

## Technology Is Not Enough: Can We Still Achieve Sustainability? (Part II)

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Technology is not enough. As last week's [blog](#) on *State of the World, 2013* concluded, to achieve sustainability, we need serious social change. But how?

To an extent, it's already happening, as the sustainability movement continues to grow. At the book's [launch](#) two weeks ago, [Michael Maniates](#), professor of environmental studies at both Allegheny College and Oberlin College, suggested that today's tremendous boost in environmental science majors "might signal a reengagement of academia in problems that really matter." He also said, however, that today's students are being trained in a technocratic manner, that they don't handle political and social problems effectively.

Maniates used the metaphor of canoeing, in which "students are trained for a world of placid waters, rather than turbulence and conflict." Scientists must handle political engagement in a rhetorically heated atmosphere far different from the kinds of discussions typically encouraged by the scientific community. There's "no question we're headed for turbulent times," said Maniates, during which "facts and rational argument alone won't carry the day." Politically savvy maneuvering is necessary, yet students might still believe that science will convince an ambivalent public. Maniates cautions that small acts won't necessarily accumulate into the bigger changes we need, nor will crises necessarily jar us into effective action. Despite the old saying that every crisis is an opportunity, I would argue that every crisis is also a danger, as demagogues use the moment to inflame passions for their own ends. Sustainability activists therefore need to be shrewd politicians as well as capable social engineers. This does not mean distorting the facts, however; but it does require finding the rhetoric that will inform people of the scientific consensus regarding climate change and other ecological challenges and of the need to reduce consumption. And it means effective organization.

Like Maniates, Worldwatcher [Erik Assadourian](#) finds the sustainability movement ill equipped to tackle the deeper change needed in today's society. His worry is that too often "we're just a special interest, constantly on the defensive, not creating vision." He argued that we need to learn from "the most successful movement in human history, missionary religions," with a strong "ethics, cosmology, and deeper community." Given the transformation needed to change human behavior away from material consumption as the key measure of worth, such a profound change seems necessary. Yet the question, to me at least, is how to create such a transformation absent an all-encompassing religion. The most notable attempt to do so, Marxism, ended in disaster. Furthermore, sustainability is supposed to be science-based, so questions of the compatibility of science and religion come into play. As with Maniates, Assadourian leads me to the question of how a reason-based philosophy that never takes anything as 100% settled accords with a movement for profound social change. Certainly, there are religious sects that fit easily with sustainability, such as Quakerism with its belief in simplicity. Yet a worldwide sustainability movement must also be heterogeneous and democratic; allowing many voices would seem the opposite of a missionary religion with its belief in a single, unquestionable truth. Perhaps, though, the belief in simply sustaining the planet for future generations will be sufficient to stir concerted action and sacrifice.

Actual cases of a sustainable society without profound poverty are rare, but they do exist. Pat Murphy, Research Director for Community Solutions, used Cuba as an intriguing [test case](#) of a move toward sustainability spurred by dire necessity and enforced by a communist government. The collapse of the Soviet Union, in combination with the ongoing American boycott, left the island with little choice but to do more with less. Beginning in 1990, explained Murphy, the Soviet Union's disappearance cut off 80% food and all energy from Cuba. Facing dramatic shock, ordinary Cubans lost eleven pounds of bodyweight. "The average Cuban," Murphy exclaimed, "had nothing to buy," forcing a move to sustainability.

Compared to the affluent world, the Caribbean island nation remained poor. Housing, for instance, is at 200 square feet per person, compared to 930 in the United States. To some, this may seem like deprivation, yet Murphy described the country as one based on cooperation rather than competition. Cuba has provided its people with assets unavailable to the prototypical underdeveloped nation, including a strong health and education network. It has also created organic gardens, and a hydropower infrastructure. Well on its way to emitting only one ton of carbon dioxide per person per year, Cuba was rated the only sustainable country on the planet by the World Wildlife Fund in 2006. Yet the country remains a one-party dictatorship, not the kind of deep democracy I see as necessary to fulfill the social aspect of sustainability. It is also difficult to see how enforced deprivation can compare to the voluntary move to sustainability we are seeking. For me, Scandinavia is a superior model; yet, the Scandinavian countries still consume well beyond the per capita average needed to achieve global sustainability. Costa Rica is yet another example, which seems to have satisfied its people's needs in a democratic setting while using relatively few resources. If we juggle these alternatives, the possibility of a true sustainability that satisfies the environmental, social, and economic dimensions begins to emerge. Arriving at complete sustainability seems at least remotely possible, yet time is short.

A movement, said Robert Engelman, "can occur with amazing speed," and this one needs to do so. Engelman cited civil rights, women's rights, and the campaign against smoking. However, none of these occurred in a vacuum. Each movement had years of thought, organization, and conflict, and suffered through long dormant periods, before the sudden "explosion" of success. Susan B. Anthony, for instance, began organizing for women's rights in the 1860s, yet women in the United States didn't receive the right to vote until 1920. Women's rights then lay seemingly quiescent until Betty Friedan published *The Feminine Mystique* in 1963. The book piggy-backed on the charged climate of the 1960s and the success of the civil rights movement, and second-wave feminism took off. Environmentalism, too, has had its waves of success and stagnation. Although Engelman suggests that we are in a period of "sustainababble, in which the term "sustainability" has ceased to mean much, its ubiquity, along with the term "green," is a sign of the movement's progress. Yes, these terms have been watered down and misused, but the alternative—being ignored—is worse. A movement must have some initial achievements before it can be misappropriated. Now this success must be steered in the right direction. The sustainability movement has, indeed, led to the beginnings of real change, not only in technology but in social practices, for instance in the trend toward smaller houses.

Sustainability only falls short due to the urgency of the situation. The need for a radical change in social and economic assumptions is extraordinarily difficult to fulfill. Events such as Hurricane Sandy and massive pollution in China are not enough, by themselves, to cause real change, but the ubiquity of sustainability, as a term and as a movement, has laid the groundwork to make greater change possible. Advocates also need to be attentive to the ways change has actually occurred through social movements. Change is always tumultuous and halting, yet can occur relatively peacefully. Martin Luther King, Jr., for instance, won out over the far more militant Malcolm X by using radical nonviolence to appeal to a broader public. Sustainability advocates need to be aware of how such movements have succeeded. We should also study contemporary upwellings, such as Occupy movement and the Tea Party to see how, where, and why they succeeded or failed. Scientific knowledge, in other words, is not enough—we also need a deep knowledge of past experience. In too often studying science and technology in a vacuum, sustainability perhaps falls short. We must get the science right and interweave it with a deep understanding of human history and society.

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