

The Evolving Concept of Sustainability

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A public policy, in its broadest sense, is a statement about the future (Tugwell 1973). Public policy making in democratic polities can be viewed as a struggle to create and legitimize statements about the future in ways that persuade the attentive public or at least secure its acquiescence. Sustainability involves a particular kind of statement about the future – e.g., that communities of life continue to flourish in the long term. While the questions of what exactly is to be sustained or allowed to flourish, and for how long, are usually left unanswered, most sustainability concepts promote an intergenerational perspective that requires integration of environmental, social, and economic quality of life across both spatial and temporal dimensions of existence.

Anthropocentric notions of sustainability envision a future that “will indefinitely support human security, wellbeing, and health” (McMichael *et al.* 2003, 1919). A middle view holds that human welfare is a necessary but not sufficient condition for achieving sustainability; the welfare of all species must be considered. In many versions, ecological integrity, social equity, and economic vitality are combined as the three “pillars” of sustainability, with humans as the core beneficiaries, but with the added recognition that human welfare depends on the welfare of many other species (Marshall and Toffel 2005). Although there is significant disagreement about what constitutes the core of sustainability, the concept has become influential in environmental thought and international politics. It offers an intriguing but operationally challenging ideal to guide policy, education, markets, and resource use.

Sustainability makes normative claims on policy, and directs attention to political constituencies not yet born. While moralistic overtones are clearly evident in the rhetoric of sustainability, some advocates prefer to emphasize sustainability *science*, or at least testable principles of sustainable design and engineering. Sustainability is seldom viewed as an attainable goal. It is conceived as a “process of constant improvement” (Faber 2005, 27-28), preferably with measurable baselines and milestones. Rather than talk about an entity that is sustainable, in any final sense, it is preferable to talk about an entity that is sustainable *in relation to* another entity of similar function or purpose. The dynamics of the concept preclude rigid definition or interpretation.

The standard definition of sustainability is the one provided by the Brundtland Commission (WCED 1987, 8): “[meeting] the needs of the present without compromising the ability of future generations to meet their own needs.” Such a definition benefits from the use of strategic ambiguity about time scales and capacities to anticipate the needs and abilities of future generations. Such ambiguity was critical for the successful integration of the terms “sustainable” and “development” in public policies promoted at the first Earth Summit (UNCED 1992) and has subsequently dominated much of the international environmental policy agenda.

Critics have a rather easy time pointing out that these political strengths are intellectual weaknesses. The Brundtland definition invites serious questions about the specification of *needs* and determination of future *abilities*, not to mention the precise nature of policies or practices that might be *compromising*. Many analysts argue that present generations cannot reliably forecast needs of future generations or their capabilities, especially those developed through unforeseeable advances in science and technology (Barracough 2005). Nor can they possibly know to what degree their own actions might compromise the ability of future generations to act. Why, then, should present generations be held strictly responsible for preserving resources and opportunities for future generations?

In practice, sustainability has become a "sponge" word that absorbs multiple meanings and interpretations, many of which simultaneously expand its appeal, yet undermine its integrative power. Much has been written about the vagueness of the sustainability concept (Lele 1991), and the difficulty in applying it to non-overlapping future generations (Sachs 1993). Perhaps the strongest criticism has been directed at its allegedly "hidden" political agenda. This is particularly troublesome when the word *sustainable* is paired with the word *development*. Many see the term as an oxymoron (Sachs 1993, 1999), rife for misappropriation by governments and corporations bent on promoting business-as-usual growth while using the rhetoric of environmental and social responsibility. For some, sustainable development is a self-serving justification by rich countries for imposing "limits-to-growth" constraints on developing countries with which they compete for scarce resources (Banerjee 2003). Others see the real objective as controlling population growth in developing countries (Anderson 2002, Aquirre 2002). A few see the concept as the environmental spearhead of an effort to impose world government or to establish a new and dangerous anti-western ideology that threatens America's reputation and its dominant position in world affairs (Wood 2009).

Although it is widely assumed that *environmental* sustainability is the first and prime imperative of sustainability in its broadest sense, scholars have begun to turn this logic on its head (e.g., Agyeman 2003). They note, invoking a very common argument, that people living in absolute poverty or in deeply oppressive societies are in no position to put environmental needs first. Basic food, justice, and other human needs must be met before environmental concerns can emerge. This notion of nested imperatives has helped propel efforts to define sustainability as a *primary* concept – one that cannot be reduced to separate core components. Sustainability as a concept and practice transcends environmental applications. Strictly speaking, there is no such thing as *environmental* sustainability; only *sustainability* -- an irreducible synergy of social justice, ecological integrity, and economic vitality, applied across present and future generations. Although the health of our ecological life support system is logically prior to and dominant among sustainability imperatives, maintaining the health of ecosystems on a human-dominated planet requires achievements in social health and economic vitality that are imperatives in their own right, and not just for environmental protection. While securing the life support system seems a logical first priority, creating a healthy economy and social system in the short term may be a logical prerequisite for addressing that long-term fact. Efforts to avoid infinite regress in such arguments are futile. Hence, *sustainability* as a primary

concept cannot be coherently reduced to its environmental, social, and economic components. It is the synergy of all three that constitutes the essence of the concept.

Such an emphasis on synergy creates its own set of challenges for the way knowledge is organized, transmitted, and applied in today's society. Sustainability as a primary concept has major implications for specialists everywhere, especially those in environmental, social welfare, and economic development areas. In effect, specialists in these areas are asked to transcend their narrow interest and training for the sake of an integrative and synergistic idea. For example, environmental analysts would be expected to probe the social and economic implications of environmental policies and actions over an indefinite period of time and across a transjurisdictional range of space. This is not only demanding and daunting, but suggests to many specialists that depth of knowledge must be sacrificed for breadth. It follows that a focus on sustainability may reduce the power and authority of specialists, and the long-standing political, academic, and professional organizations that support them.

To be sure, an army of specialists will be required to achieve major improvements in sustainability. The point is that achieving such progress will also demand increasing amounts of transdisciplinary knowledge and skills, and leadership from broad-gauged, integrative thought leaders. Their work will necessarily require familiarity with a wide range of interlocking social, economic, and environmental issues. Synthesis will become as important as analysis. The sustainability challenge, in terms of education and career development, will not be about trading breadth for depth but about balancing the conventional focus on microspecialization and "stovepipe" education with systems-level integrative learning.

If such a balancing can be achieved, the sustainability challenge will shift to one of operationalizing the concept in ways that have practical value in business, government, and the management of people and ecosystems. Trying to change the ways in which human beings and ecosystems coexist will invite fundamental questions about who *gets to become* what, when, why, and how. It will beg other questions about the operational scale at which sustainability concepts can be effectively applied, without becoming disconnected from social needs or applied in systems so complex that the connections cannot be widely understood.

The best use of sustainability concepts may be in conjunction with concepts of community. Sustainable communities do not face the widespread criticism reserved for sustainable *development*, viewed by many to be an oxymoron. Moreover, community ideas resonate deeply in the construction of both ecology and human welfare. They provide a focal point and spatial scale that encourage applications of sustainability.

In fact, the essence of sustainability could be defined as preserving the life of community (human and nonhuman) for purposes that include human happiness, spiritual growth, and progress toward unfulfilled potential, perhaps in the form of evolving standards of human decency and accountability. Ultimately, sustainability requires the societal investment and collective self-restraint necessary for the survival of our species.

But its highest objective is not species survival, at least not as *Homo sapiens* or “*Homo colossus*” (Catton 1982, 170). Instead, it is primarily about securing the great web of life and the nonliving systems that support development of *living* systems, especially those vital to the realization of some desirable future form of human being – *Homo humanus* – a creative, intellectually curious, spiritual, and empathic being that justifies continuation of the human species for reasons beyond mere biological existence. This notion of sustainability is premised on the idea that human potential is sufficiently great to privilege our species with a special claim on continued existence, but only under conditions in which stable populations of enlightened humans cooperate to protect and preserve ecological and social life support systems for purposes beyond our own existence. As such, the objective of sustainability is *preserving the opportunity* to discover our connection to something greater than ourselves. It is a precondition for achieving a sense of community that outlives us, as individuals. By linking sustainability and community, the object of sustainability is specified in a way that is broad enough to encompass the aspirations of *Homo humanus*, yet narrow enough to guide actions and policies that are concrete, locally bounded, and applicable across time and space.

Sustainable communities ideally have levels of pollution, consumption and population size that are in keeping with regional and global carrying capacity; their members share an ethic of responsibility to each other and to future generations; they provide decent livelihoods and health, safety, and lifelong education services for all who need them; the price of their goods and services reflect the full social and environmental costs of their provision and disposal; their poorest members are protected from the impacts of full-cost pricing by equity mitigation measures; their systems of governance, education and civic leadership encourage informed democratic deliberation; and their design of markets, transport, land use, and architecture enhances community livability and preserves ecological integrity.

Clearly, these objectives represent “soft” targets, in the sense that ideas such as “regional carrying capacity,” “decent livelihoods,” and “full-cost pricing” are, like sustainability itself, difficult to define with precision. In summary form, as provided here, many of them appear hopelessly idealistic. And yet it is difficult to imagine any concept of sustainable community worth embracing that can be fully captured in a detailed implementation plan, working model, econometric analysis, or consensus document that is explicit about tradeoffs. It seems that all of our most powerful ideas and precious concepts – e.g., democracy, love, freedom, faith, justice, critical thinking – appear elusive when subjected to rigorous analysis. They have emergent properties that make static and concise forms of definition almost impossible.

Given the challenge of providing a precise definition, it may be preferable to think in terms of “qualifying criteria” for discerning among choices that promote sustainability and choices that do not. To that end, I have developed a partial, suggestive, perhaps heuristic set of criteria – a sustainability “test” – that can be used to examine choices about sustainability in both theory and practice. To assist in the more applied aspects of this examination, I have divided the criteria into two basic types: those appropriate at a

very broad conceptual level, and those specific enough to encourage debate about current policy and practice, at least at the level of spatially-defined communities.

THE SUSTAINABILITY TEST

Criteria for Assessing Sustainability in Decision Making

Does a proposed plan, policy, program or practice:

General Objectives (ideals)

1. Advance the welfare of people and ecosystems, co-evolving through time?
2. Provide economic vitality and security for those most in need?
3. Stop the export of problems to other peoples, places, or times?
4. Strike a balance between national pride, global citizenship, and local self reliance (“glocal” thinking)?
5. Reform financial incentive structures that enable greed, domination, and exploitation?
6. Promote just, participatory, prosperous, and peaceful institutions and livelihoods?
7. Reflect whole systems thinking and informed, democratic decision making?
8. Redefine progress in ways that emphasize art and learning, over technology?
9. Help build a green economy that operates with efficiency, within a culture of sufficiency?
10. Restore damaged people, communities, cultures, and natural areas to life with dignity?
11. Avoid making byproducts, waste, or pollution that exceeds Nature’s assimilative capacity?
12. Encourage glocal connections and local solutions that harness the power of diversity?
13. Recognize the resilience, and limitations of resilience, in natural systems?
14. Recognize the resilience, and limitations of resilience, in human social systems?
15. Communicate knowledge, skills, and values necessary for a sustainable way of life?
16. Leave a legacy or bequest to future generations that helps us feel good about ourselves?
17. Create opportunities and values that help us discover the purpose of our lives?

Specific Objectives

18. Increase the earth’s tree cover and enlarge and strengthen protected natural areas?
19. Champion efforts to achieve equity in gender, race, and social background?
20. Help to voluntarily stabilize human population and promote small, happy families?
21. Aid development of wholesome food production systems at appropriate scales for a stabilized population?
22. Accelerate the transition to clean and renewable energy sources and systems?
23. Support the aims of living wage and progressive tax and tax shifting reforms?

24. Secure for future generations the opportunity to experience wildlife in their native habitat?
25. Conserve and provide access to fresh water, topsoil, and other essential natural resources through land reform and protection of common property?
26. Reinvigorate participatory democracy through campaign finance reform and fair redistricting?
27. Encourage appropriate use of durable, recycled, and reusable materials?
28. Defend coral reefs and contribute to the recovery of a healthy ocean?
29. Prepare communities for adaptation to climate disruption and extreme weather events?
30. Maintain or enhance biodiversity and the value of unpriced ecosystem services?
31. Preserve wild space, open space, and the common heritage of outer space?
32. Address the concentration of wealth and power in financial institutions and industries that benefit greatly from unsustainable practices and products?

Ultimately, any lasting shift to sustainability thinking implies a wholesale transformation of the incentive structures that drive economic and social development. The ways in which those incentives are designed to serve the interests of rich and powerful political actors should provide sobering reflections about just how difficult such a transformation will be. In the short run, at least, sustainability arguments are more likely to provide rhetorical and political cover than real substance.

Is that a justification for inaction? Probably not, if one accepts the view that environmental, economic, and social policy, as presently conceived, are failing to halt the rapid decline of ecosystem health, social equity, and regulated markets that prevent overexploitation of people and natural resources. A new consensus is needed. One that starts with some very basic insights: a world that works for everyone will be green, profitable, fair, and “glocal”. It will encourage lifelong learning. And it will *not* be based on models of governance, development, or education that prevailed in the 19th and 20th centuries.

Sustainability, as a primary concept, offers a promising model for policy development in an emerging era of integrative systems thinking, but it may also undermine important practices and policies from the tunnel-visioned past. It promises to improve moral legitimacy, but not necessarily economic efficiency, environmental effectiveness, or short-term social harmony. Fundamentally, sustainability is about our collective bequest: what we leave future generations in the way of healthy ecosystems, strong economies, great art, vibrant communities, adaptive management systems, and challenges worthy of a highly educated society. Sustainability, as a unifying philosophy that is grounded in the life of community, might just satisfy the disparate needs of people today and those who will follow, and warrant the serious risk taking that all big ideas demand.

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