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The Sociology
of Sustainable Development

While it's obvious the Earth Summit in Rio de Janeiro did not solve the
world's environmental problems, it did lay a foundation for continued
progress. The emphasis of the event was to integrate economic and
environmental issues into the philosophy of sustainable development. . . .
Within the chemical industry, we're beginning to see more and more
examples of how specific companies are making great strides toward
sustainability. The chemical industry has the means and the desire—not
to mention the technological expertise—to become part of the solution.
I believe that by working with governments and the environmental
community in a productive and cooperative manner, the chemical industry
can help to make sustainable development a reality.

<div align="center">(DOW CHEMICAL CEO, FRANK POPOFF IN CHEMICAL WEEK, 24 JUNE 1992, P. 18).</div>

HISTORICAL CONTEXT
OF SUSTAINABLE DEVELOPMENT

The positive spin on environmental protection that Mr. Popoff promotes in
his commentary in *Chemical Week* deviates sharply from the responses the
chemical industry has typically taken to plans by government and environ-
mentalists to curb the negative effects of chemical production. In the 1960s,
the industry belittled Rachel Carson and her claim that DDT was harmful to

both environmental and human health. The industry regularly lobbies Congress to limit the amount of legislation placed on chemical production. What happened for the CEO of Dow Chemical to write a call-to-arms to fellow industry leaders to work with the government and environmentalists, traditional foes, in a "productive and cooperative manner . . . [to] help make sustainable development a reality"? What does sustainable development promise that earlier attempts at environmental protection did not?

The most commonly used definition of sustainable development (SD) comes from the 1987 report prepared by the World Commission on Environment and Development (WCED, also known as the Brundtland Commission) titled, *Our Common Future.* Sustainable development is "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[1] This term became a buzzword at the 1992 United Nations Conference on Environment and Development (the "Earth Summit"). The 178 heads of state that gathered at this forum sought to address both the "environment problem" and the "development problem." The concept of sustainable development presented a paradigm in which officials viewed environment and development as partners rather than adversaries. The WCED's sustainable development presumed that economic growth and environmental protection could be reconciled. The idea was not new, it harked back to Pinchot's utilitarian view of nature as a resource; as providing the "greatest good for the greatest number over the longest time."

The idea of sustainable development contrasts with development that focuses on economic gain often at the expense of the environment. Some natural resource extractive industries, such as mining and fishing, have depleted resources in the name of promoting social and economic concerns. However, unsustainable development can have devastating effects for the environment and humans. For example, in 1992 the northern cod collapsed in Newfoundland due to overfishing. In light of this, the government called for a two-year moratorium on cod fishing so that the stocks could recover. This action affected "40,000 workers and hundreds of communities."[2] In this case and others like it, the tension between biological/ecological concerns and human social/economic concerns highlights the importance of finding a balance between these systems.

While WCED's definition has the greatest recognition, a range of definitions are associated with SD. For example, David Pearce and colleagues present a thirteen-page annex of definitions of the term.[3] What WCED's brief and vague definition has in common with other treatises on SD is that the WCED identifies three main, but not equal, goals of sustainable development: (1) economic growth, (2) environmental protection, and (3) social equity. Different interest groups highlight different aspects of the three part sustainable development definition. The economic concerns of industrialists, such as Mr. Popoff, are incorporated into the definition, as are the environmental concerns of environmentalists and the social concerns of nongovernmental organizations and some governments wishing to alleviate poverty and injustice.

While the WCED popularized the concept, the term SD has been around for at least ten years prior to the report. The International Union for the Conservation of Nature, for instance, used the term in its 1980 publication, *World Conservation Strategy.* The *Strategy,* however, emphasizes ecological sustainability, not the integration of ecological, economic, and social sustainability.[4] The ideas embodied in the term sustainable development were, likewise, not new in 1987. Sustainable development draws upon "limits to growth," "appropriate and intermediate technology," "soft energy paths," and "ecodevelopment" discourses from the 1970s and 1980s.[5]

The limits to growth debate centers around the much-publicized *The Limits to Growth* study produced by the Club of Rome.[6] In a nutshell, the book presents evidence that severe biophysical constraints would impinge upon the growth and development of societies. *The Limits* predicts ecological collapse if current growth trends continued in population, industry, and resource use. The study generated tremendous debate, attention, and critique. The leading criticisms of the study are threefold: (1) it assumes that there were fixed amounts of exploitable resources, (2) it does not account for technological innovation and substitution, and (3) no resource limits have been reached or documented.[7] In addition to these problems, the limits to growth idea became politically unpopular in the less-developed countries (LCDs, or, the South) "on the grounds that it was unjust and unrealistic to expect countries of the South to abandon their aspirations for economic growth to stabilize the world environment for the benefit of the industrial world."[8]

While the limits to growth debate asks whether environmental protection and continued economic growth are compatible, the mainstream sustainable development rhetoric assumes that the two are complimentary and instead focuses on *how* sustainable development can be achieved.[9] The SD discourse does not assume there are fixed limits; it is pro-technology, pro-growth, and compromise oriented. The WCED report clearly states, "The concept of sustainable development does imply limits—not absolute limits but limitations imposed by the present state of technology and social organizations on environmental resources and by the ability of the biosphere to absorb the effects of human activities. But technology and social organization can be both managed and improved to make way for a new era of economic growth."[10]

The emphasis of sustainable development on meeting the needs and desires of multiple constituencies also relates back to a key theme of "appropriate," "intermediate," and "soft" technologies. This theme, discussed earlier in Chapter 5, is that technology should be suited to cultural contexts. While consulting with the LDCs to assist them in expanding production and decreasing unemployment, E. F. Schumacher developed a critique of the transfer of energy- and capital-intensive technologies from the more-developed countries (MDCs, or, the North) to the LDCs.[11] The technologies are directed to maximizing output per worker. For Schumacher, this transfer is not appropriate for nations with high rates of unemployment. Schumacher suggests intermediate technologies (using human labor and efficient methods) could increase production and employment, thus addressing economic and social concerns of the LDCs. Unlike some of the political disagreements gen-

erated by the notion of limits to growth, Allan Schnaiberg argues that there was support for Schumacher's ideas from both the MDCs and the LDCs. He says, "What makes [appropriate technology] or its institutionalized form of intermediate technology . . . so valuable as a comparison to sustainable development is that it drew favourable attention in both North and South among citizens, politicians and even some private-sector agents of the treadmill of production. Interestingly, like sustainable development, appropriate technology also generated little overt political resistance." Unfortunately, the political acceptability of appropriate/intermediate technologies did not result in real changes in the system of production.[12]

In 1987, the discourse of sustainable development presented a shift in thinking about development. SD presented a solution to the problems of economic development and environmental degradation. International aid agencies, such as the United States Agency for International Development (USAID) and the World Bank, adopted the SD framework for the design of their development programs. The emergence of the concept came at the same time that environmental policymakers began framing environmental problems, such as biodiversity loss, the greenhouse effect, and the thinning of the ozone layer, as "global problems." No longer was it enough to "think globally, act locally." In an era of globalization, the new interpretation of environmental problems suggested that we must "think globally, act globally."

Sustainable Development's Definitional Problems

While critics of sustainable development from the radical, managerial, and conservative viewpoints are concerned with a range of problems related to the concept of SD, a criticism that unifies their thoughts is the lack of clarity in the meaning of the term. What should be "sustained" in sustainable development? the economy? the environment? human welfare? What should be "developed"? Is "development" the same as growth? Whose "needs" and whose "development" should be promoted?[13]

As an example of the definitional problem, Paul Ekins considers the issue of "needs" and argues that the term is "an imprecise formulation which makes no distinction between the vastly different 'needs' in the First and the Third Worlds nor between human needs and the consumer wants towards the satisfaction of which most of the First World consumption, at least, is directed."[14] Similarly, development has a number of possible connotations. Does development refer to production growth, as is typically indicated by growth of gross national product or gross domestic product; does it refer to environmental growth, such as an improvement of environmental resources; or does development refer to growth in human welfare, including health, working conditions, and income distribution?[15] " 'Development' is conceptually an empty shell which may cover anything from the rate of capital accumulation to the number of latrines, it becomes eternally unclear and contestable just what exactly should be kept sustainable."[16]

Sustainable development and "sustainability" are not synonymous. SD analysts argue that sustainable development is not a neutral term; it is a political

concept that represents a political agenda.[17] Sustainable development fits into a global conversation about the best way for nations to "develop," often thought of as poverty alleviation. John Dryzek argues that sustainable development is a discourse. "And it is not just any discourse. Since the publication of the report of the Brundtland Commission . . . it is arguably *the* dominant global discourse of environmental concern."[18] Sustainable development presents a strategy for development, an agenda for a style of development. The term sustainability, at least as related to ecological sustainability, is more neutral or "scientific" in that whether or not an ecological process can be said to be "sustainable" can be related to objective criteria. Ecological and social sustainability could also be constructed along more "objective" criteria; nonetheless, cataloguing these two types of sustainability is more problematic and more prone to debates as to what is/is not sustainable.

In part due to the lack of consensus of meaning, critics argue that being in favor of sustainable development comes relatively commitment-free.[19] For example, "Sustainable development is a mother-and-apple-pie formulation that everyone can agree on; there are no reports of any politician or international bureaucrat proclaiming his or her support for unsustainable development."[20] Akin to this criticism is that the term "sustainable" is used to describe so many desirable institutions that the word has lost meaning. Who could argue against sustainable society, sustainable economics, sustainable democracy, sustainable cities, or sustainable tourism, to name a few? The "sustainable" tag is integrated into many aspects of life. For example, the following definition of sustainable agriculture (from the 1990 Farm Bill) touches on all three of the aspects of SD—economic, environmental, and social.[21] Sustainable agriculture is:

> An integrated system of plant and animal production practices having a site-specific application that will, over the long term: satisfy human and fiber needs; enhance environmental quality and the natural resource base upon which the agricultural economy depends; make the most efficient use of non-renewable resources and integrate, where appropriate, natural biological cycles and controls; sustain the economic viability of farm operations; and enhance the quality of life for farmers and society as a whole.[22]

Individuals and institutions in powerful positions embrace the idea of SD as it is popularly interpreted. This rendition of sustainable development fits squarely into a managerial interpretation of social life[23] in that SD only requires slight modifications to existing modes of production, existing political structures, and existing values.[24] Radical interpretations, such as that put forward by Sharachandra Lélé, point out that the concept "Does not contradict the deep-rooted normative notion of development as economic growth. In other words, SD is an attempt to have one's cake and eat it too."[25]

Fred Buttel, nonetheless, points out some of the advantages of a "vague" notion of sustainable development:

> SD still does focus our attention on the two great contradictions of the world today: the long-term compromising of the integrity of ecosystems (local as well as global ones) and the tendency toward reinforcement of
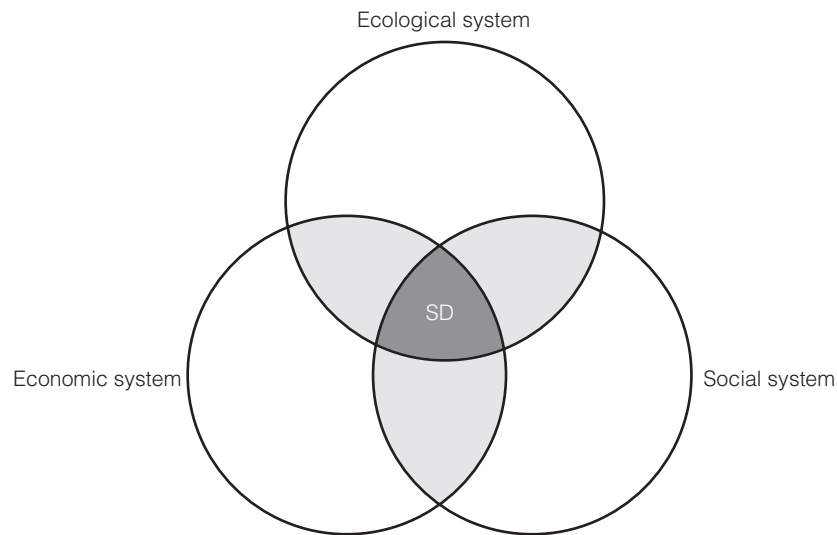
FIGURE 7.1 The Goal of Sustainable Development Is to Maximize Three Systems

SOURCE: From Edward B. Barbier, "The Concept of Sustainable Economic Development." *Environmental Conservation,* vol. 14, no. 2 (1987): 101–110. Reprinted with permission of Cambridge University Press.

> the socioeconomic processes of social exclusion of billions of the world's people. Because of its relevance to spotlighting attention on these two great institutional failures of our epoch, SD allows a range of groups to contest structures and policies and to develop alternative visions of the future.[26]

Our treatment of sustainable development works from the premise that there are three systems involved in sustainable development that must be resolved: ecological, economic, and social. Barbier asserts that the objective of SD is "to maximize the goals across all these systems through an adaptive process of trade-off."[27] (See Figure 7.1.) In sum, for development to be sustainable, the environment should be protected, people's economic situation improved, and social equity achieved.

Overview of Conservative, Managerial, and Radical Interpretations of Sustainable Development

Conservative interpretations can be either anti-sustainable development or pro-sustainable development. On the one hand, conservatives condemn sustainable development because the concept suggests tampering with the free-market economy. William Sunderlin summarizes this position:

> "Free market environmentalism" (FME) is the theoretical spearhead of pluralist opposition to sustainable development. . . . According to FME, environmental problems are caused by government interference of the free operation of the marketplace. Government ownership and control of

natural resources, it is held, are the principal obstacles to sound manage-ment of natural resources. . . . Well-specified private property rights to all resources and an unrestrained market, FME argues, are the essential preconditions for wise custodianship of the environment. . . . The indi-vidual is seen as the key unit of analysis and as the critical agent of social change.[28]

At the international level of free trade, the anti-sustainable development con-servative position favors free-trade agreements, such as the North American Free Trade Agreement and the General Agreement on Tariffs and Trade (now under the World Trade Organization), as long as they do not impose restric-tions on corporations. This differs from a managerial approach that favors the agreements as long as they would "include environmental and social safe-guards" so there would be an even playing ground in which trade would be less environmentally damaging.[29]

A pro-sustainable development flank of conservatives places the power of social change largely in the hands of individuals' voluntary behaviors. This group is hopeful that individuals, through green consumerism and boycotting harmful products (voting with one's dollar), can pressure producers to change environmentally harmful processes, thus changing corporate behavior. Propo-nents of this perspective also favor lifestyle changes. "Voluntary simplicity," for example, is the ideology of many such individuals and groups who do not be-lieve that governments or corporations can be relied upon to enact significant changes. The proponents believe, instead, that everyday citizens transform culture by putting their beliefs into action through commitments to ideals such as "sustainable consumerism." These groups have numerous strategies to aid individuals to consume less, among other things, and to develop a way of life that is "outwardly simple, inwardly rich."[30]

The managerial account of sustainable development is also the mainstream approach to this goal, at least in the United States.[31] Sunderlin argues that "sustainable development is essentially a managerial and reformist concept."[32] Managerial accounts of SD do not question existing political or economic structures. As we indicated earlier in Chapter 2, managerialists advocate incre-mental changes. In this way, managerial approaches to SD enforce the existing power structure and reinforce an economy built on the ideology of growth. Actors currently in control of economic development processes, such as the World Bank and the USAID at a transnational level, and national governments and corporations at the state level, tend to take a managerial course to sustain-able development. An assumption of the managerial approach is that poverty is linked to environmental degradation; thus, ending poverty through eco-nomic development (aka economic growth) will also curb environmental damage. Managerial actors are concerned with how the "theory" of SD can be put into action, especially through existing "development" programs. Rather than reconstruct their entire way of doing things, these actors instead try to adapt the themes of SD into their existing development programs.

Much of the work of Lester R. Brown and the Worldwatch Institute focuses on the managerial "nuts and bolts" of sustainable development. Brown and colleagues' recommendations for a "sustainable society" include a discussion of using more efficient technologies, decentralizing energy production, and reusing and recycling.[33] At an international level, sociologist Michael Cernea works with the World Bank to promote "putting people first" in development projects if one wants "lasting social sustainability for development programs, and better environmental management."[34] Other organizations, such as the World Health Organization, the Food and Agriculture Organization, and the Nigerian Environmental Action Team, produce managerial-style "what to do texts," reviewed in Diana Mitlin's guide of the literature on SD.[35]

The radical critique of sustainable development examines the degree to which the mechanisms of sustainable development serve to reproduce global inequality. In particular, the critique focuses on three MDC-LDC relationships—trade, aid, and debt. Critics of sustainable development argue that unequal relationships between the MDCs and the LDCs, entrenched in the post–World War II "developmentalist" period, are reproduced in the sustainable development paradigm; thus, the term SD is just a new guise for continued imperialism.[36] Michael Redclift argues that sustainable development serves to support those with power in the international world order.[37] This world order is one that was defined during the post–World War II development period in which ". . . the industrialized nations of North America and Europe were supposed to be the indubitable models for the societies of Asia, Africa, and Latin America, the so-called Third World."[38] Radicals do not believe that sustainable development offers a real alternative to old practices that serve those in power at the expense of the "have nots."

The radical interpretation does not present an agenda for sustainable development like the conservative and managerial perspectives do. Instead, radicals attempt to unpack the assumptions of each of the other approaches. The next section will present a variety of strategies that are being used to promote sustainable development. The radical position will be more fully fleshed out in terms of what it opposes of these strategies, since, from the radical perspective, there are serious problems with being "for" sustainable development.

Finally, another model for thinking about approaches to sustainable development that is similar, but lacks a one-to-one correspondence to the conservative-managerial-radical model we present, is used by Susan Baker and colleagues.[39] They evaluate approaches ranging from least to most social restructuring, and from most anthropocentric to most biocentric (Table 7.1). Roughly, their "treadmill" SD corresponds with our conservative model; in the range between their "weak sustainable development" and their "strong sustainable development" fits the managerial model; and their "ideal model" for SD has aspects of the radical model calling for profound structural changes in economic and political systems, and aspects of the conservative model calling for value changes that would align society more with deep ecological values.

Table 7.1 Another Conception of Sustainable Development

Approach in Sustainable Development	Role of Economy and Nature of Growth	Geographical Focus	Nature	Policies and Sectoral Integration	Technology	Institutions	Policy Instruments and Tools	Redistribution	Civil Society	Philosophy
Ideal Model of sustainable development	Right livelihood, meeting needs not wants; changes in patterns and levels of production and consumption	Bioregionalism; extensive local self-sufficiency	Promoting and protecting biodiversity	Holistic inter-sectoral integration	Labour-intensive appropriate technology	Decentralization of political, legal, social and economic institutions	Full range of policy tools; sophisticated use of indicators extending to social dimensions	Inter- and intra-generational equity	Bottom-up community structures and control. New approach to valuing work	Ecocentric/biocentric
Strong sustainable development	Environmentally regulated market; changes in patterns of production and consumption	Heightened local economic self-sufficiency, promoted in the context of global markets	Environmental management and protection	Environmental policy integration across sectors	Clean technology; product life-cycle management; mixed labour- and capital-intensive technology	Some restructuring of institutions	Advanced use of sustainability indicators; wide range of policy tools	Strengthened redistribution policy	Open-ended dialogue and envisioning	
Weak sustainable development	Market reliant environmental policy; changes in patterns of consumption	Initial moves to local economic self-sufficiency; minor initiatives to alleviate the power of global markets	Replacing finite resources with capital; exploitation of renewable resources	Sector-driven approach	End-of-pipe technical solutions; mixed labour- and capital-intensive technology	Minimal amendments to institutions	Token use of environmental indicators; limited range of market-led policy tools	Equity a marginal issue	Top-down initiatives; limited state-environmental movements dialogue	
Treadmill	Exponential growth	Global markets and global economy	Resource exploitation	No change	Capital-intensive production technologies; progressive automation	No change	Conventional accounting	Equity not an issue	Very limited dialogue between the state and environmental movements	Anthropocentric

SOURCE: Baker et al., 1997. Used by permission of International Thompson Publishing Services, Ltd.

CONSERVATIVE STRATEGIES
FOR SUSTAINABLE DEVELOPMENT

This section looks at concrete examples of sustainable development projects. The purpose is twofold: (1) to highlight different types of sustainable development strategies, and (2) to present critiques of the strategies.

Corporate Sustainable Development

The Business Council for Sustainable Development prepared an influential publication on business and the environment, *Changing Course: A Global Business Perspective on Development and the Environment,* in 1992.[40] *Changing Course* represents a conservative strategy for sustainable development—one that operates within the boundaries of free-market capitalism. The book opens with the council's declaration for sustainable development. "Business will play a vital role in the future health of this planet. As business leaders, we are committed to sustainable development, to meeting the needs of the present without compromising the welfare of future generations."[41] Over fifty corporations from around the world, including Germany's Volkswagen, Japan's Mitsubishi, Kenya's First Chartered Securities Ltd., and Brazil's Aracruz Celulose, endorse this declaration. These organizations that comprise the Business Council assembled prior to the Earth Summit to make recommendations to the national leaders meeting in Rio. Critics of the Business Council argue that a more apt name for the group would be the Sustainable Council for Business Development because they present themselves "as part of the solution to the global environmental crisis rather than as part of the problem."[42] *Changing Course* offers examples and recommendations for managing "cleaner" production and improving corporations' environmental records. Interest in such corporate sustainability has grown since 1992 as evidenced by a plethora of publications on the subject of business and sustainable development, including a new publishing company (Greenleaf Publishing) dedicated to helping businesses "make profit while performing sustainably," as well as a new journal dedicated to such endeavors, the *Journal of Industrial Ecology.*

An example presented by the Business Council for Sustainable Development of a corporation taking "successful steps toward sustainable development" is the case of the U.S.-based transnational corporation, Minnesota Mining and Manufacturing (3M). 3M produces a number of consumer products, including tape. 3M was an early initiator of voluntary environmental actions through its Pollution Prevention Policy ("3P"), that the corporation implemented in 1975. According to 3M's own literature, "3P was established because it is more environmentally effective, technically sound and economical than conventional pollution controls."[43] The company tries to prevent pollution at the source rather than by managing its outputs, the company's wastes. 3M has four strategies to reducing pollution: "product reformulation, process modification, equipment redesign, and recycling and reuse of waste materials." An example of such a strategy was the redesign of a resin spray booth that

cost $45,000 to implement but saves $125,000 a year in resin incineration disposal. 3M has won awards from the U.S. Council on Sustainable Development and the National Wildlife Federation. In addition, in the twenty-five year life of the 3P project, 3M reduced corporate pollutants by 771,000 tons and saved $810 million. 3M's goals are to move toward zero emissions to the environment. This has also been the goal of "industrial ecology" and "ecological modernization" policies in general.

As introduced in Chapter 5, the premise of the ecological modernization approach to environmental protection is that there is a material environmental problem that can be improved through industrial production that is cleaner, more efficient, and more profitable.[44] The academic proponents of ecological modernization speak of it in much the same way that the corporate proponents speak of sustainable development. For example, Arthur Mol and Gert Spaargaren state, "More production and consumption in economic terms (GNP, purchase power, employment) does not have to imply more environmental devastation (pollution, energy use, loss of biodiversity)."[45] David Sonnenfeld states, "In simple form, it [ecological modernization] might be thought of as industrial restructuring with a green twist."[46] EM believes a green capitalism is possible. Mol and Spaargaren explain:

> It is not that Capitalism is considered to be essential for environmentally sound production and consumption (as neo-liberal scholars want us to believe), nor that Capitalism is believed to play no role in environmental deterioration. But rather that (i) Capitalism is changing constantly and one of the main triggers is related to environmental concerns, (ii) environmentally sound production and consumption is possible under different "relations of production" and each mode of production requires its own environmental reform program, and (iii) all major, fundamental alternatives for the present economic order have proved unfeasible according to various (economic, environmental and social) criteria.[47]

Theorists writing in the radical tradition, such as Schnaiberg and Gould on the "treadmill of production"[48] and O'Connor on the "second contradiction of capitalism"[49] would disagree with such arguments by arguing that it is within the capitalist logic to maximize profit. Thus, any action, voluntary or not, that would limit profit making, would not appeal to capitalists. However, Buttel argues (and 3M's example supports this) that the corporate capitalist logic can work in favor of efficiency and conservation.[50] The "win-win" notion that sustainable development and industrial ecology/ecological modernization theory touts, in other words, may work well within the capitalist logic. Buttel qualifies this argument:

> Although we can, of course, exaggerate the extent to which capital can be expected to embrace industrial ecology and related forms of capitalist environmentalism, it must be kept in mind that one feature of capitalist competition is that efficiency in the use of resources and even in the minimization of the waste stream can be means for capitalists to reduce their

costs. This logic may be particularly strong if state policies are structured so as to penalize privately caused pollution or resources destruction.[51]

A case study of pulp and paper manufacturing based on Sonnenfeld's work in Southeast Asia shows ecological modernization in practice as well as the social processes by which corporate change takes place.[52] Sonnenfeld summarizes objectives that can be used to gauge materially whether production is proceeding according to ecological modernization principles: "in the short-term, waste reduction and elimination, resource recovery and reuse, and dematerialisation; in the long-term, resource conservation and clean production."[53] Pulp and paper manufacturing is criticized from an environmental standpoint because the industry uses chlorine in its processes, which releases dioxin, a toxin. In Indonesia, Malaysia, and Thailand, manufacturing has been cleaned up. One of the main ways that improvements occurred was through the adoption of "green" technological innovations. Though these improvements came about in a "voluntary" fashion, a number of social actors pressured the manufacturers for change. Sonnenfeld summarizes the process by which environmental technologies were adopted:

> The core dynamics of adoption of environmental technologies . . . include [an] original "landmark" conflict [in one case he examines, it is a chemical spill]; the establishment of new standards/levels of expectations for industry environmental performance; the encouragement of both firm and supplier innovations; and implementation/adoption of the new, cleaner production technologies. Key participants in these processes are local community groups, domestic and international business interests, non–governmental organizations, regulatory agencies, bi- and multi-lateral aid agencies, and "green consumers."[54]

In Southeast Asia, pulp firms are presently "among the most efficient in the world."[55] Wastes have been significantly lowered and two resources, water and chemicals, are being reduced and recovered. However, another key resource, fibrous raw materials, which had historically been reused, are no longer. "As the scale of production has increased . . . the industry has moved away from recycled inputs to greater reliance on virgin raw materials from native forests and tree plantations. . . . Perhaps the biggest Achilles heel of Southeast Asian pulp producers with regard to ecological modernisation is the criterion of dematerialisation."[56] Thus, despite significant gains in ecoefficiency brought about by technological improvements and social pressures, "resource conservation, one of the long-term objectives of ecological modernisation, thus remains in the distant future of Southeast Asian pulp industries."[57]

This case identifies another issue that has not been adequately addressed by the practitioners of ecological modernization. "A further concern is the applicability of ecological modernisation theory to small- and medium-sized enterprises [SMEs], some of them government-owned. . . . In Southeast Asia's pulp and paper industries, many SMEs are older, use poorer technology, and are more polluting. While it may make environmental sense to phase out some

or many of such firms, doing so would have high social costs."[58] Radicals would push this critique. If ecological modernization is only possible for large corporations, what does this mean for the accumulation of capital? Managerial critiques would, likewise, question the equity of a system that favors the largest producing groups over small-scale operators. Concerns about production of paper products and the limits of ecological modernization for small companies leads to the next examples of corporate sustainability: small companies attempting to use "clean" processes.

A number of relatively small companies have also taken steps to use raw materials in their products that promote environmental sustainability. Gardening supply company Smith and Hawken, for example, notes of its garden furniture, "All Smith and Hawken's teak is ecologically grown and responsibly harvested on the island of Java, where replanting programs are strictly enforced."[59] Other companies, such as Ben and Jerry's (ice cream), built a reputation on being environmentally, economically, and socially sustainable. Ben and Jerry's mission statement is built around: (1) producing high-quality ice cream products made from Vermont ingredients, (2) profitable growth, and (3) socially "initiating innovative ways to improve the quality of life of a broad community—local, national, and international."[60] The annual report for 1998 notes, "Financial returns to shareholders continued to improve in 1998, reflecting the impressive growth in sales and earnings. Long-term investors in Ben and Jerry's can now take satisfaction knowing that the Company is capable of accomplishing both social and financial objectives."

While not explicit in its mission, Ben and Jerry's is considered a "pro-environmental" corporation. The milk used to produce their ice cream, for example, is free of bovine growth hormone, a hormone that many environmental and social groups consider to be negative both for the health of cows and for small family farms that attempt to farm sustainably. Ben and Jerry's pay local farmers extra to produce their milk and cream hormone-free. Recently, the corporation switched their packaging material from white bleached paper to unbleached paper. Their website boasts, "This is a bigger deal than you might think. Bleaching paper with chlorine to make it whiter is one of the largest causes of toxic water pollution in the United States."[61] The company has also successfully lowered its solid and dairy wastes and continues to find strategies to do this. For example, they are attempting to use what they call "totes," reusable containers, to receive shipments from their suppliers.

Economically, the company provides very good worker benefits and attempts to limit the income disparity between its highest paid and lowest paid workers. However, this has been difficult to do. For example, in their 1998 annual report, the social auditor notes that female senior nonexecutive managers earn 12 percent less than their male counterparts and "the income disparity between the highest and lowest paid employees is near its historical high at 16–1." The company also promotes their social concerns by allocating more than 7 percent of annual profits to the Ben & Jerry Foundation that supports grassroots organizations. The recipients of foundation grants range from envi-

ronmental justice groups (the Community Coalition for Environmental Justice in Seattle), to groups fighting for affordable housing (Mutual Housing Association in New York), to those lobbying against sweatshops in China (National Mobilization Against Sweatshops).

One of the reasons that Ben and Jerry's, along with companies such as the Body Shop and Seventh Generation, are considered to be "pro–environmental" is because they were the first to sign the CERES principles (see Table 7.2). CERES stands for Coalition for Environmentally Responsible Economies. The CERES principles, originally drafted in 1989 under the title the "Valdez Principles" (after the Exxon Valdez's oil spill in Prince Edward Sound), are based upon the ideas that corporate environmental responsibility, in addition to legislation, is necessary for "environmental progress." "Success . . . depends on the willingness of corporations to lead, rather than be led, in the transition to a more ecologically sound economy."[62]

Corporate signers pledge to participate in environmental reporting and ongoing improvement. These are voluntary actions that are also driven by the fact that in today's culture, a green image sells. At first, only small corporations like Ben and Jerry's and Aveda signed the principles. However, since 1993, over fifty corporations have signed including American Airlines, Bethlehem Steel, Coca-Cola, General Motors, and Sunoco. Other voluntary corporate measures such as CERES exist. For example, in response to the Earth Summit's call for sustainable development, the International Organization for Standardization (ISO) has developed a framework (ISO 14000) for industries to use to measure and evaluate their environmental program intended to promote "sustainable business development." According to the U.S.'s representative to ISO, the American National Standards Institute, "These international standards are voluntary standards for establishment of a common worldwide approach to management systems that will lead to the protection of the earth's environment while spurring international trade and commerce. They will serve as tools to manage corporate environmental programs and provide an internationally recognized framework to measure, evaluate, and audit these programs."[63]

The Voluntary Simplicity Movement

In addition to corporate strategies for sustainable development, there are conservative strategies that are more value-based and individually directed. Proponents of the voluntary simplicity movement, which is connected to the philosophy of deep ecology, promote behaviors that could be considered conservative strategies for sustainable development. In the United States, some of the key national organizations that lead the voluntary simplicity movement are the Northwest Earth Institute in Portland, Oregon; the New Road Map Foundation in Seattle, Washington; and the Center for a New American Dream in Takoma Park, Maryland. Founded in 1993, the Northwest Earth Institute describes itself as, "Motivating individuals to examine and transform personal values and habits, to accept responsibility for the earth and act on that commitment."[64]

Table 7.2 The CERES Principles

Protection of the Biosphere

We will reduce and make continual progress toward eliminating the release of any substance that may cause environmental damage to the air, water, or the earth or its inhabitants. We will safeguard all habitats affected by our operations and will protect open spaces and wilderness, while preserving biodiversity.

Sustainable Use of Natural Resources

We will make sustainable use of renewable natural resources, such as water, soils and forests. We will conserve non-renewable natural resources through efficient use and careful planning.

Reduction and Disposal of Wastes

We will reduce and where possible eliminate waste through source reduction and recycling. All waste will be handled and disposed of through safe and responsible methods.

Energy Conservation

We will conserve energy and improve the energy efficiency of our internal operations and of the goods and services we sell. We will make every effort to use environmentally safe and sustainable energy sources.

Risk Reduction

We will strive to minimize the environmental, health and safety risks to our employees and the communities in which we operate through safe technologies, facilities and operating procedures, and by being prepared for emergencies.

Safe Products and Services

We will reduce and where possible eliminate the use, manufacture or sale of products and services that cause environmental damage or health or safety hazards. We will inform our customers of the environmental impacts of our products or services and try to correct unsafe use.

Environmental Restoration

We will promptly and responsibly correct conditions we have caused that endanger health, safety or the environment. To the extent feasible, we will redress injuries we have caused to persons or damage we have caused to the environment and will restore the environment.

Informing the Public

We will inform in a timely manner everyone who may be affected by conditions caused by our company that might endanger health, safety or the environment. We will regularly seek advice and counsel through dialogue with persons in communities near our facilities. We will not take any action against employees for reporting dangerous incidents or conditions to management or to appropriate authorities.

Management Commitment

We will implement these Principles and sustain a process that ensures that the Board of Directors and Chief Executive Officer are fully informed about pertinent environmental issues and are fully responsible for environmental policy. In selecting our Board of Directors, we will consider demonstrated environmental commitment as a factor.

Audits and Reports

We will conduct an annual self-evaluation of our progress in implementing these Principles. We will support the timely creation of generally accepted environmental audit procedures. We will annually complete the CERES Report, which will be made available to the public.

Disclaimer

These Principles establish an environmental ethic with criteria by which investors and others can assess the environmental performance of companies. Companies that endorse these Principles pledge to go voluntarily beyond the requirements of the law. The terms "may" and "might" in Principles one and eight are not meant to encompass every imaginable consequence, no matter how remote. Rather, these Principles obligate endorsers to behave as prudent persons who are not governed by conflicting interests and who possess a strong commitment to environmental excellence and to human health and safety. These Principles are not intended to create new legal liabilities, expand existing rights or obligations, waive legal defenses, or otherwise affect the legal position of any endorsing company, and are not intended to be used against an endorser in any legal proceeding for any purpose.

SOURCE: *www.ceres.org.* Used by permission of CERES.

There are a number of such groups in Europe, as well. For example, the Northern Alliance for Sustainability consists of organizations in six European nations. Their goal is "to make consumption and production . . . patterns in the North more sustainable."[65] They provide information to consumers so that through consumer pressure, producers will change environmentally un-sound products. Their main "sustainable product campaign" focuses on food. They argue that they cannot rely on government to assist with organic agri-culture, for example, because of the close connection between government and the agriculture industry. The Alliance argues that consumer awareness and pressure works.

> The appearance of more and more organic food in Western European supermarkets is a direct result of increased consumer awareness of health hazards of eating industrially produced food. In the UK, food scares con-cerning BSE (Mad Cow Disease), *E. coli* and salmonella in eggs have in-creased consumer pressure on retailers to stock organic produce. This has forced retailers to respond by demanding that their suppliers switch to organic agriculture or by importing organic produce from abroad.[66]

Voluntary simplicity groups and safe food groups in the United States, such as the Organic Consumers Association, also believe that consumer and pluralist democratic actions work to change corporations and government standards. The U.S. Department of Agriculture, for example, has currently re-vised its national organic food standards, making them more stringent, after receiving an unprecedented number of comments from consumers on what were considered to be lax standards. USDA's revised guidelines (that are not yet final regulations) take into account the leading concerns of consumers.

Radical critiques of the conservative position focus on the assumptions of conservatives' version of SD. Radicals would argue that while one may be at-tracted to sustainable development for its vision of compromise, SD must be critically assessed to understand its inherent bias toward concepts of "eco-nomic progress" and "growth" and the underlying assumption that growth benefits all sectors of society. Radicals come at this problem from an interna-tional scale, with much of the critique arising from the LDCs. A leading cri-tique is that, by adopting sustainable development as "the" development

BOX 7.1   Focus on the United States: Sustainable Communities

Communities are looking for alternatives to unsustainable development. "Intentional communities" are one way people are attempting to proceed along sustainable paths. Intentional communities are the 1990s' term for what were called "communes" and "back-to-the-land" movements in the 1960s and 1970s. "An `intentional community' is a group of people who have chosen to live together with a common purpose, working cooperatively to create a lifestyle that reflects their shared core values" (*www.ic.org*). Many intentional communities are focused on ecological values. According to data from 1990, over 8,000 people in North America live in intentional communities. The popularity of intentional communities has grown since then.

A long-standing intentional community, the Farm, founded in 1971 in Tennessee, has worked toward creating a sustainable lifestyle with ecological building, permaculture, and sustainable forest management. One way its 200 residents earn a living is through their Ecovillage Training Center, which offers instruction in sustainable living, including courses on mushroom cultivation, composting, solar water heating, cob construction, hybrid vehicles, organic gardening, and social justice.

Intentional communities don't only exist in rural areas. In an inner-city neighborhood in Los Angeles, 500 neighbors have created the Los Angeles Eco-Village. Residents describe it: "We are a neighborhood in the built-out mid-city area working toward becoming a demonstration of healthy urban community. Our whole-systems approach to community development integrates the social, economic and physical aspects of neighborhood life to be sustainable over the long term. Eco-villagers intend to achieve and demonstrate high-fulfillment, low-impact living patterns, to reduce the burden on government, and to increase neighborhood self-reliance in a variety of areas such as livelihood, food production, energy and water use, affordable housing, transit, recreation, waste reduction and education. We also plan to convert the housing in the neighborhood from rental to permanently affordable cooperative ownership" (*www.ic.org*). The village gardens, composts, reuses materials, has an environmental education program for children, and has weekly community potlucks to develop a sense of community.

Efforts to create sustainable communities can also be found on college campuses. For example, at Denison University, students, faculty, and administrators created "The Homestead," an alternative living option for twelve students. Founded in 1977, the purpose of the Homestead is for students to live in a cooperative manner utilizing an agriculture-based, low technology lifestyle. A primary objective is to reduce dependence on fossil fuels and mass production. Students live "off the grid" in solar-powered cabins, grow their own organic food, raise chickens, ride their bikes to campus, and engage in participatory democracy. Residents and members of the Denison community are currently building a community center on the Homestead land out of strawbales and cob.

Other efforts are being made outside the intentional communities label. A good resource is the Sustainable Communities Network (*www.sustainable.org*).

SOURCE: Intentional Communities website (*www.ic.org*).

paradigm, developers secure the place of economic growth and progress as the international development strategy without deeply questioning what development means or whom development should benefit. In this way, sustainable development is not a significant shift away from traditional development schemes based in modernization theory. SD works within the same paradigm of market-oriented growth and sustains the "treadmill of production." Cynics suggest that those whose ultimate goal is really economic growth have coopted green thinking, shaped themselves into "eco-" growthists, and called for sustainable development. Thus, sustainable development is traditional development disguised by a new name.[67] The focus on growth comes at the expense of environmental and social aspects of sustainable development. In relation to this concern is that conservative SD shifts attention from the problems created by the "haves" to the problems created by the "have nots."

> On the surface, Rio was a considerable success, united North and South through the concepts of free-market environmentalism and growth based on the position and policies advocated by the major multinational corporations (MNCs) and the Business Council for Sustainable Development. But in ecological or biocentric terms Rio was a failure, doing nothing to reverse the historic process whereby trade-led growth has led to ecological degradation through the overexploitation of natural resources. Thus there was a convention on biodiversity, but none on free trade; a convention on forests, but none on logging; a convention on climate, but none on cars. . . . In other words, the reality of UNCED was that it was concerned with defending the power, interests and living standards of the "haves" of the industrialized North at the expense not only of the "have-nots" of the industrializing South but also of Gaia.[68]

Conservatives do not address the power and economic differentials between the "haves" and the "have nots." Critics argue that this makes sense given that the proponents of the conservative, free-market approach are currently those who are at the top of the stratification system and who have an interest in maintaining the status quo. Chatterjee and Finger argue that it was by no mistake that business groups contributed a significant percentage of the total cost to pay for the Earth Summit.

> Business and industry are not to be blamed for having sponsored UNCED and taking advantage of it. They were basically profiting from an opportunity offered on a golden plate. However, they must be criticized for double-speak, and for using the Earth Summit as a strategic event without being willing even to consider the profound changes that would be necessary in order to take significant steps toward a sustainable society. Indeed, many of the corporations that paid for the Earth Summit had appalling environmental management records. Perhaps more insidious still, many of these corporations funded anti-environmental lobbying groups in the United States and probably elsewhere. In short, while promoting themselves through the Earth Summit as the solution to the environmental and

developmental problems, they simultaneously opposed environmental protection standards and legislation at the national and the local levels. . . . This is what turned their sponsorship of UNCED into a greenwashing farce.[69]

In sum, radicals criticize the conservative approach to sustainable development for focusing primarily on the growth element of SD while glossing over concerns about environmental sustainability and social equity.

MANAGERIAL STRATEGIES
FOR SUSTAINABLE DEVELOPMENT

Managerial approaches to sustainable development can be studied by looking at the programs and actions of national governments and international development agencies. The first part of this section provides an overview of their actions followed by a radical critique of such actions. Following this, we examine an issue that is the target of state and development agencies' sustainable development efforts: biodiversity conservation. The final part of this section looks to a less controversial project of states and development agencies: finding new ways to measure sustainable development.

States' and International Development Agencies' Sustainable Development

One of the outcomes of UNCED was encouraging countries to develop what are called "National Environmental Action Plans (NEAPs)" that focus on sustainable development. Many nations have established and are currently trying to implement these plans. Their purpose is summarized by a statement about Kenya's plan: "The NEAP will identify the major environmental problems, lay out an overall strategy to deal with the problems and provide a very specific plan for action to be taken by government and the private sector, including NGOs."[70] As an incentive to receive long-term, no interest loans, the World Bank encourages countries to create NEAPs. International agencies, such as USAID, provide funding for developing countries, including Haiti, Madagascar, and Ukraine, to develop and implement these plans.[71]

National governments have also taken independent actions to incorporate sustainable development into their actions. For example, in 1992, President Clinton established the President's Council on Sustainable Development. This council has a broad constituency: corporate leaders (CEOs of Ciba-Geigy, Georgia Pacific, and Chevron), environmentalists (leaders of National Resources Defense Council, National Wildlife Federation, and the Nature Conservancy), and government officials from agencies including the Department of the Interior, the Environmental Protection Agency, and the Department of Agriculture. According to two key documents produced by the Council (*Sustainable America: A New Consensus for Prosperity, Opportunity, and a Healthy Envi-*

ronment for the Future [1992] and *Towards A Sustainable America* [1999]), the vision of the council:

> . . . is of a life-sustaining Earth. We are committed to the achievement of a dignified, peaceful, and equitable existence. A sustainable United States will have a growing economy that provides equitable opportunities for satisfying livelihoods and a safe, healthy, high quality of life for current and future generations. Our nation will protect its environment, its natural resource base, and the functions and viability of natural systems on which all life depends.[72]

For MDCs like the United States, incorporating sustainable development also means refocusing the activities of its bilateral aid agency, the United States Agency for International Development (USAID). In Chapter 3, we discussed the important role that USAID plays in promoting family planning programs. USAID also supports numerous "environmental" projects in developing nations, including pollution prevention in India and Chile, biodiversity protection in Madagascar and Peru, and the training of energy professionals in Nigeria and Ecuador.[73] One of the two strategic environmental goals is "Promoting sustainable economic growth locally, nationally, and regionally by addressing environmental, economic, and developmental practices that impede development and are unsustainable."[74] Among others, Canadian and German aid agencies also incorporate environmental emphases in their aid programs.

USAID's underlying assumptions are very similar to those presented in the Bruntland Commission's report. They believe that poverty can be alleviated by economic growth and that if poverty is eliminated, environmental quality will improve. This account does not consider how growth is distributed or the degree of inequality between rich and poor. A summary of USAID's premise follows:

> Environmental problems are caused by the way people use resources. . . . Environmental damage often is driven by poverty and food insecurity . . . [which] force individuals and communities to choose short-term exploitation over long-term management. . . . Economic growth cannot be sustained if the natural resources that fuel growth are irresponsibly depleted. Conversely, protection of the environment and careful stewardship of natural resources will not be possible where poverty is pervasive. This is the conundrum and the opportunity of sustainable development.[75]

The focus on the degrading activities of the poor shifts attention away from the degrading activities of the MDCs' consumers and capitalists. The focus also directs attention to population issues. Here, too, USAID assumes that the cause of environmental problems is the sheer number of people rather than the way the people produce and consume. Managerial agents operate within the assumption that continued economic growth is desirable and that only slight modifications and incremental changes are necessary to achieve continued growth, and thus, sustainable development.

Along with aid agencies, international development agents embrace the concept of sustainable development. Over the last few decades there has been a gradual "greening" of both bilateral and multilateral development agencies, including the World Bank.[76] In 1992, for example, the World Bank's annual report was subtitled "Development and Environment."[77] In the report, the Bank "strongly endorses"[78] the work of the Brundtland Commission for two reasons: (1) it argues that a degraded environment is antithetical to development; (2) it notes that environmental problems undermine future productivity.

In line with the World Bank's mission of alleviating global poverty, most of the programs proposed by the World Bank are framed around what they consider to be the environmental problems of the poor—sanitation, air pollution, soil erosion, and loss of tropical forests.[79] The World Bank also acknowledges that nations with different income levels produce different types of environmental problems (Figure 7.2). The Bank's proposed solutions to environmental problems focus on tactics that they have used to address purely "development" (without the environment) problems in the past: new technologies, increased investment, selective debt relief, and reduced population growth, to name a few. The Bank's main lines of action to incorporate the environment into its work include assisting nations in developing environmental policies, incorporating environmental conditions in its lending process, and assisting members "to build on the complementarity between poverty reduction and the environment."[80] Examples of environmental loans include improving environmental information systems in Uganda, promoting pollution control efforts in India, and assessing the environmental impacts of energy projects in Colombia.[81] While much of the work of the World Bank is focused on "global" problems such as biodiversity, "local" issues are also a central concern of projects. A visit to the World Bank's website will demonstrate how the Bank is paying increasing attention to the environment with information ranging from the issues of biodiversity conservation, pollution management, and green accounting to explanations of its many initiatives and partnerships with environmental organizations such as the World Wildlife Fund.[82]

One of the World Bank's initiative/partnerships is with the Global Environment Facility (GEF). GEF was established in 1990 through a collaboration of the Bank with the United Nations Environmental Program, and the United Nations Development Program to facilitate environmental aid transfers from the MDCs to the LDCs.[83] Examples of programs include assistance to national governments to comply with international treaties such as the Convention on Biological Diversity (including Senegal and South Africa), to projects to lower ozone depleting substances (as in Slovenia), to projects for reducing carbon dioxide emissions through the promotion of renewable energy (as in China). GEF funds are often coupled with funds from other development agents. For example, in 1998, GEF coupled US$5 million with US$62.5 million from the International Development Association to fund a national park project in Zimbabwe. The park is intended to promote sustainable development by protecting biodiversity, boosting tourism, and improving opportunities for local communities.[84]
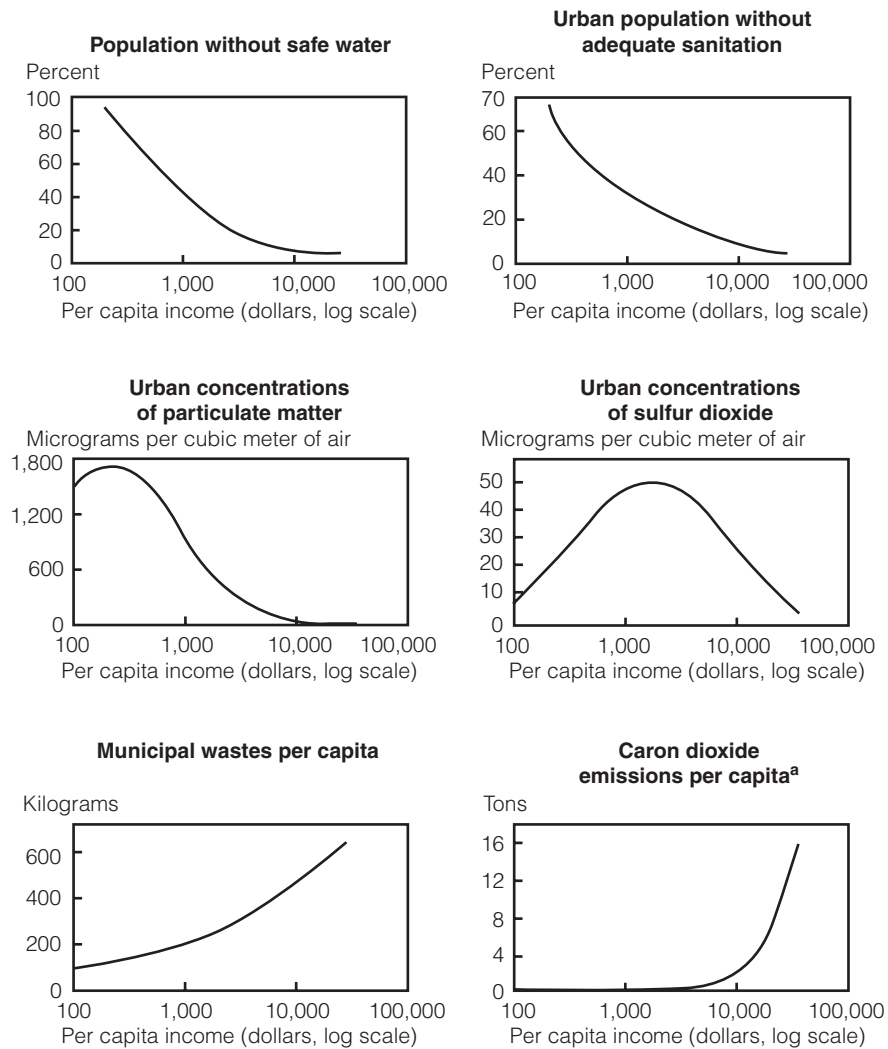
Population without safe water

Percent

**Urban population without
adequate sanitation**

Percent

**Urban concentrations
of particulate matter**

Micrograms per cubic meter of air

**Urban concentrations
of sulfur dioxide**

Micrograms per cubic meter of air

Municipal wastes per capita

Kilograms

**Caron dioxide
emissions per capita**[a]

Tons

FIGURE 7.2 Various Indicators for Environment and Development

[a] Emissions are from fossil fuels.

NOTE: Estimates are based on cross-country regression analysis of data from the 1980s.

SOURCE: World Development Report, 1992, p. 11. Used by permission of Oxford University Press.

Despite the promising sound of these projects, many critics attack SD proj-
ects on the grounds of the projects' records of achievement. These critics mea-
sure the success of international development agencies on their own terms, in
other words, in relation to agencies' goals. The evidence suggests they are not
meeting their goals. Critics argue that both bilateral and multilateral develop-
ment assistance transferred to the LDCs in the form of loans creates more, not

Ratio of income shares
Richest : Poorest

20% ☐   ■ 20%

59:1

45:1

32:1

30:1
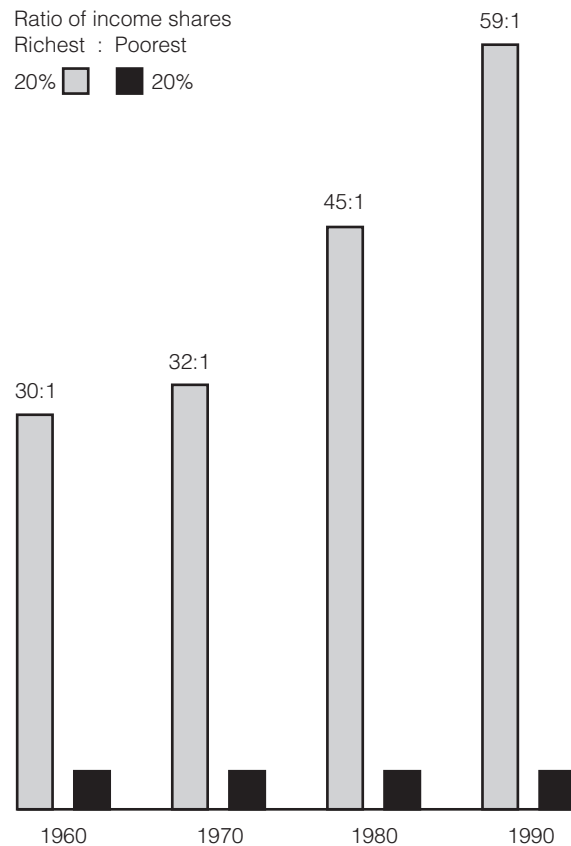
1960   1970   1980   1990

FIGURE 7.3 Income Disparity

SOURCE: From *World Development Report 1992* by World Bank, copyright © 1992 by The International Bank for Reconstruction and Development/The World Bank. Used by permission of Oxford University Press, Inc.

less, inequality in the LDCs and between nations[85] (Figure 7.3). Vandana Shiva summarizes this position. "The old order does not change through environmental discussions, rather it becomes more deeply entrenched."[86] Critics call this the "myth of development."[87] In addition, a growing literature denounces the negative effects of bilateral and multilateral development projects on the environment[88] and the negative effects of aid-produced debt on the environment.[89] For example, development assistance to increase the carrying capacity in Kenya backfired; the assistance actually reduced the capacity of range lands to support people, thus intensifying famines.[90] By admission of the World Bank's own Director of the Environmental Department, the Bank notes that the effect of its policy changes toward the environment "has been less than was hoped for at the time of Rio, and the achievements of various programs have been mixed."[91]

A radical critique of these managerial sustainable development strategies examines the degree to which the mechanisms of development agents reproduces global inequality. Radicals argue that the debt relationship between the

MDCs and the LDCs is a source of continued inequality and domination of the LDCs by the MDCs. The debt of the South has increased dramatically since the 1980s. For example, for those nations that the World Bank categorizes as "low income," in 1980s their total debt was US$102 billion; in 1997 the debt increased to US$387 billion. The debt of "middle income" nations increased over the same period from US$580 billion to over US$2 trillion[92] (Figure 7.4). Since the 1980s, the amount that the developing countries paid back on their loans exceeded the amount they received in loans, thus resulting in a net gain for the MDCs. The debt is so high in some nations that countries cannot even pay off the interest amounts, let alone the principal.

In addition to the problem of paying back loans, critics point out that the projects that the loans are intended for are ill-conceived ones that produce environmental problems rather than improving the quality of the environment. A number of critics point out the devastating environmental and social effects of many World Bank projects.[93] For example, in Brazil and Indonesia, World Bank loans encourage clear-cutting tropical forests to create new cropland—a short-term view resulting in unarable land in only a few seasons.[94] The World Bank is aware of these problems and is trying to make adjustments. For example, in fiscal year 1991, the Bank approved ninety-four projects with environmental components. Of these, thirteen of the programs had over 50 percent of the total costs or benefits of the project related to environmental protection benefits. The objective of a forest development project in Kenya is to "Conserve and protect indigenous forest resources, soil, and water on the forest, farm, and range land; provide technical assistance in forestry extension and agroforestry; prepare a forestry development master plan; strengthen planning and implementation capacities of forest agencies."[95]

Another significant problem with development agents' strategies for SD is the indirect relationship between debt and social/environmental degradation. The debt load carried by the LDCs is a significant factor for explaining the decline in environmental quality. Debt affects SD in two ways. First, countries often attempt to meet debt repayments by intensifying economic practices, turning to new investments, and increasing exports. These actions can result in environmentally risky development since they include resource-exploiting activities—mining, use of dangerous agricultural chemicals, and increased planting of cash crops often on deforested land.[96] The increased need for export earning to pay off the debt can excelerate natural resource extractions. Buttel and Taylor point out that

> Third World countries that are most "debt-stressed," and thus that are most in need of hard-currency export revenues, are most likely to see little alternative but to aggressively "develop" their tropical rainforests and other sensitive habitats in order to maintain their balance of payments and service their debts.[97]

National debt also often forces governments to limit social and environmental services, thus decreasing funds for environmental protection.[98] If nations respond to debt by reducing government expenditures, the poor and the

IBRD loans and IDA credits, outstanding and disbursed, $ billion

1997 1980

Use of IMF credit, outstanding and disbursed, $ billion
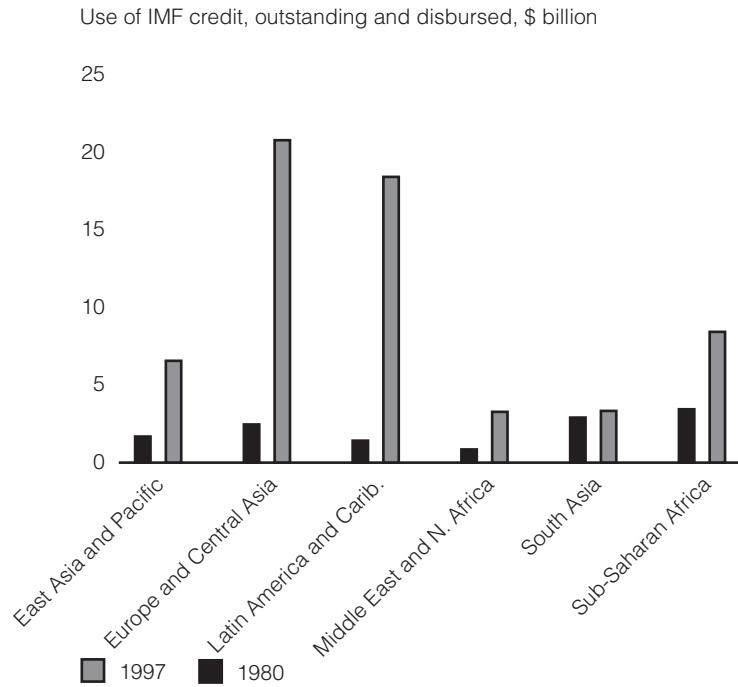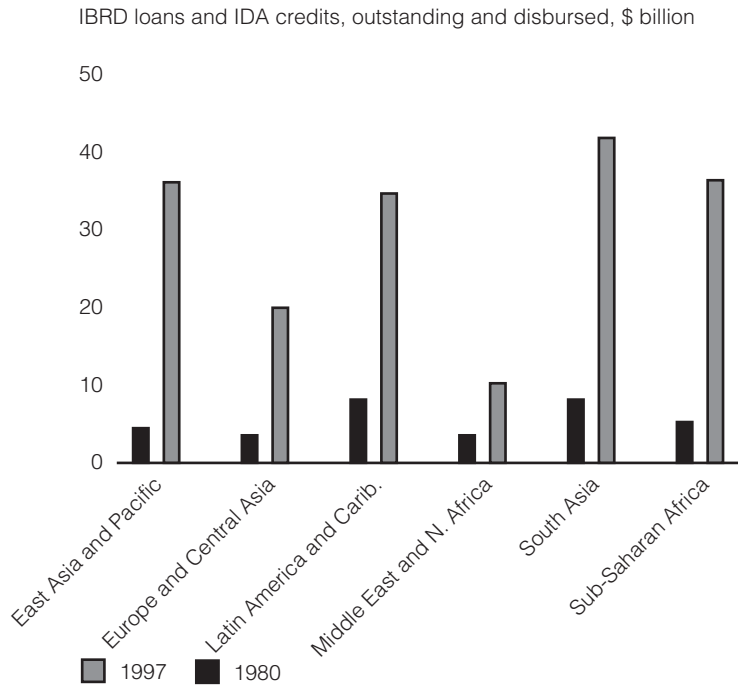

1997 1980

FIGURE 7.4 Growth in World Bank Loans: World Bank and IMF Lending Expands in the Regions Most at Risk of Financial Crisis

SOURCE: Used by permission of the Copyright Clearance Center for the World Bank.

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environment are often the losers since less funds go to social and environmental agencies and services.

Debt, resource exploitation, and cutbacks in public services have been the pattern in a number of cases, such as Ecuador. Like many other Latin American nations, Ecuador is severely indebted. The country's political–economic history is similar to that of other LDCs that followed the traditional development trajectory. Ecuador borrowed large amounts of money in the 1970s, which led to a crisis in the early 1980s, because the country was unable to meet debt payments. In 1970, Ecuador's total foreign debt was US$242 million; by 1982 debt had increased to US$12.5 billion, more than a fifty-fold increase. Debt problems reached their height in 1979 when debt payments demanded 45 percent of export earnings.

In the late 1980s and early 1990s, Ecuador renegotiated loans with the International Monetary Fund in exchange for agreeing to make "structural adjustments." These included steps to liberalize their economy, increase exports, and reduce social spending. Environmental protection and other pro-sustainable development actions have been squeezed out of Ecuador's economic equation. The funding for Ecuador's protected areas (including national parks), for example, has been limited. The options of Ecuador's government, to preserve or exploit, in the face of immediate problems to service the debt, led them down the path of exploitation. Ecuador's three biggest foreign exchange earners—oil, bananas, and shrimp—are all clearly linked to land degradation and resource depletion. Oil extraction has been the most obviously troublesome. Petroleum's negative environmental effects on the Amazon have been well documented by both the state's own environmental agency and the World Bank. The photo in Figure 7.5, from Ecuador's capital, Quito, illustrates the dismay of many Ecuadorians in regard to oil exploitation. Debt exacerbated Ecuador's environmental problems of polluted land, air, and fish kills, and indigenous people have suffered from negative health effects.[99]

Similar processes and results of the debt cycle—high debt, structural adjustment, and environmental and social degradation—occur in other regions, such as Sub-Saharan Africa.[100] Structural adjustment policies, in particular, receive much criticism. Ted Lewellen summarizes critics' concerns. "In essence, the debt crisis has given the United States—through the [International Monetary Fund]—the power to impose its particular philosophy of growth on much of the Third World. . . . The focus of conditionality is on the economic policies of individual countries, with little recognition of the need for structural adjustments at the international level."[101] In sum, the development system does not serve the poor, the system serves nations at the top of the economic hierarchy.

Some interventions are being established to slow the growth of debt and to reduce the total debt loads of the poorest nations. Many governments in the LDC and nongovernmental organizations are calling for debts to be cancelled. In 1996, the World Bank responded by creating a program— "Debt Relief for Sustainable Development"—that aims to reduce the debt of Heavily Indebted Poor Countries (HIPCs) (Table 7.3). The use of the term sustainable development here is not clearly linked to the Bruntland

FIGURE 7.5 Graffiti in Quito. "The gasoline prices rise and the jungle cries."

Table 7.3 Debt of Selected Heavily Indebted Poor Countries (HIPCs) in US$million

	TOTAL DEBT STOCK			TOTAL DEBT/GNP (%)		
	1980	**1992**	**1997**	**1980**	**1992**	**1997**
Bolivia	2,702	4,235	5,248	101	80	68
Congo, Rep	1,526	4,770	5,071	98	187	278
Ethiopia	824	9,341	10,079	19	169	159
Guyana	—	1,897	1,611	—	711	236
Honduras	1,472	3,614	4,698	62	111	103
Kenya	3,383	6,907	6,486	48	91	65
Lao, PDR	—	1,917	2,320	—	170	132
Mali	727	2,898	2,945	45	103	119
Mauritania	840	2,088	2,453	125	186	235
Nicaragua	2,190	11,178	5,677	112	828	306
Niger	863	1,517	1,579	35	66	86
Vietnam	—	24,332	21,629	—	247	89

SOURCES: Data compiled from Global Development Finance, 1999; World Bank, 1992; and World Bank, 1999. Used by permission of the Copyright Clearance Center for the World Bank.

Commission's definition. Instead, nations that cannot meet their debt payments are classified as unsustainable. Nations are deemed eligible for this program by an economic calculation (debt-to-export ratio), not in terms of environmental or social issues.

Despite the intentions of the programs, the World Bank received criticism for not moving ahead fast enough, not providing enough relief, and not linking debt to social issues. Critics believe there is a lack of commitment to truly helping the poor and highlight hypocrisies. For example, by contrast, "In 1997 the Group of Seven countries responded to East Asia's crisis with extraordinary resolve, mobilizing in a few months more than $100 billion of loans. Equal resolve is now needed for finding the mere $7 billion needed to implement the HIPC initiative in more than 20 African Countries."[102] Despite the Bank's attempts to ameliorate their failures, critics contend that the international model of sustainable development is not working by anyone's standards.

Debt-for-nature swaps are another form of debt reduction, specifically related to environmental concerns. In a swap, a transnational organization, such as the Nature Conservancy or the World Wildlife Fund, buys a portion of a developing country's debt in exchange for a commitment to environmental projects and establishing a "Conservation Trust Fund." This reduces the developing country's foreign debt and provides funding for the conservation and management of protected areas, usually channeled through a nongovernmental organization in the LDC. In the period from 1987 to 1994, thirteen nations participated in thirty-one transnational debt-for-nature swaps. Over US$128 million in conservation funds have been generated at a cost of US$46 million. The face value of the debt that has been reduced is US$187 million. While this is a miniscule amount in relation to the total debt of the involved countries, the swaps generate previously nonexistent funds for conservation activities.

In addition to the problems of debt, another criticism against development agencies' sustainable development practices questions the assumptions of agencies' logic. This critique, which focuses on power relationships between the MDCs and the LDCs, reflects the criticisms against modernization theory waged by dependency and world-systems theorists.[103] The logic of the argument, which arises from the LDCs, follows: If the North blames the poor for environmental degradation, this justifies their intervention in the South. The MDCs frame themselves as heroes of the environment and bring their agents, knowledge, and technologies to the LDCs to "solve" their problems. This top-down approach, despite the rhetoric of "participation" and "democracy," demobilizes local, Southern actors. The approach also shifts attention away from the North's destructive activities and from structural problems with the global economic system.

Development agencies, as noted, do not place the blame for environmental degradation on the desires of the affluent; rather the poor are blamed for

seeking their basic needs. This is seen as a hypocritic flaw in the managerial position. Anthropologist Arturo Escobar comments:

> Over the years, ecosystems analysts have discovered the "degrading" activities of the poor but seldom recognized that the problems are rooted in development processes that displaced indigenous communities, disrupted peoples' habitats and occupations, and forced many rural societies to increase pressure on the environment. Although in the seventies ecologists saw that the problem was economic growth and uncontrolled industrialization, in the eighties many of them came to perceive poverty as a problem of great ecological significance. The poor are now admonished for their "irrationality" and their lack of environmental consciousness. Popular and scholarly texts alike are populated with representations of dark and poor peasant masses destroying forests and mountainsides with axes and machetes, thus shifting visibility and blame away from the large industrial polluters in the North and South and from the predatory way of life fostered by capitalism and development to poor peasant and "backward" practices such as swidden agriculture.[104]

Many of the sustainable development strategies proposed by the MDCs, such as land conservation, focus on environmental problems in the LDCs, and the solutions stress what the LDCs should do. This shifts the blame for environmental destruction away from the unsustainable economic development that took place in the MDCs during the nineteenth and twentieth centuries toward the LDC's strategies for present and future economic growth. This shift of blame masks the related issue of equity, which is at the center of the debates surrounding international efforts to attain sustainable development. The MDC's understanding of sustainable development stresses intergenerational equity (for future generations), while the LDC's understanding emphasizes current intragenerational equity (between countries).

A disagreement occurring during preparations for the Earth Summit illustrates these tensions. During negotiations over how to address the problem of greenhouse gases, the MDCs stressed the environmental side of sustainable development. They focused on the importance of slowing the clearing of tropical forests (most of which are in the South), since rain forests are important "sinks" that absorb greenhouse gases. The LDCs, stressing the development side of sustainable development, responded by pointing out that the greenhouse gas problem arose largely from the fossil fuel habits of the MDCs. Other effective sinks, such as nontropical forests found in the North, have already been deforested. The LDCs resisted writing legislation that would limit their ability to use their resources for economic development.

Shiva, a scientist and activist from India, points to how the MDCs shift attention away from their own harmful activities to the degrading activities of the LDCs through the example of the globalization of the problem of ozone depletion.[105]

> CFCs, which are a primary cause of ozone depletion, are manufactured by a handful of transnationals, such as Dupont, with specific locally iden-

tifiable manufacturing plants. The rational mechanism to control CFC production and use was to control these plants. That such substances as CFCs are produced by particular companies in particular plants is totally ignored when ozone depletion becomes transformed into a "global" environmental problem. The producers of CFCs are apparently blameless and the blame laid instead on the potential use of refrigerators and air-conditioners by millions of people in India and China. Through a shift from present to future, the North gains a new political space in which to control the South. "Global" concerns thus create the moral base for green imperialism.[106]

Blaming the LDCs for global ozone depletion justifies the MDC's intervention in the South through the North's knowledge systems and technologies.[107] The imperative question here is sustainable development by whom? There is a presumed "expertise" in the MDCs that critics would argue is unwarranted since the MDCs are the cause of much damage. One of the main ways that development agencies propose to help the LDCs, nonetheless, is through technical expertise, education, and technology transfer.[108] This discounts the value of knowledge in the LDCs despite evidence that a number of indigenous groups have lived more sustainably than we have, that groups have adapted to changing environments without depleting resources, and that ecological systems must be geographically, culturally, and ecologically specific.[109] Managerial solutions to environmental problems are uncritical of the "global" and universal constructions of such problems. This managerial approach allows "the factors that lead to global constructions of ecological knowledge to be privileged over 'sub-global' frameworks."[110] Technological transfers from the LDCs to MDCs rarely occur. "Few Northerners are proposing that Senegalese peasants be allowed to have a say in American energy consumption, or that Ecuadorian tribal peoples form groups to help protect German forests"[111] and "there are no Latin American networks advising how to deal with, say, Canadian and U.S. Pacific forests."[112]

Presumed solutions come from the top down rather than bottom up despite development agencies' rhetoric regarding the importance of grassroots organizations, women, and NGOs. Feminist critiques of managerial projects argue that women are used by development agencies. For example,

> The imagery of women as "valuable resources" and "assets" has now prompted development planners to seriously consider women's roles in environmental projects and in virtually all environment-related project documents there is at least rhetoric about women. . . . [But, for example,] while they [women] invest their valuable time planting and weeding tree plantations, they have no legal control over the resources created. Women rarely benefit from tree planting scheme . . . when the trees are sold men reap the benefits and get the money. Hence, the imperative for women's involvement in environmental projects clashes with the market orientation propagated in most development projects.[113]

The radical critique of managerial sustainable development strategies is summarized by Ekins:

> The Northern establishment must recognize its countries' primary responsibility for the present environmental crisis and determine to take radical action to address it. . . . The North must further recognize that current structures of interdependence, of trade, aid and debt, make Southern sustainable development impossible. They must, therefore, embark on wholesale reform of such institutions as [General Agreement on Tariffs and Trade], the World Bank and [International Monetary Fund].[114]

Biodiversity Conservation

An issue prompting collaboration between national governments, bilateral and multilateral agencies, and international and local nongovernmental organizations is biodiversity conservation. Conservation is identified as an important sustainable development strategy. Protecting land preserves biological diversity and can provide long-term social and economic benefits through sustained resources use and tourism. The World Conservation Union and other agencies frame land protection as a form of sustainable development in the World Conservation Strategy aforementioned. Since the Strategy, other international actions have linked the conservation of protected areas to sustainable development and strengthened the World Conservation Strategy. The Convention on Biological Diversity signed at the Earth Summit, for example, is designed to prevent the "destruction of biological species, habitats and ecosystems."[115] USAID, the World Bank, GEF, and nongovernmental organizations have all promoted land conservation. USAID funds a program called Parks in Peril (PiP), for example, which is executed through the Nature Conservancy. The program is designed to enforce park protection. From 1990 to 1997 the program received $14 million from USAID and $5.5 million in matching funds from NGOs and developing nations. The program also promotes ecotourism, such as that in the Ecuadorian "selva" (jungle) in Figure 7.6.[116]

As noted in Chapter 6, national parks and protected areas have a long history in the United States. The United States currently has over 10 percent of its land under protection. With increased concern over biodiversity loss in the tropics, most of which exist in developing countries, LDCs have established parks at a rapid rate over the last twenty years as a strategy of sustainable development. In addition to protecting biodiversity, officials expect that parks have the economic potential of earning foreign exchange from tourism.[117] In 1985, Kenya earned $300 million from wildlife associated tourism.[118] According to the World Tourism Organization, tourism is the fastest growing industry in the world.[119] Tourism development is a controversial economic strategy;[120] nonetheless it is supported by the World Bank and other developers.[121] Safaris and other nature specific tourism that are dependent upon protected areas are called "ecotourism." These tourism programs are meant to be ecologically sound and many believe ecotourism has potential as a sustainable development strategy, though it, too, is criticized.[122] The main criticism is that the estab-

FIGURE 7.6 Sacha Lodge in Ecuador's Amazon Region

lishment of parks in the LDCs, while often ecologically and economically sound, has not always been socially sound; ecotourism has not benefited local people. For example, in 1962 the Ugandan government established Kidepo National Park in an area where the nomadic Ik tribe dwelled. Since, by definition, people cannot live in designated national park areas, the Ik were relocated, forbidden to hunt, and were essentially destroyed.[123]

The costs of biodiversity protection are often social, and disproportionately paid by those living closest to biodiversity sites.[124] Especially in LDCs, the local residents are the ones forbidden to cut down trees, grow food, or raise animals in protected areas. In the United States, since much of the land under protection has long been protected, there are less dislocations than there are in LDCs where new protected areas are currently being established. However, those who are dependent on natural resource extraction in the North—such as the fisher folk in Newfoundland who were forbidden to fish and the loggers in the Pacific Northwest banned from logging old growth forests—are often displaced by biodiversity protection, as well.

Despite these negative examples, humans are becoming more important in national park planning. Conservation organizations are acutely aware of the problems associated with limiting human access to lands. Groups like the World Wildlife Fund and Conservation International have sought ways to integrate the social and ecological systems. The "pure" preservation ideas of parks has shifted to a vision that includes human development. Newer proj-

ects, associated specifically with sustainable development efforts, are called "integrated conservation and development projects." The theory behind these projects is that local people are best suited to protect biodiversity when they are also permitted to use the fruits of biodiversity to survive economically. The extractive reserve associated with Chico Mendes' work with Brazilian rubber tappers, described in Chapter 1, is a good example of an integrated conservation and development project.[125] Other efforts have been made by international conservation organizations to demonstrate that indigenous people, in particular, have long coexisted with nature and through their traditional knowledge of local ecologies and their land and resource management, they can provide a path toward sustainability.[126]

An example from Ecuador, the Tagua Initiative, is considered a successful approach to sustainable development in conservation. In a coastal region of Ecuador, Esmeraldas, the United States-based environmental organization, Conservation International, supports the initiative, which "links rural harvesters of the ivory-like nut of the tagua palm—which grows in coastal rain forests from Panama to Ecuador—with manufacturers of buttons, jewelry, and arts and crafts made from nuts. Key members of the Tagua Initiative include Esprit, L.L. Bean, Smith & Hawken, and more than 45 other U.S. and international clothing manufacturers."[127] The Initiative takes place in an area that is a top conservation priority, a biodiverse "hot spot." Information from Conservation International suggests that this program is a great success; the program employs over 1,800 people, protects the land in the Cotacachi-Cayapas Ecological Reserve, and the initiative has generated over $1.5 million in Tagua button sales. The initiative fits all three criteria of SD: the social, economic, and environmental. The program is currently being expanded to include more than twenty similar products in eight biodiversity-rich nations.

In its best cases, biodiversity conservation can bring together the social, economic, and ecological spheres of SD. Many conservation conflicts, however, play out as contests between economics and ecology, industrialists and environmentalists. These conflicts do not only occur in developing nations. In just the last few years in the United States, conflicts in and around protected areas of Yellowstone (mining versus wilderness protection) and the Pacific Northwest (jobs versus the spotted owl) are framed in this way. For example, industrialists and environmentalists are debating whether or not the Arctic National Wildlife Refuge should be opened for oil exploration. Industrialists argue that, if the area were opened, employment opportunities would increase, that the state would benefit from these taxable incomes, and that, if oil were actually discovered, then there would be even more jobs and more taxable incomes. An editorial in the *Oil and Gas Journal* (1995) states, "By not leasing [the Arctic National Wildlife Refuge], the U.S. government deprives itself and its citizens of an economic opportunity because an environmentalist cause forecloses discussion of what few real environmental questions apply. . . . Their [the government's] refusal is a triumph of obstructionist environmentalism."[128]

Environmentalists call Don Young, the Alaskan Congressman who is leading the effort to explore, "an attack dog for development interests."[129] Citing concerns over species preservation and the problems of dependence on nonrenewable resources, environmental organizations, including the Wilderness Society, have urged the government to change the area's protection status to that of a national monument, which would legally prohibit oil exploration. Federal agencies are split on the issue due to competing missions. For example, the Interior Department's Mineral Management Service promotes oil development, while the Fish and Wildlife Service is charged with protecting the environment.[130] Despite the rhetoric of SD, the two sides have different, not necessarily complementary values. One values economic benefits; the other values the benefits of wildlife preservation. The mainstream view of SD ignores these critical differences.

From a global perspective, radicals are concerned that biodiversity is being commodified and only valued for its economic benefits. Shiva argues that pharmaceutical companies earn billions of dollars from the preservation of rain forests from which they extract chemicals from tropical plants, often with no benefit to the LDCs that protect the land. The companies re-create chemical compounds, patent the compounds, and sell the drugs back to the LDCs. Between 1990 and 2000, according to Shiva, the value of the LDC's germplasm grew from US$4.7 billion to US$47 billion;[131] others project even higher future values.[132]

Biodiversity conservation highlights the tensions between ecological, economic, and social systems and the trade-offs that need to be addressed for sustainable development. Despite hopeful efforts to simultaneously alleviate problems of poverty and biodiversity loss through land conservation, conflicts arise. For sustainable development to work, tough value decisions need to be made.

Measuring Sustainable Development: New Social Indicators

Finally, we examine a managerial strategy that verges on conservative and radical approaches to social change that is less controversial than those just examined. The managerial approach takes a step toward examining the value structure that we have built our ideas of "success" upon and seeks to redefine our measures of success. Arguments of this type suggest that we need to change our system of accounting for such things as "sustainability" and "development." Finding indicators for SD is part of this project. At the time of the Earth Summit, national reports made to the International Commission on Sustainable Development were poor. The New Economics Foundation is working to refine national sustainability indicators, especially as they relate to UNCED's Agenda 21.[133] This strategy has the potential to move beyond simply supporting the status quo since to some degree it forces a reexamination of the meaning of "development" and the value of measuring it in terms of economic growth by critically examining the drawbacks of using indicators of development that focus on gross national product or gross domestic product.

Brown argues, "as the transition to a more environmentally benign economy progresses, sustainability will gradually eclipse growth as the focus of economic policy making."[134]

A number of measures that can be used to compare nations have been proposed. These include measures like the Physical Quality of Life Index, the Human Development Index, the International Indicator of Social Progress, the Sustainable National Income, and the Genuine Progress Indicator.

The Human Development Index (HDI) is intended as an alternative to GNP to measure human development. It is reported yearly in the United Nations' *Human Development Report.* The HDI does not equate development with economic growth. The *Report* states, "The concept of human development provides an alternative to the view of development equated exclusively with economic growth. Human development focuses on people."[135] HDI takes into account "three basic dimensions of human development—longevity, knowledge and a decent standard of living. It is measured by life expectancy, educational attainment . . . and adjusted income."[136] Figure 7.7 illustrates that there is not a perfect correlation between GNP and HDI. In fact, these two measures differ significantly in a number of cases. Another measure, the Human Progress Indicator for the LDCs, is similar to the HDI, but also adds an element of equity by looking at the percentage of people without access to water and health services and the percentage of underweight children.[137] Other variants on these themes take into account other dimensions of human life, such as gender equality (for example, the Gender-Related Development Index and the Gender Empowerment Measure). Unfortunately, the HDI does not include an environmental element or an equity element.

The Sustainable National Income (SNI) is a measure used to compare actual levels of economic activity with "sustainable" levels of activity.[138] By taking additional costs into account, such as costs of environmental restoration and of developing alternatives to natural resources, the measure adjusts national income statistics. While higher consumption levels lead to traditionally "better" statistics, the SNI accounts for the environmentally degrading effects of some consumption. For example, "Consumption patterns in the West . . . includ[ing] consuming large amounts of meat, heating the whole house, extensive use of vehicles, and consuming summer vegetables in winter . . . overburden the environment."[139] These activities raise the GNP, but lower the SNI. Despite the SNI's inclusion of an environmental component, this measure also has shortcomings. For example, it cannot be used for cross-national comparison and it is not a direct measure of national sustainability—it's an environmental correction for GNP.[140] Other measures that account for environmental costs and benefits are the Adjusted National Product,[141] the UN's System for Integrated Environmental and Economic Accounting, and the Index of Sustainable Economic Welfare.[142]

Redefining Progress, a public policy organization, created the Genuine Progress Indicator (GPI). The group's mission is to "ensure a more sustainable and socially equitable world for our children and our children's children.
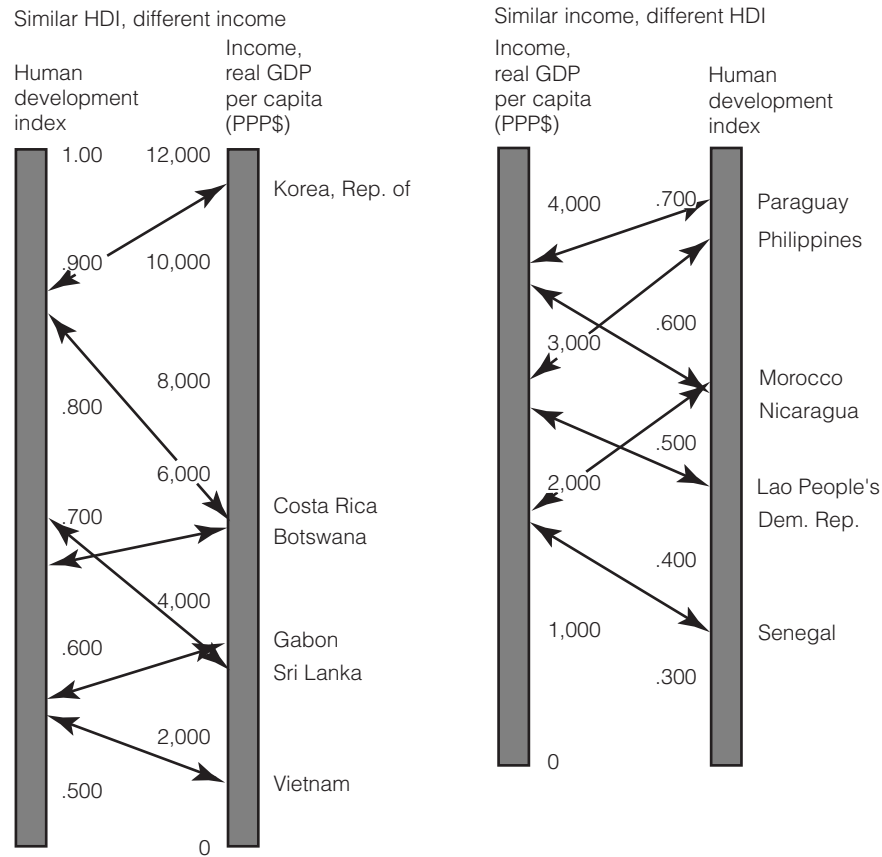
Similar HDI, different income

Human development index

Income, real GDP per capita (PPP$)

1.00   12,000

Korea, Rep. of

.900   10,000

.800   8,000

6,000   Costa Rica
Botswana

.700

4,000

.600   Gabon
Sri Lanka

2,000

.500   Vietnam

0

Similar income, different HDI

Income, real GDP per capita (PPP$)

Human development index

4,000   .700   Paraguay
Philippines

.600

3,000

Morocco
Nicaragua

.500

2,000   Lao People's
Dem. Rep.

.400

1,000   Senegal

.300

0

FIGURE 7.7 HDI versus GNP

SOURCE: From *Human Development Report 1998,* by United Nations Development Program, copyright © 1998 by The United Nations Development Program. Used by permission of Oxford University Press, Inc.

Working both within and beyond the traditional economic framework, Re-defining Progress generates and refines innovative policies and ideas that bal-ance economic well-being, the environment, and social equity so that those living today and those living in the future can have a better quality of life."[143] The organization has constructed the GPI in contrast to the gross domestic product, which they argue is not a good measure of progress. In particular, they argue:

> The GDP fails to distinguish between monetary transactions that gen-uinely add to well-being and those that diminish, try to maintain the status quo, or make up for degraded conditions. . . . For example, the GDP treats crime, divorce, legal fees, and other signs of social breakdown as economic gains. Car wrecks, medical costs, locks and security systems,

Table 7.4 The 1998 GPI Account

Personal consumption	5,153
Income distribution	118
Personal consumption adjusted for income inequality	4,385
Adjustments	
Value of housework and parenting	+1,911
Services of consumer durables	+592
Services of Highways and Streets	+95
Value of volunteer work	+88
Net capital investment	+45
Cost of household pollution abatement	−12
Cost of noise pollution	−16
Cost of crime	−28
Cost of air pollution	−38
Cost of water pollution	−50
Cost of family breakdown	−59
Loss of old-growth forests	−83
Cost of underemployment	−112
Cost of automobile accidents	−126
Loss of farmland	−130
Net foreign lending or borrowing	−238
Loss of leisure time	−276
Cost of ozone depletion	−306
Loss of wetlands	−363
Cost of commuting	−386
Cost of consumer durables	−737
Cost of long-term environmental damage	−1,054
Depletion of nonrenewable resources	−1,333
Net genuine progress	**1,770**

SOURCE: Cobb, Clifford, Gary Sue Goodman, and Mathias Wackernagel, 1999. *Why Bigger Isn't Better: The Environmental Progress Indicator,* 1999 update. San Francisco, CA: Redefining Progress. *www.rprogress.org*.

and insurance are also pluses to the GDP. Further, the GDP ignores the environmental costs of economic activities. . . . The GDP counts pollution as a double gain to the economy: The production of oil that creates pollution adds to the GDP; then the clean up of toxic waste sites or the Exxon Valdez oil spill ups the GDP even more.

Like the SNI, the GPI corrects for these by adjusting the GDP in terms of consumer spending that increases or decreases well-being but does not allow for cross-national comparisons. Table 7.4 lays out the factors that are considered. The GPI, like other "alternative" measures, paints a very different pic
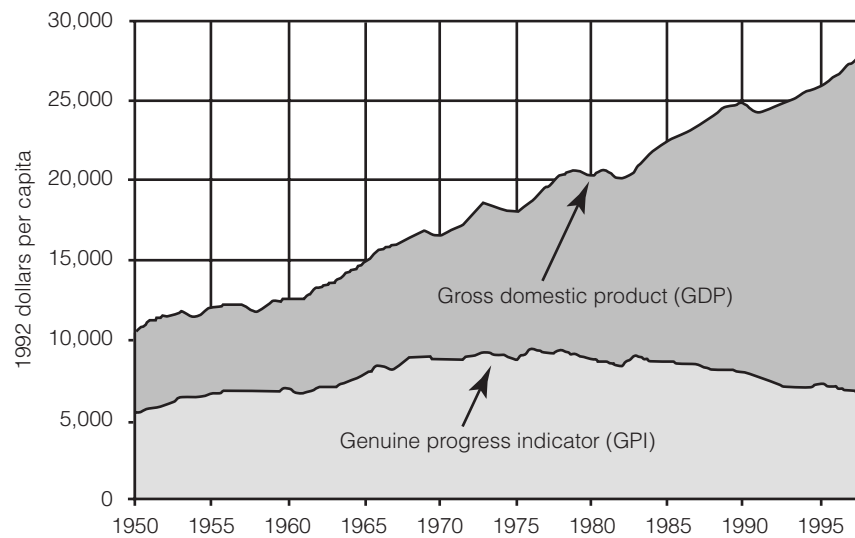
FIGURE 7.8 GPI versus GDP, 1998

SOURCE: Used by permission of Redefining Progress. *www.reprogress.org.*

ture than the GDP (Figure 7.8). While GDP per capita has been steadily increasing since the 1950s, the GPI per capita peaked in the 1970s and has declined since.

National governments have also attempted to adjust their national accounting to include environmental resources. The National Research Council, for example, has recommendations for how the U.S.'s National Income and Product Accounts should integrate environmental components.[144]

A number of cities have attempted to become "sustainable cities" and a great deal has been written about urban sustainability in the United States and abroad.[145] The Sustainable Seattle project shows how national and international level indicators can be applied at a local level. Seattle's example differs from the indicators above in that those indicators are "top down" whereas Seattle's project has been "grassroots."[146] Hundreds of volunteers from Seattle worked over a three-year period to create "Indicators of Sustainable Community."[147] The group defined sustainability as, "long-term health and vitality—cultural, economic, environmental and social." The community identified forty indicators of sustainability fitting into five categories: (1) environment, (2) population and resources, (3) economy, (4) youth and education, and (5) health and community (see Table 7.5). These indicators can be assessed annually to ascertain whether Seattle is moving in a sustainable or unsustainable direction and in which areas of sustainability the city is doing best. Other cities have engaged in similar community projects, for example, Sustainable San Francisco, Sustainable Manhattan, and Sustainable Boston; and there are similar statewide programs: Sustainable Maine and New Jersey's Sustainable State project.[148]

Table 7.5 Sustainable Seattle Indicators, 1995

Environment
- Wild salmon
- Wetlands
- Biodiversity
- Soil erosion
- Air quality
- Pedestrian friendly streets
- Open space in urban villages
- Impervious surfaces

Population and Resources
- Population
- Residential water consumption
- Solid waste generated and recycled
- Pollution prevention and renewable resource use
- Farm acreage
- Vehicle miles traveled and fuel consumption
- Renewable and nonrenewable energy use

Economy
- Employment concentration
- Real unemployment
- Distribution of personal income
- Health care expenditures
- Work required for basic needs
- Housing affordability ratio
- Children living in poverty
- Emergency room use for non-ER purposes
- Community capital

Youth and Education
- Adult literacy
- High school graduation
- Ethnic diversity of teachers
- Art instruction
- Volunteer involvement in schools
- Juvenile crime
- Youth involvement in community service

Health and Community
- Equity in justice
- Low birthweight infants
- Asthma hospitalization rate for children
- Voter participation
- Library and community center usage
- Public participation in the arts
- Gardening activity
- Neighborliness
- Perceived quality of life

SOURCE: Used by permission of Sustainable Seattle. *www.scn.org/sustainable/indicators.*

ALTERNATIVE PATHS
TO SUSTAINABLE DEVELOPMENT

There is no single "radical" strategy that addresses the problems identified in the mainstream sustainable development strategies presented in this chapter. Instead, activists and academics discuss principles that should be embodied in alternatives. These place attention on redistribution of power and control in a manner that is also consistent with the managerial focus on power. Three interlinked themes are contained in the "alternatives" literature. Alternatives should be: (1) nonhegemonic, (2) grassroots and participatory, and (3) locally and ecologically based.

That sustainable development strategies should be nonhegemonic is a reaction to the "one size fits all" development that has been applied throughout the LDCs. This argument is connected to anti-development and anti-colonial movements. For example, Ramachandra Guha's explanation of the social forestry movement in India's Himalaya (the Chipko movement) shows how the history of peasant movements against colonial powers in this region is directly related to what is now thought of as an ecological movement.[149] Responses to colonial powers are similar to the contemporary responses to mainstream sustainable development practices. Arturo Escobar, for example, argues against the globalization of a dominant development ideology:

> There are no grand alternatives that can be applied to all places or all situations. To think about alternatives in the manner of sustainable development, for instance, is to remain within the same model of thought that produced development and kept it in place. One must then resist the desire to formulate alternatives at an abstract, macro level.[150]

Escobar is optimistic that alternatives to the dominant sustainable development discourse will arise from multiple locales that reflect the collective concerns of local people. He believes that grassroots social movements will be the driving force behind such new articulations of "development" and SD.[151]

Proponents of these new articulations believe that the best strategies will be developed by the people who will be most affected by them "outside the control of foreign governments, international institutions, and domestic elites. Popular mobilization and nongovernmental organizations (NGOs) are seen as a key part of the process of change in the defense of the environment of the South."[152] Wolfgang Sachs believes that the MDC's centralizing development strategies have been and are disempowering.[153] Others, such as Steve Barkin, also stress the importance of autonomous, self-sufficient, sustainable development through a democratic process.[154]

Not only will these solutions be more politically feasible, according to bioregionalists, they will be more ecologically feasible. Bioregionalists promote decentralized decision making, and production and consumption based on local resources. Sachs calls this type of development that focuses on "local

livelihoods" the "home perspective."[155] Those who promote cultural plural-
ism assume that one of the reasons cultures have developed differently is be-
cause societies have had to develop and adapt to local ecosystems. Thus, a
precursor to cultural pluralism is the freedom to interpret, adapt, and develop
in response to unique ecosystems.[156]

Successful alternative strategies of achieving sustainable development are
often small, locally based grassroots efforts, not top-down development at-
tempts.[157] Rosi Braidotti and colleagues argue "What is becoming increas-
ingly clear is that people marginalized by the development process are carving
out their own paths in solving their problems. . . . [They are] reviving their
old methods of farming, recovering their subjugated knowledges and forms of
local organization. They again grow their indigenous crops to become inde-
pendent of expensive Western seeds and fertilizers and claim control over their
local forests."[158] A collection of cases from both the MDCs and the LDCs ed-
ited by Bron Taylor points out how local struggles against hegemonic and en-
vironmentally destructive forces are producing new forms of development.
Taylor calls these movements popular ecological resistance movements and
demonstrates how the basis of such movements is the need for sustainable
livelihoods based on local ecologies.[159]

Thomas Rudel reports on a case from the tropical rain forests in Esmeral-
das, Ecuador that has achieved some success in moving toward sustainable de-
velopment.[160] Esmeraldas is an area of great concern because the tropical
forests of this region are being rapidly deforested. Efforts to reach sustainable
development here work at two levels. First, new sustainable forestry tech-
niques are being implemented. External assistance was brought in from a num-
ber of groups, including USAID, which has worked with Ecuadorian
ecologists "who have designed a plan for the sustainable harvesting of wood
. . . in the Cotacachi-Cayapas Ecological Reserve."[161] Second, is the creation
of "civic arenas"—"encompassing organizations whose members include all
of the stakeholder groups in the region of interests."[162] The encompassing or-
ganization in this case includes all of the groups that have an interest in the
rain forest: "members from fifty Afro-Ecuadorian comunas, the lumber com-
panies, [the government agency in charge of protected areas], the provincial
government, environmental NGOs, and international aid missions with inter-
ests in the region."[163] In this arena, trade-offs between the competing goals of
sustainable development are negotiated. For example, community members
must collectively decide to what degree economic gains should outweigh eco-
logical gains and vice versa. One proposal being looked at by the encompass-
ing organization is to attain green certification for the wood from the project.
"Selling these woods in the international markets would raise their price. Both
the timber companies and the environmentalists support the proposal."[164] This
project in Esmeraldas shows a process in which trade-offs among the compet-
ing goals of sustainable development can lead to better forest conservation and
gains in economic growth. Contrary to radical accounts that external political
and economic influences in ecological matters can be exploitative and de-
structive, Rudel argues that "outside intervention" helped create the encom-
passing organization in Esmeraldas that may form the basis of a more

sustainable development. Communities around Esmeraldas have taken notice of the project's success and are taking steps to implement similar plans.

Different forms of organizing for sustainable development are taking place in the United States, as well. Weber explains the emergence of "hundreds of rural, place-based, grass-roots ecosystem management (GREM) efforts across the United States [that] constitutes a new environmental movement."[165] These groups are akin to the encompassing organizations that Rudel describes in Ecuador. GREM efforts attempt to gather stakeholders from communities to manage lands and recognizes that trade-offs are inevitable. Their goals are to promote environment, economy, and community; in sum, sustainable development. He provides examples of such groups from Willapa Bay, Washington; Applegate Valley, Oregon; and Blackfoot River Valley, Montana; among others, all communities that are dependent on "nature's bounty." Common among the author's writing of successful efforts to promote sustainable development is a locally based, democratic process that includes collaboration, participation, negotiation, and compromise.

Finally, we close this chapter with a quote from Leff who argues that Marxist thought and environmental thought can be reconciled. The quote summarizes the hopes of those who believe that alternatives are possible and necessary:

> Environmental thought can be inscribed within post-Marxist or post-modernist thought. It defends the specificity of local action (thinking globally, acting locally), the autonomy of social groups, and difference—difference in cultural values, and development styles, and options. It presents new ethical values and a new political culture, but at the same time poses the problem of political efficacy and of the real political power held by environmental groups. Although the defense of autonomy and local difference can be seen as part of the struggle against totalitarianism (against vertical and corporative power structures in traditional political organizations), it also rules out any universal demand other than one claiming the legitimacy of all local demands. Nevertheless, the demand for autonomous spaces as a starting point for the development of alternative local productive projects is part of the larger movement for another kind of material existence based on the integration of multiple development styles.[166]

CITATIONS AND NOTES

1. WCED, 1987.

2. Haedrich and Hamilton, 2000, p. 359.

3. Pearce et al., 1989.

4. Lélé, 1991, p. 610.

5. Meadows et al., 1972; Schumacher, 1973; Lovins, 1977, respectively.

6. For an overview, see Humphrey and Buttel, 1982, Chapter 5.

7. For a review, see Sandbach, 1978.

8. Buttel, 1998, p. 263.

9. Baker et al., 1997, pp. 2–3.

10. Cited in Ekins, 1993, p. 91.

11. Schumacher, 1973.

12. Schnaiberg, 1997, p. 74.

13. See Ekins, 1993; Lélé, 1991; Lohmann, 1990; Redclift and Woodgate, 1997, p. 55.

14. Ekins, 1993, p. 91.

15. Ekins, 1993, pp. 94–95.

16. Sachs, 1997, p. 73.

17. Baker et al., 1997; Sunderlin, 1995.

18. Dryzek, 1997, p. 123.

19. Richardson, 1997.

20. Rich, 1994, p. 196.

21. What is interesting about agriculture is that there has been a very conscious movement to include the "social" in sustainable agriculture. A significant amount of research has examined the connections between social and environmental issues around agriculture. See, for example, Allen, 1993; Clancy, 1993; Feenstra, 1997; and Kloppenburg, Hendrickson, and Stevenson, 1996. Sustainable agriculture has drawn the attention of sociology as is evidenced by several special issues of key journals over the last few years dedicated to the topic: *Society and Natural Resources'* (1997, vol. 10, no. 3) special issue on "The Politics and Policies of Sustainable Agriculture, *Monthly Review's* (1998, vol. 50) issue titled, "Hungry Profit: Agriculture, Food, and Ecology," and various issues of *Rural Sociology,* including a recent issue on restructuring agriculture in Australia and New Zealand (1999, vol. 64, no. 2).

22. U.S. Congress 1990 cited in Schwarzweller and Lyson, 1995, p. xi.

23. Sunderlin, 1995.

24. Baker et al., 1997, p. 17.

25. Lélé, 1991, p. 618.

26. Buttel, 1998, p. 265.

27. Barbier, 1987, p. 104. Barbier looks at the "biological and resource" system rather than the "ecological."

28. Sunderlin, 1995, pp. 487–88.

29. Costanza et al., 1995, p. 20.

30. Elgin, 1981.

31. Lewis, 2000.

32. Sunderlin, 1995, p. 82.

33. Brown et al., 1990.

34. Cernea, 1993; see also Cernea, 1991.

35. Mitlin, 1992.

36. Escobar, 1995; essays in O'Connor, 1994; Redclift, 1987; Sachs, 1993.

37. Redclift, 1987.

38. Escobar, 1995, preface.

39. Baker et al., 1997.

40. Schmidheiny, 1992.

41. Schmidheiny, 1992, p. xi.

42. Chatterjee and Finger, 1994, p. 116.

43. Information about 3M was gathered from its website.

44. See Mol and Sonnenfeld, 2000, for an overview of the history of research under the rubric of Ecological Modernization Theory-EM, pp. 3–14.

45. Mol and Spaargaren, 2000, p. 36.

46. Sonnenfeld, 2000, p. 236.

47. Mol and Spaargaren, 2000, pp. 22–23.

48. Schnaiberg, 1980; Schnaiberg and Gould, 1994.

49. O'Connor, 1994.

50. Buttel, 1998.

51. Buttel, 1998, p. 269.

52. Sonnenfeld, 1998, 2000.

53. Sonnenfeld, 2000, p. 237.

54. Sonnenfeld, 2000, p. 245.

55. Sonnenfeld, 2000, p. 250.

56. Sonnenfeld, 2000, p. 250.

57. Sonnenfeld, 2000, p. 251.

58. Sonnenfeld, 2000, p. 254.

59. Smith and Hawken website.

60. Ben & Jerry's website

61. Ben & Jerry's website.

62. CERES website.

63. ANSI website.

64. Northwest Earth Institute website.

65. Kruszewska, 1998, p. 76.

66. Kruszewska, 1998, p. 77.

67. Escobar, 1995; Sachs, 1993.

68. Richardson, 1997, p. 54.

69. Chatterjee and Finger, 1994, p. 119.

70. Kenya's NEAP website.

71. Larson, 1994; USAID website.

72. PCSD, 1992, p. iv.

73. USAID website.

74. USAID website.

75. USAID website.

76. Conroy and Litvinoff, 1988.

77. World Bank, 1992b.

78. World Bank, 1992b, p. 8.

79. World Bank, 1992b, Chapter 2.

80. World Bank, 1992a, pp. 12–13.

81. World Bank, 1992a.

82. World Bank website.

83. GEF, 1998.

84. World Bank, 1998.

85. Chatterjee and Finger, 1994; Seabrook, 1996.

86. Shiva, 1993.

87. Chatterjee and Finger, 1994.

88. Hayter, 1989; Rich, 1994.

89. Buttel and Taylor, 1994; Inman, 1992; Miller et al., 1991; Stoncich, 1989; Stone and Hamilton, 1991; Yearly, 1991.

90. Talbot, 1986.

91. Watson, 1999, p. 5.

92. World Bank, 1999, p. 256.

93. Rich, 1994.

94. Postel, 1989.

95. World Bank, 1991, p. 120.

96. Stone and Hamilton, 1991; Yearly, 1991.

97. Buttel and Taylor, 1994, p. 247.

98. Buttel and Taylor, 1994; Inman, 1992; Stoncich, 1989; Stone and Hamilton, 1991; Yearly, 1991.

99. Lewis, 1996.

100. Cheru, 1992.

101. Lewellen, 1995, p. 121.

102. UNDP, 1998, p. 100.

103. Cardoso and Faletto, 1979; Wallerstein, 1974.

104. Escobar, 1995, p. 195.

105. Another example of northern intervention is the creation of parks. See Foresta, 1991, for example.

106. Shiva, 1993, pp. 151–152.

107. Escobar, 1995.

108. Chatterjee and Finger, 1994; Sachs, 1997, p. 77.

109. Amanor, 1994; DeWalt, 1994; Hviding and Baines, 1994; Nazarea, 1998; Warren, Slikkerveer, and Brokensha, 1995.

110. Buttel and Taylor, 1994, p. 236.

111. Lohmann, 1993, p. 159.

112. Gudynas, 1993, p. 173.

113. Braidotti et al., 1994, p. 97.

114. Ekins, 1993, p. 99.

115. UNEP, 1992.

116. From a global perspective, radical critic, Vandana Shiva, contends that actions to preserve biodiversity serves the MDCs by providing them with control of the LDC's resources. In reference to the Convention on Biodiversity, Shiva (1993, p. 84) remarks, "The Biodiversity Convention started out primarily as an initiative of the North to 'globalise' the control, management and ownership [of biodiversity] (which due to ecological reasons lie primarily in the LDCs) so as to ensure free access to the biological resources which are needed as 'raw material' for the biotechnology industry" (1993, p. 151). Shiva argues that attempts to promote sustainable development ignore the North's role in the destruction of the environment and blames the locals for the destruction, then "places responsibility for conservation in the hands of the sources of destruction." She believes a focus on biodiversity is being used by the World Bank and other organizations to continue business as usual.

117. West and Brechin, 1991.

118. West and Brechin, 1991, p. 20.

119. Wheat, 1994.

120. deKadt, 1979.

121. Lafant and Graburn, 1992.

122. deKadt, 1992; Pigram, 1992.

123. Harmon, 1987, p. 152. See Akama, Lant, and Burnett, 1995; Ghimire, 1994; West and Brechin, 1991; and Marks, 1984, for other examples of negative effects of parks on resident peoples.

124. McNeely, 1991.

125. However, recent scholarship on the topic that focuses on nine projects administered by the Nature Conservancy through the Parks in Peril project (Brandon, Redford, and Sanderson, 1998) suggests that these projects are in fact too ambitious and that biodiversity conservation efforts might be best off focusing on the "nature" aspect of conservation rather than human welfare.

126. IUCN, 1997.

127. Conservation International (n.d.).

128. "ANWR Hypocrisies (Editorial)," 1995.

129. Bergman, 1995.

130. Chance and Andreeva, 1995.

131. Shiva, 1993.

132. Myers, 1994.

133. Redclift and Woodgate, 1997, p. 62.

134. Brown, 1990, p. 189.

135. UNDP, 1998, p. 16.

136. UNDP, 1998, p. 15.

137. UNDP, 1998, p. 15.

138. Hueting, Bosch, and DeBoer, 1992.

139. UNEP, 1992.

140. Goeteyn, 1996, p. 171.

141. Anderson, 1991.

142. Daly and Cobb, 1994.

143. Redefining Progress website.

144. Nordhaus and Kokkelenberg, 1999.

145. Stren, White and Whitney, 1992; Van der Ryn and Cowan, 1995; Wikan, 1995.

146. Goeteyn, 1996.

147. Sustainable Seattle website, see also Hatcher, 1996.

148. Miringoff and Miringoff, 1999.

149. Guha, 1989.

150. Escobar, 1995, p. 222.

151. Escobar, 1995.

152. Sunderlin, 1995, p. 485.

153. Sachs, 1997.

154. Barkin, 1998.

155. Sachs, 1997.

156. Nazarea, 1999.

157. For examples, see Baker et al., 1997; Braidotti et al., 1994; Friedmann and Rangan, 1993; Healy, 2001.

158. Braidotti et al., 1994, p. 15.

159. Taylor, 1995.

160. Rudel, 2000.

161. Rudel, 2000, p. 80.

162. Rudel, 2000, p. 78.

163. Rudel, 2000, p. 81.

164. Rudel, 2000, p. 81.

165. Weber, 2000, p. 237.

166. Leff, 1996, pp. 152–153.