



Sustainability Theory

Theories of sustainability attempt to prioritize and integrate social responses to environmental and cultural problems. An economic model looks to sustain natural and financial capital; an ecological model looks to biological diversity and ecological integrity; a political model looks to social systems that realize human dignity. Religion has entered the debate with symbolic, critical, and motivational resources for cultural change.

In its literal rudiments, sustainability means a capacity to maintain some entity, outcome, or process over time. Agriculture, forest management, or financial investment might be deemed sustainable, meaning that the activity does not exhaust the material resources on which it depends. An analogous use of the term “sustainability” refers to dependent social conditions; for example, a peace treaty, an economic policy, or a cultural practice may be called sustainable if it will not exhaust the support of a political community. In its increasingly common use, the concept of sustainability frames the ways in which environmental problems jeopardize the conditions of healthy economic, ecological, and social systems.

On a global scale the political challenge of sustainability raises a set of basic problems and comprehensive goals. By focusing on the ecological dependency of economic and social systems, sustainability illuminates the mutual effects between environmental degradation caused by human activities and the perils to human systems presented by global environmental problems. The concept of sustainability thus raises a starkly basic question: can human activity successfully maintain itself and its goals without exhausting the resources on which it depends?

Asking that question directs attention toward the planetary impact of human activity and its durability over time. It therefore provokes reflection on the manner and

purposes of global human society. Problems like biodiversity loss and climate change point to the global reach of humanity’s powers and the scale of its risk. Mitigating their impact and risk seems to require reform across many human systems—financial, political, production, energy, transportation, and even communication and education. Yet those reforms could complicate other goals of the international community, such as overcoming extreme poverty and protecting human rights. How can these overlapping interests be prioritized?

Of course the mutual relations that sustainability brings into view illuminate the dependency of those goals on ecological conditions; overcoming poverty cannot, over the long run, stand in competition with protecting sufficient biodiversity. The practical challenge of sustainability is to find specific ways to pursue those distinct goals that conform to their mutual relation. Therein lies the possibility of maintaining (or developing) over time a decent quality of human life for all. Sustainability concepts thus confront societies with a new kind of moral question: What must be sustained? What goods may be imperiled by the dramatic expansion of human systems? Which goods must be protected? Which goals must be pursued? And what is the shared foundation for doing so?

Within particular institutions, those practical questions can be put into context by the group’s purpose and its relation to ecological and social systems. For a university, sustainability may primarily be an aspect of how it manages its energy and food systems in relation not only to its budget, but also to its sense of civic leadership and educational mission. For a corporation, sustainability may mean anticipating how the reflexivity of ecological, economic, and social systems will determine market conditions over longer periods of time than those covered by quarterly or annual reports.

At local and global levels, then, sustainability directs practical attention to the complex mutuality of human and ecological systems. Economic health, ecological integrity, social justice, and responsibility to the future must be integrated to address multiple global problems within a coherent, durable, and moral social vision. That inclusive scope and prospective vision makes sustainability ideologically absorptive and politically popular. Sustainability is used to argue for and against climate treaties, for and against free markets, for and against social spending, and for and against environmental preservation. Finding a standard definition seems elusive.

Some critics have therefore dismissed sustainability as conceptually meaningless, or at least too susceptible to competing ideas to be politically useful. But as long as the disagreements generally recognize mutual feedback between human and ecological systems, they reflect substantive differences about what to sustain over time. So sustainability produces a significant discursive arena for a new kind of moral and political debate. Precisely because those considerations are so urgent and important, we should expect diversity of opinion and conceptual disagreement.

The very fact that debate about what should be sustained occurs as a practical political question indicates new dimensions of human responsibility and reflects new conditions of jeopardy. Humanity's technological and economic powers expanded so dramatically in the twentieth century that the fate of future generations and the survival of many other forms of life have now become subject to political decisions. Previously unthinkable impacts like a mass extinction caused by humanity or significant anthropogenic changes to the planet's biosphere indicate a major shift in humanity's relation to the rest of nature and its own future. Yet the twentieth century also witnessed the formation of an international community whose institutions pursued real expectations of lifting the poor from destitution and securing basic human rights in every country. Recognition of human responsibility has also expanded in temporal scope (i.e., obligations to future generations), spatial scale (i.e., consideration of planetary processes), and cultural reach (i.e., a shared ethic for all nations and peoples). Sustainability names a major way to invoke and organize these new responsibilities.

Brundtland and Beyond

The idea of sustainability came to public attention after a 1972 report, "Limits to Growth," issued by the international think tank Club of Rome. In 1980 the World Conservation Strategy developed by the International Union for Conservation of Nature, in collaboration with the U.N. Environment Programme and World Wildlife Foundation, worked to make sustainability a benchmark of international

action. Then the term "sustainable development" achieved international public prominence through the 1987 report of the World Commission on Environment and Development, *Our Common Future*, often called the "Brundtland Report" after the name of its chair, former Norwegian prime minister Gro Harlem Brundtland. It presented the famous definition: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987, 43).

For many organizations and agencies, that formula or something close to it remains a working definition. Some have criticized the Brundtland definition for binding sustainability too closely to development and for focusing on human needs to the exclusion of other life. But the Brundtland Report has helped initiate an international public debate on sustainability that has since generated numerous alternative formulations.

This article focuses on the concept of "sustainability" as it stands apart from "sustainable development" and other related but distinct terms like "sustainable communities," "sustainable resource management," "sustainable livelihoods," or "sustainable societies." By first considering sustainability on its own, we can better understand how it has been adopted to define and modify other concepts and endeavors.

We have seen that sustainability is an inclusive and ambiguous concept precisely because it brings society's ecological dependency into moral relation with its economic and political systems. In an early expression of what that relation implies, the 1974 Cocoyoc Declaration (the result of a U.N.-sponsored symposium in Mexico) stated that sustainability relates "inner limits" of human needs to the "outer limits" of Earth's resources. Among the first uses of sustainability as a concept to help integrate response to related environmental and social problems was the 1975 program of the World Council of Churches (WCC) for a "just, participatory, and sustainable society." For the WCC, sustainability might well contradict existing development processes as well as reshape economic and political priorities.

Any appeal to sustainability proposes to somehow integrate responses to social and ecological problems, taking account of feedback between human and biophysical systems and assuming that there are limiting conditions to those systems. By focusing on the ecological embeddedness of human social systems, concepts of sustainability mitigate perceived tensions between humanist and environmental goals. Some, in fact, insist that properly conceived, the interests of human systems and ecological systems harmonize. Noting that global environmental problems threaten prospects for the human future, some suggest that the question of sustainability essentially amounts to a question

about future generations: what do we owe the future? We should sustain, this approach implies, at least that which future generations will need to sustain themselves.

But settling what we owe to the future involves moral challenges of priority: Does the future need capital more than community, beauty more than opportunity? Whose future—that of humans? Of all species? Of the Earth? More importantly, reducing sustainability to an obligation to future generations ignores the relation of these obligations to the needs of the present. Certainly in its search for durable responses to global problems sustainability is a temporally prospective concept, but it does not reduce considerations of the future because it includes contemporary problems (like overcoming extreme poverty). As the Brundtland definition indicates, sustainability must seek a way to balance obligations to the present and the future.

So discourses and debates of sustainability aspire to sort out connections and priorities among an ecologically connected series of global responsibilities. By focusing ethical debate on the multiple goods at stake and the shared perils faced by the communities of Earth, sustainability forces consideration of what we must sustain by identifying what the Earth community stands to lose.

Models of Sustainability

What must we sustain? Answers to that question are sometimes divided into “strong” and “weak” approaches. “Strong sustainability” gives priority to the preservation of ecological goods, like the existence of species or the functioning of particular ecosystems. A “weak sustainability” disregards specific obligations to sustain any particular good, espousing only a general principle to leave future generations no worse off than we are. In terms of protecting old-growth forests, for example, a strong view might argue for protection, even if it requires foregoing development that would increase opportunities for future generations. A weak view would take into account the various benefits old-growth forests provide, and would then attempt to measure the future value of those benefits against the values created by development.

The two views loosely correspond to ecocentric (ecologically centered) and anthropocentric (human-centered) positions in environmental ethics, but not perfectly. The ecocentric view requires that moral decisions take into account the good of ecological integrity for its own sake, as opposed to exclusively considering human interests. But a strong sustainability view could be held from an anthropocentric perspective by arguing that human systems depend on rich biodiversity or that human dignity requires access to natural beauty.

Note also that a weak view would not necessarily approve the expiration of natural resources, even with the

prospect of lucrative profit. For insofar as opportunities for future generations depend on certain ecological processes (e.g., breathable atmosphere), some ecological goods will always be more valuable than the economic development they make possible.

There is a third approach: A pragmatic middle view holds that, while we may not have obligations to sustain any particular nonhuman form of life or ecological process (the strong view), neither should we assume that all future opportunities can be measured against one another (the weak view). The moral and political philosopher Brian Barry (1997) argues that preservation of some opportunities for future generations requires the enduring existence of particular ecological goods. For example, the opportunity to decide whether or not old-growth forests are required for a decent human life depends on their preserved existence. This approach effectively proposes that we must sustain conditions for the ongoing debate over sustainability.

In another pragmatic approach, the philosopher Hans Jonas has proposed that new powers of human agency, able to comprehensively threaten their own conditions, require a new moral imperative to act responsibly for the sake of human survival. Perhaps sustainability is neither a strong question about nature’s intrinsic value nor a weak one about producing opportunities but rather a pragmatic question about keeping our species in existence (Jonas 1984). Sustainability is then a question about maintaining a decent survival.

Critics will object to such pragmatic approaches from two angles. On one hand they look too humanistic: Neither old-growth forests nor threats to the survival of polar bears are priorities of the pragmatic view. On the other hand, they look insufficiently humanistic: reducing sustainability to survival of the species may multiply inequality and ongoing poverty. A pragmatist could respond that, if the priorities of sustainability depend on a debate over what sustains us, then the argument could certainly be made that old-growth forests and the existence of polar bears sustain the human spirit, as do socially just societies and flourishing neighbors. Perhaps, rightly conceived, a decent human survival simply includes biodiversity and the end of extreme poverty. Allowing the massive loss of species would close down that option for humanity, effectively ending the debate.

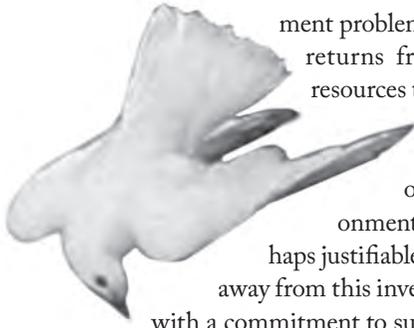
By now it is evident that theories of sustainability have become too complex to organize with dualistic terms like “strong” and “weak” or “ecocentric” and “anthropocentric.” We might instead think in terms of models for sustainability, each prioritizing its own component of what must be sustained. These models—economic, ecological, and political—are not mutually exclusive and often integrate complementary strengths of the others. Distinguishing



them, however, helps make sense of alternative concepts of sustainability.

Economic Models

Economic models propose to sustain opportunity, usually in the form of capital. According to the classic definition formulated by the economist Robert Solow, we should think of sustainability as an investment problem, in which we must use returns from the use of natural resources to create new opportunities of equal or greater value. Social spending on the poor or on environmental protection, while perhaps justifiable on other grounds, takes away from this investment and so competes with a commitment to sustainability.



With another view of capital, however, the economic model might look different. If we do not assume that “natural capital” is always interchangeable with financial capital, argue Herman Daly (1996) and other proponents of ecological economics, then sustaining opportunity for the future requires strong conservation measures to preserve ecological goods and to keep economies operating in respect of natural limits. These considerations complement an ecological model.

From a different perspective of the relation between opportunity and capital, spending on the poor might be regarded as a kind of investment in the future. According to the economist Amartya Sen’s “development as freedom” dictum (1999), we create options for the future by creating options for today’s poor because more options will drive greater development. In this political model of sustainability, sustaining opportunity for the future requires investing in individual dignity today. This approach complements the political model.

Ecological Models

Ecological models propose to sustain biological diversity and ecological integrity. That is, rather than focusing on opportunity or capital as the key unit of sustainability, they focus directly on the health of the living world (see Rolson 1994). Within this model, there are two major ways of deciding which ecological goods to sustain. From an anthropocentric point of view essential natural resources should be sustained, as should those ecological systems and regenerative processes on which human systems rely. From an ecocentric point of view species should be sustained for their intrinsic value, as should ecological systems as generators of creatures with intrinsic value. In policy, as noted above, strong and weak views may converge.

Political Models

Political models propose to sustain social systems that realize human dignity. Concerned with the way in which local and global environmental problems jeopardize human dignity, these models focus on sustaining the environmental conditions of a fully human life. Environmental justice and civic environmentalism represent one strategy of this model; by focusing on environmentally mediated threats to human life they point to necessary ecological goods or sustainable environmental management schemes (see Ageyman 2005). Other strategies within this model, such as agrarianism or deep ecology, involve more substantive visions of the human good. Ultimately, these models recommend sustaining the cultural conditions needed to realize ecological personhood, civic identity, or even personal faith through ecological membership (see Plumwood 2002, Wirzba 2003).

One subset of the political model takes a pragmatist’s approach and suggests that we must maintain conditions for keeping open the debate about sustainability. In this view sustaining a political system of deliberative democracy effectively requires sustaining ecological and economic goods along with political goods like procedural rights. Note, however, that both the quality and quantity of those goods is regulated by the needs of the political system, which thereby constrains sustainability commitments.

Roles for Religious Views

Many twenty- and twenty-first-century thinkers in diverse fields include discussions of religious traditions, theological concepts, and spiritual practices in debates about sustainability. If sustainability already seems a complicated and pluralist moral concept, why involve religion?

Perhaps spiritual commitments motivate change, or religious communities wield powerful authority for cultural transformation. Perhaps the roots of globalizing economic and technological systems lie in a moral consciousness profoundly shaped by religion. In that view, meaningful cultural change depends on reconsidering those religious roots and criticizing certain religious attitudes in order to renew the sustaining power of cultural worldviews.

Another view on the role of religion in sustainability debates holds that religious metaphors and spiritual practices have unique capacities for interpreting life’s complexity and generating holistic responses. If part of the challenge of sustainability is to understand the mutual relations of humanity and nature within a wider worldview, then religions may have useful resources. If widespread environmental degradation indicates an alienation of human personhood from the rest of the living Earth, then spiritual practices may help heal this division and reconcile humans to their ecological web.

For some communities, the crisis of sustainability presents an opportunity for religious renewal or spiritual renaissance. Certainly the world has witnessed, in all lands and from many cultures and traditions, new forms of religious change and spiritually motivated activism as communities attempt to comprehend and respond to ecological challenges. The Earth Charter, the definitive document (finalized in 2000) of the organization Earth Charter Initiative, represents a comprehensive plan to draw from many traditions and movements in order to invoke shared sacred values and to call humans into intimacy with the community of Earth.

Religious thought enters public sustainability debates as societies are increasingly challenged to make decisions about what is worth sustaining and to formulate questions about what sustains them. There is a paradoxical depth to such questions; although they inquire about the moral minimum of a decent survival, answering them invites reflection on the totality of what sustains us. For many, a good answer must reach toward the religious—toward spirit, the sacred, God, love, faith, or grace.

Because sustainability requires humans to recognize the simple facts of ecological dependency, it can provoke reflection on our dearest values and most fundamental beliefs, our intimate habits, and our overarching worldviews. To meet the challenges of sustainability in the twenty-first century individuals and communities alike are seeking ways in which to explore the *spirit* of sustainability—from creating new rituals, such as the Council of All Beings (workshops aimed at alleviating the alienation many people feel from the living Earth) to reviving ancient values, such as respect for God's creation.

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