is disproportionately high. Industrialized nations use more resources and pollute more than less developed countries in almost all categories. Per capita fossil fuel consumption for industrialized countries is almost ten times what it is for developing nations; use of non-renewable resources such as copper and aluminum is some seventeen and twenty times greater, respectively; and consumption of roundwood (wood from trees) is two-and-a-half times greater—although consumption rates for many of these resources are on the rise in the developing world (WRJ 1994). Per capita emissions of carbon dioxide are also much higher; the U.S. rate is some nine times that of China and eighteen times that of India (WRJ 1994). An oft-cited statistic is that about one-fifth of the earth’s population is currently living in ‘absolute poverty,’ or with an annual income less than U.S. $370 per year (Carley and Christie 1993). Responsible local and regional efforts at promoting sustainability have the potential to reduce inequities that exist at both global and local levels.

Many believe that we have gone well beyond consuming our fair share, and that movements toward greater sustainability (and the promotion of sustainable communities) are called for on these grounds of equity. At an urban or local level, it is clear that many communities are able to maintain their lifestyles and consumption levels only by “appropriating” the carrying capacities of regions and communities beyond their borders, again raising basic questions of fairness (Rosseland 1992; Rossi 1992, 1995).

Sustainable Places Stress the Importance of Community

The concept of community is central to the vision of sustainable communities. Contemporary development patterns do not create communities, although they may create developments. Typical patterns of suburban growth are viewed by many as antithetical to the creation of places where people can share a true connectedness with others and develop feelings of responsibility and closeness. Development and consumption patterns of the last fifty years reflect the long-standing American celebration of individualism. A paradigm of sustainability renews the commitment to community and rises above narrow individualism.

Anita Etzioni has emerged as a leading spokesperson for the communitarian movement, articulating its key principles and beliefs most clearly in The Spirit of Community (1993). A major communitarian premise is that society has moved too far in the direction of individual rights and away from notions of personal responsibility and commitment to a larger “we-ness.” As Etzioni asserts, “Americans are all too eager to spell out what they are entitled to but are all too slow to give something back to others and to the community” (1993, p. 15). The time has come, the communitarians believe, “to attend to our responsibilities to the conditions and elements we all share, to the community” (Etzioni 1993, p. 15; see also Galston 1991 and Etzioni 1988). Moving toward greater community does not, however, mean quashing individualism—only restoring a sensible balance between the desires of the individual and the needs of the community.

The implications of the communitarian ideal are considerable, and Etzioni and others have offered a number of specific changes and initiatives to advance the agenda. At the heart of it would be places where people are committed, invested, and involved, and places where people know and care about one another, participate in community activities, and take responsibility for the condition and health of the community and the environment. The agenda has both personal and public policy dimensions, both of which are explored in later chapters.

Obviously, a community's physical form and design influences the opportunities for true community. Low-density, scattered, cul-de-sac development patterns and a dearth of public spaces encourage isolation and discourage interaction. Sitting in bumper-to-bumper highway traffic may induce a sense of mutual indifference among commuters but does not create a community among them. The physical characteristics of a sustainable community are constructive toward the creation of a sense of community—a sense of ownership, commitment, and a feeling of belonging to a larger whole. Walking spaces, civic buildings, plazas and parks, and other public places have the potential to nurture commitment and attachment to the larger collective.

The centrality of community suggests the need to look for a new politics—a politics more consistent with the communitarian spirit. DeWitt John (1994) calls for “civic environmentalism” as a response to both the command-and-control, top-down federal approaches pursued in programs
such as the federal Clean Air and Water Acts and the highly personalized and localized politics of NIMBYism ("not in my backyard"). Sustainable communities—as both a vision and a movement—appear to hold considerable promise as an alternative form of politics concerned with the full range of issues that affect quality of life community-wide and a politics that has the potential to involve and be relevant to all or most individuals and groups. Community sustainability may offer a useful unifying framework that embodies a more integrative and holistic viewpoint, in which the health of the larger community is what becomes most important.

Community sustainability as a political movement is still very much in its infancy, but the concept has stimulated a great deal of local activism. Throughout the country, local organizations are emerging that have the ability to formulate a comprehensive and integrated vision, to transcend NIMBYism, and to be inclusive of a wide range of local groups and interests—from environmental groups to neighborhood groups to housing advocates to civil rights organizations. The number and strength of these groups will likely grow—a positive trend toward a new politics that is inclusive and more reflective of the true values of community.

Sustainable Places Reflect and Promote a Full-Cost Accounting of the Social and Environmental Costs of Public and Private Decisions

What are the true environmental and social costs of air pollution, water pollution, and destruction of wetlands and wildlife habitat? And, similarly, what are the true social costs of racism, and of separation and isolation of income and social groups, and of a sterile and uninspiring urban landscape? A sustainable community seeks to assess and understand these full costs and to adjust its planning and other decisions accordingly. It attempts, wherever possible, to promote full-cost accounting in its decisions and policies, using the power of economic signals and mechanisms in promoting greater sustainability.

While modifying the economic and market signals to better account for the true costs of public and private decisions is not the entire answer to promoting sustainability, it will certainly facilitate a movement in that direction. Understanding how the many current subsidies and pricing policies for auto transport influence the choice of this mode over mass transit, for example, may lead to adjustments that support greater sustainability. There is a substantial advocacy for full-cost environmental accounting, and the tools and techniques for doing so have consistently improved (see Daly and Townsend 1993; Kopp and Smith 1993; Cairncross 1992; Pearce, Markandya, and Barbier 1989). Examples include the use of “green fees” to account for the disposal of garbage and household wastes, local development impact fees to shift development in the direction of more sustainable sites and designs, and regional tax base sharing to encourage coordinated land use planning. The following chapters explore these techniques in greater detail.

Conclusions

The concept of sustainable places means different things to different people. While the reader may not agree with every element presented in this chapter, there is a range of qualities and factors that should be addressed in planning for sustainable communities. Without some clarity and social consensus about the characteristics of such places, it will be difficult to achieve a more positive result. The principles articulated here suggest a better model for planning and managing in the future, and vast improvement over our current way of thinking about communities. The paradigm expressed here is both social and environmental, seeking a union of goals. The paradigm is also necessarily normative—that is, it explicitly expresses certain values and ethical responsibilities, including duties to live within ecological limits, to consider generations yet to come, to value the equity of our current relationships, and to rise to the demands of community.