Sustainability Subject Aid

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Description

A short guide to some key resources and readings on the topic of sustainability.

Body

The 2013 report *Sustainability for the Nation* from the National Academies of Science, Engineering and Medicine quotes the following definition of a sustainable society – "one that can persist over generations; one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or its social system of support."

Generally satisfying the concept of sustainability would require the ability to subsist or continue in existence indefinitely. In discussions related to policy the term involves environmental, economic, and social sustainability and is often linked with "development" as "sustainable development." The current 17 main goals for sustainable development were adopted by the United Nations in September 2015 and include all three dimensions.

In environmental science, sustainability is endurance of biological systems and processes through their reproductive and regenerative abilities. Sustainable development adds social and economic systems and processes, including politics

and culture as well as ecology and economics. Sustainability science is the study of sustainable development and environmental science.

This approach assumes a resource sufficiency approach to sustainability, which has its foundation in an accounting model. The model stresses constraints or limits on resource availability and intends to assure resources needed for the future, although strong disagreements may exist as to which resources those are.

Sustainability may also be viewed as the adoption of a goal to be pursued even if it cannot be achieved. Here the goal is to minimize and ameliorate negative human influences on the environment. It can include developing more equitable and environmentally friendly ways of life. These are also social challenges. The model behind this view assumes that instability will follow from the commitment to economic growth and stresses systemic functionality and its vulnerability, so that human beings and the systems they engineer need to pursue this different goal to move in the direction of sustainability.

The text above has been adapted from the entry for "sustainability" in Wikipedia, accessed June 14, 2016, at https://en.wikipedia.org/wiki/Sustainability#Sustainable_development. It also draws from Paul B. Thompson. 2016. The many meanings of sustainability, A competing paradigms approach. In *Pragmatic Sustainability, Dispositions for critical adaptation,* Steven A. Moore Editor, 2nd Edition. NY: Routledge.

Subject Overviews

Meadowcroft, J. 2000. "Sustainable development: a new(ish) idea for a new century?" *Political Studies*. 48(2): 370-387.

> In the late twentieth century, international political leaders have come to identify themselves with an ambitious new project: 'sustainable development'. Over the past decade international organizations, national governments, and local authorities have increasingly come to cite it as a fundamental objective of their activity. Organized in four parts, this article explores this 'turn' towards sustainable development – particularly in relation to environmental policy-making in the industrialized countries. It opens with a conceptual and

historical introduction to the notion of sustainable development. It then moves on to consider how the idea has been taken up practically by governments in developed states. The significance of the changes effected to date forms the focus for the third section. Finally some general observations are offered about the (admittedly relatively brief) 'career' of sustainable development.

Thompson, Paul B. 2010. *The Agrarian Vision: Sustainability and Environmental Ethics.* Lexington, KY: The University Press of Kentucky.

As industry and technology proliferate in modern society, sustainability has jumped to the forefront of contemporary political and environmental discussions. Balancing progress and the earth's ability to provide for its inhabitants grows increasingly difficult. This book emphasizes the vital role of agrarianism in modern agricultural practices and argues for practicing a reconfigured and expanded agrarianism in order to support modern industrialized culture while also preserving the natural world. Thompson describes the historical evolution of agrarian values in America, providing a pragmatic approach to ecological responsibility and commitment.

Hollander, Hollander, Rachelle, Adjo Amekudzi-Kennedy, Sarah Bell, Frazier Benya, Cliff Davidson, Craig Farkos, David Fasenfest, Regina Guyer , Angelique Hjarding, Michael Lizotte, Dianne Quigley, Diana Watts, and Kate Whitefoot . 2016. "Community Essay: Network priorities for social sustainability research and education: Memorandum of the Integrated Network on Social Sustainability Research Group." *SSPP Journal* 12:1.

This memorandum reviews findings from the INSS research group summarizing current knowledge as well as critical questions about social sustainability that merit research priority. It concludes that historical lessons from less-than-satisfactory outcomes demonstrate the need to consider social sustainability in major public infrastructure projects and complex technological systems. Achieving sustainability will require interdisciplinary studies in which technical personnel and social scientists work together. Long-term research is critically important to ensure fairness during the redesign of cities and inclusion in access to information on critical social equity issues, particularly those related to the natural environment. Also needed is "research on effective and responsible ways to achieve individual and institutional change in coming periods of climate, ecosystem, and societal transition." An extensive

bibliography follows the article.

Manion, M. 2006. "Ethics engineering and sustainable development." *IEEE Technology and Society Magazine*. **21(3): 39-48.**

The author attempts to provide the rationale for a philosophy of engineering ethics grounded in the notion of sustainable development. It is central to his thesis that this new philosophy can be best inculcated into the culture of engineering through engineering education - experience and intuition are not enough. Engineering ethicists must work more closely with engineering scientists to ensure that all facets of sustainable technology become a practical reality.

Brennan, Andrew and Lo, Yeuk-Sze, "Environmental Ethics", *The Stanford Encyclopedia of Philosophy* **(Winter 2015 Edition), Edward N. Zalta (ed.), forthcoming URL =** http://plato.stanford.edu/archives/win2015/entries/ethics-environmental/ . *First published Mon Jun 3, 2002; substantive revision Tue Jul 21, 2015*

Environmental ethics is the discipline in philosophy that studies the moral relationship of human beings to, and also the value and moral status of, the environment and its non-human contents. This entry covers: (1) the challenge of environmental ethics to human-centeredness in traditional western ethical thinking; (2) the early development of the discipline in the 1960s and 1970s; (3) the connection of deep ecology, feminist environmental ethics, animism and social ecology to politics; (4) the attempt to apply traditional ethical theories, including consequentialism, deontology, and virtue ethics, to support contemporary environmental concerns; (5) the preservation of biodiversity as an ethical goal; (6) the broader concerns of some thinkers with wilderness, the built environment and the politics of poverty; (7) the ethics of sustainability and climate change, and (8) some directions for possible future developments of the discipline.

Policy and Guidance

National Research Council. *Sustainability for the Nation: Resource Connection and Governance Linkages* **(2013).   Accessed June 14, 2016 at**

http://www.nap.edu/catalog/13471/sustainability-for-the-nation-resource-connection-and-governance-linkages

> The committee recommendations to guide Federal agencies in effectively addressing sustainability issues are that they should adopt or adapt a decision framework that pays special attention to 1) incorporating adaptive management approaches, 2) engaging all stakeholders, including state and local governments and nongovernmental organizations (NGOs), and 3) communicating both objectives and progress toward those objectives throughout the process to all concerned. They must build sustainability into the agencies' fabrics, structure sustainability decision making on long time frames and assess ways to maximize benefits in all sustainability solutions and approaches. A National Sustainability Policy should be developed that will provide clear guidance to the executive agencies on addressing governance linkages on complex sustainability problems and inform national policy on sustainability, using a process that will allow all stakeholders to participate. Consideration should be given to the creation of open and transparent oversight involving the public, state legislatures, Congress, and the President.

International Institute for Sustainable Development – Sustainable Development Policy & Practice, Tracking the Implementation of the Intergovernmental Sustainable Development Agenda, Online Data Base reporting information on UN sustainability activities. Report on international panel 13 January 2016. Data base accessed June 14, 2016. http://sd.iisd.org/news/panel-emphasizes-ethics-in-sdg-implementation/.

> The Permanent Mission of Panama, in collaboration with several other governments, held a panel discussion on the ethical implementation of the 2030 Agenda for Sustainable Development. Panelists and participants highlighted the need for transparency, accountability, access to justice, social inclusion and addressing inequalities.

Science and Technology for Sustainability Sustainabilit Program. The National Academies of Sciences, Engineering, and Mechicine. http://sites.nationalacademies.org/PGA/sustainability/index.htm.

> The website of the Science, Technology, and Sustainability Program of the National Academies of Sciences, Engineering, and Medicine contains

information about activities and projects and resources in the program. Accessed on 7-6-2016.

Bibliography

"Environmental Ethics & Sustainability Bibliography." In Online Ethics Center for Egineering and Science. Last modified June 2016. https://onlineethics.org/cases/environmental-ethics-sustainability-bibliography.

OEC Environmental Ethics and Sustainability Bibliography lists web resources, books, and articles that connect issues of sustainability and ethics.

Notes

Reviewed by Paul B. Thompson, October 31, 2016.

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