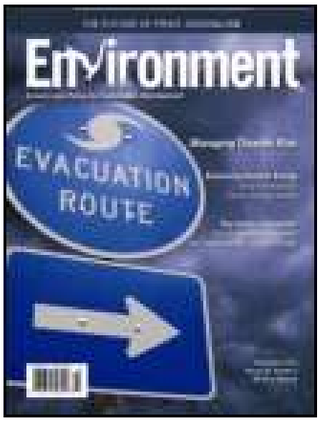

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What is Sustainable Development? Goals, Indicators, Values, and Practice

Kates W. Robert , Thomas M. Parris & Anthony A. Leiserowitz
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WHAT IS SUSTAINABLE DEVELOPMENT?

GOALS, INDICATORS, VALUES, AND PRACTICE

By Robert W. Kates, Thomas M. Parris, and Anthony A. Leiserowitz

Sustainable development is . . .

Considering that the concept of sustainable development is now enshrined on the masthead of *Environment* magazine, featured on 8,720,000 Web pages,[1] and enmeshed in the aspirations of countless programs, places, and institutions, it should be easy to complete the sentence.[2] But the most widely accepted definition is creatively ambiguous: "Humanity has the ability to make development sustainable—to ensure that it meets the needs of the present without compromising the ability of future generations

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to meet their own needs."[3] This malleability allows programs of environment or development; places from local to global; and institutions of government, civil society, business, and industry to each project their interests, hopes, and aspirations onto the banner of sustainable development.

A brief history of the concept, along with the interpretive differences and the common ground in definitions, goals, indicators, values, and practice follows. Taken together, these help explain what is meant by sustainable development.

Antecedents

In the last half of the twentieth century, four key themes emerged from the collective concerns and aspirations of the world's peoples: peace, freedom, development, and environment.[4] The peace that was thought to be secured in the postwar world of 1945 was immediately threatened by the nuclear arms race. Throughout the Cold War, peace was sustained globally but fought locally, often by proxies for the superpowers. While the number of wars has diminished over the last decade,[5] peace is still sought, primarily in Africa and the Middle East.

Freedom was sought early in the postwar world in the struggle to end imperialism; to halt totalitarian oppression; and later to extend democratic governance, human rights, and the rights of women, indigenous peoples, and minorities. The success of many former colonies in attaining national independence was followed by a focus on economic development to provide basic necessities for the poorest two-thirds of the world and higher standards of living for the wealthy third. Finally, it is only in the past 40 years that the environment (local to global) became a key focus of national and international law and institutions.

Although reinterpreted over time, peace, freedom, development, and the environment remain prominent issues and aspirations. In the 1970s and 1980s, world commissions of notables[6] were created to study such international concerns, producing major documents that were often followed by global conferences. Characteristic of these international commissions was the effort to link together the aspirations of humankind—demonstrating how the pursuit of one great value required the others. Sustainable development, with its dual emphasis on the most recent concerns—development and environment—is typical of such efforts.

The World Commission on Environment and Development was initiated by the General Assembly of the United Nations in 1982, and its report, *Our Common Future*, was published in 1987.[7] It was chaired by then–Prime Minister of Norway Gro Harlem Brundtland, thus earning the name the "Brundtland Commission." The commission's membership was split between developed and developing countries. Its roots were in the 1972 Stockholm Conference on the Human Environment—where the conflicts between environment and development were first acknowledged—and in the 1980 World Conservation Strategy of the International Union for the Conservation of Nature, which argued for conservation as a means to assist development and specifically for the sustainable development and utilization of species, ecosystems, and resources.[8] Drawing on these, the Brundtland Commission began its work committed to the unity of environment and development. As Brundtland argued:

The environment does not exist as a sphere separate from human actions, ambitions, and needs, and attempts to defend it in isolation from human concerns have given the very word "environment" a connotation of naivety in some political circles. The word "development" has also been narrowed by some into a very limited focus, along the lines of "what poor nations should do to become richer," and thus again is automatically dismissed by many in the international arena as being a concern of specialists, of those involved in questions of "development assistance." But the "environment" is where we live; and "development" is what we all do in attempting to improve our lot within that abode. The two are inseparable.[9]

As with previous efforts, the report was followed by major international meetings. The United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992 (the so-called "Earth Summit") issued a declaration of principles, a detailed Agenda 21 of desired actions, international agreements on climate change and biodiversity, and a statement of principles on forests.[10] Ten years later, in 2002, at the World Summit on Sustainable Development in Johannesburg, South Africa, the commitment to sustainable development was reaffirmed.[11] In the interim, sustainable development as a concept, as a goal, and as a movement spread rapidly and is now central to the mission of countless international organizations, national institutions, corporate enterprises, "sustainable cities," and locales.

Although reinterpreted over time, peace, freedom, development, and the environment remain prominent issues and aspirations.

Definitions

The Brundtland Commission's brief definition of sustainable development as the "ability to make development sustainable—to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs"[12] is surely the standard definition when judged by its widespread use and frequency of citation. The use of this definition has led many to see sustainable development as having a major focus on

intergenerational equity. Although the brief definition does not explicitly mention the environment or development, the subsequent paragraphs, while rarely quoted, are clear. On development, the report states that human needs are basic and essential; that economic growth—but also equity to share resources with the poor—is required to sustain them; and that equity is encouraged by effective citizen participation. On the environment, the text is also clear:

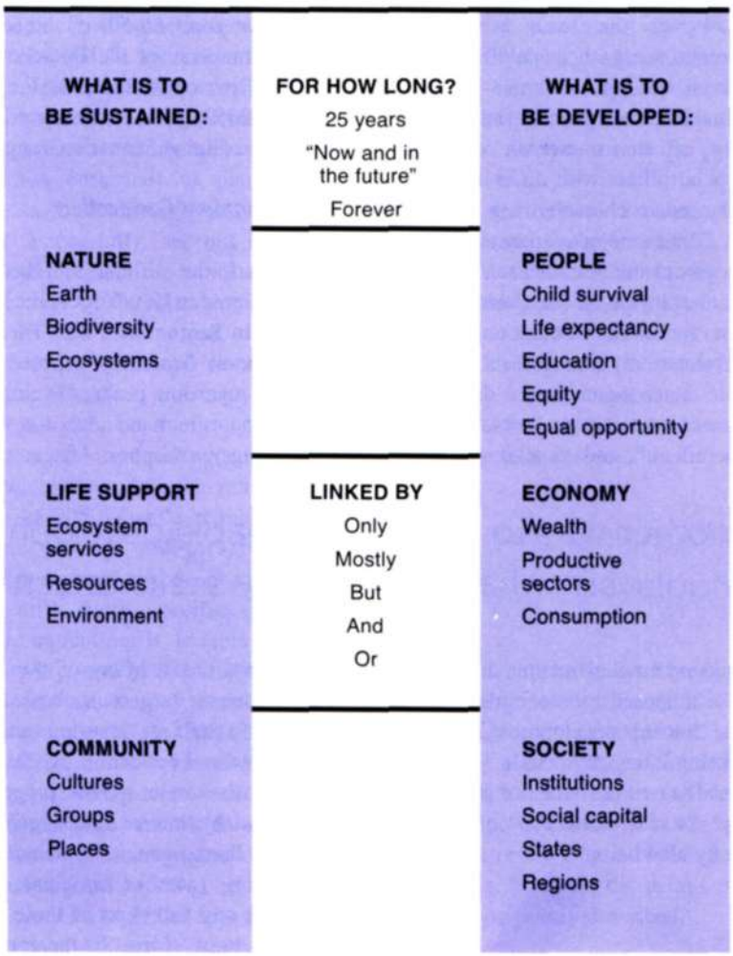
> *The concept of sustainable development does imply limits—not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities.*[13]

In the years following the Brundtland Commission's report, the creative ambiguity of the standard definition, while allowing a range of disparate groups to assemble under the sustainable development tent, also created a veritable industry of deciphering and advocating what sustainable development really means. One important study—by the Board on Sustainable Development of the U.S. National Academy of Sciences—sought to bring some order to the broad literature its members reviewed.[14] In its report, *Our Common Journey: A Transition toward Sustainability*, the board focused on the seemingly inherent distinction between what advocates and analysts sought to sustain and what they sought to develop, the relationship between the two, and the time horizon of the future (see Figure 1 on this page).

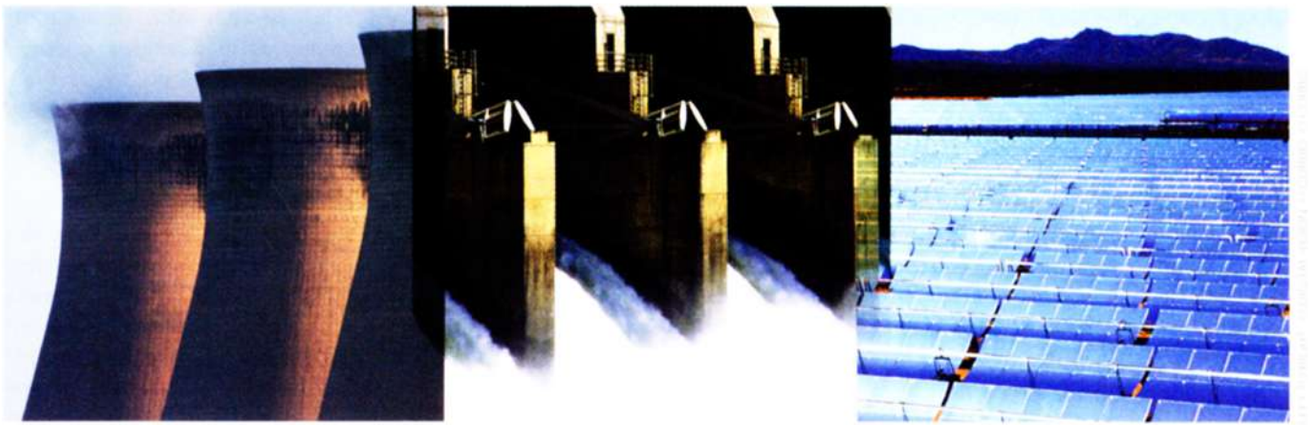
Thus under the heading "what is to be sustained," the board identified three major categories—nature, life support systems, and community—as well as intermediate categories for each, such as Earth, environment, and cultures. Drawing from the surveyed literature, the board found that most commonly, emphasis was placed on life support systems, which defined nature or environment as a source of services for the utilitarian life support of humankind. The study of ecosystem services has strengthened this definition over time. In contrast, some of the sustainable development literature valued nature for its intrinsic value rather than its utility for human beings. There were also parallel demands to sustain cultural diversity, including livelihoods, groups, and places that constitute distinctive and threatened communities.

Similarly, there were three quite distinct ideas about what should be developed: people, economy, and society. Much of the early literature focused on economic development, with productive sectors providing employment, desired consumption, and wealth. More recently, attention has shifted to human development, including an emphasis on values and goals, such as increased life expectancy, education, equity, and opportunity. Finally, the Board on Sustainable Development also identified calls to develop society that emphasized the values of security and well-being of

Figure 1. Definitions of sustainable development



SOURCE: U.S. National Research Council, Policy Division, Board on Sustainable Development, *Our Common Journey: A Transition Toward Sustainability* (Washington, DC: National Academy Press, 1999).



national states, regions, and institutions as well as the social capital of relationships and community ties.

There was ready agreement in the literature that sustainable development implies linking what is to be sustained with what is to be developed, but here, too, the emphasis has often differed from extremes of "sustain only" to "develop mostly" to various forms of "and/or." Similarly, the time period of concern, ambiguously described in the standard definition as "now and in the future," has differed widely. It has been defined from as little as a generation—when almost everything is sustainable—to forever—when surely nothing is sustainable.

The 2002 World Summit on Sustainable Development marked a further expansion of the standard definition with the widely used three pillars of sustainable development: economic, social, and environmental. The Johannesburg Declaration created "a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development—economic development, social development and environmental protection—at local, national, regional and global levels."[15] In so doing, the World Summit addressed a running concern over the limits of the framework of environment and development, wherein development was widely viewed solely as economic development. For many under the common tent of sustainable development, such a narrow definition obscured their concerns for human development, equity, and social justice.

Thus while the three pillars were rapidly adopted, there was no universal agreement as to their details. A Web search of the phrase "three pillars of sustainable development" finds a wide variety of environmental, economic, and social pillars with differences most pronounced in characterizing the social pillar. Three major variants of social development are found, each of which seeks to compensate for elements missing in the narrow focus on economic development. The first is simply a generic noneconomic social designation that uses terms such as "social," "social development," and "social progress." The second emphasizes human development as opposed to economic development: "human development," "human well-being," or just "people." The third variant focuses on issues of justice and equity: "social justice," "equity," and "poverty alleviation."

Another way to define sustainable development is in what it specifically seeks to achieve.

Goals

Another way to define sustainable development is in what it specifically seeks to achieve. To illustrate, it is helpful to examine three sets of goals that use different time-horizons: the short-term (2015) goals of the Millennium Declaration of the United Nations; the two-generation goals (2050) of the Sustainability Transition of the Board on Sustainable Development; and the long-term (beyond 2050) goals of the Great Transition of the Global Scenario Group.

UN Millennium Declaration

To mark the millennium, heads of state gathered in New York at the United Nations in September 2000. There, the UN General Assembly adopted some 60 goals regarding peace; development; environment; human rights; the vulnerable, hungry, and poor; Africa; and the United Nations.[16] Many of these contained specific targets, such as cutting poverty in half or insuring universal primary school education by 2015. For eight of the major goals, progress is monitored by international agencies.[17] In 2004, these agencies concluded that at existing rates of progress, many countries will fall short of these goals, particularly in Africa. Yet the goals still seemed attainable by collective action by the world community and national governments. To do so, the Millennium Project, commissioned by the UN secretary-general, recently estimated that the additional financial resources

that would be required to meet the Millennium Development Goals are $135 billion in 2006, rising to $195 billion in 2015. This roughly represents a doubling of official aid flows over current levels and is still below the UN goal of aid flows from industrialized to developing countries of 0.7 percent of the gross national product for industrialized countries.[18]

Sustainability Transition of the Board on Sustainable Development

In 1995, the Board on Sustainable Development of the U.S. National Academy of Sciences sought to make sustainable development more meaningful to scientific analysis and contributions.[19] To do so, the board decided to focus on a two-generation time horizon and to address the needs of a global population with half as many more people as there are today—needs that, if met successfully, are not likely to be repeated within the next century or two because of the demographic transition. In that time period, the board suggested that a minimal sustainability transition would be one in which the world provides the energy, materials, and information to feed, nurture, house, educate, and employ the many more people of 2050—while reducing hunger and poverty and preserving the basic life support systems of the planet. To identify more specific goals, of meeting human needs, reducing hunger and poverty, and preserving the basic life support systems of the planet, the board searched the text and statements from recent global conferences, world summits, international environmental treaties, and assessments. In so doing, the board in 1995 anticipated the 2000 Millennium Declaration goals, many of which were incorporated into its analysis of goals and targets. Less sanguine than the UN, the board determined it would take a generation to reach the 2015 goals of the Millennium Declaration and another generation to achieve the board's goals of meeting human needs for a 2050 population.

Great Transition of the Global Scenario Group

With the assistance of the Global Scenario Group,[20] the Board on Sustainable Development conducted a scenario analysis of a proposed "Sustainability Transition," focusing specifically on hunger and the emission of greenhouse gasses. This initial analysis served as the subsequent basis of the Policy Reform Scenario of the Global Scenario Group[21] and concluded that a sustainability transition is possible without positing either a social revolution or a technological miracle. But it is "just" possible, and the technological and social requirements to move from business as usual—without changing lifestyles, values, or economic system—is daunting. Most daunting of all is the governmental commitment required to achieve it and the political will to do so.

Finally, the Global Scenario Group also prepared a more idealistic Great Transition Scenario that not only achieved the goals of the sustainability transition outlined by the Board on Sustainable Development but went further to achieve for all humankind "a rich quality of life, strong human ties and a resonant connection to nature."[22] In such a world, it would be the quality of human knowledge, creativity, and self-realization that represents development, not the quantity of goods and services. A key to such a future is the rejection of material consumption beyond what is needed for fulfillment or for a "good life." Beyond these goals, however, the details of this good life are poorly described.

Indicators

Still another way to define sustainable development is in how it is measured. Indeed, despite sustainable development's creative ambiguity, the most serious efforts to define it, albeit implicit in many cases, come in the form of indicators. Combining global, national, and local initiatives, there are literally hundreds of efforts to define appropriate indicators and to measure them. Recently, a dozen such efforts were reviewed.[23] Half were global in coverage, using country or regional data (the UN Commission on Sustainable Development, Consultative Group on Sustainable Development Indicators, Wellbeing Index, Environmental Sustainability Index, Global Scenario Group, and the Ecological Footprint). Of the remaining efforts, three were country studies (in the United States, the Genuine Progress Indicator and the Interagency Working Group on Sustainable Development Indicators, and in Costa Rica, the System of Indicators for Sustainable Development); one was a city study (the Boston Indicators Project); one was global in scope but focused on indicators of unsustainability (State Failure Task Force); and one focused on corporate and nongovernmental entities (Global Reporting Initiative). Table 1 on pages 14 and 15 lists each study with its source, the number of indicators used, and the implicit or explicit definitions used to describe what is to be sustained, what is to be developed, and for how long.

Still another way to define sustainable development is in how it is measured.

Two major observations emerge. The first is the extraordinarily broad list of items to be sustained and to be developed. These reflect the inherent malleability of "sustainable development" as well as the internal politics of the measurement efforts. In many of the cases, the initiative is undertaken by a diverse set of stakeholders, and the resulting lists reflect their varied aspirations. For example, in the UN Commission on Sustainable Development, the stakeholders are nations negotiating

Table 1. Definitions of sustainable development implicitly or explicitly adopted by selected indicator initiatives

Indicator initiative	Number of indicators	Implicit or explicit definition?	What is to be sustained?	What is to be developed?	For how long?
Commission on Sustainable Development[a]	58	Implicit, but informed by Agenda 21	Climate, clean air, land productivity, ocean productivity, fresh water, and biodiversity	Equity, health, education, housing, security, stabilized population	Sporadic references to 2015
Consultative Group on Sustainable Development Indicators[b]	46	Same as above	Same as above	Same as above	Not stated; uses data for 1990 and 2000
Wellbeing Index[c]	88	Explicit	"A condition in which the ecosystem maintains its diversity and quality—and thus its capacity to support people and the rest of life—and its potential to adapt to change and provide a wide change of choices and opportunities for the future"	A condition in which all members of society are able to determine and meet their needs and have a large range of choices to meet their potential"	Not stated; uses most recent data as of 2001 and includes some indicators of recent change (such as inflation and deforestation)
Environmental Sustainability Index[d]	68	Explicit	"Vital environmental systems are maintained at healthy levels, and to the extent to which levels are improving rather than deteriorating" [and] "levels of anthropogenic stress are low enough to engender no demonstrable harm to its environmental systems."	Resilience to environmental disturbances ("People and social systems are not vulnerable (in the way of basic needs such as health and nutrition) to environmental disturbances; becoming less vulnerable is a sign that a society is on a track to greater sustainability"); "institutions and underlying social patterns of skills, attitudes, and networks that foster effective responses to environmental challenges"; and cooperation among countries "to manage common environmental problems"	Not stated; uses most recent data as of 2002 and includes some indicators of recent change (such as deforestation) or predicted change (such as population in 2025)
Genuine Progress Indicator[e]	26	Explicit	Clean air, land, and water	Economic performance, families, and security	Not stated; computed annually from 1950–2000

SOURCE: Adapted from T. M. Parris and R. W. Kates, "Characterizing and Measuring Sustainable Development," *Annual Review of Environment and Resources* 28 (2003): 559–86.

[a] United Nations Division of Sustainable Development, *Indicators of Sustainable Development: Guidelines and Methodologies* (2001), http://www.un.org/esa/sustdev/natlinfo/indicators/indisd/indisd-mg2001.pdf.

[b] Consultative Group on Sustainable Development Indicators, http://www.iisd.org/cgsdi/.

[c] R. Prescott-Allen, *The Wellbeing of Nations: A Country-by-Country Index of Quality of Life and Environment* (Washington DC: Island Press, 2001).

[d] World Economic Forum, *2002 Environmental Sustainability Index* (Davos, Switzerland: World Economic Forum, 2002), http://www.ciesin.org/indicators/ESI/downloads.html; and D. C. Esty and P. K. Cornelius, *Environmental Performance Measurement: The Global Report 2001–2002* (Oxford, UK: Oxford University Press, 2002).

[e] C. Cobb, M. Glickman, and C. Cheslog, *The Genuine Progress Indicator: 2000 Update* (Oakland, CA: Redefining Progress, 2000).

Indicator initiative	Number of indicators	Implicit or explicit definition?	What is to be sustained?	What is to be developed?	For how long?
Global Scenario Group[f]	65	Explicit	"Preserving the essential health, services, and beauties of the earth requires stabilizing the climate at safe levels, sustaining energy, materials, and water resources, reducing toxic emissions, and maintaining the world's ecosystems and habitats."	Institutions to "meet human needs for food, water, and health, and provide opportunities for education, employment and participation"	Through 2050
Ecological Footprint[g]	6	Explicit	"The area of biologically productive land and water required to produce the resources consumed and to assimilate the wastes produced by humanity"		Not explicitly stated; computed annually from 1961–1999
U.S. Interagency Working Group on Sustainable Development Indicators[h]	40	Explicit	Environment, natural resources, and ecosystem services	Dignity, peace, equity, economy, employment, safety, health, and quality of life	Current and future generations
Costa Rica[i]	255	Implicit	Ecosystem services, natural resources, and biodiversity	Economic and social development	Not stated; includes some time series dating back to 1950
Boston Indicator Project[j]	159	Implicit	Open/green space, clean air, clean water, clean land, valued ecosystems, biodiversity, and aesthetics	Civil society, culture, economy, education, housing, health, safety, technology, and transportation	Not stated; uses most recent data as of 2000 and some indicators of recent change (such as change in poverty rates)
State Failure Task Force[k]	75	Explicit		Intrastate peace/security	Two years
Global Reporting Initiative[l]	97	Implicit	Reduced consumption of raw materials and reduced emissions of environmental contaminants from production or product use	Profitability, employment, diversity of workforce, dignity of workforce, health/safety of workforce, and health/safety/ privacy of customers	Current reporting year

[f] P. Raskin et al., *The Great Transition: The Promise and Lure of the Times Ahead* (Boston, MA: Stockholm Environmental Institute, 2002), http://www.tellus.org/seib/publications/Great_Transitions.pdf; and P. Raskin, G. Gallopin, P. Gutman, A. Hammond, and R. Swart, *Bending the Curve: Toward Global Sustainability*, Polestar Report 8 (Boston, MA: Stockholm Environmental Institute, 1998), http://www.tellus.org/seib/publications/bendingthecurve.pdf.

[g] M. Wackernagel et al., "Tracking the Ecological Overshoot of the Human Economy," *Proceedings of the National Academy Science* 99, no. 14 (2002): 9266–71; and M. Wackernagel, C. Monfreda, and D. Deumling, *Ecological Footprint of Nations: November 2002 Update* (Oakland, CA: Redefining Progress, 2002).

[h] U.S. Interagency Working Group on Sustainable Development Indicators (IWGSDI), *Sustainable Development in the United States: An Experimental Set of Indicators*, IWGSDI Report PR42.8:SU 8/EX 7 (Washington, DC, 1998).

[i] Sistema de Indicadores sobre Desarrollo Sostenible (System of Indicators for Sustainable Development), *Principales Indicadores de Costa Rica* (Principal Indicators of Costa Rica) (San José, Costa Rica: Ministerio de Planificación Nacional y Política Económica (Ministry of National Planning and Political Economy), 1998), http://www.mideplan.go.cr/sides/.

[j] The Boston Indicator Project, *The Wisdom of Our Choices: Boston's Indicators of Progress, Change and Sustainability 2000* (Boston, MA: Boston Foundation, 2002), http://www.tbf.org/indicators/shared/news.asp?id=1542.

[k] D. C. Esty et al., 1998. "The State Failure Project: Early Warning Research for US Foreign Policy Planning," in J. L. Davies and T. R. Gurr, eds., *Preventive Measures: Building Risk Assessment and Crisis Early Warning Systems* (Boulder, CO: Rowman & Littlefield), 27–38; and D. C. Esty, J. A. Goldstone, T. R. Gurr, P. T. Surko, and A. N. Unger, *Working Paper: State Failure Task Force Report* (McLean, VA: Science Applications International Corporation, 1995); State Failure Task Force, "State Failure Task Force Report, Phase II Findings," *Environmental Change and Security Project Report 5* (1999): 49–72.

[l] Global Reporting Initiative, http://www.globalreporting.org/.

how to measure their relative progress or lack of progress toward sustainable development. In the Boston Indicators Project, the stakeholders are community members with varied opinions about desirable goals, policies, and investment priorities for the future. In the Global Reporting Initiative, the stakeholders are corporations, investors, regulatory agencies, and civil society groups discussing how to account for corporate actions affecting sustainable development. With many stakeholders, each with different definitions, achieving consensus often takes the form of long "laundry lists" of indicators, and definitional differences are downplayed in favor of reaching a common set of indicators. Thus, to be inclusive, the range of indicators becomes very broad. Half the examined initiatives, however, represent less-inclusive research or advocacy groups who share a more narrow and homogenous view of sustainable development. While also assembling large numbers of indicators, these groups tend to aggregate them to reflect their distinctive vision of sustainability.

A second observation is that few of the efforts are explicit about the time period in which sustainable development should be considered. Despite the emphasis in the standard definition on intergenerational equity, there seems in most indicator efforts a focus on the present or the very short term. Three exceptions, however, are worth noting: The UN Commission on Sustainable Development uses some human development indicators defined in terms of a single generation (15–25 years),[24] the Global Scenario Group quantifies its scenarios through 2050 (approximately two generations), and the Ecological Footprint argues that in the long run an environmental footprint larger than one Earth cannot be sustained. Overall, these diverse indicator efforts reflect the ambiguous time horizon of the standard definition—"now and in the future."

VALUES UNDERLYING THE MILLENNIUM DECLARATION

The Millennium Declaration—which outlines 60 goals for peace; development; the environment; human rights; the vulnerable, hungry, and poor; Africa; and the United Nations—is founded on a core set of values described as follows:

"We consider certain fundamental values to be essential to international relations in the twenty-first century. These include:

- **Freedom**. Men and women have the right to live their lives and raise their children in dignity, free from hunger and from the fear of violence, oppression or injustice. Democratic and participatory governance based on the will of the people best assures these rights.
- **Equality**. No individual and no nation must be denied the opportunity to benefit from development. The equal rights and opportunities of women and men must be assured.
- **Solidarity**. Global challenges must be managed in a way that distributes the costs and burdens fairly in accordance with basic principles of equity and social justice. Those who suffer or who benefit least deserve help from those who benefit most.
- **Tolerance**. Human beings must respect one other, in all their diversity of belief, culture and language. Differences within and between societies should be neither feared nor repressed, but cherished as a precious asset of humanity. A culture of peace and dialogue among all civilizations should be actively promoted.
- **Respect for nature**. Prudence must be shown in the management of all living species and natural resources, in accordance with the precepts of sustainable development. Only in this way can the immeasurable riches provided to us by nature be preserved and passed on to our descendants. The current unsustainable patterns of production and consumption must be changed in the interest of our future welfare and that of our descendants.
- **Shared responsibility**. Responsibility for managing worldwide economic and social development, as well as threats to international peace and security, must be shared among the nations of the world and should be exercised multi-laterally. As the most universal and most representative organization in the world, the United Nations must play the central role."[1]

1. United Nations General Assembly, "United Nations Millennium Declaration," Resolution 55/2, United Nations A/RES/55/2, 18 September 2000, page x.

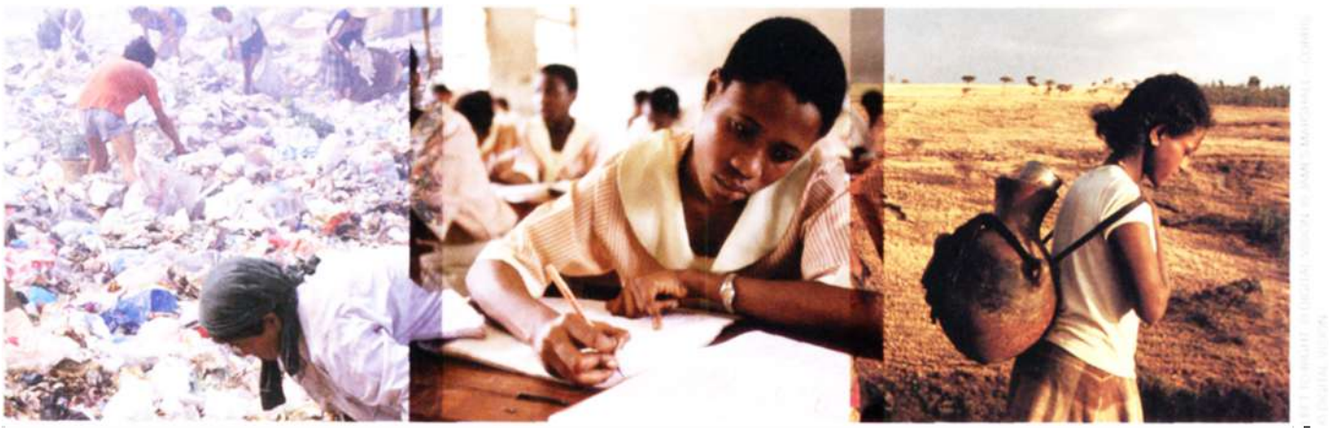
Values

Still another mode of defining sustainable development is through the values that represent or support sustainable development.[25] But values, like sustainable development, have many meanings. In general, values are expressions of, or beliefs in, the worth of objects, qualities, or behaviors. They are typically expressed in terms of goodness or desirability or, conversely, in terms of badness or avoidance. They often invoke feelings, define or direct us to goals, frame our attitudes, and provide standards against which the behaviors of individuals and societies can be judged. As such, they often overlap with sustainability goals and indicators. Indeed, the three pillars of sustainable development; the benchmark goals of the Millennium Declaration, the Sustainability Transition, and the Great Transition; and the many indicator initiatives are all expressions of values.

But these values, as described in the previous sections, do not encompass the full range of values supporting sustainable development. One explicit statement of supporting values is found in the Millennium Declaration. Underlying the 60 specific goals of the Millen-

nium Declaration are an articulated set of fundamental values seen as essential to international relations: freedom, equality, solidarity, tolerance, respect for nature, and shared responsibility (see the box on page 16).

The Millennium Declaration was adopted by the UN General Assembly, but the origins of the declaration's set of fundamental values are unclear. In contrast, the origins of the Earth Charter Initiative—which defines the Earth Charter as a "declaration of fundamental principles for building a just, sustainable, and peaceful global society in the 21st century"[26]—is well documented. The initiative answers the call of the World Commission on Environment and Development for creation of "a universal declaration" that would "consolidate and extend relevant legal principles," create "new norms . . . needed to maintain livelihoods and life on our shared planet," and " guide state behavior in the transition to sustainable development."[27] An effort to draft a charter at the 1992 Earth Summit was unsuccessful. In 1994 a new Earth Charter Initiative was launched that involved "the most open and participatory consultation process ever conducted in connection with an international document. Thousands of individuals and hundreds of organizations from all regions of the world, different cultures, and diverse sectors of society . . . participated."[28] Released in the year 2000, the Earth Charter has been endorsed by more than 14,000 individuals and organizations worldwide representing millions of members, yet it has failed to attain its desired endorsement or adoption by the 2002 World Summit on Sustainable Development or the UN General Assembly.



The values of the Earth Charter are derived from "contemporary science, international law, the teachings of indigenous peoples, the wisdom of the world's great religions and philosophical traditions, the declarations and reports of the seven UN summit conferences held during the 1990s, the global ethics movement, numerous nongovernmental declarations and people's treaties issued over the past thirty years, and best practices for building sustainable communities."[29] For example, in 1996, more than 50 international law instruments were surveyed and summarized in *Principles of Environmental Conservation and Sustainable Development: Summary and Survey*.[30] Four first-order principles were identified and expressed in the Earth Charter as the community of life, ecological integrity, social and economic justice, and democracy, nonviolence, and peace. Sixteen second-order principles expand on these four, and 61 third-order principles elaborate on the 16. For example, the core principal of social and economic justice is elaborated by principles of equitable economy, eradication of poverty, and the securing of gender equality and the rights of indigenous peoples. In turn, each of these principles is further explicated with three or four specific actions or intentions.[31]

Few of the efforts are explicit about the time period in which sustainable development should be considered

Practice

Finally—and in many ways, most importantly—sustainable development is defined in practice. The practice includes the many efforts at defining the concept, establishing goals, creating indicators, and asserting values. But additionally, it includes developing social movements, organizing institutions, crafting sustainability science and technology, and negotiating the grand compromise among those who are principally concerned with nature and environment,

those who value economic development, and those who are dedicated to improving the human condition.

A Social Movement

Sustainable development can be viewed as a social movement—"a group of people with a common ideology who try together to achieve certain general goals."[32] In an effort to encourage the creation of a broadly based social movement in support of sustainable development, UNCED was the first international, intergovernmental conference to provide full access to a wide range of nongovernmental organizations (NGOs) and to encourage an independent Earth Summit at a nearby venue. More than 1,400 NGOs and 8,000 journalists participated.[33] One social movement launched from UNCED was the effort described above to create an Earth Charter, to ratify it, and to act upon its principles.

In 2002, 737 new NGOs[34] and more than 8,046 representatives of major groups (business, farmers, indigenous peoples, local authorities, NGOs, the scientific and technological communities, trade unions, and women) attended the World Summit on Sustainable Development in Johannesburg. These groups organized themselves into approximately 40 geographical and issue-based caucuses.[35]

But underlying this participation in the formal international sustainable development events are a host of social movements struggling to identify what sustainable development means in the context of specific places and peoples. One such movement is the effort of many communities, states, provinces, or regions to engage in community exercises to define a desirable sustainable future and the actions needed to attain it. Examples include Sustainable Seattle,[36] Durban's Local Agenda 21 Programme,[37] the Lancashire County Council Local Agenda 21 Strategy,[38] and the Minnesota Sustainable Development Initiative.[39]

Three related efforts are the sustainable livelihoods movement, the global solidarity movement, and the corporate responsibility movement.[40] The movement for sustainable livelihoods consists of local initiatives that seek to create opportunities for work and sustenance that offer sustainable and credible alternatives to current processes of development and modernization. Consisting primarily of initiatives in developing countries, the movement has counterparts in the developed world, as seen, for example, in local efforts in the United States to mandate payment of a "living wage" rather than a minimum wage.

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The global solidarity movement seeks to support poor people in developing countries in ways that go beyond the altruistic support for development funding. Their campaigns are expressed as antiglobalization or "globalization from below"[41] in critical appraisals of major international institutions, in the movement for the cancellation of debt,[42] and in critiques of developed-world policies—such as agricultural subsidies—that significantly impact developing countries and especially poor people.[43]

The corporate responsibility movement has three dimensions: various campaigns by NGOs to change corporate environmental and social behavior;[44] efforts by corporations to contribute to sustainable development goals and to reduce their negative environmental and social impacts;[45] and international initiatives such as the UN Global Compact[46] or the World Business Council for

Sustainable Development[47] that seek to harness the knowledge, energies, and activities of corporations to better serve nature and society. For instance, in the just-selected Global 100, the most sustainable corporations in the world, the top three corporations were Toyota, selected for its leadership in introducing hybrid vehicles; Alcoa, for management of materials and energy efficiency; and British Petroleum, for leadership in greenhouse gas emissions reduction, energy efficiency, renewables, and waste treatment and handling.[48]

A related social movement focuses on excessive material consumption and its impacts on the environment and society and seeks to foster voluntary simplicity of one form or another. These advocates argue that beyond certain thresholds, ever-increasing consumption does not increase subjective levels of happiness, satisfaction, or health.[49] Rather, it often has precisely the opposite effect. Thus, these efforts present a vision of "the good life" in which people work and consume less than is prevalent in today's consumer-driven affluent societies.

As with any social movement, sustainable development encounters opposition. The opponents of sustainable development attack from two very different perspectives: At one end of the spectrum are those that view sustainable development as a top-down attempt by the United Nations to dictate how the people of the world should live their lives—and thus as a threat to individual freedoms and property rights.[50] At the other end are those who view sustainable development as capitulation that implies development as usual, driven by the interests of big business and multilateral institutions and that pays only lip service to social justice and the protection of nature.[51]

Institutions

The goals of sustainable development have been firmly embedded in a large number of national, international, and nongovernmental institutions. At the intergovernmental level, sustainable development is now found as a central theme throughout the United Nations and its specialized agencies. Evidence of this shift can be seen in the creation of the Division of Sustainable Development within the United Nations Department of Economic and Social Affairs, the establishment of a vice president for environmentally and socially sustainable development at the World Bank, and the declaration of the United Nations Decade of Education for Sustainable Development. Similarly, numerous national and local governmental entities have been established to create and monitor sustainable development strategies.[52] According to a recent survey by the International Council for Local Environment Initiatives, "6,416 local authorities in 113 countries have either made a formal commitment to Local Agenda 21 or are actively undertaking the process," and the number of such processes has been growing dramatically.[53] In addition to these governmental efforts, sustainable development has emerged in the organization charts of businesses (such as Lafarge[54]), consultancies (including CH2M Hill[55]), and investment indices (such as the Dow Jones Sustainability Index).

Sustainability Science and Technology

Sustainable development is also becoming a scientific and technological endeavor that, according to the Initiative on Science and Technology for Sustainable Development, "seeks to enhance the contribution of knowledge to environmentally sustainable human development around the world."[56] This emerging enterprise is focused on deepening our understanding of socio-ecological systems in particular places while exploring innovative mechanisms for producing knowledge so that it is relevant, credible, and legitimate to local decisionmakers.[57]

The efforts of the science and technology community to contribute to sustainable development is exemplified in the actions of the major Academies of Science[58] and International Disciplinary Unions,[59] in collaborative networks of individual scientists and technologists,[60] in emerging programs of interdisciplinary education,[61] and in many efforts to supply scientific support to communities.[62]

A Grand Compromise

One of the successes of sustainable development has been its ability to serve as a grand compromise between those who are principally concerned with nature and environment, those who value economic development, and those who are dedicated to improving the human condition. At the core of this compromise is the inseparability of environment and development described by the World Commission on Environment and Development. Thus, much of what is described as sustainable development in practice are negotiations in which workable compromises are found that address the environmental, economic, and human development objectives of competing interest groups. Indeed, this is why so many definitions of sustainable development include statements about open and democratic decisionmaking.

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At the global scale, this compromise has engaged the wealthy and poor countries of the world in a common endeavor. Before this compromise was formally

adopted by UNCED, the poorer countries of the world often viewed demands for greater environmental protection as a threat to their ability to develop, while the rich countries viewed some of the development in poor countries as a threat to valued environmental resources. The concept of sustainable development attempts to couple development aspirations with the need to preserve the basic life support systems of the planet.

So, What Is Sustainable Development?

Since the Brundtland Commission first defined sustainable development, dozens, if not hundreds, of scholars and practitioners have articulated and promoted their own alternative definition; yet a clear, fixed, and immutable meaning remains elusive. This has led some observers to call sustainable development an oxymoron: fundamentally contradictory and irreconcilable. Further, if anyone can redefine and reapply the term to fit their purposes, it becomes meaningless in practice, or worse, can be used to disguise or greenwash socially or environmentally destructive activities.

Yet, despite these critiques, each definitional attempt is an important part of an ongoing dialogue. In fact, sustainable development draws much of its resonance, power, and creativity from its very ambiguity. The concrete challenges of sustainable development are at least as heterogeneous and complex as the diversity of human societies and natural ecosystems around the world. As a concept, its malleability allows it to remain an open, dynamic, and evolving idea that can be adapted to fit these very different situations and contexts across space and time. Likewise, its openness to interpretation enables participants at multiple levels, from local to global, within and across activity sectors, and in institutions of governance, business, and civil society to redefine and reinterpret its meaning to fit their own situation. Thus, the concept of sustainability has been adapted to address very different challenges, ranging from the planning of sustainable cities to sustainable livelihoods, sustainable agriculture to sustainable fishing, and the efforts to develop common corporate standards in the UN Global Compact and in the World Business Council for Sustainable Development.

Despite this creative ambiguity and openness to interpretation, sustainable development has evolved a core set of guiding principles and values, based on the Brundtland Commission's standard definition to meet the needs, now and in the future, for human, economic, and social development within the restraints of the life support systems of the planet. Further, the connotations of both of the phrase's root words, "sustainable" and "development" are generally quite positive for most people, and their combination imbues this concept with inherent and near-universal agreement that sustainability is a worthwhile value and goal—a powerful feature in diverse and conflicted social contexts.

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Importantly, however, these underlying principles are not fixed and immutable but the evolving product of a global dialogue, now several decades old, about what sustainability should mean. The original emphasis on economic development and environmental protection has been broadened and deepened to include alternative notions of development (human and social) and alternative views of nature (anthropocentric versus ecocentric). Thus, the concept maintains a creative tension between a few core principles and an openness to reinterpretation and adaptation to different social and ecological contexts.

Sustainable development thus requires the participation of diverse stakeholders and perspectives, with the ideal of reconciling different and sometimes opposing values and goals toward a new synthesis and subsequent coordination of mutual action to achieve multiple values simultaneously and even synergistically. As real-world experience has shown, however, achieving agreement on sustainability values, goals, and actions is often difficult and painful work, as different stakeholder values are forced to the surface, compared and contrasted, criticized and debated. Sometimes individual stakeholders find the process too difficult or too threatening to their own values and either reject the process entirely to pursue their own narrow goals or critique it ideologically, without engaging in the hard work of negotiation and compromise. Critique is nonetheless a vital part of the conscious evolution of sustainable development—a concept that, in the end, represents diverse local to global efforts to imagine and enact a positive vision of a world in which basic human needs are met without destroying or irrevocably degrading the natural systems on which we all depend.

Robert W. Kates is an independent scholar based in Trenton, Maine, and a professor emeritus at Brown University, where he served as director of the Feinstein World Hunger Program. He is also a former vice-chair of the Board of Sustainable Development of the U.S. National Academy's National Research Council. In 1991, Kates was awarded the National Medal of Science for his work on hunger, environment, and natural hazards. He is an executive editor of *Environment* and may be contacted at rkates@acadia.net. Thomas M. Parris is a research scientist at and director of the New England office of ISCIENCES, LLC. He is a contributing editor of *Environment*. Parris may be reached at parris@isciences.com. Anthony A. Leiserowitz is a research scientist at Decision Research and an adjunct professor of environmental studies at the University of Oregon, Eugene. He is also an investigator at the Center for Research on Environmental Decisions at Columbia University. Leiserowitz may be reached at (541) 485-2400 or by e-mail at ecotone@uoregon.edu.

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45. One measure of the extent of this activity is the 625 corporations or other entities referring to or using sustainability-reporting guidelines in their corporate reports as part of the Global Reporting Initiative, http://www.globalreporting.org/.

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