

The SAGE Encyclopedia of Food Issues

Permaculture

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Book Title: The SAGE Encyclopedia of Food Issues

Chapter Title: "Permaculture"

Pub. Date: 2015

Access Date: July 13, 2015

Publishing Company: SAGE Publications, Inc.

City: Thousand Oaks,

Print ISBN: 9781452243016

Online ISBN: 9781483346304

DOI: <http://dx.doi.org/10.4135/9781483346304.n337>

Print pages: 1128-1131

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<http://dx.doi.org/10.4135/9781483346304.n337>

Permaculture refers to a design system created by Bill Mollison and David Holmgren on the island state of Tasmania in Australia in the 1970s. [p. 1128 ↓] Permaculture includes design principles and practices, a particular worldview, and an international social movement. The term is a portmanteau coined in 1978 that has been described by the founders as combining the words “permanent agriculture” or “permanent culture.” In its early stages, permaculture was conceived as a set of design principles and practices meant to improve sustainable, smallholder agricultural production by creating a complete agricultural ecosystem based on perennial polyculture and ecological patterns. By the late 1980s, permaculture expanded to include a broad framework for designing the sustainable communities as agriculturally productive human settlements based on ecological patterns that facilitate complex, multifunctional relationships between system components.

Permaculture has spread globally through communities of practice that are built through informal educational networks, enrollments in Permaculture Design Certificate (PDC) courses, an expansive popular literature linking permaculture to food system change and gardening, and regional institutions that serve as information hubs. Permaculture has been integrated into hundreds of farms, intentional communities (e.g., Earthaven Ecovillage), university campuses (e.g., University of Massachusetts at Amherst), and food system programs and projects that range from urban agroforestry in Australia to rural development in Costa Rica.

While academic research on permaculture is scarce relative to academic articles dedicated to similar topics (e.g., agroecology) and social movements (e.g., food sovereignty), permaculture represents a potentially rich area of research for food studies scholars. For example, permaculture links contemporary food system changes to applied examples of alternative food production strategies; it is a pertinent example of a regional and global organization of food-based social movements; and it can contribute novel intellectual concepts regarding bioregionalism and food production (e.g., the “foodshed” concept used by the permaculturalist Arthur Getz to metaphorically illustrate food systems is now used by food studies scholars to analyze local food system dynamics). The entry presents permaculture’s intellectual foundations, its principles and practices, and its dissemination and growth as a social movement.

Intellectual Foundations

The worldview of permaculture is based on intellectual foundations drawn from scientific research and on several assumptions that are intimately linked to the particular historical period of energy and environmental crisis in which permaculture developed. Permaculture uses a systems theory approach with design principles derived from several bodies of research, including ecology, ecological engineering, agricultural experimentation, landscape geography, and ethnobiology. The permaculture canon also includes applied research and theories from some less common, mid-20th-century books, including, for example, J. Russell Smith's *Tree Crops: A Permanent Agriculture* (1929); P. A. Yeomans's *The Keyline Plan* (1954); H. T. Odum's *Environment, Power, and Society* (1971); and Masanobu Fukuoka's *One Straw Revolution: An Introduction to Natural Farming* (1978).

While permaculture has several design principles similar to agroecology, permaculturalists are rarely cited or are cited by academic agroecologists (Ferguson & Lovell, 2014). This lack of crossover may be partly attributable to the less common use of statistical research models and peer review in permaculture as well as some of the working assumptions inherent to permaculture. Holmgren's *Permaculture Principles & Pathways Beyond Sustainability* (2002) outlines several assumptions that he considers critical for understanding permaculture. In brief, these assumptions include the following: human society is subject to thermodynamic laws; modern society is based on fossil fuel-enabled industrialization, which continues to cause an environmental crisis with global impacts; the current status of scientific and traditional ecological knowledge enables local preparation for a bioregionally focused world in the future; and problems of modern society are perpetuated by the prevailing scientific reductionism that does not enable holistic inquiry into solutions, by a dominant culture of [p. 1129 ↓] consumerism, and by political and economic elites who will lose power if local autonomy and self-reliance increase. The permaculture worldview also includes an optimistic understanding of societal change that is linked to a specific educational model that emphasizes individual responsibility and the permaculture principles and practices.

Principles and Practices

Permaculture is commonly taught by conveying a number of practical skills that are grounded within two sets of principles: (1) ethical principles and (2) design principles. The three ethical principles are (1) to care for the Earth, (2) to care for people, and (3) to work on the basis of “fair share”—that is, to redistribute surplus and to set limits to consumption and reproduction. In addition, 12 design principles are used to inform system implementation at the ground level. These design principles are (1) to observe and interact, (2) to catch and store energy, (3) to obtain a yield, (4) to apply self-regulation and accept feedback, (5) to use and value renewable resources and services, (6) to produce no waste, (7) to design from patterns to details, (8) to integrate rather than segregate, (9) to use small and slow solutions, (10) to use and value diversity, (11) to use edges and value the marginal, and (12) to creatively use and respond to change.

The application of these principles results in some common practices and features of permaculture designs. For example, agroforestry, Hügelskultur, keyline design, and landscape earthworks for water catchments are common features. Zonal mapping is used to locate the most labor-intensive crops close to a center point. An emphasis on multifunctional system components (e.g., trees are not just for fruit but simultaneously used for windbreaks, shade, soil improvement, and vine trellises) and relative placement that allows these components to serve more than one function often results in vertical stacking and polyculture planting of perennial crops. The polycultural approach increases agrobiodiversity to provide overlapping component functions and reduces disease spread and impacts. Finally, an approach that emphasizes turning problems into solutions allows designers to see problems (e.g., too many insects) as design suggestions for system adaptation and improvement (e.g., introducing chickens to eat the insects). Examples of the application of design principles and practices are given in permaculture instructional texts and through farm activities that are part of the PDC training, which engage students within the social movement.

Social Movement

Permaculture's model of societal change focuses on a global educational dissemination strategy. Over time, the central features of this model have included PDC courses, "itinerant teachers" who travel widely to deliver PDC courses, popular videos, and books (e.g., Mollison's *Permaculture: A Designers' Manual*, 1988), regionally based journals that are now largely supplanted by or available on websites (e.g., the *Permaculture Activist*), international conferences known as "convergences," and regional institutions (e.g., the Permaculture Institute, the United States) that function as information hubs and increasingly as professional certification bodies also.

The linchpin of the model is the PDC training course wherein a group of people spend upward of 72 course hours learning and applying permaculture to earn a certificate. As these courses traditionally take place over several weeks, they facilitate expanded social networks and communities of practice. However, in 2013, a 12-week online PDC course run by Geoff Lawton of the Permaculture Research Institute successfully demonstrated the ability of a well-known permaculture teacher to change the common PDC course model to reach a large audience online and build communities of practice through social media. The certificate was long considered the primary step before practice, yet the ongoing professionalization of permaculture educators has led to the introduction of a formalized diploma-granting program at the Permaculture Institute. Practitioners earn a permaculture diploma through completing a PDC course, creating a portfolio of applied practice, completing [p. 1130 ↓] mentorship with a practitioner, and applying to a board of peers.

This model of globally diffusing permaculture can be considered anecdotally successful as the Worldwide Permaculture Network registered more than 900 permaculture projects spread throughout every continent, and proponents estimate that thousands of people have been trained. Yet particular nuances of this model have also led to critiques of permaculture as a pseudoscientific, unorganized, pyramid-like, and naively apolitical movement that appeals to privileged classes and simply modifies gardening techniques. The lack of reliable evidence to support such critiques or to support some of the grander claims of permaculture proponents is all the more reason that food studies scholars should take a research interest in the details of a food-based social movement

that continues to expand its following, its geographic extent, and its popular reputation as an alternative approach to agroecosystem development.

See also [Food Sovereignty](#); [Forestry Management](#); [Multifunctionality in Agriculture](#); [Sustainable Agrifood Systems](#); [Sustainable Agrifood Systems, Effect on Environment](#)

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<http://dx.doi.org/10.4135/9781483346304.n337>

Further Readings

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