

Community Effects of Industrialized Farming: An Update

Curtis W. Stofferahn, Professor Emeritus
Department of Sociology, University of North Dakota

I used the following electronic searches in my review of the literature: Google Scholar, Agricola, and the UND Chester Fritz Library Primo Library Search. I also reviewed the programs from the Rural Sociological Society Annual Meetings from 2005-2016. My search resulted in twenty articles from peer-reviewed journals, one summary of a PEW Charitable Trusts Study, one encyclopedia article, and one paper presented at the Rural Sociological Society meetings. I saved digital copies of all the articles to a file, and later printed all of them so that I could read them later.

From that number, I eliminated seven peer-reviewed articles and a symposium summary. These articles included one that I had included in a previous review as well as ones about the corporate farming debate, the health effects of CAFOs on neighbors in Germany, policies to promote multifunctional agriculture, civic agriculture in England, sustainable development of the agricultural bio-economy, agric-ecological systems in Australia, and a symposium summary comparing impacts of industrialized agriculture in Brazil and the United States.

After a quick perusal of the remaining fifteen articles, I classified them into three categories: community effects of industrialized agriculture (one peer-reviewed article and one paper), agriculture of the middle (encyclopedia article), effects of confined animal feeding systems (four peer-reviewed articles and one PEW report), and civic agriculture (five peer-reviewed articles).

After reading the articles, I found only the one by Welsh (2009)¹ to be somewhat related to the community effects of industrialized agriculture. Although the article did not deal with actual research on the impacts of industrialized agriculture, it proposed several conceptual and methodological issues that researchers should consider in future research. Welsh notes that:

“ . . . since Walter Goldschmidt’s original study was completed in the 1940s, the agricultural market and farming structures have changed dramatically. Market structure is now more differentiated than in previous decades. Vertical and horizontal integration, contract production, organic and other specialty markets, and direct marketing are examples of new marketing forms that have emerged over the past few decades. In addition, as farm and market structure have shifted, some states have enacted public policy to forestall negative outcomes related to the industrialization of agriculture. Previous studies which measured the effects on rural community welfare from the structure of the surrounding farming sector have been valuable contributions to the development of the sociology of agriculture and have led to increased understanding of agriculture and rural development. However, a new generation of studies should be undertaken to address the impacts of changing market structure as well as assess public policy attempts to mitigate negative impacts of agricultural industrialization.”

He suggests incorporating latent variables that combine several indicators, and that these latent variables be incorporated into a path analytical model. For instance, the latent variable of farm size should be composed of the sales, acres, and hired labor, community welfare should be composed of percent in poverty and per-capita income; and direct marketing should be comprised of direct sales and farmers’ markets. Furthermore, he suggests that market structure variables of contract production, organic production and direct marketing should be considered as intervening variables between farm size and community welfare, and that regional effects accounting for state’s policies including anti-corporate farming laws and laws protecting farmers’ collective bargaining rights also be included in the path model.

The paper presented at the 2009 Annual Meeting of the Rural Sociological Society had never been formally prepared as a paper, but the authors sent me the Power Point presentation.² The presentation contrasted farms of various sales categories regarding several issues to determine whether there were significant differences by farm size categories. There were no significant differences by farm size categories for most of these issues. Especially important for this review was that the four contrasts on community vitality were not significantly different by farm size categories. The authors speculated as to explanations for a lack of significant differences, and included among

their speculations was that it was difficult to detect subtle differences in attitudes, values, and beliefs using mail questionnaires; the orientation to industrialized, larger farms was so pervasive and accepted that no real substantive differences existed; the sample size did not have the complete spectrum farm structure represented, rather they were comparing farms within a narrow range; or the changes in the structure of agriculture had to be viewed in the context of changing rural culture that includes all forms of production and social organization (mass culture).

The agriculture of the middle encyclopedia article was not relevant to the literature review update because it primarily addressed how the disappearing middle (sales between \$40,000 and \$250,000) can endure through new business and marketing strategies, particularly those identified as “values-based” food supply chain; public policy changes; and research and education support.³ Interestingly, this article references Lobao and Stofferahn’s 2008 article in *Agriculture and Human Values*. More information about the Agriculture of the Middle Initiative can be found at <http://agofthemiddle.org/>

After reviewing the five articles about the effects of confined animal feeding systems, I concluded that they were not relevant to the literature review. The first one was a summary of the impacts of confined animal feeding systems (CAFOs) on the health rural communities and recommended policy changes to ensure that residents’ health was not impacted by CAFOs.⁴ The next article proposed novel methods to measure the impact of CAFOs on the health of rural community residents that combined objective and subjective measures, and it involved residents in the collection of the data.⁵ The PEW Charitable Trust report was a summary of the impacts of CAFOs on public health, the environment, animal welfare and rural communities.⁶ I was an external reviewer of this report before it was published in 2008.

The next article about CAFOs and their impacts on rural communities also was a review of methods of detecting hog odors among residents living near CAFOs while monitoring meteorological conditions.⁷ The last article examined how the changing industrial structure in animal agriculture in four US livestock sectors affected possibilities in each for promoting more sustainable practices. It was published in 2003, so it would have been considered in the first summary, but I could not recall if I had reviewed it or not.⁸

There were five peer-reviewed articles about civic agriculture, which was defined by Lyson (2004) as agricultural production and distribution methods that offer promise for reinvigorating social ties and a sense of community among producers and consumers.⁹ It includes locally oriented, small-scale agriculture enterprises that use more traditional farming methods, require knowledge of place, and involve the sharing of information among practitioners. The distribution of food produced from these enterprises involves farmers connecting with consumers through farmers markets, community supported agriculture (CSA) programs, pick-your-own operations, and food coops.¹⁰ While these articles are not directly relevant to the proposition that industrialized agriculture has adverse social impacts for rural communities, they demonstrate that a civic agriculture (the opposite of industrialized agriculture) has positive social consequences for those who are engaged in it, whether they be producers or consumers.

The first article examined CSAs as a form of ethical consumerism, and the research question was how it sustains itself in an increasingly competitive and corporate-dominated area of organic foods.¹¹ They found that CSAs work through a convergence of “economic, ideological, and cultural factors that leverage anti-globalization sentiments in ways that serve the economic interests of small farmers and that provide a marketplace resource for consumers to co-product feelings of enchantment”.

The next article compared the impacts of three components of civic agriculture on rural communities: four CSAs, a direct market organic farm, and four community gardens.¹² They found that different modes of local agricultural production have distinctive effects on the local population concerning equitable access to healthy food, social inclusion, and experiential knowledge of the natural world. They concluded that local food products should reduce the class-based disparities in inclusion in local agricultural participation.

The third article compared conventionalized organic farmers (in terms of organic and nonorganic sales, acreage, employees, membership and leadership in conventional agriculture organizations) with more civic agriculture oriented farmers (in terms of direct marketing, sustainable agriculture organization membership and leadership) on

measures of economic, social and environmental sustainability.¹³ His first hypothesis that the less conventionalized organic farms would contribute more to sustainable agriculture than would the more conventional organic farms was supported. The later appeared to have a negative effect on environmental stewardship and community vitality but a positive effect on individual financial security. The second hypothesis that the more civically-engaged organic farmers would contribute more to sustainable agriculture than the less civically-engaged organic farmers also was supported. The former civic activities (direct marketing and sustainable/organic agriculture organization membership) had a positive effect on both environmental stewardship and community vitality. While these results are interesting in that the more industrialized organic farmers scored lower on their perceptions of their contributions to environmental and community vitality, the research was primarily focused on individual, subjective measures of their contributions.

The fourth article examined how involvement by both producers and consumers in community-supported agriculture (CSAs) promoted the development of various community capitals.¹⁴ The researchers found that those who participated based on satisfying multiple capitals were more likely to maintain participation over time and were more satisfied with the experience. Producers and consumers, who defined the CSA experience as social and political, as well as economic, were more likely to maintain and expand their participation. Producers who started out in collaborative CSAs and defined their activities based on multiple capitals often used the experience as a business incubator to begin individual CSAs and to expand the variety of foods produced.

The last article examined the role of civic agriculture in promoting community engagement.¹⁵ The researchers surveyed 1300 civic agriculture participants as measured as CSA participants, farmers' markets patrons, and shoppers at independent health food stores. The results indicated higher levels of voluntarism and engagement in local politics among civic agriculture participants compared to the general population. They also found variation among those engaged in various forms of civic agriculture with those who were engaged in more socially-embedded forms of exchange with the later exhibiting greater community and political involvement.

In summary, in my review of the literature, using various electronic searches, I found only one article that was indirectly related to the topic of the impact of industrialized agriculture on rural communities, and that article only dealt with conceptual and methodological issues that should be considered in future research. One group of articles reviewed indicated that civic agriculture (the opposite of industrialized agriculture) has positive social consequences for those consumers and producers who are engaged in it.

¹ Welsh, Rick, 2009, *Farm and market structure, industrial regulation and rural community welfare: conceptual and methodological issues*, *Agriculture and Human Values*, 26:21–28.

² Korsching, Peter, Paul Lasley, J. Arbuckle, and Chris Kast. 2009, *Farm size and farmers' support of the local community: Is Goldschmidt relevant to the 21st Century Midwest agriculture? Paper presented at the 2009 Rural Sociological Society meetings, Madison, Wisc.*

³ Stevenson, George W., Kate Clancy, Fred Kirschenmann, Kathryn Ruhf, *Agriculture of the Middle*, 2014, in Thompson, PB and DK Kaplan (eds.) *Encyclopedia of Food and Agricultural Ethics*, Springer Science +Business Media, Dordrecht, Netherlands.

⁴ Donham, Kelley J., Steven Wing, David Osterberg, Jan L. Flora, Carol Hodne, Kendall M. Thu and Peter S. Thorne, 2007, *Community health and socioeconomic issues surrounding concentrated animal feeding operations*. *Environmental Health Perspectives*, (115)(2): 317-320.

⁵ Wing, Steven, Rachel A. Horton, Naeema Muhammad, Gary Grant, Mansoureh T, Kendall Thu, 2008, *Integrating epidemiology, education and organizing for environmental justice: community health effects of industrial hog operations*, *American Journal of Public Health*, 98 (8),1390-1397.

⁶ *The Pew Charitable Trusts and Johns Hopkins Bloomberg School of Public Health, 2008, Putting Meat on the Table: Industrial Farm Animal Production in America: A project of the Pew Commission on Industrial Farm Animal Production.*

⁷ Wing, Steven, Rachel A. Horton, Stephen W. Marshall, Kendall Thus, Mansoureh Tajik, Leah Schinasi, and Susan S. Schifman, 2008, *Air pollution and odor in communities near industrial swine operations*, *Environmental Health Perspectives* (116)(10): 1362-1368.

⁸ Hinrichs, C. Claire and Rick Welsh, 2003, *The effects of the industrialization of US livestock agriculture on promoting sustainable production practices*, *Agriculture and Human Values*, 20: 125-141.

⁹ Lyson, T.A., 2004, *Civic agriculture: Reconnecting farm, food and community*. Medford, MA: Tufts University Press.

¹⁰ Obach, Brian K. and Kathleen Tobin, 2014, *Civic agriculture and community engagement*. *Agriculture and Human Values*, 31: 307-322.

¹¹ Thompson, Craig J, and Gokchen Conskuner-Balli, 2007, *Enchanting ethical consumerism: the case for community supported agriculture*. *Journal of Consumer Culture*, 7(3): 275-303.

¹² Macias, Thomas, 2008, *Working toward a just, equitable, and local food system: the social impact of community-based agriculture*. *Social Science Quarterly* (89) (5): 1086-1101.

¹³ Goldberger, Jessica R., 2011, *Conventionalization, civic engagement and the sustainability of organic agriculture*. *Journal of Rural Studies*, (27):288-296.

¹⁴ Flora, Cornelia B., and Bregendahl, Corene, 2012, *Collaborative community-supported agriculture: balancing community capitals for producers and consumers*. *International Journal of Agriculture and Food*, (19)(2): 329-346.

¹⁵ Obach, Brian K. and Kathleen Tobin, 2014, *Civic agriculture and community engagement*. *Agriculture and Human Values*, 31: 307-322.