

February 2018

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Recommended Citation

Mighty, Mario A. Ph.D. (2018) "What is Sustainability? A Geographer's Perspective," *Journal of Sustainability Studies*: Vol. 1 : Iss. 1 , Article 3.
Available at: <https://ir.una.edu/sustainabilityjournal/vol1/iss1/3>

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What is Sustainability? A Geographer's Perspective

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INTRODUCTION

The development of the concepts and field of sustainability exhibits many parallels to the discipline of Geography. Both study a wide range of areas, emphasize the importance of interdisciplinary approaches, and are often misunderstood by those outside of their respective fields. As a geographer who is very interested in promoting sustainability, I feel that I am in a novel/unique position to share my thoughts on what sustainability is all about. The goal of this article is to highlight to the reader how sustainability is viewed from a geographer's perspective and to offer a few illustrations on the role of geography in both achieving successful sustainability initiatives and understanding some of the obstacles and issues within the field.

Geography is the study of Earth's landscapes, peoples, places and environments. It is, quite simply, about the world in which we live¹. In fact, the word "Geography" derives from the Greek word *geographain*, meaning "description of the Earth's surface." As noted by Thomas Wilbanks²:

[Geography] is defined by relationships between human and physical processes. It relates nature-society issues to spatial pattern issues. It can draw from both location theory and social theory. It is linked directly to many of the same questions that underlie society's recent rush of interest in geography-globalization, environmental problems, and applications of Geographic Information Systems (GIS). It has the potential, in fact, to serve as an intellectual dynamic and a normative focus for integrating our different perspectives on the world around us.

The discipline of Geography is fairly broad and draws many strengths from being able to accomplish interdisciplinary work. As an integrative discipline, it looks at the "whole picture," rather than just at pieces of the puzzle. Because of this approach, Geography as a discipline has been directly and indirectly involved in the emergent field of sustainability. While the discipline has been on the fringes of sustainability studies, recent contributions have highlighted both the spatial and scale-based approaches to sustainability studies³. Whether it be the study of landscapes, economic systems, socio-political issues or even the mapping of human consumption patterns, the emphasis the discipline of Geography places on describing and understanding the patterns of the world around us is critical to the development of solid approaches to adopting sustainable behaviors in our day-to-day lives and preparing for longer-term initiatives that will encourage the wise use of our various Earthly resources.

SPACE, SCALE AND SUSTAINABILITY

If sustainability has the three pillars—environment, economy and society (or equity in some circles)—then two of the key components of Geography are space and scale. In fact, the so-called first law of geography, "everything is related to everything else, but near things are more related than

¹ Royal Geographical Society, What is Geography?

² Thomas Wilbanks, Sustainable Development in Geographical Perspective, 545.

³ Teis Hansen and Lars Coenen, Geography of Sustainable Transitions.

distant things⁴” reflects the centrality of these themes. But what do we mean by these terms and how do they relate to sustainability?

Geography is a science that examines the relationships among Earth and the life on it. As such, it investigates and explains events as they happen over **space**. Space refers to the location and operation of various phenomena on Earth’s surface, and its organization is one of the key themes in Geography. A variety of sub-fields explore particular patterns and processes that organize social and natural locations. Broadly speaking, physical geographers tend to be inherently interested in naturally occurring, physical spaces while human geographers focus more on social constructions of space. In the latter category rules, laws, norms, and values are all important constituent factors of space⁵. Thus geographers have extensive and meaningful terms to describe patterns and processes from the past, present, and into the future. Some definitions become more specific and complex in their usage by geographers. Coenen and Truffer note that spatial context is all too often treated as a passive background variable providing little causal explanation or theoretical purchase⁶. By incorporating a greater focus on the various spatial contexts, researchers can better analyze systems wherever they lead.

The concept of **scale** takes the idea of space and defines a scope of study. While we have defined territories and spaces, at a practical level, scale defines a certain level of analysis or investigation of social or natural processes. In many instances this may incorporate multiple levels. Scale can start at the individual level (the human body) and progress through the community, state, national and global scales. It is important to note that scales are not hierarchical, and larger scales do not always determine what goes on at smaller scales. Many of the scales we study are humanly created, not naturally occurring, and so each is being actively constructed and reconstructed with ongoing changes in the world around us. For example, Hansen and Coenen⁷ note five main domains in the area of sustainability transitions: urban and regional policies, informal localized institutions, areas with local natural resource endowments, areas with local technological and industrial specialization, and local consumer markets.

Each of the above domains have direct implications for sustainability—how it is studied, conceptualized, implemented, and monitored. Let us consider sustainability and space. One of the most obvious questions a geographer would ask is, “Where are sustainability activities taking place?” or alternatively, “Where do sustainability activities need to take place?” From this baseline, one can delve into the patterns that emerge as these questions are explored. Is sustainability a “rich” country phenomenon because they can afford new, cutting-edge technologies? Do poverty and limited resources in general foster sustainable behavior out of necessity? What patterns can we see in the world around us—are there clusters in certain places or cultures, or is there a random adoption of sustainable behaviors?

As we bring scale and sustainability together, our questions can become even more complex. For example, “Does recycling become more efficient as one scales up from home to country?” Such a question not only looks at reducing waste but doing so in larger and larger areas. If this question broadens to also ask, “Is this different in financially wealthier countries or ‘poorer’ ones?” we can get into exploring whether or not places with more economic resources will recycle more than those with

⁴ Waldo Tobler, A computer movie simulating urban growth.

⁵ Ron Martin, Institutional Approaches to Economic Geography.

⁶ Lars Coenen and Bernhard Truffer, Places and Spaces of Sustainable Transitions.

⁷ Teis Hansen and Lars Coenen, Geography of Sustainable Transitions.

less economic resources. One major point that is often brought to the fore in various sustainability debates is that it is often much easier to create, implement, and monitor sustainable concepts and practice at the small scale (think individual, household, and community levels). However, it is necessary for these approaches to be scaled up to the regional, national and/or international levels for broad, positive impacts to be considered meaningful. One can also consider economies of scale and sustainability—some activities and technologies become more efficient if done at a larger scale. This can range from adopting alternative fuel sources (such as solar energy) to systems-level changes such as heirloom design and “de-growth” economies.

GEOGRAPHY AND THE THREE PILLARS OF SUSTAINABILITY

Now that we have a solid foundation regarding the core concepts of Geography, we can dig a little deeper as we look at the contributions of Geography through the lens of the classic three pillars of sustainability.

The environment pillar is probably the largest realm in the field of sustainability. It focuses on the biogeophysical aspects of sustainability—the proper use of air, water, and land resources. This is also the realm that most people think about when considering sustainability: how to wisely use the remaining resources of the world, protect faunal and floral species, reduce humanity’s footprint on the environment—in other words, how to “save the Earth.” Reflecting on the definitions of the field of Geography above, it should be no surprise that there is much that the discipline has contributed to sustainability. While many other disciplines concentrate on the how and why of sustainability, Geography gets into the **where** and the **why**. Environmental phenomena all have their distributions and patterns, and when it comes to sustainability, having a good understanding of these enables us to take a broad view so that we make accurate decisions that will positively impact the world we live in. At a global level, Tilman and Clark⁸ delve into the environmental impacts of current dietary trends on greenhouse gas emissions and the accelerated use of natural resources. They advocate for alternative diets that are less reliant on refined sugars, fats, and meats as part of improving environmental and public health policy. One geographical observation is that many quantitative measures of sustainability are not operationalized below the country/national level. Moldan, Janoušková, and Hák⁹ dig even deeper—they explore many of the indicators that are used to measure environmental sustainability at the international and national level. These can be as broad as the Happy Planet Index and Millennium Development Goals that aimed at broad international targets, to the Environmental Performance Index which quantifies and numerically benchmarks the environmental performance of a country’s policies. Efrogmson et al.¹⁰ focus on biofuels as part of various sustainability initiatives and advocate for a proper understanding of place in goals that are achievable at all scales and in different spaces. They also highlight the fact that not every indicator of environmental sustainability can be used at all scales.

The economic pillar of sustainability has also benefitted from the contributions of Geography. While the issues of resource depletion, environmental destruction, pollution, food security, etc. are all multi-dimensional and interconnected effects on the biosphere, the primary driver of most sustainability issues is the pursuit of economic growth. Whether through economic geography, population geography,

⁸ David Tilman and Michael Clark, *Environmental Sustainability and Human Health*.

⁹ Bedřich Moldan, Svatava Janoušková and Tomáš Hák, *How to Measure Environmental Sustainability*.

¹⁰ Rebecca A. Efrogmson et al., *Environmental Indicators of Biofuels Sustainability*.

development geography, or others, once again the discipline can explore the goals of sustainability for the economy and help develop our understanding of the issues at hand and how to better achieve the aims of sustainability. At the community level, the Tennessee Valley Authority¹¹ has a Valley Sustainable Communities program. Its stated goal is for communities to be “working toward a triple bottom line: developing a healthy environment, a thriving community and long-term economic prosperity.” This initiative works with cities, towns, and counties throughout the region to help them commit to long-term economic development¹². Pickerill and Maxey’s 2009 study¹³ of low impact developments (LIDs) in Britain shows the role of small-scale sustainability strategies is making a difference. These LIDs started as grassroots-led movements, and by working with entities at the city and county level, they have been able to achieve greater recognition and encourage further development of similar LIDs. However, it has been recognized that it is essential that LID as a whole is adopted into the mainstream if its comprehensive framework for sustainability is not to be watered down. Many involved in LIDs intend to encourage its broader scale adoption through an emphasis on education and outreach.

The concerns of social equality, religion and the environment, environmental justice, and cultural preservation are but a few of the elements making up the pillar of social sustainability. Geography enters the social side of sustainability through understanding the spatial variations in how sustainability is conceived and perceived by various peoples. From a social and environmental justice point of view, it is important to know who is being affected, where they are being affected, and how these patterns may increase or decrease the possible success of a social sustainability action. Lawhon and Murphy¹⁴ provide an example of this. They advocate for the increased consideration of geography in socio-technological transition theory, particularly from the point of view of political ecology. They argue that by viewing the world as a socio-technological system, there is an over-emphasis on technological artifacts at the expense of context-specific social and political relations. As such, the theory insufficiently addresses the role of power relations in shaping socio-technical system outcomes, among other weaknesses. In other words, technology trumps all. To strengthen the framework, they suggest a number of ways in which geography (specifically political ecology) would enhance the theory. These include considering a broader range of actors in a system (expanding the space of study) and exploring power relations and their influence on human-environment relations (incorporating multiple scales of analysis). Although space and scale are harder to pin down when considering religion and sustainability, consumers who are more religious are more likely to participate in sustainable behaviors¹⁵. This may include purchasing green cleaning supplies, recycling, and purchasing organic foods. Not surprisingly, spaces with higher concentrations of nature/Earth-based religions are more likely to engage in sustainable behaviors.

CONCLUSIONS

In all of the above explorations of sustainability, it is clear that the discipline of Geography plays a pivotal role in not only understanding conceptions of sustainability and the success/failure of current sustainability goals, but also in the understanding the key patterns that drive this field. Because everything changes over space and scale, this impacts understanding and implementation. Thus

¹¹ Tennessee Valley Authority, Valley Sustainable Communities.

¹² Ibid.

¹³ Jenny Pickerill and Larch Maxey, *Low Impact Developments and Radical Spaces of Innovation*.

¹⁴ Mary Lawhon and James T. Murphy, *Socio-technical regimes and sustainability transitions*.

¹⁵ Elizabeth A. Minton, Lynn R. Kahle and Chung-Hyun Kim, *Religion and motives for sustainable behaviors*.

Geography as a discipline will remain relevant to the field of sustainability even as it matures and evolves. Alongside the many other disciplines that have contributed, a holistic understanding of sustainability will enhance the chances that, whatever the format and wherever it is implemented, our goals of making the world a livable place for our current and future generations will be realized.

References

- Coenen, Lars and Bernhard Truffer. "Places and Spaces of Sustainability Transitions: Geographical Contributions to an Emerging Research and Policy Field" *European Planning Studies* 20 (2012): 367 – 374. doi: 10.1080/09654313.2012.651802.
- Efroymsen, Rebecca A., Dale, Virginia H., Kline, Keith L., McBride, Allen C., Bielicki, Jeffrey M., Smith, Raymond L., Parish, Esther S., Schweizer, Peter E and Denice M. Shaw. "Environmental Indicators of Biofuel Sustainability: What About Context?" *Environmental Management* 51 (2013): 291 – 306. doi 10.1007/s00267-012-9907-5.
- Hansen, Teis and Lars Coenen. "The Geography of Sustainability Transitions: Review, Synthesis and Reflections on an Emergent Research Field." *Environmental Innovation and Societal Transitions*, 17 (2015): 92 – 109. <http://dx.doi.org/10.1016/j.eist.2014.11.001>.
- Lawhon, Mary and James T. Murphy. "Socio-technical Regimes and Sustainability Transitions: Insights from Political Ecology." *Progress in Human Geography* 36 (2011): 354 – 378. doi: 10.1177/0309132511427960.
- Martin, Ron. "Institutional Approaches in Economic Geography." In *A Companion to Economic Geography*, ed. Eric Sheppard and Trevor J. (Oxford, UK: Blackwell Publishing Ltd., 2003): 77 – 94. doi: 10.1002/9780470693445.ch6.
- Minton, Elizabeth A., Kahle, Lynn R. and Chung-Hyun Kim. "Religion and Motives for Sustainable Behaviors: A Cross-cultural Comparison and Contrast." *Journal of Business Research* 68 (2015): 1937-1944, <http://dx.doi.org/10.1016/j.jbusres.2015.01.003>.
- Moldan, Bedřich, Janoušková, Svatava and Tomáš Hák. "How to Understand and Measure Environmental Sustainability: Indicators and Targets" *Ecological Indicators* 17 (2012): 4 – 13, <http://dx.doi.org/10.1016/j.ecolind.2011.04.033>.
- Pickerill, Jenny and Larch Maxey. "Geographies of Sustainability: Low Impact Developments and Radical Spaces of Innovation." *Geography Compass* 3/4 (2009): 1515 – 1539. doi: 10.1111/j.1749-8198.2009.00237.x.
- Royal Geographic Society. "What is Geography?" Accessed March 22, 2016. <http://www.rgs.org/geographytoday/what+is+geography.html>.
- Tennessee Valley Authority. "Valley Sustainable Communities." Accessed March 31, 2016. <https://www.tva.gov/Economic-Development/Engage/Valley-Sustainable-Communities>.

Tilman, David and Michael Clark. "Global Diets Link Environmental Sustainability and Human Health" *Nature* 515 (2014): 518 – 522. doi: 10.1038/nature13959.

Tobler, Waldo. "A Computer Movie Simulating Urban Growth in the Detroit Region". *Economic Geography* 46 (1970): 234-240. Accessed January 25, 2016.
<http://www.jstor.org/stable/143141>.

Wilbanks, Thomas J. "Sustainable Development" in *Geographic Perspective*. *Annals of the Association of American Geographers* 84 (1994): 541 – 556. doi: 10.1111/j.1467-8306.1994.tb01876.x.