

**Facilitating Sustainable Agriculture:
A Participatory National Conference on Post- Secondary Education**

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Readings on Sustainability and Sustainable Agriculture in Higher Education

Blaze, Peter Corcoran and Arjen E.J. Wals (eds) 2004. *Higher Education and the Challenge of Sustainability: Problematics, Promise, and Practice*. Kluwer Academic Publishers, Dordrecht.

The chapters in this book provide many critical resources for the task of helping us to explore what sustainability is and what it is not, and to learn from living examples of institutional practice from across the globe. Its unique contribution is the depth in which it explores the problematic, the promise, and the practice of higher education for sustainability.

Davidsoon, Aidan. 2001. *Technology and the Contested Meanings of Sustainability*. Aidan Davison. State University Press of New York NY.

This is a trans-disciplinary inquiry that presents powerful new perspectives on sustainability and technology that together represent a synthesis of environmental philosophy, ecology, technology and moral experience. The author argues that the challenge of sustainability is that of undermining those traditions that present technology as somehow external to our inherent moral ambiguity. In contrast to those who despair at the multitude of perspectives on sustainability, he presents the case that it is this very contestability that allows the ideal of sustainability to give rise to an agenda of good questions about what we feel to be most worthy of being sustained in our lives.

Dresner, Simon 2002. *The Principles of Sustainability*. Earthscan, London.

This highly provocative (and fast paced) book assumes no previous knowledge of the topic. It addresses three essential topics: the historical development of the concept of sustainability; the nature and logics of contemporary debates about how a sustainable society might be achieved; and, the obstacles to sustainability and the prospects for overcoming them. The logic here is that there is a need to become aware of the complex and often daunting dimensions of the task as the prerequisite for action. As the author himself concludes: Just because we don't know how to create a truly sustainable society, that does not mean that we can't do things to become less unsustainable.

Francis, C.A., G. Lieblein, J. Helenius, L. Salomonsson, H. Olsen, and J. Porter. 2001. *Challenges in designing ecological agriculture education: A Nordic perspective on change*. Amer. J. Altern. Agric. 16(2):89-95.

Changes in educational activities and curricula are not easy in a conservative institution such as the university. We find a special challenge in the introduction of new material on systems theory and practice, a new field called agroecology, and participatory teaching methods that challenge the traditional role of the professor as a unique and essential source of lectures. We stress the importance of developing learning leaders, in an environment where everyone learns.

Francis, C., G. Lieblein, S. Gliessman, T.A. Breland, N. Creamer, R. Harwood, L. Salomonsson, J. Helenius, D. Rickerl, R. Salvador, M. Wiedenhoeft, S. Simmons, P. Allen, M. Altieri, C. Flora, and R. Poincelot. 2003. *Agroecology: the ecology of food systems*. *J. Sustainable Agric.* 22(3):99-118.

The paper establishes a clear definition of agroecology as important beyond the production fields, and through the processing, marketing, and consumer steps of the food chain. We establish the importance of a food cycle or food web, and the need to find ways to recycle materials at every step in the process.

Glasser, Harold. 2003. *Learning our way to a sustainable and desirable world: some ideas inspired by Arne Naess and Deep Ecology*. In: *Higher Education and the Challenge of Sustainability: Contestation, Critique, Practice and Promise*, edited by Arjen E., J. Wals, and Peter Blaze Corcoran. Dordrecht, Netherlands: Kluwer Academic Publishers.

This chapter considers the type and character of change that are necessary for higher education to play a pivotal role in bringing about a transition to a sustainable and desirable world. It explores our relationship to nature and poses a series of questions that should be asked when attempting to give meaning to the concept of sustainability. It investigates the role of our everyday actions in achieving a sustainable and desirable world by exploring the paradox between people's widespread environmental concern and their generally unsustainable lifestyles and actions. It then considers ideas from deep ecology and change theory and applies them to a critique of orthodox higher education. The chapter concludes with a twelve-step program for learning our way through the paradox—ROOTS (Research, Operations, Outreach, and Teaching for Sustainability)—a new, deep ecology inspired mission for higher education.

Lieblein, G., C. Francis, and J. King. 2000. *Conceptual framework for structuring future agricultural colleges and universities*. *J. Agric. Educ. Extension (Wageningen)* 6:213-222.

Future education in ecological agriculture will be greatly facilitated by examining current university structure and organization of classes and activities, and then moving some of the educational process into the field and the community. Using projects for practical learning and people in government, private business, and NGOs as instructors, the paper proposed structural changes that will facilitate learning and prepare people for a complex future.

Lieblein, G., E. Østergaard, and C. Francis. 2005. *Becoming an agroecologist through action education*. *Intl. J. Agricultural Sustainability (U.K.)* 2(3):147-153.

Rather than start with a list of courses and an established curriculum, this paper asks the question "What type of person and what skills, knowledge, attitudes, and potential for visioning do we want to leave the university after completing the Agroecology MSc program?" This makes a huge difference in how we design educational programs.

Roling, Niels G. , Wagemakers, Annemarie Elisabeth. 2000. *Facilitating Sustainable Agriculture - Participatory Learning and Adaptive Management in Times of Environmental Uncertainty*. Cambridge University Press.

This book examines the implications of adapting more ecologically sound agricultural practices, both at the level of individual farmers and at the level of larger-scale agro-

ecosystems such as water catchments. The emphasis of the book is on human and social aspects, rather than on agronomic or economic considerations, focusing on the learning process necessary for changes to be implemented and, in turn, on the facilitation of that learning through participatory approaches and appropriate institutional support and policy structure. It covers agricultural development, sustainable development and extension science as a move towards more flexible, sustainable agricultural practices is increasingly being seen as the way to address or avoid environmental and economic problems associated with existing, predominantly intensive, farming systems. Through case studies taken from around the world, this book examines the implications of adopting more ecologically sound agricultural practices, both at the level of individual farmers and at the level of larger-scale agro-ecosystems such as water catchments.

Sriskandarajah, N., C. Francis, L. Salomonsson, H. Kahiluoto, G. Lieblein, T.A. Breland, U. Geber, and J. Helenius. 2006. *Education and training in ecological agriculture: Nordic Region and U.S.A.* In: *The Science in Organic Agriculture*, P. Kristiansen and A. Taji, editors. CSIRO, Australia. (in press).

An overview of the Nordic agroecology teaching program, and the applications of several key principles in similar experiential education programs in the U.S. Midwest. The chapter includes explanations of the application of this educational strategy to learning about organic agriculture in universities.

Wals, Arjen E.J. (ed) 2005. *Curriculum Innovations in Higher Agricultural Education*. Elsevier Overheid The Hague.

This book is a compilation of two previous publications that resulted from the 2000 and 2004 dissemination phases of the European Union's 'Socrates' Thematic Network for Agriculture, Forestry, Aquaculture and the Environment (AFANet). The first part of the current book focuses on principles and practices for the integration of sustainability into higher agricultural education, while the second part focuses on the highly related topic of education and training for integrated rural development.