

## Agroecology: Science, Farming System, or Social Movement?<sup>i</sup>

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Some think of agroecology as a science, others as a farming system, and others as a global social movement. It is actually all three. Agroecology obviously is a merging of the words *agriculture* and *ecology*. Its basic purpose is reconnect agriculture with its biophysical, agronomic, economic, and philosophical roots in natural ecosystems. I first became aware of agroecology as a *science* when I moved from the University of Georgia to the University of Missouri in 1988 to assume a leadership position for sustainable agriculture research and education programs. Sustainable agriculture was a new term and a new area of work for me, as it was for most others in the U.S. at that time. In September 1988, I attended an International Sustainable Agriculture Systems conference in Columbus, Ohio. It was organized by the “Agroecology Program” at The Ohio State University. For me, this was the beginning of a 30-year learning process that continues today.

One of the first books I read on returning to the University of Missouri was a book written by Miguel Altieri called, *Agroecology; The Science of Sustainable Agriculture*. The book describes agroecology in terms of *farming systems* that are rooted in the *science of ecology*. Altieri’s field research and case studies focused on his work in international agricultural development. However, ecology has no political boundaries. The ecology of the various places around the world where people farm can be very different, but the ecological principles of nature are the same on every farm. So my introduction to sustainable farming was rooted in agroecology.

I didn’t become fully aware of the importance of agroecology as a social movement until 2014. That year, I was commissioned by the Food and Agriculture Organization of the United Nations to write the regional report on Family Farms of North America in recognition of the International Year of Family Farming.<sup>i</sup> At the international conference in Rome, where I presented my report, advocates of the global Food Sovereignty movement were well represented. They were clearly committed to promoting farming systems rooted in the science of agroecology as a sustainable alternative to industrial agriculture. At a recent conference in California, a U.S. representative of the FAO told a group that the U.S has been one of very few dissenting voices at recent FAO-sponsored international conference exploring the potentials of agroecology.

Perhaps the U.S. government, or agri-corporate lobbyists, see agroecology as a threat to their continued industrialization of global agriculture. Regardless, I believe U.S. farmers need to become more familiar with the concepts and principles of agroecology. Agroecology is not only a means of protecting or restoring food sovereignty to rural communities but is also a means of protecting the individual sovereignty of independent farmers. The agricultural economy of the

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U.S. is increasingly dominated and controlled by large multinational agribusiness corporations that have no compelling interest other than maximizing profits and economic growth.

First, agroecology applies the *science* of ecology to agriculture.<sup>ii</sup> Ecology is a study of the relationships of living organisms, including humans, with the other elements of their natural and social environment. There is a common phrase in ecology that relates directly to agroecology: “You can’t do just one thing.” The relationships in agroecosystems, such as those in the soil and among plants and animals, are incredibly complex. Everything is related, somehow and in some way, to everything else. Any one thing a farmer may do affects everything else on the farm—some in small ways and others in important ways. When farmers do one thing, they need to be aware of all of the other things that may be affected on their farm as a whole. The unintended consequences may appear either quickly or at some time in the distant future.

Agroecology also respects “the social ecology of place.” We humans are seen as members of the earth’s integrally connected ecosystem. The farmer is treated as a member of a farm’s agroecosystem and the relationship between a specific farm and specific farmer is critical to the farm’s success or failure. Equally important, farms are inherently interconnected with the specific communities and societies within which they function. The economic sustainability of a farm obviously is interdependent with the willingness and ability of people in its local community, or the larger society, to buy its agricultural products. Less appreciated, the quality of life of farmers and farm families are critically affected by their personal relationships with others in their communities—their sense of acceptance, belonging, and self-esteem.

Third, as a *social movement*, agroecology was a natural choice for the global “Food Sovereignty Movement.” Food Sovereignty proclaims “The right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems.”<sup>iii</sup> Agroecology is a science-based approach to “ecologically sound and sustainable farming methods” that can be used to produce “healthy and culturally appropriate foods” and to retain the rights of people “to define their own food and farming systems” that respect the “natural and social ecology of place.” Perhaps more acceptable and more relevant to farmers in the U.S., agroecology seems a natural choice for a science-based conceptual foundation for the *local food movement*, which could well evolve into a new post-industrial sustainable food system for America.

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<sup>i</sup> John Ikerd, *Family Farms of North America*, working paper number 152, December, 2016, Published by the Food and Agricultural Organization of the United Nations and International Policy Centre for Inclusive Growth of the United Nations Development Programme, [http://www.ipc-undp.org/pub/eng/WP152\\_Family\\_farms\\_of\\_North\\_America.pdf](http://www.ipc-undp.org/pub/eng/WP152_Family_farms_of_North_America.pdf).

<sup>ii</sup> Miguel Altieri, “Agroecology: principles and strategies for designing sustainable farming systems”, University of California, [http://www.agroeco.org/doc/new\\_docs/Agroeco\\_principles.pdf](http://www.agroeco.org/doc/new_docs/Agroeco_principles.pdf).

<sup>iii</sup> Nyelini Forum on Food Sovereignty, “Declaration of Nyelini,” February 27, 2007, <http://nyelini.org/spip.php?article290>.