

Paradoxes of sustainability

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The concept of sustainability the way most of us use it today has emerged in the 1960s in response to concern about environmental degradation and social equity. Many different uses of the term sustainability as well as its derivatives, such as social sustainability, environmental sustainability, sustainable development, sustainable living, sustainable future, and others have emerged. Environmental sustainability typically refers to issues associated with challenges ranging from climate change to biodiversity loss to pollution. Sustainability is also linked to ethical concerns, typically involving a commitment to justice between generations in matters of distribution of wealth, working conditions and human rights.

Sometimes, overwhelmed by the challenges of unsustainability some of us have despaired at the possibility to actually address the status quo – either because they feel individually powerless to change anything, or because of the lack of interest. Others feel that sustainability challenges, such as overpopulation and overconsumption, are grossly exaggerated. Others – particularly large corporations in their public relations have expressed their optimism about their own contribution to sustainability, assuming that no further effort is necessary.

This doubt, despair and optimism have salient implications on how we react to sustainability challenges. Despite these challenges, there is a pronounced need to provide the corporate leaders with concrete steps on how to travel down the sustainable path together with examples or applications. Few authors come up with the clear framework for sustainable solutions, as I have discussed in the two recent volumes [Sustainable Business: Key Issues](#) (Kopnina and Blewitt 2015) and [Sustainability: Key Issues](#) (Kopnina and Shoreman-Ouimet 2016).

In these volumes, the contributing authors have argued that in order to address sustainability challenges, we need to understand the bottlenecks of population pressures as well as production and consumption challenges as people, governments or corporations take action in line with their values depending on the scale of the barriers. It was also argued that we also need to understand paradoxes of sustainability, including a number of questions that embody these paradoxes or myths of unsustainability, for example: What do pension funds have to do with sustainable business? Why is eco-efficiency not good enough to achieve sustainable production? How do better health and more equitable distribution of resources contribute to unsustainability? In this blog I shall give an indication of the direction of these inquiries in my teaching practice.

In my teaching practice, we explore these and many other questions with students on the basis of a number of critical publications on the subject of sustainability by William Rees, Herman Daly, Haydn Washington and Eileen Crist. The students were also asked to read a number of interdisciplinary publications in order to develop their own critical thinking about the subject. These helped them to address the three questions above.

In regard to pension funds and sustainability, the connection could be made through the concept of green investment, which fits within a larger literature on direct and indirect environmental impacts. Social psychologists Paul Stern (2000) has distinguished between two types of environmental impacts: direct and indirect. Some behavior directly causes environmental change, with examples of direct dumping of nuclear waste or cutting down the rainforest. Other behavior can be indirectly significant, such as investments done in the logging industry through pension funds, or through savings. Thus, the ability to move pension funds to a green-investment bank can have a greater environmental impact than merely recycling one's own newspaper. Directly, addressing population may simultaneously help to tackle poverty as the global pressure on resources will be lessened. Such investment would also indirectly help to protect endangered species through reducing human pressure on last remaining wild habitats.

In regard to eco-efficiency, the Cradle to Cradle and Circular Economy concepts are employed. Based on the notion of industrial metabolisms, William McDonough and Michael Braungart (2002) developed the notion of the Cradle to Cradle (C2C). McDonough and Braungart ask us to contemplate not just minimizing the damage the way eco-efficiency does, but eliminating it all together. First, C2C critiques many tenants of conventional minimization of damage strategies, such as eco-efficiency, a system that does more with less. While eco-efficiency is currently favoured in sustainability discourse, according to C2C it only serves to 'slow the process of destruction' and 'makes a bad design last longer'.

Instead, the C2C framework propagates a simply dictum: waste equals food. A cherry tree metaphor exemplifies the example of C2C principle, with its 'waste' (blossoms and berries) that are either consumed or fall to the ground and decompose into food for soil, with nutrients flowing indefinitely in cycles of birth, decay and rebirth. Understanding these regenerative systems allows engineers and designers to recognize that all materials can be designed as nutrients that flow through natural (biological) or designed (technological) metabolisms. In permacultures, for example, materials designed as biological nutrients, such as textiles and packaging made from natural fibers, can biodegrade safely and restore soil after use. In this closed-loop system products can be fully dismantled so that their elements can be returned to biological or technical metabolisms. Ideally, every product can be designed from the outset so that after its lifetime is over, the product will then continue to 'live' by becoming a nutrient, creating inherently benign material flows.

In regard to the last and perhaps the most ethically loaded question about how better health and more equitable distribution of resources can contribute to unsustainability challenges, we turn to a more critical literature on long-term effects of current sustainability policies. While focused on the symptoms of unsustainable practices, including resource depletion, climate change and poverty, conventional framework tends to ignore the ethical and practical contradictions. One of these contradictions involves the desire to improve human health and material well-being on the one hand, and to secure the carrying capacity of this planet on the other hand.

While many policy makers, commercial companies, and members of civil society are aware of the symptoms of unsustainability, few of them have realized the core challenges of unsustainability. Few sustainability programs have addressed the root causes of poverty, part of which is population growth itself, and the global spread of unsustainable practices. While many businesses, for example, have accepted poverty elevation and economic aid to developing countries as normative in their corporate social responsibility (CSR) policies, few of them invest in family planning or attempt to halt production of unsustainable products. Yet, in order to achieve sustainability aims, businesses, as well as public and government stakeholders need to learn to better understand not only these challenges, but also the mechanisms underlying unsustainable practices. Once these challenges and mechanisms are understood, a more positivistic turn toward solutions becomes possible.

Hyperlinks:

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