composed of many, locally owned firms manifested higher levels of well-being than communities where the economic base was dominated by large, absentee-owned firms. Sociologists C. Wright Mills and Melville Ulmer discovered these patterns with regard to non-agriculturally related communities in three eastern states. Anthropologist Walter Goldschmidt found similar patterns of community well-being associated with agriculturally dependent communities in California, one surrounded by a diversity of smaller farms and the other surrounded by large-scale, corporately controlled farming enterprises.

This fundamental insight regarding the importance for community well-being of a diversified, local economic structure sets the direction for the rest of the argument regarding the capacity and value of civic agriculture. Pivotal to civic engagement is the role of an ‘economically independent middle class’ that provides leadership for a range of networked and collective community problem-solving and community-building activities. Examples of the products of independent farmers networking among themselves and with other community actors are discussed in Chapter 6 under such civic agriculture headings as specialized agricultural production districts, community-supported farming, restaurant agriculture, community gardens, urban agriculture, farmers’ markets, and farm-to-school programs.

What is the future for civic agriculture? Lyson is both realistic and optimistic. He recognizes that in its current state of development, civic agriculture does not represent a significant economic challenge to the conventional agricultural and food system. Given the power of its principles, he does envision a time, however, when forms of civic agriculture may generate sufficient economic and political power ‘to mute the more socially and environmentally destructive manifestations of the global marketplace’. This vision is grounded in a well-argued premise that civic agricultural enterprises can be significant participants in solving and community-building activities. Examples of the products of independent farmers networking among themselves and with other community actors are discussed in Chapter 6 under such civic agriculture headings as specialized agricultural production districts, community-supported farming, restaurant agriculture, community gardens, urban agriculture, farmers’ markets, and farm-to-school programs.

Keith Douglas Warner’s Agroecology in Action: Extending Alternative Agriculture through Social Networks reconciles two disparate fields—agroecological farm practices and appropriate support systems. He presents a social networking model for creating a more sustainable agriculture through new developments in agroecology. The author asserts that ‘[a]groecology cannot be transferred as a technological package. It can only be facilitated by social learning’ (p. 224). University professionals in many colleges of agriculture work in a system in which even the minimal type of outreach expressed through ‘technology transfer’ type extension has been eclipsed by agribusiness. But in the context of advocating an agri-food system that rejects agrichemicals, farm concentration and intensive monoculture row crops, Warner suggests we must also reject a top-down method of disseminating information. The adoption of agroecological practices is best encouraged by first-hand knowledge of neighboring farmers’ success with these strategies, which is why social learning is so essential to its facilitation. Warner describes this process in a series of case studies.

This work emphasizes speaking about agroecological practices to conventional farmers, not to the choir. It is a welcome approach, and difficult to find in work on alternative agriculture that has come out of California in recent years, much of which has a limited relevance due to that state’s favorable biophysical attributes and a cultural climate that is conducive to alternative agriculture. Warner accomplishes this broader relevancy by situating agroecology as a compilation of practices amenable to conventional agricultural structures, rather than as a complete and disparate sustainable system. He thus narrates the efforts of grape and almond growers in California, Wisconsin potato farmers, and their many allies who have developed networks sharing ecologically appropriate production practices as well as economically profitable approaches to branding those practices.

The first chapter posits healthy ecological systems as a public good. Warner draws from Rachel Carson’s Silent Spring as he briefly describes some of the harmful environmental impacts perpetrated by industrial agriculture. He then describes the potential and growing role of agroecology in ameliorating these harms. He introduces Science and Technology Studies (STS) and Bruno Latour’s ‘circulatory system of science as the basis for his own model of ‘interactions between components of a farming system and farm management decisions’. In Warner’s ‘agroecological partnership model’, all participants engage with all four loops of Latour’s system, including nature, scientific colleagues, clients and public representation. Collectively,
participants then translate their acquired knowledge for potential implementation by policy-makers.

The second and third chapters describe and criticize conventional agriculture and land-grant extension which supports it, and then contrast it with ‘alternative agricultural practices with an alternative extension model’ (p. 67). The BIOS model developed by Californian almond growers is posited as the first example-in-action of the agroecological partnership model, and Warner argues persuasively that it ‘reveals the imaginary that underlies how agroecology moves from theory into action’ (p. 87).

The fourth and fifth chapters introduce in more detail ‘The Partners’ and ‘The Practices’. Warner’s agroecological partnership models are made up of growers, extension personnel, and representatives from various science institutions, grower organizations, and public agencies. These individuals and groups ideally learn and share knowledge about the potential for the ecology of crops, insects, nutrients, water, soil and technologies to facilitate agricultural production and on-farm sustainability. Warner claims that ‘the agroecological partnership model is a socially created mental model, oppositional to mainstream agricultural science, guided by the belief that alternative agriculture is possible’ (p. 78). It seems then, there may be a gap between conventional partners and oppositional practices. The focus on integrating sustainable practices (cover crops and integrated pest management, for example) into conventional farms is welcome and important. But it may not be realistic to expect conventional farmers to become explicitly opposed to mainstream agricultural science. In the case studies presented, various individuals (sometimes growers, sometimes scientists) become interested in agroecological practices, and network with others to learn more. This does not seem to completely echo the ‘mental model’ described above. Rather, these networks evolve organically, as individuals become more engaged with each other and with knowledge about the potential of alternative farming practices. While a more uncompromising model of advocacy for agroecology has been an essential push for the development of sustainable farm practices, it is the inclusiveness of Warner’s partnership model that is the great strength of his research.

The sixth chapter (Agroecological networks in action) and seventh chapter (Circulating agroecology) present more examples of how these partners and practices come together to form partnerships and share knowledge. These networks have each developed engaging and innovative ways of interacting with and organizing relationships among land-grant universities, their scientists, extension professionals, growers and advocates. The acquisition, enrichment and distribution of knowledge about agroecological science is strengthened by the coupling of environmental and economic quality, argues Warner. Indeed, it seems logical that farmers (and others in these networks) are more enthusiastic about ecologically beneficial systems that are also economically viable. As argued in the final chapter, ‘Public mobilization’, the best size for the agroecological partnership model is regional—too small and the network lacks resources and influence, too large and the network lacks incentive. It is mid-sized farms and networks of farmers, researchers and facilitators, which are struggling to find a sustainable place in the economy and in the environment, and so are best suited to build and grow agroecological models.

Having established the potential for agroecological networks to transform less-dynamic scientific dissemination models as well as on-farm practices, Warner concludes with three policy recommendations. First, he asks the public to insist that ‘land-grant universities provide the kind of science to support the agro-environmental leadership that society needs’. Unfortunately, he envisions this as taking place in specific sustainable agriculture programs. It seems that agroecology could be advanced more effectively, if land-grant colleges were to support this kind of science in its mainstream agronomy departments. If agroecology is to displace input-intensive agriculture, it must not be relegated to an ‘alternative agriculture’ program—it must be central to the philosophy of the college. Warner’s final recommendations are that the federal crop subsidy program be replaced with ‘public support for land stewardship’ and that the U.S. Congress ‘create a comprehensive agro-environmental policy and fund agroecological initiatives’ (p. 232). These recommendations for increases in funding are partnered by an implicit suggestion that these types of programs replace traditional crop subsidies. Farm payments remain high because of public perception of the cultural, ecological and economic value of agriculture to the nation. Warner argues that an agroecological model fits this perception more appropriately than do the monoculture, chemical-intensive practices being funded today. Warner encourages the view that sharing agroecological wisdom is a public project that should be taken up by policymakers, farmers, researchers and consumers.

Alissa L. Meyer, *Department of Agricultural Economics and Rural Sociology*, 301 Armsby Building, The Pennsylvania State University, University Park, PA 16802, USA. doi:10.1017/S1742170508002317