Social Development and the Ecological Tradition

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This article explores how thinking about the natural environment has influenced social development efforts to improve human well-being. Conceptualizations of the human-nature relationship have shifted since industrialization, influenced in part by the international development community's recognition of a frighteningly high level of global environmental degradation and the intricate connections among social, environmental and economic concerns. As human-nature interactions continue to evolve, social development advocates are challenged to define their role in sustainable development or "sustainability," to think differently about economic models of development, and to pursue new levels of coordination and collaboration with environmental development advocates.

Social constructions, semantics and wildly opposed conceptualizations mark humankind's struggle to define its relationship with the natural environment. In the course of our efforts to improve the human condition, nature has been blessed as a bountiful paradise, cursed as a capricious, deadly enemy to be conquered and objectified as property and fuel for human consumption. Nature has been worshiped as Goddess and God, reified as the living organism Gaia and mourned for its untimely passing as humankind's roadkill. Humans have been cast variously, and simultaneously, as nature's champions, its beneficent stewards, as brother and sister to all creatures, as top dog in the food chain and as its parasites and rapists. This complicated relationship encompasses every aspect of the global human society.

This article explores ways in which the natural environment has influenced social development's rich history of efforts to improve human well-being (Khinduka, 1987; Midgley, 1995; Myrdal, 1970; Paiva, 1977). First, major views of nature in relationship to human society and events that have helped shape those views, from industrialization to our current era, are chronicled. The chronology ends now at the beginning of the 21st century, when the semantics of sustainability suggest that we are on the threshold of a new convergence of social, economic and ecological development approaches. Second, the state of the state of nature is briefly reviewed. The review draws upon agricultural issues to illustrate global environmental conditions and to explore parallels and distinctions between social and environmental development. Third, sustainability as a tool for change is explored, and implications for social development thinking and practice, with an emphasis on characteristics shared by social and environmental development, are suggested.

And Nature Said: "The Good News Is, Reports of My Death Were Greatly Exaggerated . . ."

Social constructions of the relationship between humankind and the natural world have shifted considerably since the burgeoning of science, industrialism and capitalism in the 17th century. Western religious thinking that perceived God as separate from material life helped set the stage for this shift (Estes, 1993; Hoff and McNutt, 1994; Roughley, 1995). Merchant (1980) eloquently describes the dominant mechanistic views that emerged, during the scientific revolution and industrialization era, of nature as object and resource over which humans held the right for use, accumulation and distribution. Nature could be understood, and therefore manipulated, by discovering the physical laws governing it. During this time of rapid technological change, characterized by scientific rationality, positivism and reductionism, the dominant view was that virtually any barrier to human progress could and would be overcome eventually through scientific inquiry and technological achievement (Rosnak, 1978). Humankind believed it had discovered the true nature of nature and the means by which to harness it.

Nature-as-Systems and Nature-as-Subject

In the 1940s and 1950s, biologists, physicists and ecologists led the way in a shift from mechanistic, reductionist views of nature toward more organic perspectives in which humankind, other species and nature's nonliving elements are synergistically related and energy is constantly exchanged (Ferguson, 1987). Von Bertalanffy's (1969) general systems modeling of population dynamics, person-environment interaction, system throughputs and multi-strata systems, derived from his study of ecological processes, is widely acknowledged as a key source from which the nature-as-systems-metaphor diffused rapidly from the physical sciences into the social sciences. By the 1970s many social sciences had adopted some form of ecological systems metaphor to explain human interactions within social, organizational, economic and other institutions (Gordon, 1981; Robbins and Oliva, 1984). Academics continue the struggle to understand the nature-humankind relationship by reframing the work of various theorists, including Marx and Friere (Keough, 1997; Sundararajan,

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1996) from an ecological perspective. Some argue that social sciences often continued the objectification of nature by laying claim to its processes (e.g., organism-environment interaction, multistrata systems) but applying them to interactions among humans and their socially constructed world of relationships and institutions (Hoff and Rogge, 1996; Roughley, 1995). From this perspective, natural scientists revived Mother Nature; social scientists took her clothes and left her out in the weather.

As the nature-as-systems metaphor gained widespread use, other views were emerging that emphasized nature as a fragile, threatened, finite resource to be protected rather than exploited; as the penultimate context within which humans survive; and as an entity comprised of many others, all of which have intrinsic value. Constructions of nature-as-subject have gained widespread attention since the 1970s and are often represented as environmentalism. Nature-as-subject taps connections between cultural and spiritual concerns and the natural environment much more directly than nature-as-system and is represented in theoretical perspectives such as bioregionalism, deep ecology, the Gaia hypothesis and eco-feminism. Deep ecology, for example, is concerned with the intrinsic value of life over material accumulation and growth, the need for humankind to limit its demands on nature, and the human obligation to change political and economic structures to protect the natural environment (Naess, 1984).

The mid-20th century shift in perspective about the natural environment was linked to key events, the recognition of changing patterns in the condition of the environment, and advocacy on the part of individuals, organizations and governments around the world. The emergence of a post-World War II international development community (Jayasuraya, 1997; Midgley, 1995) and technological advances that improved global communication hastened the diffusion of information about these issues. Together, these phenomena and views of nature-as-system and nature-as-subject are defined here as "environmental" development. One simple definition of environmental development draws from definitions of social development (Midgley, 1995): Environmental development is an approach for harmonizing human activity and interactions to promote the welfare of the global natural environment. The term is used here to avoid confusion with the concept of sustainable development, or sustainability, which is discussed later.

Rachel Carson's (1962) message in *Silent Spring* of an impending environmental disaster from agricultural pesticides amplified public concern that there may not be sufficient technological "fixes" to prevent nor recover from events such as fallout from atomic weapons testing, the horrific mercury poisoning in Minimata, Japan, and birth defects from thalidomide in the United States. The popularized, controversial report of the Club of Rome (Meadows et al., 1972) revived Malthusian concerns about the capacity of the natural environment to accommodate population growth. More recently, Colburn, Dumanoski and Myers' (1997) report on the damaging effects of chemicals on endocrine and immune systems has been characterized as a second *Silent Spring*. Among the events that have shaped environmental action in recent decades are the Amoco Cadiz and Exxon Valdez oil spills; the nuclear reactor leaks at Three Mile Island, Chernobyl and, recently, in Japan; the Union Carbide chemical disaster in Bhopal, India; famine in the African Sahel; rainforest destruction; discovery of the ozone hole over the Antarctic; and the massive devastation from Hurricane Mitch and other natural disasters that are suggestive of global warming-induced climate change (International Institute of Sustainable Development, 1999; Stoesz, and Guzzetta and Lusk, 1999).

Nations, intergovernmental organizations (IGOs) and nongovernmental organizations (NGOs) have responded to environmental problems in a number of ways, many of which link economic, political, social and environmental issues. The 1971 Founex Report called for integrating environmental and development issues and emphasized the connections among underdevelopment, poverty and environmental degradation. The Founex Report encouraged developing countries to attend the 1972 Stockholm United Nations Conference on Human Environment, which resulted in the first formal international recognition of environmental issues, early discussion of the sustainable development concept and establishment of the United Nations Environmental Program and a number of national environmental protection agencies (International Institute of Sustainable Development, 1999).

A 1980 World Conservation Union report identified "the main agents of habitat destruction as poverty, population pressure, social inequity, and the terms of trade" (International Institute of Sustainable Development, 1999, p. 10). In 1983 the World Commission on Environment and Development began work on the 1987 Bruntland Report, *Our Common Future*. This pivotal report documented connections among social, economic, cultural and environmental issues; recommended, for the first time, global change strategies; and gave new weight to the concept of sustainable development (International Institute of Sustainable Development, 1999; World Commission on Environment and Development, 1987). The 1992 United Nations "Earth Summit" Conference on Environment and Development and its compan-

ion NGO Forum produced the *Rio Declaration on Environment and Development* and the *Agenda 21* "blueprint" for sustainable change (United Nations Conference on Environment and Development, 1992).

The conventions and policy agreements noted here represent a growing number of international negotiations that address environmental, social and economic development (Kansouh-Habib, 1997; Susskind, 1994). The United Nations Habitat II Conference on urbanization (United Nations Development Programme, 1996), for example, targeted six policy arenas critical to sustainable urban development: "financing shelter and urban development, decentralization and city management, poverty alleviation and employment generation, considering the needs of women and vulnerable social groups, environmental and land resource management, disaster mitigation and reconstruction" (p. 7).

Since the 1960s, environmental problems have spawned local, national and international NGOs whose work addresses social and economic as well as environmental development problems. National and international NGOs that emerged during the early years of environmental development include Friends of the Earth International, Greenpeace International, the Environmental Liaison Centre International, Environmental Action in the Third World (ENDA) and the Third World Network (International Institute of Sustainable Development, 1999). Environmental problems were key factors in the emergence of indigenous and grassroots movements, many of which, such as the Chipko movement in India and the Greenbelt Movement in Kenya, were led by women in low-income communities (Martin-Brown and Ofosu-Amaah, 1992). In the 1970s, a number of related movements found a political voice in the Green party. Greens defined themselves as a collective of citizens' movements, including ecology, anti-nuclear power, peace, feminism and human rights. Green principles emphasized environmental protection, social justice and responsibility, grassroots democracy and a nonviolent, non-exploitative economic system (Devall and Sessions, 1985; Estes, 1993).

Sustainability: Growth, Development or Living?

The 1987 Bruntland Report defined sustainable development as that which "meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987, p. 43). Jayasuriya (1997) highlighted its social and environmental dimensions as a development framework that is "socially just and ecologically defensible" (p. 169). Chattanooga, Tennessee's "equity, economy, and environment" motto depicts a common distillation of the concept (Rogge, 1998). Commonly referenced characteristics of sustainable development include:

- *Tri-focal systems.* The *natural* environment (e.g., natural capital such as water, ecosystem services such as water filtration, and natural aesthetics such as the beauty of an ocean) must be accounted for equally with the *social* and *economic* dimensions of human welfare (e.g., social, human, and built environment capital);
- *Equitable distribution of resources and opportunities, for current and future generations.* The needs of the *most vulnerable* (e.g., people who are poor, ethnic minorities, women, children) must be attended to. (There is disagreement about the degree to which non-human species should be included in such equity considerations; Nash, 1989; Roughley, 1995). *Political power* as well as *cultural and spiritual values* must be factored into issues of equity;
- *Multi-level bio-geo-political approaches*, which address *local to international* dimensions, *participatory and communitarian* processes, cross-sectoral and interdisciplinary collaborations, and institutional governance, are necessary;
- There are *limits to the natural environment resource base*, within which humankind must live. (Estes, 1993; Gamble and Varma, 1999; Hart, 1998-1999; Hoff, 1998; Mohan and Sharma, 1985; World Commission on Environment and Development, 1987; United Nations Commission on Sustainable Development, 2000).

Sustainable development advocates embrace the symbiotic relationships among environmental, social and economic concerns and seek to institutionalize a vision of development that weights them equally; to do otherwise is conceptually tantamount to building a stool with two legs. The concept gained sanction in the development community in the 1980s, and efforts to translate the concept to practice are widespread:

> *"One would be hard pressed to find a current official international development project that did not give serious consideration to the environment, women, and cultural heritage, as well as to the more traditional measures of success such as economic internal rate of return" (Stoesz, and Guzzetta, and Lusk, 1999, p. 258).*

Development advocates have not fully adopted the sustainable development concept nor found it easy to implement. Development literature is replete with phrases that use "sustainable" to

qualify traditional development foci. Examples are "sustainable social development," "environmentally sustainable development," "environmentally sustainable economic development" and "sustainable human development." Chattanooga progressed from being the most polluted city in the United States in 1969 to a nationally acclaimed "Sustainable City" in 1996 through enhanced pollution control and "green" business such as an internationally marketed electric bus industry and a recycling company operated by developmentally challenged citizens. The city struggles, however, to raise social equity and environmental improvements in its low-income, African-American neighborhoods on par with other citywide economic progress (Rogge, 1998). Some advocate the use of "sustainability," "sustainable use" or "sustainable living" to address the concern that "development" is too closely associated with quantitative growth, especially economic growth, considered by many to be antithetical to sustainability (Cairns, 1997).

Sustainability and social development share the critique that they are too complex and abstract to be practical (Jayasuriya, 1997; Khinduka, 1987). Efforts to translate sustainability from a worldview to a usable tool can be illustrated through the work of economist Herman Daly (1996), the Natural Step Environmental Institute Ltd. (2000), the United Nations Development Programme (1999) and the United Nations Commission on Sustainable Development (2000).

In Daly's (1996) nature-as-system approach, throughput equals individual human consumption multiplied by the number of consumers. Unlike neoclassical, neo-Marxist and other more mainstream economic perspectives, Daly places the natural environment in the center of his model. Sustainability is "development [i.e., qualitative improvement] without growth [i.e., quantitative increase] — without growth in throughput beyond environmental regenerative and absorptive capacity" (p. 69). Human population growth and consumption must be constrained to account for Earth's capacity to manage the loss of nonrenewable resources such as minerals, to regenerate renewable resources such as forest and to reprocess waste such as chemicals. Evidence is mounting that we have begun to exceed nature's capacity. In this model, the key barrier to sustainability is reliance on economic growth to raise living standards. Daly and others argue that society is reluctant to abandon economic growth as a means to improve well-being for people who are poor because of vested interests; lack of knowledge about or trust in alternatives; and because it is so very difficult to believe that societal wealth can truly be redistributed (Daly, 1996; Kramer and Johnson, 1996; Montague, 1998).

Similar to the 1996 ISO 14001 voluntary international standards for corporate environmental management (International Organization for Standardization, 2000), the Natural Step Environmental Institute Ltd. targets the private sector (Cairns, 1997). Many of the processes this Institute recommends for improving an organization's contributions to sustainability apply to the nonprofit and public sectors as well; the Polish, Swedish and Hungarian governments are testing the Institute's approach. Organizations have documented reductions in the use of chemicals, product packaging, water, electricity and landfill space through application of the Institute's four principles:

- Nature's functions and diversity will not be systematically subject to increasing concentrations of substances extracted from the Earth's crust (requires comprehensive recycling, reduced fossil fuels);
- Nature's function and diversity will not be systematically subject to increasing concentrations of substances produced by society (requires shift to biodegradable chemicals, products);
- Nature's functions and diversity must not be systematically impoverished by physical displacement, over-harvesting, or other forms of ecosystems manipulation (requires protection of biodiversity and equilibrium in the ratio of natural resources used and resources allowed to replenish);
- Resources are used fairly and efficiently to meet basic human needs globally (requires meeting basic needs of most vulnerable people; equity and social stability are needed for large-scale change efforts; Natural Step Environmental Institute, Ltd., 2000).

Another approach to measuring sustainability is the use of indicators such as the United Nations Development Programme's Human Development Index and the United Nations Commission on Sustainable Development's Indicators of Sustainable Development. Since 1990, annual HDI reports have documented national statistics on economy, health, education and other areas. The Human Development Index includes environmental data such as sulfur dioxide emissions and annual rates of deforestation and reforestation (United Nations Development Programme, 1999). Although the quality of data may be uneven, the Human Development Index is useful for thinking about relative well-being between countries, across regions and over time. Kansouh-Habib (1997) also showed the adaptability of the Human Development Index as a subnational policy and program tool in her review of the *Egyptian Human Development Report.*

Initiated in 1995, the Indicators of Sustainable Development organizes 134 indicators derived from *Agenda 21* into four categories of environmental, social, economic and institutional well-being. Policy makers and program implementers can customize the Indicators of Sustainable Development to prioritize, monitor and evaluate change. Each *Agenda 21* issue area, such as freshwater protection, poverty and decision-making processes, is monitored with three types of indicators: (1) "driving force" indicators of human activities that influence sustainable development such as water consumption per capita; (2) status indicators such as fecal and chemical contamination of freshwater; and (3) response indicators such as wastewater treatment (United Nations Commission on Sustainable Development, 2000).

Assessing progress toward sustainability requires the use of new combinations of familiar indicators, the creation of new indicators and the reconstruction of existing indicators. Many communities are developing their own sustainability indicators and, for communities that have access, sharing them on the Internet. The use of environmental indicators with social and economic ones is new for many communities. For others, what is new is the emergence of fresh indicators, such as an education indicator that measures what children learn about sustainability in school (Hart, 1998-1999). Most national and international measures of economic well-being still do not attach economic costs to human and non-human "externalities"; environmental cleanup and medical care costs associated with agricultural pesticide exposure and toxic chemical releases, for example, *add* to the gross national product in most countries (Desta, 1999). Sustainability proponents can advocate for economic models and measures that internalize these costs and account for the benefits of protecting human and natural environment well-being.

Sustainability advocates struggle to balance the equitable use and distribution of social, environmental and economic resources in the midst of competing demands. They do so in the face of evidence that, with a growing human population and diminishing natural resources, the best of efforts may not be sufficient. American folk singer Pete Seeger is attributed with having said about the state of the natural environment: "There is no hope, but I could be wrong." The next section explores shared concerns of social and environmental development in the context of daunting global environmental problems.

And Nature Said: "But the Bad News Is . . . "

Global evidence indicates that we continue, literally, to lose ground. Despite encouraging local and regional reports, participants at the 1997 Earth Summit +5 concluded that there had been discouraging little overall progress in environmental protection despite three decades of local to international efforts (United Nations Development Programme, 1999/2000). From 1900 to 1995, for example, the rate of global water consumption for residential, industrial, commercial and agricultural use multiplied six times. One-third of all people live in countries (predominantly underdeveloped countries) in which water supplies do not meet consumption demands, and the percentage could rise to two-thirds by 2025 (World Resources Institute, 2000). The National Center for Economic and Security Alternatives, in a study of 20 years of air, water, forest and waste data for nine industrialized countries, found that, although emissions of some chemicals such as sulfur oxides have decreased, acid rain continues to damage forests. Water quality has worsened and the volume of municipal and nuclear waste continues to grow. The chemical industry has grown on average 3.5 percent annually; the effects of more than 70 percent of the 70,000 chemicals in use have yet to be tested (National Center for Economic and Security Alternatives, 1995).

Human population growth and consumption cause most environment problems and, consequently, are the primary sources of environmental and social development's shared mission to protect vulnerable populations. Poverty and environmental degradation are mutually and negatively reinforcing (Rogge, in press; World Resources Institute, 2000). Industrial, commercial, agricultural and household chemical contamination kills and diminishes life capacity — for both human and nonhuman species — through genetic and chromosomal damage; reproductive, respiratory and nervous system damage; endocrine and immune system disruption; and cancer (Roberts, 1998). Socio-environmental problems extend beyond quality of life issues to matters of life and death. Conflict over scarce natural resources has caused violence between neighbors and between nations. Habitat loss and incursions of exotic species threaten biodiversity and the vitality of natural ecosystems (Roberts, 1998). Indigenous human populations and cultural diversity, too, are threatened with extinction (Hoff, in press). The Brazilian government, World Bank and CVRD mining company, for example, have failed to implement the 1982 World Bank stipulation, agreed to as part of a negotiation package for United States $900 million, to protect the 247,000 hectares of the Awa Indians, one of Brazil's last hunter-gatherer cultures. Miners, loggers, ranchers and settlers have invaded the territory of the Awa, whose remaining population is estimated at 400 (Survival, 2000).

Environmental and social development depend on the increasingly global economic system that humankind has constructed. This shared dependence may be the source of their greatest difference, that is, perceptions of the utility of economic growth. Social development advocates traditionally have pursued economic growth strategies to improve social and human capital and vice versa (Midgley, 1995; Paiva, 1977). From an environmental development perspective, traditional models of economic growth are anathema to the well-being of the natural capital resource base and populations that depend on it for survival (Daly, 1996; Soliman, 1998).

Distributive, procedural and participatory justice among neighbors, communities, nations and between hemispheres is at the core of the economic growth vs. steady-state development issue (Hoff and Rogge, 1996). Martin-Brown captured the essence of injustice in the environment-equity-economy relationship: "disposable waste" is dumped among "disposable people" to generate "disposable income" (personal communication, 1992). Former World Bank chief economist Lawrence Summers provided a most vivid example of the economic externalization of vulnerable populations, human and otherwise, in his modest solution to toxic waste problems in industrial countries:

> *1...measuring the costs of health-impairing pollution depends on the earnings [lost] due to increased morbidity and mortality...the economic logic behind dumping a load of toxic waste in the lowest wage country is impeccable... 2 under populated countries in Africa are vastly under-polluted...3 The concern over...prostate cancer is obviously going to be much higher in a country where people [live long enough] to get prostate cancer than in a country where mortality is 200 per 1,000 under age five. (Harper's Magazine, 1992, p. 26. 28 [Brackets and italics added by Harpers's Magazine]).*

People who are poor, by definition in neoclassical economic models, exist at the economic margin and generally receive the fewest economic benefits from economic growth strategies. Sheriff (2000), in his case study of tobacco crops in Sierra Leone, illustrated how growth-focused economic development reduced citizens' economic assets and weakened community capital. Transnational corporations continue to sidestep contributions to social development as they exclude local workers from the value-added stages of production; replace local businesses; use transfer-pricing schemes to reduce tax payments; and participate in loan structures that increase international debt. Many of these corporations are also significant actors in environmental resource depletion and contamination (United Nations Research Institute for Social Development; 2000).

There are few easy solutions to meeting the demands of people and environment (Pandey, 1996; Soliman, 1998). Development advocates are intimately familiar with how solutions to one problem can create others. High-tech, high-yield, highly centralized agribusiness approaches to feeding the world's human population, for example, have produced more crops and livestock but have not solved resource distribution, depletion or renewal problems. Agribusiness is a major contributor to the soil erosion, nutrient depletion, irrigation practices and use of chemicals that have degraded about 40 percent of the world's farmlands and reduced nonhuman species habitat (World Resources Institute, 2000). No natural resource is left untouched by human demand; research suggests that more than 40 percent of all photosynthesis processes on Earth is used to support agriculture and other human needs (Vitousek, Ehrlich and Ehrlich, 1986).

Skewed resource distribution is a part of modern agribusiness. Most of the 800 million people who are undernourished live in developing countries; annual food consumption for one U.S. citizen is estimated to cause 15 metric tons of soil erosion annually (Davis and Saldiva, 1999; World Resources Institute, 2000). Agribusiness tends to displace small producers and weaken community as younger generations emigrate to cities and other countries. The boon of greater agriculture yield from the use of chemicals is tempered by emerging information about the health threats of pesticide exposure, especially for children (Rogge, in press). In the 1980s, for example, a Yanqui Indian community in Mexico split because of disagreements about agricultural practices. Part of the community continued traditional practices and part adopted high-yield practices that included extensive use of agrochemicals. A recent study found that children in the high-yield practices community functioned significantly lower in cognitive ability, neurological functioning and social interaction (Guillette, Aquilar, and Soto and Garcia, 1998).

Agribusiness is increasingly challenged because of damage to the natural environment (World Resources Institute, 2000), especially when contrasted with alternative techniques. A Peruvian integrated pest management initiative, for example, involves *campesino* communities in training and support through a network of NGOs, the Peruvian government and the United States Agency for International Development. Data indicate that the campesinos have maintained crop production while significantly reducing pests and pesticide use (Cisnero, 1999). The threat of chemical exposure for campesino children and others has been reduced. Labor-intensive methods provide jobs for more citizens, including the many women responsible for agricultural work, and

the potential for future generations to stay in their community. Such approaches also offer potential solutions to the dilemma raised in the following comment about development of the Peruvian pampa:

"With 30 individuals on 30 tractors, we could make this look like western Kansas. Question is whether we invest in farming that will support 30 families or find a way to sustain the 1,000 presently living on this land" (Saucie and Niemeyer, 1999, p. 15).

Initiatives such as the Peruvian integrated pest management project are not necessarily new to social development advocates. With a fully explicated sustainability approach, what may be new are broader-based, intentional assessments and interventions that result in more robust, long-lasting and equitable outcomes that are consonant with the goals of social development.

Implications for Social Development

Since the 1940s social development advocates have been influenced theoretically by the environmental/ecological perspective through the adoption of, for example, ecological, or nature-as-systems, models that promote local to international, interdisciplinary and cross-sectoral interventions. In practice, social development advocates have contributed to countless environmentally related projects that improve the human condition through, for example, better community water supply or sewage systems (Estes, 1993; Midgley, 1995). The promulgation of international conventions and policy agreements that emphasize connections among underdevelopment, poverty and environmental degradation is further evidence that the condition of the natural environment is a familiar and salient issue for social development advocates (United Nations Development Programme, 1999/2000).

Earlier discussions in this article suggest, however, that to an important degree social development advocates have neglected to include environmental concerns explicitly, intentionally and consistently in models and measures of social change. Environmental factors such as natural capital and ecosystem services have yet to attain an optimal level of prominence in social development thinking. This phenomenon is understandable given the mission of social development to champion humanity's well-being and the fact that interest in social development has been re-emerging only in the last decade after a hiatus of several years (Midgley, 1995). The less-than-optimal linkage seems also to be associated strongly with social development's continued reliance on traditional economic growth models as the essential ingredient for improving the human condition (Daly, 1996). Evidence continues to mount that, to the degree that social development advocates do not fully account for the interactive effects of human consumption on the natural resource base, the probability of achieving long-lasting improvements in the human condition, especially for those who have the fewest resources, diminishes. This article concludes with several suggestions on how social development advocates can integrate environmental considerations more fully into theory and practice. It is important to note that each of these suggestions carries with it, largely through new levels of interdisciplinary collaboration, the benefit for social development advocates of expanded knowledge of the dimensions, dynamics and magnitude of the environmental threats facing humanity.

First and foremost, social development advocates should promote economic models and measures that more fully integrate the cost of human and nonhuman "externalities" and account for the economic benefits of protecting the well-being of humans and the natural environment (Desta, 1999). Social development advocates also should participate aggressively in the study and testing of alternative economic models that account for human population dynamics and the capacity of the natural environment to regenerate and reabsorb waste (Daly, 1996). The dilemma is powerful and complex: Notwithstanding the obvious benefits that economic growth can accrue for individuals, communities and societies, the magnitude of human and environmental costs, in terms of resource depletion and contamination, are increasingly clear. Further, there is substantial evidence that traditional economic growth systems contribute to "distorted" development (Midgley, 1995) and often marginalize vulnerable human populations and other species. There are indeed many examples of how local communities are relearning and creating ways to coexist with nature that sufficiently support economic needs (Hart, 1998-99; United Nations Commission on Sustainable Development, 2000). Whether such solutions can be enacted on a large enough scale to achieve sustainability continues, however, to be a worrisome uncertainty. Social development advocates have a wealth of contributions to bring to bear on the pressing challenge to find a better, more sustainable, economic way.

Second, social development advocates should reframe social and environmental development as having the shared mission to protect vulnerable populations. Doing so anchors the salience of environmental concerns to that most basic goal of social development, improving the quality of life for people at-risk. At a minimum, this reconceptualization urges social development advocates to partner with others as nature's benevolent stewards; at

maximum, it demands that social development advocates take on the role of nature's champion in solidarity with vulnerable human populations.

To act on this shared obligation to protect, social development advocates should intensify collaborative efforts with local, national and international environmental organizations and activists. Integrated pest management initiatives such as the Peruvian project and the recent, unprecedented coordination among social welfare activists, environmentalists and labor union representatives in protest of World Trade Organization practices are excellent examples of such new levels of interaction (Montague, 1999). As exemplified by broadly publicized conflicts such as the "rainforest vs. campesinos" and "owls vs. loggers," the powerful economic structures that humankind has constructed often place social and environmental advocates in competition rather than concordance. Some of the competition is real, immediate and involves life-and-death struggles; alternative solutions are emerging as advocates in both arenas use concepts such as sustainability to think differently and act collaboratively (Hoff, 1998).

Third, social development advocates should maximize the use of, critique of and contribution to evolving tools such as the Indicators of Sustainable Development and the Natural Step approach (United Nations Commission on Sustainable Development, 2000; Natural Step Environmental Institute, 2000). Such tools offer important cross-educational and coordinating opportunities to maximize planful, wise resource among those with social, economic, environmental and governmental interests. Moreover, such tools entail a political decision-making function that can reach far beyond their monitoring and evaluative capacities. Involvement in their development and use can position social development advocates to protect the interests of vulnerable human populations through influencing what such tools define and measure and the nature of programs implemented in conjunction with them.

Fourth, social development advocates should strengthen informal and formal collaborations with environmental development advocates across all sectors and press for greater institutionalized integration of social, economic and environmental policy and infrastructure. This challenge is significant for both governmental and civil regulatory processes. Social and economic policy and infrastructures at local, national and international governmental levels tend to be poorly coordinated. Why imagine, then, that adding the third leg of the sustainability tripod, environmental concerns, would result in any outcome other than greater policy confusion and public despair? Encouraging examples, such as the Egyptian government infrastructure initiatives noted earlier, the 1980s reframe of toxic dumping as a civil rights issue in the United States, and the emergent movement to place children's well-being at the center of social/environmental policy, support the value of coordinating social and environmental concerns in the pursuit of integrative sustainable policy (Soliman, 1998; Rogge, in press).

In this era of globalization and sustainability, social and environmental allies, including labor rights advocates, would be well served to coordinate tactics and strategies closely to deal with multinational corporations and international entities such as the World Trade Organization and to influence international conventions and agreements. Through such coordination, allies have the potential to bring new thinking to the conflict over fair versus free trade in regard to protecting vulnerable populations. Through such coordination, allies can advocate with greater vigor for policy mechanisms such as "sustainable" regulations that penalize pollution and other forms of environmental degradation, with an emphasize on protecting vulnerable populations; tax incentives for environmental protection; and precautionary measures, rather than traditional standards of scientific significance, to reduce the risk of children and other vulnerable populations to environmental degradation. Through such collaborations that merge ecological and social development concerns, social development advocates can bring more resources to bear on efforts to shape governmental infrastructures that are accountable for enacting sustainable models, measures, policy and programs (Dale and English, 1998; Hoff, 1998; Midgley, 1995; Montague, 1999).

Conclusions

Now, at the beginning of the 21st century, the struggle to define the relationship between humankind and the natural environment, and, therefore, between social and environmental development advocates, is embedded in the globally popularized concept of sustainability. Sustainability encompasses the evolution of the ecological tradition relative to social development and reaffirms the interdependence of social, environmental and economic systems. We have not achieved sustainable living patterns and are uncertain whether we can. We do know that we must keep trying. As Kansouh-Habib (1997) notes, in a guarded but somewhat more optimistic tone than Mr. Seeger, "there are promising signs, but the experience is still unfolding" (p. 43).

The aegis of sustainability provides social development advocates with many incentives to strengthen collaboration with environmental advocates toward a successful unfolding of the 21st

century. Shared mission and economic codependence are incentives to merge resources to improve the economic status of vulnerable populations; to preserve cultural, spiritual and natural resource heritage; and to regenerate clean air, water and land (Gamble and Varma, 1999; Hoff, 1998; Pandey, 1996). Policy initiatives that complement the interests of social and environmental advocates hold the potential to amplify the political voice of vulnerable populations at local, national and international levels (Soliman, 1998; United Nations Conference on Environment and Development, 1992). An expansive, coordinated, interdisciplinary knowledge of the complex interactions of social, environmental and economic systems can arm social development advocates to press with greater vigor for economic models and measures that account for the resource depletion and contamination of both natural and human resources. Together, such incentives, initiatives and knowledge mark another evolutionary step in shaping the future of the ecological tradition in social development.

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