

Journal of Agriculture, Food Systems, and Community Development

Volume 5, Issue 3
Spring 2015



www.AgDevJournal.com
ISSN 2152-0801 (online only)

Published by the Thomas A. Lyson Center for Civic Agriculture and Food Systems with the support of:



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The *Journal of Agriculture, Food Systems, and Community Development*, ISSN 2152-0801 (online only), is published quarterly (Summer, Fall, Winter, Spring) by the Thomas A. Lyson Center for Civic Agriculture and Food Systems, a project of the Center for Transformative Action (an affiliate of Cornell University). Journal office: 295 Hook Place, Ithaca, NY 14850 USA.

Online subscriptions: Farmer/Student/Sole Proprietor/Retiree: US\$39; Agency/Nonprofit Staffperson: US\$49; Faculty/Consultant/Corporate Employee: US\$69; Institutional Library: US\$227–US\$658 (based on FTE students).

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On the cover: A father and son examine the harvest in the pick-your-own fields of Simple Gifts Farm CSA in Amherst, Massachusetts USA. The community supported agriculture (CSA) operation began in 2006 when neighbors formed a land trust called North Amherst Community Farm and saved the historic family farm from development. The easily accessible 30-acre (12-ha) community-owned farm now welcomes the public and is within 2 miles (3.2 km) of the town center and 10,000 residents. See *The Branding of Community Supported Agriculture: Collective Myths and Opportunities* in this issue. (Photo by Ted A. White; used with permission)



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IN THIS ISSUE

DUNCAN L. HILCHEY

Advancing the right to food



Published online June 20, 2015

Citation: Hilchey, D. L. (2015). Advancing the right to food [Editorial]. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 1–2. <http://dx.doi.org/10.5304/jafscd.2015.053.014>

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I just returned from the University of Vermont’s fourth annual Food Systems Summit, entitled *The Right to Food: Power, Policy, and Politics in the 21st Century*. The right to food is often misunderstood as meaning that a government has the obligation to feed its people. Instead, in our capitalism-based world it is the right of people to have unfettered access to food, and more specifically to feed themselves. Three remarkable keynote speakers hammered this point home.

Lawyer, activist, and human rights expert Smita Narula delved deep into the conference theme by speaking to the foundation for considering food as a human right while noting that the U.S. has dragged its feet on this issue, making more advances in civil and political rights than in economic and social rights that include the right to food. Berkeley conservation biologist Claire Kremen made the case for agroecology as a commonsense response to Earth’s biophysical constraints to the right to food. And *Stuffed and Starved* author Raj Patel suggested why the medicalization of food by adding vitamins (“nutritionism”) is not the route to solving the issue of widespread hunger.

From additional panel speakers we heard about New England’s lofty goal of supplying 50% of its own food by 2060; case studies of agroecology projects and working with smallholder farmers in Central America to adjust to climate change; and a remarkable program run by Vermont Youth Conservation Corps called the Health Care Share that includes a CSA operated with paid youth trainees in which shares are actually prescribed—and are free of charge—to limited-resource patients who have health issues related to weight and nutrition (see <http://www.farmatvycc.org/>). The patients pick up their shares at their doctor’s offices. While the long-term financial model for supporting this innovative approach to addressing two community issues (youth work development and health) will be an issue, this kind of multisectoral problem-solving offers a welcome and fresh example.

But one of the most powerful moments for me actually happened the evening before the conference, when organizers hosted a dinner gathering at the Intervale Center in Burlington. It was at this event that I

met several very thoughtful and eager law students and young attorneys who were participating in the conference, since the Vermont Law School was cosponsoring this year's Food Systems Summit.

As we ate dinner together and chatted about issues it occurred to me how the right to food will require their guidance and perhaps activism to move forward. Furthermore, it dawned on me how attorneys and legal experts are needed now and will be needed as time goes on in related food systems work: land use, farmland protection, alternative land ownership arrangements, labeling, place branding, food systems labor negotiations, international food treaties, trade negotiations, interstate commerce law, right-to-farm law and farm-neighbor relations, environmental regulation, food product liability, and minimizing litigation in all of the above through mitigation and mediation. With its Center for Agriculture and Food Systems, the Vermont Law School is now one of the leading institutions with a focus on legal aspects of food systems, and it is exciting to think we'll soon have a cadre of attorneys who will be able to put their shoulders to the wheel of the food movement.

I like to think JAFSCD covers many of the topics discussed at the UVM Food Systems Summit. In this open call issue, we begin with a focus on economics. Two of our columnists focused on topics at the core of their respective wheelhouses. In his "Metrics from the Field" column, **Ken Meter** introduces *Two New Tools for Measuring Economic Impacts*, and in his inimitable fashion our Economic Pamphleteer **John Ikerd** addresses the question, *Can Small Farms Be Sustained Economically?*

The first paper in this issue, published through JAFSD Open Choice (publicly available), is by **Danielle Lake, Lisa Sisson, and Lara Jaskiewicz** and entitled *Local Food Innovation in a World of Wicked Problems: The Pitfalls and the Potential*. In it the authors examine how an urban food project's ability to play a social "bridging" role in the community is hampered by a top-down development approach—and yet exhibits potential.

Next we offer a coincidental triptych of papers on community supported agriculture. In *Defining the "C" in Community Supported Agriculture*, **Jennifer Haney, Michael Ferguson, Elyzabeth Engle, Kathleen Wood, Kyle Olcott, A. E. Luloff, and James Finley** ask operators and members of four CSAs about what community means to them and find some interesting differences in perception that can be valuable to CSA operators and supporters who are trying to manage member turnover.

Ted White takes a candid look at the image and the realities of CSAs and offers constructive criticism in *The Branding of Community Supported Agriculture: Collective Myths and Opportunities*.

In the third CSA-related paper, entitled *From Bread We Build Community: Entrepreneurial Leadership and the Co-creation of Local Food Businesses and Systems*, **Matthew M. Mars** offers an in-depth case study of a community supported baker whose entrepreneurial leadership has served the local food community well through collaboration beyond the baking business.

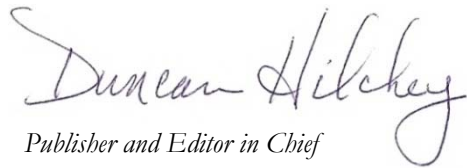
Next, **Sherrie K. Godette, Kathi Beratan, and Branda Nowell** find that formulaic approaches to food systems work are likely to struggle in *Barriers and Facilitators to Local Food Market Development: A Contingency Perspective*.

Building the Capacity for Community Food Work: The Geographic Distribution of USDA Community Food Projects Competitive Grant Program Grantees, by **Keiko Tanaka, Erica Indiano, Graham Soley, and Patrick H. Mooney**, shows that the U.S. Southeast region is not as competitive in securing its share of CFP grant funds as other regions and suggests ways to remedy the problem.

Also focused on the Southeast, **Libby Christensen and Rita O'Sullivan** apply social network analysis to food systems work in North Carolina as a way to model trends in collaboration, in *Using Social Network Analysis to Measure Changes in Regional Food Systems Collaboration: A Methodological Framework*.

Our final paper of this issue is the *Potential of Local Food Use in the Ohio Health Care Industry: An Exploratory Study*, by **Brian Raison and Scott Scheer**, who identified the key factors that inform hospital foodservice directors' decisions to purchase more local food.

Wrapping up this issue are three book reviews relevant to the global right to food movement. **Angela Gordon Glore** reviews *Sustainable [R]Evolution: Permaculture in Ecovillages, Urban Farms, and Communities Worldwide*, edited by Juliana Birnbaum and Louis Fox. **Matt Hess** reviews *The Third Plate: Field Notes on the Future of Food*, by Dan Barber. Returning to the critical role played by the law in food system innovation, **Rachel Pilloff** reviews *The Intellectual Property and Food Project: From Rewarding Innovation and Creation to Feeding the World*, edited by Charles Lawson and Jay Sanderson.


Publisher and Editor in Chief



METRICS FROM THE FIELD

Blending insights from research with insights from practice

KEN METER

Two new tools for measuring economic impacts

Submitted May 11, 2015 / Published online June 3, 2015

Citation: Meter, K. (2015). Two new tools for measuring economic impacts.
Journal of Agriculture, Food Systems, and Community Development, 5(3), 5–7.
<http://dx.doi.org/10.5304/jafscd.2015.053.010>

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Two new publications are appearing this year that should help shed new light on the ongoing discussion of how we measure the economic impacts of community-based foods initiatives. One offers critical insight, while the second is a very practical guide to compiling an economic case for local foods work. I've helped write both.

The critical analysis is an outgrowth of a column I wrote for this journal in January 2011 (Meter, 2011) in which I discussed economic multipliers. I argued that economic impact analyses

often are not as useful as they are perceived to be, because the data used in calculating impacts is not as precise as users think it is. Moreover, I found that many local foods initiatives do not lend themselves to analysis through the industry standard software, IMPLAN, because local foods activity is relatively small in comparison with the scale of the databases that the software relies upon. While IMPLAN can be a powerful tool when used in the right manner, I argued that in their early stages for many community foods efforts, measuring the multiplier is not the best use of one's money. Rather, building new social and commercial linkages, and deepening established ones, within the community will help build the multiplier—which after all is one of the ultimate goals of community-based food activity. This might be a higher priority than generating a multiplier measurement.

My co-worker, Megan Phillips Goldenberg, had similar musings when she was in graduate school. She had begun to write a thesis on economic impact analysis. Ultimately she changed the

Ken Meter is one of the most experienced food system analysts in the U.S., integrating market analysis, business development, systems thinking, and social concerns. In addition to serving on the teams that produced the reports mentioned here, Meter is actively evaluating farm-to-school purchasing in South Carolina and Indiana, and continues to work with regions and state governments to assess food systems and the feasibility of proposed new food businesses and business clusters.

focus of her formal paper, but postgraduation she was looking for a chance to return to this work. An opportunity arose for us to pursue this discussion thanks to the Centers for Disease Control and Prevention (CDC), which had allocated funds to the Illinois Public Health Institute (IPHI) to explore ways of measuring the economic and health impacts of institutional purchases of local foods.

Megan dusted off her files and set to work revisiting the literature. Her analysis was lucid. I wove in several insights from sources I knew as well as my own practical experiences. Our report, *Critical Examination of Economic Impact Methodologies* (Meter & Goldenberg, 2015) appeared earlier this year. This is essentially a deeper dive into the material I addressed in my column, but rich with sources. Our work brings significant new insights. We propose that since the economic multiplier is a measure of community linkages, with the more highly linked communities achieving higher multipliers, it would be useful to measure the strength of social and commercial networks, especially in the early stages of local foods activity. We sketch out some ways in which these networks could be roughly quantified. It would not yield precise counts, but it seems likely to produce more useful and more honest information.

Our analysis seems to be congruent with the experience of many of our community partners. As part of the IPHI project, Megan and I also helped interview practitioners in five communities where institutions had purchased food from local farmers. They all said the core of their work was building strong, trusting relationships with community partners. These networks encompassed far more than commercial exchange. The connections they had forged helped build trust, allowed more creative responses to flourish (particularly in difficult times), and helped build a foundation of community support for all the partners involved (Lynch, Meter, Robles-Schrader, Goldenberg, Bassler,

Chusid, & Jansen Austin, 2015). The five case studies in this report revealed unique dynamics in each of the diverse locales, which included San Diego, California; southwest Wisconsin; southern Arizona; Vermont; and Louisville, Kentucky.

The second recent publication is a practical guide for performing economic impact analysis. The USDA's *Economic Impacts of Local and Regional Food Systems Toolkit* is still under development, but you can find early materials at <http://www.localfoodeconomics.com>. It will be released by its sponsor, the USDA Agricultural Marketing Service (AMS), later this year. In the process of developing this toolkit Megan and I were privileged to join a team that included some of the most seasoned practitioners in the nation.

The toolkit offers guidance on all the steps required to perform economic impact analysis, from framing a food assessment or economic impact study in its first stages, to compiling an overview of a given region by using publicly available data sets, to generating original data, to analyzing these findings and fashioning a narrative that inspires appropriate action. For those who want to dive deeply,

the toolkit offers suggestions for how to work with a professional expert to perform an input/output analysis using software such as IMPLAN. The toolkit further shows how the basic IMPLAN approach may be refined in two significant ways: First, it can be modified to take into account opportunity costs—the fact that increased spending to buy locally produced food may take business away from existing suppliers who source food from a distance. Second, the toolkit outlines a method for inserting customized data sets into the software's databases in order to provide a more nuanced rendering of the local economy. Inserting such data is complex and requires considerable skill.

The drafting of the toolkit was coordinated by Dawn Thilmany McFadden of Colorado State University, working closely with AMS. The project

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advances a discussion that had been launched at a 2014 meeting convened by AMS along with the Union of Concerned Scientists and Michigan State University. We hope that future iterations of the toolkit will be made and that the process will help convene a community of practitioners who will refine these practices over time.

Drawing from the two publications, here are my thoughts on when IMPLAN is most useful:


- when estimating the impact of a revenue shift (in or out) that is significant in comparison with the regional economy that is being modeled. For example, Minnesota farmers currently sell about US\$20 billion of products per year; it would require a US\$200 million shift in sales to realize a 1% shift in cash receipts if one is modeling at the state level;
- when modeling the impact of changes in established large firms or industries that are well represented by databases used in the IMPLAN software platform;
- when modeling the impact of one specific revenue shift over a time frame of a year or less, so that prevailing business networks are not substantially altered; and/or
- when solid data and expert professional help are available to insert tailored data sets into the databases provided by IMPLAN, in order to more closely reflect local commerce.

IMPLAN seems less useful in the following cases:

- when attempting to estimate the impact of a new small industry entering a very large economy—say, a US\$250,000 shift in sales in a multibillion dollar food system;
- when projecting the impacts of major changes (such as a proposed 20% shift in spending that is likely to require a change in infrastructure, or radically alter the patterns of commerce, so that conditions are no longer adequately represented by the

databases provided by the modeling software);

- when projecting the impacts of long-term economic changes;
- in situations where conditions are rapidly changing, for example when there are a large number of new firms emerging that trade in local foods, or when prices are fluctuating; and/or
- when workers or natural resource inputs (such as available farmland or clean water) are not available to actually support the operation of a new business venture.

IMPLAN and other input/output software hold many uses in addition to calculating multipliers. I've seen them used well, and I've seen them used in questionable ways. Those who commission or perform such studies should enter the process with care. It is hoped that these two tools will offer useful insights to those who attempt to measure economic impacts. 

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THE ECONOMIC PAMPHLETEER JOHN IKERD

Can small farms be sustained economically?

Published online April 29, 2015

Citation: Ikerd, J. (2015). Can small farms be sustained economically? *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 9–11. <http://dx.doi.org/10.5304/jafscd.2015.053.001>

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Are small farms economically sustainable? Not according to a recent opinion piece in the *New York Times* written by Bren Smith, a small-scale farmer: “The dirty secret of the food movement is that the much-celebrated small-scale farmer isn’t making a living. After the tools are put away, we head out to second and third jobs to keep our farms afloat...Health care, paying for our kids’

college, preparing for retirement? Not happening” (Smith, 2014, para. 2).

Another widely shared opinion piece by a small-scale farmer, Jaclyn Moyer, began: “People say we’re ‘rich in other ways,’ but that doesn’t fix the ugly fact that most farms are unsustainable” (Moyer, 2015, para. 1). Jaclyn was asked by a student if her farm was sustainable. She replied that

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Why did I name my column “The Economic Pamphleteer”? Pamphlets historically were short, thoughtfully written opinion pieces and were at the center of every revolution in western history. Current ways of economic thinking aren’t working and aren’t going to work in the future. Nowhere are the negative consequences more apparent than in foods, farms, and communities. I know where today’s economists are coming from; I have been there. I spent the first half of my 30-year academic career as a very conventional free-market, bottom-line agricultural economist. I eventually became convinced that the economics I had been taught and was teaching wasn’t good for farmers, wasn’t good for rural communities, and didn’t even produce food that was good for people. I have spent the 25 years since learning and teaching the principles of a new economics of sustainability. Hopefully my “pamphlets” will help spark a revolution in economic thinking.

her farm was certified organic and conserved water, but later reflected: “I didn’t think my farm was sustainable. Like all the other farms I knew, my farm relied on uncompensated labor and self-exploitation...I knew the years my partner and I could continue to work without a viable income were numbered” (Moyer, 2015, para. 22).

Both Smith and Moyer were distressed by how much work was required for the small amount of money they were able to earn on their small-scale farms. They both claim that few farmers they know are able to make what they consider an acceptable income farming. However, many non-farm couples both work long hours at good-paying jobs and are barely able to make ends meet. It takes all of their time and energy to earn enough money to support their chosen lifestyle—much like many farm couples. What matters is whether such couples are able to pursue their chosen way of life, not how much money they earn and spend in the process.

There is a fundamental difference between a farm being “economically sustainable” and being the most profitable use of one’s time, energy, and money. As I consistently advise would-be farmers, “If your primary interest is making money, you shouldn’t even consider farming as an occupation.” I believe “sustainable farming” is one of the most demanding occupations a person can choose. Many other occupations promise greater economic returns with far fewer physical and intellectual challenges. The challenges of small, sustainable farms are made more difficult by government programs that subsidize large, industrial farms, while allowing them to *externalize* their social and environmental costs. Unless they truly believe that farming is their “calling,” I advise would-be farmers to choose other occupations.

For those who feel that their purpose for being is to be a sustainable farmer, I am confident they can find ways to sustain even a small farm economically. First, they must understand that sustainable farming is not just a job; it is a profession.

It requires years of education, learning, and experience to farm successfully—like many other professions. It’s just not a high-paid profession, much like other “helping” professions, such as teaching, the ministry, or public service. Few people in such professions work from nine to five or leave their jobs at the office.

Still, making a decent living is a prerequisite for sustainable farming. Moyer defined “making a living” as weekly earnings equal to a full-time, minimum-wage job, with no unpaid family or volunteer labor and no off-farm income subsidizing the farm. However, these conditions describe a low-paying

job rather than a profession. A profession is an inseparable aspect of life—as much a matter of who we are as what we do for a living. We shouldn’t expect to be compensated economically for everything we do for the good of humanity. The rewards of a purposeful life extend far beyond economic remuneration.

As Smith and Moyer point out, most farm families—regardless of size or sustainability—do not depend on their farming operations for a

significant portion of their incomes. However, few non-farm families in the U.S. are able to support their chosen lifestyles with a single source of income, more than three out of four being dual wage-earner families (Clay, 2005). For many small farmers, their farm simply provides a good place to live and farming a good way to spend their discretionary time. They make their economic living elsewhere. Many small farms show losses year after year—and still continue to be farmed. These farmers obviously have good non-economic reasons for farming.

That said, many sustainable farmers do make a good living farming, and others certainly can logically aspire to do likewise. Lynn Byczynski, editor of *Growing for Market* magazine, probably has gleaned as much information about the economics of small-scale farming as anyone in the U.S. She has found a wide range of incomes: “At one end of

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the scale are growers who pay themselves the same wages as their employees, sometimes as little as minimum wage. At the other end of the scale are people who net [US]\$100,000 or more per year—but often that represents the work of both spouses, so the per-person income in even the high-end situations is modest, though certainly adequate” (Byczynski, 2013, para. 5).

With respect to part-time small farms, Byczynski (2013) writes that annual sales from market gardens with less than 3 acres (1.2 hectares) typically range from US\$20,000 per acre for mixed vegetables to US\$35,000 an acre or more for high-value salad mix, herbs, or cut flowers. Profit margins on such operations consistently run at about 50 to 60 percent of total sales (Byczynski, 2013). Farmers at this scale rarely hire labor, preferring to do the work themselves. This is not a bad part-time occupation—particularly if farming makes the non-farm job bearable.

For those who feel “called” to be full-time farmers, even a small farm can be sustained economically. For example, Jean-Martin and Maude-Hélène Fortier, a couple in Quebec, Canada, have been able to make a living farming 1.5 acre (0.6 hectare). Their gross revenue for 2013 was C\$140,000 (all data in this paragraph from Taggart, 2014). Sales from a 140-member community supported agriculture operation (CSA) accounted for 60 percent of gross income; sales at farmers market for 30 percent; and sales to restaurants and grocery stores for 10 percent. Farm expenses included two paid employees. Total expenses for 2013 were C\$75,000, leaving a 2013 profit of C\$65,000 to compensate the Fortiers. Both work on the farm, but they have two children and claim they have plenty of time for recreation. Currency exchange rates and differences in costs of living

between the U.S. and Canada complicate comparisons, but the Fortiers seem well satisfied with their way of life.

I talk with many young farmers who don’t want jobs in the corporate world or in industrial agriculture, no matter how much such jobs might pay. They are able to make enough money to continue farming and are happy to be ‘rich in other ways.’ To them, farming may be challenging, but it is not drudgery; it is an opportunity to live a purposeful, meaningful life. Farmers who have lost this kind of passion

for farming, or never had it, probably should choose a different profession.



**For those who feel “called”
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Local food innovation in a world of wicked problems: The pitfalls and the potential

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Submitted September 29, 2014 / Revised December 11, 2014, and January 27, 2015 / Accepted
January 27, 2015 / Published online April 29, 2015

Citation: Lake, D., Sisson, L., & Jaskiewicz, L. (2015). Local food innovation in a world of wicked problems: The pitfalls and the potential. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 13–26. <http://dx.doi.org/10.5304/jafscd.2015.053.002>

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Abstract

Food-oriented markets, such as food innovation districts (FIDs), have been touted as potential methods to address complex societal issues involving the environment, poverty, and health. On this front the Grand Rapids Downtown Market (DTM) was created in 2013, envisioned as a vibrant public space for local food, entrepreneurship, community health, and jobs. An innovative, *collective* response to the interconnected and urgent problems of poverty, access, health, diet, and environment, the DTM can serve as a case study

through which the value and necessity of a wicked problems framework become apparent. Wicked problems literature demonstrates that collaborative and iterative processes are essential to effective and inclusive transformational change of food systems, while also emphasizing that there can be no final, ideal solution. On the other hand, as an FID intentionally located in a low-income neighborhood, the DTM has been subject to criticism about top-down, expensive, and exclusionary practices aimed at gentrification. In the end, this analysis suggests that while FIDs can address local problems resulting from dominant food systems and practices, they can also function as a gentrifying force. Efforts more directly aimed at bottom-up, participatory engagement are essential to making collectively systemic, equitable changes in current food systems and practices. Emphasizing the need for bridge institutions, we argue that it is essential to value actively a wider array of knowledge cultures.

Keywords

wicked problems, food innovation district, food access, gentrification, food systems, food hub

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Introduction and Purpose

Place-based institutions designed to encourage the production, aggregation, and sale of local foods have become increasingly popular as a means of addressing the widespread and interconnected problems of poverty, health, diet, and environment. Food hubs, food innovation districts, and farmers' markets are prime examples of local food outlets that have the potential to bring together diverse people, expand community interactions, promote economic development, improve access to local and healthy food, provide new outlets for small farmers, and enhance sustainable food systems (Hodgson, 2012; PolicyLink, 2014). However, there is some evidence that food-oriented markets can also serve as a mechanism for neighborhood gentrification (Gonzalez & Waley, 2013).

Grand Rapids, Michigan, is the location for one such recently created organization: the Downtown Market (<http://www.downtownmarketgr.com>). The privately funded nonprofit Grand Action Foundation invested US\$30 million to open this year-round indoor public market and seasonal outdoor farmers' market in 2013 (Krietz, 2013). One of its primary goals was to become a center of local food excitement through a mixed-use concept integrating (1) facilities for food production and retailing, (2) new product development, (3) food and nutrition education, and (4) greenhouse and event space. As a food innovation district, the DTM focuses on processing, distribution, and collaboration, seeking to provide easy access, opportunity, and viability for small producers (Dansby, Grennell, Leppek, McNaughton, Phillips, Sieloff, & Wilke, 2012). Hailed as a dynamic civic space for local food, entrepreneurship, community health, and jobs, the DTM can be viewed as an innovative, collective response to the interconnected and long-term problems of poverty, access, health, diet, and environment, among many others. As a food innovation district intentionally located in a low-income neighborhood, the DTM has been subject to criticism about top-down, expensive, and exclusionary practices that tend to gentrify the neighborhood. Examining the DTM

through the lens of literature on wicked problems (WP) illuminates a number of issues with which the DTM has struggled, as well as its potential to operate as an effective "bridge" institution.¹ The WP framework is additionally valuable since it can broaden the scope of new initiatives that might otherwise become a force for gentrification.

The Development of the Downtown Market

The DTM is a "food innovation district" (FID), defined by Dansby et al. (2012) as an entity bringing together communities, local food producers, and other value-added activities meant to provide healthy food options and civic engagement activities for residents. Such offerings promote local food systems for economic development by agglomerating small growers, producers, wholesalers, and retailers in single-unit or close geographical venues. Food innovation districts are intended to spur job growth, increase healthy food options, and create a "sense of place" with a focus on improving the quality of life for surrounding residents (Cantrell, Colasanti, Goddeeris, Lucas, McCauley, & Michigan State University Urban Planning Practicum 2012, 2013, p. 2). Along with similar innovative local food outlets, the goals of FIDs are to change local food systems so they are more equitable (PolicyLink, 2014, p. 1).

During the planning phase for the DTM, 20 downtown sites were examined as possible venues. The site ultimately chosen was selected because of (1) its highway visibility; (2) the availability of on-site parking; (3) easy access via car, bus, foot, and bicycle; (4) its interesting architecture and adaptive reuse of current structures; (5) the availability of adjacent properties for redevelopment; (6) its ability to further support existing investments in the area by nonprofits; and (7) the potential to extend the "downtown" area (Market Ventures, Inc., 2010). The site was also affordable: the Grand Rapids Downtown Development Authority is leasing it for one dollar a year. In listing the advantages of the location, the developers highlighted a few challenges, noting that the area was perceived both as unsafe and on the periphery of the downtown

¹ Bridge institutions intentionally seek to collaborate with other interested stakeholders, including the surrounding

community, various kinds of experts, and other organizations involved in the issue (Lake, 2014).

area. This assessment demonstrates the care with which planning took place; for instance, there was consideration of both a long list of alternative sites as well as the project's potential broader impact on the area. The assessment additionally recognized the inherent trade-offs involved in placing the market in different locations.

Research on the surrounding area indicated that with supporting infrastructure the market could be a successful venture. A feasibility study conducted by Market Ventures, Inc., of Portland, Maine, found that there are 12,200 farms in the 11 counties surrounding Grand Rapids, with US\$2 billion in revenue annually (Schneider, 2012). This finding, along with indications of high consumer demand and the potential for positive economic impact (US\$25 million in sales annually were predicted) supported Grand Action's decision to build the DTM. The study also indicated that the DTM would generate 1,270 jobs and have US\$775 million in regional impact within its first 10 years (Market Ventures, Inc., 2010).

The first floor of the indoor market, with 25,000 square feet (2,323 square meters), has room for up to 24 year-round vendors, a brew pub or wine bar, and a farm-to-table restaurant (Harger, 2012). As of December 2014, most of the indoor vendor spaces were filled. The vendors sell a variety of items, including gourmet popcorn, olive oils, wine, cheese, fruit and vegetables, smoothies, gourmet seasonings and herbs, preserves, pasta and sauces, gourmet coffee, handmade ice-cream, flowers, and baked goods. Among the vendors there are a fishmonger, butcher, artisan bread-maker, and chocolatier (Harger, 2013). The second floor contains a banquet room with a demonstration kitchen, three greenhouses, a children's teaching kitchen (which includes equipment stations on hydraulic lifts), commercial incubator kitchens, an educational space for commercial lease, and a green roof. It also includes an outdoor terrace with seating, two rentable meeting rooms with state-of-the-art conference equipment, administrative offices, and restrooms. The third floor has 9,000 square feet (836 square meters) of commercial lease and/or banquet space. The DTM regularly holds culinary demonstrations, date nights, and similar events in order to promote opportunities for

engagement, draw customers to the DTM for education, and increase sales.

The outdoor market, with room for 52 vendors, consisting of "local and regional farmers, growers, producers and food artisans" under the shed roof (Downtown Market Grand Rapids, n.d.a, para. 1) is open for three to five hours three days a week during summer months, with decreased hours in spring and fall. DTM vendors accept multiple forms of food assistance, including Supplemental Nutrition Assistance Program benefits (SNAP), Double Up Food Bucks (a purchasing incentive program making available Michigan-grown fresh produce for SNAP-eligible participants [Double Up Food Bucks, 2014]), as well as WIC and Senior Farmers' Market Nutrition Program coupons.

As research indicated, the potential for economic and social change within the geographic boundaries of the market is clear. Indeed, a 2012 *New York Times* article touting the future achievements of the DTM argued that no other small cities in the Midwest have been as successful in revitalization as Grand Rapids. The city's success can be attributed to its "distinctive partnerships formed between this city's redevelopment agencies and wealthy industrialists and philanthropists" (Schneider, 2012). The following analysis of the DTM as a new food innovation district provides a useful case study about the potential for such institutions to operate as exclusionary and gentrifying forces as well as the opportunities they have to support the community and promote greater equity.

A Wicked Problems Case Study

A Holistic, Single-Case Design

This case study analyzes the Grand Rapids Downtown Market using a holistic, single-case design (Yin, 2012) and a wicked problems framework. The authors collected a wide array of information on the DTM through documents, interviews, and participant observation.

Documents included reports, news articles, and the DTM's official website as resources for historical and current plans and efforts. The interviews were unstructured, resulting from

anecdotal discussions during participation in community meetings, visits to the DTM, and conversations with community stakeholders. Interviews occurred during the development of the DTM in January 2014 and continued through summer 2014. Following discussion with community residents, comments were recorded through written documentation by L. Sisson. Participant observation included attendance at meetings related to the development of the DTM, visits to the DTM, and attendance at community meetings. In addition, the authors bring a host of interdisciplinary insights to bear on the analysis of the DTM through a diverse set of qualifications, which include expertise in wicked problems literature, nutrition, systems thinking, democratic deliberation, facilitation, and sustainability, as well as equity and food access. This study was determined not to be human subject research by the Grand Valley State University human research review committee.

A Wicked Problems Framework

The developers of the Downtown Market set lofty goals to address such problems as revitalizing a neglected downtown neighborhood (frequently seen as an effort that results in gentrification) and improving the local food environment; as such, their efforts can be analyzed through the wicked problems (WP) framework. This framework is valuable because it supports a comprehensive

Table 1. Comparative Indications of Simpler and Wicked Problems^a

Simpler Problems	Wicked Problems
Manageable complexity	Extreme complexity
Clearly defined problem	Messy, interconnected set of problems
Low stakes and/or low risk	High stakes and/or high risk
Relative certainty and consistency	High levels of uncertainty and variability
Agreement likely	Conflicts in values
Little need to consult others	Isolation between stakeholders
Appeal to expert for solution	Expertise is not enough
Ideal win-win possible	Ideal resolution unlikely

^a Freeman (2000) uses a similar framework in order to highlight how our water policy problems are wicked, requiring better collaboration across disciplinary expertise, policy arenas, and the local public, as well as integration of separate knowledge structures (p. 483). He argues that effective public water policy requires we do more to hold one another accountable, integrate our knowledge, and empower the public (p. 490). Similarly, planning for public forests has been characterized as wicked; indeed, Allen and Gould Jr. noted almost thirty years ago that “long-range forest plans involve power struggles, imprecise goals, fuzzy equity questions, and nebulous information” (1986, p. 23).

analysis of the situation. It demonstrates that a collaborative and iterative, or cyclical, process can ameliorate local problems of poverty, health, diet, and environment, while also emphasizing that there is no one final, ideal solution (Brown & Lambert, 2014; Brown, Deane, Harris, & Russell, 2010; Norton, 2005). That is, the WP framework directs our attention so that we can see complex, high-stakes crises in a more comprehensive light. Approaching our social messes² (e.g., the housing foreclosure crisis in 2008 or the inadequacy of the U.S. health care system) through this lens helps us to formulate a more inclusive and holistic understanding of the wicked problems we face. WP scholars foster comprehensive analyses of such situations by painstakingly evaluating the conditions under which problems become “wicked,” contrasting these with complex and simple problems (Batie, 2008; Norton, 2005; Salwasser, 2004). Thus, as illustrated in Table 1, wicked problems are distinguished from more manageable problems by

² When our problems are bound up with other complex situations and systems undergoing change and influencing one another, we have what Russell L. Ackoff dubbed in 1974 “a mess” (p. 21). According to Alpaslan and Mitroff (2011), “a mess” is “a system of ill-defined or wicked problems interacting dynamically such that no problem can be abstracted

from and analyzed independently of all the other problems that constitute the mess”; behind such complex and interdependent systems of problems lies our own “entangled web of stated and unstated, conscious and unconscious assumptions, beliefs, and values” (p. 27).

considering the extent of problem complexity, the degree of problem overlap, the level of uncertainties involved, the high stakes and magnitude of risk, the divergent set of values at play, and the subsequent limitations of expert knowledge.³

While simpler problems can be defined and resolved through individual effort alone, we see that wicked problems are not so clearly definable, nor amenable to isolated expert intervention, nor even resolvable in the traditional sense (Rittel & Webber, 1973). In addition, because such problems confront us with extreme levels of complexity and uncertainty as well as a conflicting list of objectives in high-stake situations, the outcomes of our efforts are often at least partially unforeseeable, and thus unpredictable (Turnpenny, Lorenzoni, & Jones, 2009). Since our initial efforts are likely to yield unforeseen consequences, iterative processes provide us with opportunities to respond more quickly and reflectively to a situation as it unfolds. David Freeman (2000) concludes that work on such problems must involve the mobilization of people in their communities, engaging in the deep dialogue necessary to integrate science with local knowledge, ethics, and politics; in the end, such processes seek to put all the stakeholders “to work” in order to generate effective change (p. 485).

The Dimensions of Wickedness: Assessing Initial Market Impacts

Growing, processing, transporting, and selling food involves heavily complex, deeply intertwined systems and networks, so much so that effecting change in one arena tends to tug on innumerable strands connected to many other issues, shifting and shuffling the situation for many others.⁴ Nelson and Stroink (2014) describe issues of food production, access, and transport, as well as consumer affordability and producer incomes, as complex adaptive systems that overlap—and interact—with other systems (economic, political, health, etc.). This means that effective and equitable

change requires communication across many perspectives as well as the integration of a wide array of information with the range of values involved. The growth of interdisciplinary literature on wicked problems offers a number of helpful methods, tools, and recommendations from which to consider our approach. The following sections highlight how the DTM is a response to the various dimensions of wickedness this area of Grand Rapids is facing, and how it thus aligns with and deviates from recommendations given in the literature.

Extreme Complexity and High Stakes

When confronting wicked problems, there are no guaranteed or standard procedures for ameliorating the situation (Thompson & Whyte, 2012). With over US\$30 million invested, the stakes for the DTM and its investors are significant. While attempts to quantify the risks involved in this venture were pursued through the DTM feasibility study, the WP framework suggests such studies can only offer a limited guide to action because they do not address all the dimensions of the issue (e.g., the entire range of uncertainties, the inconsistent set of needs and preferences, the conflicts in values, the changing conditions, the full dimensions of potential impact).

Adding to the complexity and the high stakes in this context, the community surrounding the Downtown Market faces a long list of challenges. For instance, the feasibility study briefly highlights issues of perceived safety in the neighborhood. The site is on the far edge of the Heartside neighborhood, which has the highest crime and poverty rates of all Grand Rapids neighborhoods; it has a 38 percent minority population and over 75% of adults (18 to 64 years old) live in poverty (Community Research Institute, n.d.). Indeed, the only homeless shelters and soup kitchens in Grand Rapids are in this neighborhood. Other human services in the neighborhood include medical clinics, daytime warming and cooling shelters, and

³ There are, in fact, no single, ideal solutions when confronting wicked problem situations; at best, we can only hope to find a temporary balance among competing goods for a limited period of time (Norton, 2005).

⁴ Raj Patal's *Stuffed and starved* (2012) reads as a seemingly endless list of examples of how various individual, institutional, and/or governmental decisions related to food production often result in widespread suffering.

a large number of single-person subsidized housing units. Adding to the area's reputation, prostitution and drug dealing are common. This situates the DTM in an area experiencing a long list of wicked problems, such as poverty, crime, addiction, and homelessness, and thus also higher levels of health challenges and food insecurity.

In partial recognition of these community issues, market vendors, employees, and community partners have initiated and participated in a number of efforts to support residents. For instance, scholarships that include the cost of a seminar, transportation, and a fresh food coupon are being offered to low-income individuals for a selection of culinary and nutrition classes. Another program, Double Up Food Bucks, is administered by the Fair Food Network to provide incentives that encourage healthier choices for SNAP recipients while also benefiting farmers and the local economy (Double Up Food Bucks, 2014). For every dollar spent on Michigan-grown fresh fruits and vegetables using Electronic Benefit Transfer cards at the market, the Double Up Food Bucks program provides SNAP recipients with a matching dollar in funds. In addition, neighborhood perspectives have been solicited through the formation of an advisory board that includes directors of two homeless missions.

Partial and Conflicting Perspectives

Another consistent error when confronting WP situations is failing to understand a problem in its full scope. We can, for instance, point to problems we face that are due to a narrowly framed focus on cheap and abundant food production, such as soil erosion, desertification, and health problems related to pesticide use (Brown et al., 2010). By focusing almost exclusively on our institutional agenda, we close ourselves off from insights of other stakeholders and implement plans framed too narrowly. According to Brown and Lambert (2013), we need to utilize a wider array of "knowledge cultures," including individual,

community, specialized, organizational, holistic, and collective knowledge cultures (p. 22). Rather than integrating across knowledge cultures in order to form a "collective understanding" (p. 4), there is often a tendency to demean and reject other forms of knowledge. Through a WP framework, we can ask ourselves who gets to name the problem, define the objectives, evaluate the options, make the choice, judge the results, and bear the risks (Ramley, 2014).

In the case of the DTM, the potential for economic gains has resulted in gentrification and the marginalization of neighborhood residents. As illustration, the market feasibility study indicated there was little demand for the market within a one-mile (1.6-kilometer) radius of its location; to be precise, over 50% of the demand was expected to come from residents living more than 5 miles (8 km) away and/or from tourists (Market Ventures, 2010). The feasibility study language emphasizes the goal of catalyzing "redevelopment around the Urban Market" (p. 2) with the hopes of influencing "downtown revitalization" (p. 5). Developers are adding 312 apartments and 33,000 square feet (3,066 square meters) of retail space in 13 new and renovated buildings in the neighborhoods closest to the Downtown Market (Schneider, 2012).⁵ Additional infrastructure developments that support the DTM include the city transit agency's new US\$39.8 million rapid transit bus line that will bring suburban passengers to downtown much more quickly than traditional buses (Schneider, 2012), as well as improved streetscapes immediately surrounding the DTM, including brick street pavement and sidewalk repair and beautification.

While the feasibility study highlights the benefit of bringing culturally appropriate foods to the area (Market Ventures, Inc., 2010, p. 13), this is put into question by the artisan-style vendors currently in place. Addressing the necessity of supporting and mediating structures, Grand Action founding member David Frey said in 2010 that "we have to be sure the surrounding area is developed with

⁵ While the market has not been the cause of all of the development in the neighborhood, it has spurred revitalization of the long-neglected area. Just across from the market are the Baker Lofts, one- and two-bedroom apartments for low-

income residents completed and opened in 2013. The building also includes 15,000 square feet (1,394 square m) of retail space for restaurants and shops (Michigan Housing Locator, 2014)

activities compatible with an urban market and not have a contrary purpose or intent” (Wood, 2010, para. 7). Illustrating this point, he adds, “the nearby K[illingman’s and Baker Furniture buildings would have to be developed in an architecturally- and content-compatible manner” (Wood, 2010, para. 7). In addition, officials have provided new “security ambassadors” as well as an increase in security patrolling in the area. Perceived safety concerns have likewise led to the fencing off of a street overpass adjacent to the DTM that was historically used by the homeless (Vande Bunte, 2013). This purposeful effort to create an environment that feels safer for DTM customers traveling to the neighborhood reinforces the exclusive nature of the objective-setting processes and ultimately has weakened relationships with the surrounding neighborhood. It has also led to critique of the DTM as a gentrifying force.

In fact, concerns about gentrification have been corroborated by the Community Care and Enrichment Team (CCET), a long-standing community group designed to empower residents to improve their neighborhood through giving them a voice and supporting tools to change the neighborhood health environment. Informal discussions held with the CCET provide extensive anecdotal evidence that the DTM has not fostered an inclusive culture of working with neighbors and residents. The most frequent comment expressed by CCET members is that those behind the DTM “are trying to move us out of the neighborhood.” Similarly remarks such as “there’s nothing for me here” or “I can’t afford to buy anything” were common. Other neighborhood residents expressed concerns about being ignored by vendors and being made to feel unwelcome by the roving security personnel. These concerns highlight a feeling of displacement that is in stark contrast to the primary goals of food innovation districts: encouraging community and place-based benefits (Cantrell et al., 2013) and creating a “more equitable food system that values...healthy food access” (PolicyLink, 2014, p. 1). These findings also challenge the DTM’s stated intention to “stay true to our neighborhood roots” (Downtown Market, n.d.b, para. 1).

On the other hand, community leaders state

that the DTM is meeting its intended goals. For instance, David Frey of Grand Action stated that the DTM is “support[ing] agriculture,” (Kackley, 2014, para. 1), growing “small businesses and clean[ing] up a Grand Rapids neighborhood that had been badly in need of improvement” (Kackley, 2014, para. 2). The executive director of a local nonprofit pointed out that prostitution has declined in the area, and a developer of nearby housing and retail stated that the positive impact of the DTM cannot be ignored (Kackley, 2014). Behind the divergent perspectives described here lie long-term systemic divisions and isolation, with widely different perspectives on what “success” is. For the economic developers success is found through gentrifying the area, through economic prosperity and image rehabilitation; for neighborhood residents, these same end-goals are exclusionary, immoral, and unjust.

Isolation, Exclusion, and a Tension in Values

Rejecting the notion that there is an ideal solution, while at the same time recognizing both the need for progress and the unavoidability of trade-offs, the WP literature recommends putting an emphasis on the *people* involved, not the initial conflicts (Allen & Gould, 1986). Effective collaborative efforts respect the views at play, resist privileging any one point-of-view, and recognize the value of conflict as a source of learning. Conflict points stakeholders toward the inherent tensions involved in the situation, its paradoxes, and the underlying assumptions; thus, conflict has the potential to lead individuals away from narrow and insular, self-promoting plans and toward co-creative innovation.

The planning phases for the DTM indicate how it both met and failed to meet the criteria of equity and innovation. For instance, analysis indicates that the objectives for the DTM could have been better informed by neighborhood residents, broadening the scope and reshaping the intent and nature of the DTM itself, encouraging balanced objectives more in alignment with resident values and perspectives. One example illustrates this point: an advisory committee was appointed to provide community and vendor input during the planning process. This committee was almost

entirely composed of individuals representing institutional perspectives, with only minimal neighborhood representation. Beyond the initial committee meeting, neighborhood resident representatives were not included. Given this separation from the residents in the neighborhood, efforts could be characterized as *working on* this area, when the literature suggests efforts need to be directed towards *working with* those who will be impacted. In Grand Action's effort to revitalize this area of Grand Rapids and expand business and profit-making opportunities, resident concerns were neither comprehensively solicited nor addressed.

Since much of the decision-making process occurred from within institutional structures already in place and was thus fairly top-down, it failed to provide sustained, in-depth opportunities for inclusion. For instance, decisions made around what vendors to support, which employees to hire, and which products to carry can and do have direct impact on the local community (PolicyLink, 2014). Bryan Norton (2005) refers to this problem as one of "towering," which occurs when information is crafted and decisions are made in isolation, and when there are no networks and no outsider input. In general, a lack of sustained interaction between stakeholders creates and/or exacerbates "blind spots" which prevent or—at the very least—make inclusive, transformative opportunities for cooperative action fairly unlikely. Efforts to counteract this problem have begun, though these initiatives face an uphill battle. For instance, the DTM has had a difficult time reaching potential applicants for funded cooking and nutrition classes. Neighborhood residents are reluctant to apply and have expressed feelings that they will not fit in or feel welcome.⁶ An initially narrow focus on bringing in young professionals and tourists has exacerbated feelings by many surrounding residents of being pushed out.

The Market's Potential: A Discussion of Spanning Boundaries

The WP literature illustrates the need for

"boundary organizations." Such organizations intentionally seek to span boundaries by linking "suppliers and users of knowledge" and recognizing "the importance of location-specific contexts" (Batie, 2008, p. 1182). In general, boundary organizations operate by (1) inviting different perspectives into the dialogue, (2) holding themselves accountable to others involved, (3) generating new knowledge on the matter, and (4) communicating the knowledge to all stakeholders while actively seeking alternatives (Batie, 2008). In effect, boundary organizations seek to manage widespread, interconnected problems by turning them into intelligible messes (Alpaslan & Mitroff, 2011) through an iterative and collaborative experimental process of learning by trying. These organizations tend to operate as flexible yet stabilizing forces that bridge the gaps between various institutions, between theory and application, science and policy, experts and the people. Guston (2001) extends this argument, stating that boundary organizations consistently address real problems by living up to three separate criteria: (1) providing the space, the "opportunity," and often the necessary "incentives" for the work to be done; (2) engaging stakeholders from various sides of the issue and employing moderators or facilitators in doing so; and (3) existing "at the frontier of the two relatively different social worlds of politics and science" (p. 401). Without such spaces, there are few to no incentives either to foster interaction or to break down barriers. With such spaces, revitalization efforts may be successful at providing an improved space for all residents, rather than leading to displacement via gentrification.

On the one hand, extensive planning for the DTM indicates an awareness of the interconnected issues the area faces and an effort to integrate mixed-use space as well as income-conscious housing, which could lead to a positive outcome for existing residents (Ellen & O'Regan, 2011). On the other hand, many of these responses are top-down and exclusionary, seemingly seeking to drive out, not *work with* (Bridge, Butler, & Le Galès,

them, rather than what is commonly available in middle-income kitchens.

⁶ Taking this concern into account, the market has been encouraged to offer separate classes for scholarship recipients only that would use the foods and equipment available to

2014). This tends to cause a weakening of the social fabric in the neighborhood (Betancur, 2011).

The design for the Downtown Market, and the physical space it inhabits, are conducive to its ability to operate as a bridging force. As a food innovation district, the DTM places “related enterprises” near one another, reducing infrastructure costs, making “product and service gaps more visible,” and thus spurring opportunities for cooperation, competition, and innovation (Cantrell et al., 2013, pp. 6-7). For instance, the DTM has created a space for a wide variety of programs and institutions, including local universities, extension educators, nonprofit organizations, and a local school district. By doing so it is building the “extensive collaborative partnerships” across sectors, institutions, and communities that are necessary for addressing challenges (Ramley, 2014, p. 15). Consistent with the definition of a boundary organization, spokespersons for the DTM characterize it as an institution designed to “fill a variety of needs” and create “synergy” (Schneider, 2012, para. 4). Despite the already noted lack of sustained and in-depth neighborhood interaction in the creation of this space, a number of DTM initiatives show promise; in fact, a number of experimental practices aimed toward more widespread inclusion have already been implemented, including a gleaning program and the Food Works Initiative.

The gleaning program, focusing on food recovery, began in summer 2014 in order to collect donations of unsold fresh produce for redistribution in the neighborhood. Farmers selling produce at the DTM have been largely supportive, though some question why food should be “given away.” These questions reflect a high level of isolation between various stakeholders and thus limited awareness, a consistent factor in wicked problems. Encouraging positive interactions between neighborhood residents and sellers at the DTM could build cohesion across a broad range of diversity by “bring[ing] together groups that otherwise would have little reason or opportunity to interact: urban with rural, immigrant with native, old with young, black with white,” (Market Umbrella, 2012, p. 3) which can positively impact the social determinants of health. The gleaning program is intentionally bridging boundaries by engaging university

students, community members, nonprofits, local farmers, and DTM vendors through its initiatives. This work provides valuable resources, encourages healthy food choices, reduces waste, enhances education, enriches partnerships, and encourages civic engagement; that is, it intentionally seeks to ameliorate interconnected problems such as poverty, access, health, diet, and environment in the neighborhood *with* neighborhood residents.

The Food Works Initiative, started in January 2014, aims to grow a community of food entrepreneurs through the cooperation of locally owned “socially and environmentally responsible food businesses” (C. Lecoy, personal communication, May 22, 2014). This initiative brings together different organizations in order to provide the space and expertise for training, networking, “collaborative development, and ancillary resources” (C. Lecoy, personal communication, May 22, 2014). Food Works trains inner-city residents interested in developing their own businesses.

Initiatives such as the gleaning program and Food Works encourage individuals to operate in boundary-spanning roles by using limited resources creatively, managing bureaucratic channels effectively, and facilitating collaboration across diverse communities. They demonstrate how DTM operators, through their initiatives, can commit to a more just and equitable impact on not simply the regional food system, but also the surrounding community (PolicyLink, 2014). While seemingly minor initiatives, both programs begin to foster relationships—build bridges—which encourage stakeholders to “rethink the nature of the work we do and the impact of our contributions” (Ramley, 2014, p. 9). As initial, experimental, and inclusive processes, they move the DTM in a fruitful direction.

Conclusions and Recommendations

In response to systemic towering and conflicting perspectives, the WP literature calls for bottom-up participatory tactics (Thompson & Whyte, 2012). A greater openness to “different ways of thinking,” along with imagination and creativity, receptivity to novel ideas, and a willingness to draw on a wider range of “intellectual resources,” are necessary (Brown et al., 2010, pp. 4–5). In addition, one

should aim for genuine inclusivity *from the beginning* (Bridge et al., 2014). The Downtown Market, created in large part from already existing relationships between wealthy industrialists and philanthropists, led to exclusionary problem-framing and objective-setting. That is, while the original vision for the DTM succeeded in creating a center for local food excitement, it failed to genuinely engage the surrounding neighborhood in either a deep or a sustained way. In addition, many of the DTM's current operations are not inclusive in the widest sense, because key stakeholder perspectives (i.e., that of neighborhood residents) have not been given serious weight. These exclusive processes have impaired subsequent efforts to generate more equitable and inclusive programs, weakening the DTM's ability to operate as a bridging force in the neighborhood. This does not mean, however, that neighborhood voices need to continue to be left out when judging the results of these efforts, nor when making future choices about various DTM initiatives, such as the requirements for scholarships or hiring practices that systematize reaching out to neighborhood residents.

The DTM could intentionally create a space for the local knowledge and values of neighborhood residents, incentivize their inclusion, and integrate their perspectives into future planning. In fact, inclusive participatory efforts are consistently emphasized within the WP literature as essential, though not sufficient conditions, for creating more just outcomes. Nelson and Stroink (2014) employ one such model in their own community, utilizing dialogic strategies from a world café and community-of-belonging model (Block, 2010). Similarly, Pine and de Souza (2013) suggest forming partnerships with communities experiencing food insecurity and using their voice to guide efforts toward changing the food system. Various facilitation processes are designed to foster such inclusive and equitable efforts, such as adaptive systems theory, strategic doing, soft systems thinking, experiential learning strategies, and Brown and Lambert's transformational learning for social change (2013). While a variety of different tools and recommendations can be found within each method, they all encourage an iterative and collaborative learning process that moves

stakeholders through a series of conversations focusing on what they should do, what they could do, what they will do, and when they will do it. These processes aim to expose a diverse and representative group of stakeholders to the complexities of the issues, and thus more holistically frame the objectives and evaluate the options. On this front, effective efforts on such problems must mobilize people in their community, encourage a dialogue that integrates general science with local knowledge, ethics, and politics, and put everyone "to work" to make real effective differences (Freeman, 2000). In alignment with our recommendations, these methods unanimously suggest that bridge-building work begin with collaborative framing of the problem so stakeholders can *together* frame the solutions; at the very least, such approaches force stakeholders to be more aware of—and honest about—the priorities they set, the trade-offs they choose to make (Brown et al., 2010), and the risks they ask others to bear (Ramley, 2014).

Our analysis additionally demonstrates that it is valuable to focus on the importance of perplexity, genuine cooperation, and the need to expand individual and institutional loyalties so stakeholders can more readily recognize the value of diverse perspectives and the challenge of meeting needs in conflict. That is, the DTM could be a venue for more deliberative and experiential processes of learning by trying; as various small start-ups and programs initiate new practices with community input in mind *and* as these programs evolve in order to better meet the needs of the community, more effective and just practices are likely to emerge (Fleck, 2009; Norton, 2005). Programs that utilize cooperative, experiential learning strategies with a diverse range of stakeholders can open space within which participants can together modify current, dominant, unjust systems (PolicyLink, 2014). While wholesale solutions, shared values, and a unified vision are elusory, spaces for common ground and shared ownership—for connected values across differences—can be found when incentives are created to do so.

In fact, on many levels the DTM is already experimental. As one idea fails to bear fruit, another strategy is employed. For example, since initial efforts at recruiting neighborhood residents

for culinary and nutrition classes were largely unsuccessful, separate classes for scholarship recipients were planned in order to enhance their degree of comfort with the classroom experience. The DTM's initial operations have confronted employees with high levels of perplexity and many have responded by seeking out the perspectives of local nonprofits and community leaders, gathering their advice in order to develop new (and reshape existing) programs that are both more intentionally framed around social justice and more widely inclusive. For instance, when the DTM offered scholarships for healthy living classes, applicants were few in number. Program managers then sought out those familiar with intended scholarship recipients for advice on why individuals were not applying. In response to what they heard, program managers not only implemented suggested changes, but also made the DTM kitchens available at no cost to nonprofit agencies desiring to hold classes for low-income residents.

Thus, we conclude that the DTM should do more to provide the space, opportunities, and incentives to bring different people together; by doing so it will become a stable, flexible force for equitable change. We recommend that the DTM expand on its efforts to reach out to neighborhood residents, asking for and trying to understand their vision and values; by working more intentionally *with* the surrounding neighborhood, more comprehensive and inclusive plans can be implemented, moving the DTM away from programs that seek to work *on* or *for* others, and toward a process of working *with* them.

These same recommendations are valuable for anyone seeking to redress systemic, local wicked food problems, including food system developers, policy makers, and researchers. In general, through our analysis we recommend that people in these roles can more effectively foster equitable, just, and systemic change by framing their work through a wicked problems lens. This lens helps to counteract tendencies towards narrow, institutionally driven, top-down decision-making processes that fail to include input from those affected. There is now, for example, federal funding available through the Healthy Food Financing Initiative to put in shelving and refrigeration at corner stores so

produce can be stocked (U.S. Department of Health and Human Services, Office of Community Services, 2011). But the question of whether women (the more common purchaser of groceries) will change their shopping habits to buy produce from those stores has yet to be answered.

In general, if a community is working to develop an innovative food hub or local farmers market, concerted effort is needed to ensure that members of each potential stakeholder community are included in the development and implementation of decisions affecting their community. This includes neighborhood residents, new populations the DTM is hoping to attract, and vendors, as well as investors. Under the current DTM management structure, a more inclusive advisory board could be developed to obtain feedback on issues and ideas. In addition, actively seeking out community residents to fill employment vacancies at the DTM and listening to their voices is likely to provide a deeper understanding of issues as well as build relationships between the DTM management and the community. Our findings suggest it is imperative that ideas are solicited and decisions about the likely actions of the DTM (and the reasons for those actions) be explicitly and continually communicated. Ramley (2014) suggests that those within the middle of even traditional, hierarchical organizations can still often find ways to work collaboratively across differences and within the community. They can do so by staying “alert to system dynamics,” remaining flexible, recruiting others, facilitating interactions, and finding “support and solace” with those also seeking change (Ramley, 2014, pp. 17–18).

Additional research regarding the potential for new urban food markets to become gentrifying forces is necessary, as are approaches that work with community residents in order to minimize negative impacts. Approaching issues from a WP framework encourages the development of markets intentionally designed to operate as bridging forces across our political, moral, epistemological, economic, and institutional divides, so that we can cooperatively and intentionally work toward a more just and healthy future.



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Defining the “C” in community supported agriculture

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Submitted March 26, 2014 / Revised December 31, 2014, and March 4, 2015 / Accepted March 4, 2015 /
Published online June 8, 2015

Citation: Haney, J. M., Ferguson, M. D., Engle, E. W., Wood, K., Olcott, K., Luloff, A. E., & Finley, J. C.
(2015). Defining the “C” in community supported agriculture. *Journal of Agriculture, Food Systems, and
Community Development*, 5(3), 27–43. <http://dx.doi.org/10.5304/jafscd.2015.053.009>

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Abstract

Localized agriculture is theorized to provide socio-environmental benefits to the community while ensuring a livelihood for local farmers. Much of the food systems literature refers to such an arrangement as civic agriculture, which is characterized as promoting community development by strengthening social ties among the various nodes of the localized food system. However, there is little literature that identifies the attributes of community and the specific mechanisms through which community qualities

are produced, modeled, or replicated.

This study’s goal is to identify the meaning of community as used in the phrase “community supported agriculture” (CSA) by asking members and operators of local CSAs how they define community within the context of their membership. On-site interviews were conducted at the produce pick-up locations of four CSA farms in central Pennsylvania, resulting in a convenience sample of 97 CSA members and four operators. The survey instrument utilized open and closed-ended questions to collect information on farmer

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and member perceptions of their CSA community, motivations to join, and satisfaction with their experiences.

The results suggest respondents are highly satisfied with products and services provided through their CSA. However, there are statistically significant differences in satisfaction scores across the four sampled farms. These differences support findings drawn from the open-ended questions indicating these CSA farms varied in member-defined attributes of a CSA community. Farm management practices, level of personal interactions, and other factors appear to have significant effects on CSA members' perception of community.

Keywords

civic agriculture; community, community supported agriculture (CSA); satisfaction

Introduction

Civic agriculture theorizes that shortening the distance between farmers and consumers will increase social ties within local food systems, re-embedding agricultural products into local communities and further promoting community development (e.g., Lacy 2000, Lyson, 2004). One commonly cited method of reducing the distance between field and table is through the establishment of Community Supported Agriculture (CSA). However, a need exists to better understand whether and how participants' perception of *community* factors into both their motivations for establishing or joining a CSA and satisfaction with perceived benefits of CSA membership. The extant literature suggests that the definition and role of community in CSA is far from clear. Previous studies have surveyed members' attitudes about the perceived role of the community in CSA models without defining the parameters of the core term and, as a result, the nature of the community referred to by participants remains unclear. To help clarify this issue, the current study seeks to explicate the nature of the term community as it is specifically used or addressed by members in a CSA. Our investigation compares the nature of community within the context of four CSA farms

in central Pennsylvania and is based on conversations with farmers/operators and shareholders/members. Although all four farm operators believe strongly in the values and ethics espoused in the CSA literature, details of farm management and CSA operation appear to affect members' perceptions of community. Two main points of inquiry guide this work:

1. How do members and farm operators conceptualize community within their CSA?
2. How do member characteristics and satisfaction with their membership contribute to their perception of CSA community?

Community

While the use of the concept of community continues in social science research, a consensus on the meaning of the term remains elusive. At some level, this plurality of use is pragmatic, allowing for dynamic research in the modern world. Defining community within a research frame, however, is essential when employing a broadly defined concept. One popular conception of community is based on a sense of belonging (i.e., emotional attachment), but a degree of social and economic dependence on place-based networks also is important (Crow & Allan, 1994; Hinrichs & Kremer, 2002). Building upon this, community may be defined broadly as the patterned and structured ways we interact to satisfy our daily needs (Brown, D. L., & Swanson, 2003). It is, therefore, not surprising that interaction remains the key component of *community* for many researchers.

Building upon the work of Kaufman (1959), Wilkinson (1970) defines interaction as the essential property of community. For Wilkinson, community has a territorial element, but the physical locality is not the central concern; the boundary of the physical community space is not fixed or even sharply delineated. The physical locality merely provides a common setting about which diverse social groups could bond to produce collective action. Interactional or Community Field Theory (Wilkinson, 1991) defines community as a field of social interaction without boundaries or fixed structure. Such communities, in theory, have "high

levels of trust, norms of reciprocity, and dense networks of civic engagement, [where] people feel an obligation toward one another and are better able to work together for the common good” (Luloff & Bridger, 2003, p. 206).

Following this line of thought, one essential daily need is food, and so naturally food has been linked with the concept of community. By removing the strict monetary value of the food itself, alternative food networks attempt to shift food from a strictly economic relationship into one more characterized by social and environmental exchanges (Feagan & Henderson, 2009). The *re-embedding* of food in social relations not only increases personal interactions (i.e., community development) within alternative food networks, but also heightens participants’ awareness of local concerns, such as social equity, ecological sustainability, urbanization, and food security (Cox, Holloway, Venn, Dowler, Hein, Kneafsey, & Tuomainen, 2008; Feenstra, 1997; Fieldhouse, 1996; Jarosz, 2008).

Civic Agriculture

Concern over the ecological and social threats associated with the conventional, global food system have led to the evolution of community-based, regionalized food networks. Though systemic and structural change will be needed at the global level to enact more holistic sustainability, such a fundamental shift must first be initiated at the local level, place by place (Kloppenburg, Hendrickson, & Stevenson, 1996). This return to locally based agriculture and food production is termed *civic agriculture* by Thomas Lyson (2004) because it embeds such goods and practices into the communities where they exist.

Civic agriculture is implemented through a variety of mechanisms, including farmers’ markets, community supported agriculture, alternative food cooperatives, and community garden projects. These efforts not only aim to minimize the distances between consumers, producers, and the land, but also help promote social and economic development within consumers’ home communities (Lyson, 2004). Ideally, these developments contribute to a greater social and economic equality among community members (Feenstra, 1997).

Lacy (2000) observes that conventional food systems disempower communities by creating a vertically integrated food chain that puts control in the hands of corporations and the federal government, limits the availability of information about production and transportation practices, and ensures the deskilling of consumers by promoting processed and convenience foods. Moving toward a more civic agriculture would reinvigorate local communities and create a food system in which fresh and value-added foods are made available through both traditional economic transactions and the bonds of social interaction (Kloppenburg et al., 1996). According to Wilkinson (1991), social interaction is what creates and sustains communities by building the community members’ capacity for realizing and obtaining general, positively oriented goals together. Because civic agriculture ventures provide diverse benefits to the locality, they are well suited for both the development *in* the community (economic growth) and development *of* the community (social ties and communion) (Brennan, Spranger, Cantrell, & Kumaran, 2004; Kaufman, 1959; Summers 1986, Wilkinson, 1991). Both of these aspects are seen as necessary for successful community revitalization (Bridger & Alter, 2008). If elements of civic agriculture are implemented, communities could not only begin to recover from damages caused by the vertical integration of our national food system, but could actually flourish by encouraging development and participation in regionalized food networks (Feenstra, 2002).

Community Supported Agriculture

One manifestation of civic agriculture is the popularization of CSAs. Community supported (or ‘shared’ [Fieldhouse, 1996]) agriculture is conceptualized on a continuum between a marketing strategy (instrumental model) and a moral imperative (collaborative model) (e.g., Brown, C., & Miller, 2008; Cox et al., 2008; Feagan & Henderson, 2009; Ostrom, 2007). In a typical CSA, farmers and members agree to share the costs and products of a particular growing season. CSA members purchase a share at the beginning of the season that provides farmers immediate access to capital for purchasing inputs (e.g., seed, fertilizer, labor, and fuel). It also enables them to estimate

the amount of food they need to produce during the growing season. CSA members, as investors, help redistribute the risks associated with agricultural ventures. If there is a poor harvest due to natural causes, every member in the CSA receives less, alleviating some of the losses and costs absorbed by farmers not engaged with a CSA (Fieldhouse, 1996). Lass, Bevis, Stevenson, Hendrickson, and Ruhf (2003) find that most CSA farms are small in acreage; moreover, whether organically certified or not, these farms often use organic or other ecologically sustainable production methods. They also find that farm labor is generally centered on the owner and his or her family, but that interns, hired field workers, and CSA members often contribute labor to meet production demands.

Fieldhouse (1996) indicates that CSAs are “more than a producer-consumer relationship, but rather a collective effort to provide food whilst building community” (p. 43). To foster the community feeling, members are encouraged to be active CSA participants. This occurs in multiple ways—for example, by participating as workshare members (who access produce in exchange for labor) and/or through social and educational events hosted on-farm, including tours, potlucks, and workshops (Lass et al., 2003). Being a CSA member often requires picking up products from the farm or another centralized location, creating an opportunity for interaction with farm staff and other CSA members (Martinez et al., 2010). All of these activities lessen the producer-consumer divide and also promote relationships among members that go beyond maintaining a shared membership in the CSA. In these ways, CSAs enhance public participation, civic engagement, and a reconnection to agriculture that build “a locally-based approach to community revitalization that also incorporates the benefit of...a healthy food system” (Brehm & Eisenhauer, 2008, p. 94).

While CSAs carry the potential to redevelop communities by offering a diverse number of benefits to both farmers and members, some criticize this movement as operating in ways that serve more privileged populations (e.g., high prices, low access to pick-up points) over the more socially disadvantaged (Allen, 2004; DeLind &

Bingen, 2008; Hinrichs & Kremer, 2002). Another issue associated with the community-building capacity of CSAs is the presence of a usually small, core group that participates in the community part of the CSA, while other members contribute very little. This limits the CSA’s transformative capacity and also places pressure on the farmer and core group to maintain the community side of the CSA, in addition to the agriculture (Cone & Kakaliouras, 1995; Hinrichs, 2000). Conversely, some argue the model of community-building through CSAs is biased toward farmer benefits, in that members contribute both money and labor to the farm, while the farmer does not contribute to members’ daily home and/or job responsibilities. This farm-centric orientation overlooks and/or devalues the importance of broader social relationships in rural communities or localized food system structures (Allen, 2004).

Previous CSA Studies

A number of studies focus on defining the characteristics of CSAs, participant motivations, benefits, and/or deficits. The similarities in the raw data between studies are striking; both CSA member and farmer characteristics and participant motivations for joining are highly consistent. CSA farmers tend to be highly educated and younger than traditional farmers (Ostrom, 2007), while CSA members tend to be middle-class, urban, white, and highly educated (Brehm & Eisenhauer, 2008; Ostrom, 2007; Pole & Gray, 2013). In surveys of CSA members the majority of respondents are female, and studies suggest that women are key proponents of CSA participation in their households (e.g., Cone & Myhre, 2000; Durrenberger, 2002; Hinrichs & Kremer, 2002).

Participant motivations tend to be dominated by a select group of issues. For farmers, many cite idealistic reasons for creating a CSA farm. Ostrom (2007) finds that farmers perceive the dominant food production system as problematic or inadequate, and seek a solution by forming a CSA. These farmers are often committed to “protecting and restoring the environment” (Ostrom, 2007, p. 105). Alternatively, Worden (2004; see also Brown, C., & Miller, 2008) finds that nearly half the farmers surveyed in the Northeastern United States

are motivated by the marketing potential of CSAs, and an additional 21% of farmers cite increased access to information and advice (i.e., education) through CSA farmer networks as their main motivation. Similarly, Flora and Bregendahl (2012) find 76% of surveyed CSA farmers cite financial motivations, including increased product sales, access to diversified markets, and shared risks. The desire to create or participate in a community generally ranks lower in farmer motivations. For example, only 14% of Northeastern U.S. farmers cite community as a motivation for CSA participation (Worden, 2004).

CSA member motivations consistently involve acquiring fresh, local, and/or organic produce. Additional motivations include supporting local or small-scale farming and/or farmers and stewardship of the environment, including support of sustainable or organic farming methods (Brehm & Eisenhauer, 2008; Cone & Myhre, 2000; Oberholtzer, 2004; Ostrom, 2007; Pole & Gray, 2013). Pole and Gray (2013) find that motivations differ by member income. Those with lower incomes rank the sharing of risks and socializing with like-minded people higher than members with higher incomes.

The benefits perceived by members are largely consistent with their motivations, but a variety of unanticipated effects are also noted. Ostrom (2007) finds that CSA membership increased participants' awareness of food quality, personal health, and community sustainability, which resulted in altered patterns of consumption. Flora and Bregendahl (2012) find that members who perceive a variety of benefits (e.g., greater social capital) from their memberships are more likely to remain in a CSA. Although member benefits are primarily product-related (e.g., access to fresh, local, and organic produce), Brehm and Eisenhauer (2008) find a significant correlation between the desire for local food and a sense of community attachment. In all, these results suggest that while community is not typically highly ranked by members in their motives or benefits, it remains a significant underlying factor in member decisions regarding CSA participation. Having high community satisfaction may prompt members to further improve their community as a place to live through such actions as CSA

participation. This perspective suggests that the social connections (i.e., community [in the sense used by Wilkinson, 1991]) formed through CSA membership are not perceived by members as an important benefit.

In comparison with members, farmers acquire fewer individual benefits from CSA participation (Flora & Bregendahl, 2012). In fact, a number of studies show that operating a CSA farm does not automatically infer financial viability; the low-cost food environment often prevents farmers from earning a living wage, obtaining health insurance, or saving for retirement (Brown, C., & Miller, 2008; Flora & Bregendahl, 2012; Oberholtzer, 2004; Ostrom, 2007; Pole & Gray, 2013). However, many CSA farmers report a sense of personal satisfaction gained through their farming lifestyle, which included holding to their ecological values (Durrenberger, 2002). Despite this, farmers struggle with high member turnover rates and apathy (i.e., low participation in volunteerism or farm outreach activities). CSA farms with a core-member group are able to sustain higher share prices and thus earn higher incomes (Brown, C., & Miller, 2008). This provides further support for Brehm and Eisenhauer's (2008) data that suggests satisfied CSA members are willing to pay a higher share price as a means to improve their local community and that food is successfully re-embedded into the social and ecological relations.

Customer Satisfaction

The concept of customer satisfaction in the social sciences is heavily pursued by both the scientific and managerial communities. This high level of interest originates from a widely held belief that the principal criterion for success can be measured in terms of customer satisfaction (Bultena & Klessig, 1969). Anderson and Fornell (1994) ascertain that acquiring and retaining customers is the key to financial stability. Given that customers are more expensive to acquire than retain, customer retention should be the focal point of any enterprise. Whether or not a customer remains loyal depends upon their overall level of satisfaction.

A number of CSA studies investigate member satisfaction, with most reporting that members are satisfied or highly satisfied. Further, Brehm and

Eisenhauer's (2008) data indicate that members with high levels of community satisfaction are more motivated to join a CSA. If this is the case, why are CSA turnover rates such a problem for farmers? If customers acknowledge they are satisfied with their CSAs, then products and services may not take into account all of the factors involved in *satisfaction*. This suggests that CSA member satisfaction goes beyond the usual array of products and services, such as fresh vegetables, eggs, and/or meat. Although members may leave their CSAs for a number of reasons, some researchers have proposed that members may leave a CSA because they are unwilling to accommodate the economic (i.e., cost of membership) and/or unanticipated lifestyle changes (e.g., limited pick-up times and/or delivery options, producing more meals at home, using an increased variety of vegetables, and having an increased quantity of vegetables to eat and/or cook [see Brown, C., & Miller, 2008, p. 1298; Cone & Myhre, 2000; Cox et al., 2008; Durrenberger, 2002]) that membership necessitates.

Study Area

Pennsylvania is one of the most agriculturally productive states in the United States (U.S. Department of Agriculture [USDA] National Agricultural Statistics Service, Pennsylvania Field Office, 2010). It also has an active local foods movement, indicated by the number of CSAs in the state and the large membership in one of the Northeast's largest sustainable agriculture organizations (Pennsylvania Association of Sustainable Agriculture [PASA], n.d.). The Local Harvest online database of local food vendors identified 297 CSAs operating in Pennsylvania in 2013 (Local Harvest, n.d.-a). Eight CSAs specifically served the central Pennsylvania study area; four of them agreed to participate in this study. Each of these CSA farms provided multiple pickup locations throughout the Centre County region, including State College, where the study took place.

Although not all of the studied CSA farms were located within Centre County, Pennsylvania, all of the surveys were conducted at produce pick-up locations within or near the boundaries of State College Borough. The Centre Region differs

markedly from much of the state, and these differences helped explain some of the socio-demographic factors identified in the survey. Specifically, The Pennsylvania State University (Penn State), located in State College, accounted for many discrepancies. Both the median age and household income for State College were below the state average, reflecting the large student body associated with Penn State (City Data, 2013). Likewise, the percentage of State College residents with a bachelor's degree or higher was significantly above the state average. In addition to CSA produce, the food environment of the local residents included seasonal farmers markets, 20 grocery stores, and three club stores or supercenters (e.g., Walmart and Sam's Club). In State College, the number of grocery stores per 10,000 residents was lower (1.39) than the state average (2.04) (City Data, 2013).

Methods

The CSAs selected for this study were chosen to represent a variety of production size and number of years in operation. These two variables were chosen based on three factors: (1) evidence that local CSAs were constituted by different growing styles and marketing schemes (Durrenberger, 2002; Local Harvest, n.d.-b); (2) anecdotal information suggesting the historic presence of some CSAs in the study area; and (3) the presence of several new farms augmenting traditional CSA offerings to residents. To select our study CSAs, we first identified those that operated in the rural area surrounding State College. Five CSAs with pickup locations in or near the borough were identified. Of these five, four agreed to participate. Using a purposive case study comparative approach (Yin, 2003), we studied the conceptualization of community as defined by members (participants) and operators (farm owners) of these four CSAs that are distinguished by production size and history.

Member Response Sample and Administration

A convenience sampling schedule was created to facilitate data collection at specific locations, times, and days of the week to ensure a representative sample at each pickup location among the four participating CSA farms. On-site interviews were

conducted between October 11, 2012, and November 14, 2012 (the end of the 2012 summer season), with a total of 101 surveys collected that resulted in 97 useable surveys over the 10 sampling days. Two distinct sampling time frames (10:00 a.m.–2:00 p.m. and 4:00 p.m.–8:00 p.m.) were used. Farm operators had suggested these two time frames as their busiest periods for produce pick-up. The average face-to-face interview lasted between five and ten minutes, during which interviewers asked questions including those focusing on satisfaction, motivations, participation characteristics, open-ended qualitative questions, and socio-demographics (see Instrumentation below¹). All interviews were exit surveys as the interviewers found that respondents' willingness to participate greatly increased if they were given a moment to unload their CSA items into their vehicle. As a result, the vast majority of interviews took place at or near the respondents' vehicles. Following The Pennsylvania State University's Office of Research Protections guidelines on human subjects protocols, only individuals 18 years of age and older were allowed to participate in the survey.

Instrumentation

The survey instrument included two pages of questions focusing on CSA members' perceptions about community, perceived risks and benefits, motivations, participation characteristics, and satisfaction. The interviewer asked the questions and recorded responses, including those which were open-ended, on the instrument. First, respondents were asked to indicate whether they were members of a local CSA. Those respondents who answered 'no' to this question were disqualified from the remainder of the survey and thanked for their willingness to participate. Next, a series of open-ended, qualitative questions were initiated: *how long have you been a member of this CSA, who in your household made the decision to join this CSA, why did you choose this CSA, do you consider yourself a member of the community based on your CSA membership, what does the community in CSA mean to you, what aspects of this CSA community are important to you, and finally, what do you perceive as the benefits and risks of being a CSA member.*

Following these open-ended items, respondents were asked to rate their motivation levels for a series of 11 possible reasons people commonly join CSAs. These 11 reasons included *feeling towards local goods, physical health/ activity, participation in a work/ farm-share, reducing my carbon footprint, social contribution, essential to my life, value for my money, supporting local farmers, food origin, dietary reasons, and other.* Respondents reported their individual level of motivation for each of the items utilizing a five-point Likert scale that included 'not at all important,' 'somewhat important,' 'moderately important,' 'very important,' and 'extremely important.'

Format of Analysis

Following data collection, each member's questionnaire was assigned a unique number in order to track the data during analysis. Questionnaire responses were transcribed into a Microsoft Office Excel spreadsheet by the interviewer who conducted the survey, but were coded in a collaborative process. These qualitative codes were assigned independently for each question; only the first three responses were coded per response per question. For a majority of the open-ended questions, no more than three responses were given by the informants. For the remaining questions (i.e., questions where more than three responses were given), it became apparent that respondents had repeated their earlier responses but in different terms or specifics. In these cases, no new concepts were being added by coding additional responses. Quantitative data was then imported into SPSS for further analysis.

A series of one-way ANOVAs and Fisher's least significant difference (LSD) post-hoc tests were performed on the mean Likert scale data, including the rating of factors influencing the decision to join a CSA and product attributes (quantity, quality, and variety), to determine if any of the individual farms differed significantly from the others. Following these results, the farms were examined according to production size and length of time in business, and a series of t-tests were conducted on the mean Likert-scale data to determine if these farm groups differed significantly.

the corresponding author.

¹ Copies of the survey instrument are available by request to

Finally, a series of chi-square tests were conducted on the yes/no data that indicated whether respondents considered themselves members of a community based on their CSA membership.

Results

Large Versus Small CSA Farms

We classified the four participating farms as either large ($n=2$) or small ($n=2$) based on their production size (Table 1). The large CSAs had operated at the same location for over five years and produced food on over 10 acres (4 hectares) of land with four to ten full-time employees helping with seasonal production. Not surprisingly, during the 2012 CSA summer season, membership in the large CSAs was greater than the small CSAs, with an average of 180 members receiving weekly produce. Large farms also delivered to members at five different locations throughout the week.

The two small farms included in the study began operations less than five years prior to the study and had 9 acres (3.6 hectares) or less in production. Neither employed outside workers; they relied on the labor provided by household members and volunteers. While the large farms offered supporting enterprises (e.g., meat and eggs), the smaller farms focused exclusively on vegetable production. The average membership of the small farms was approximately 92 for the 2012 summer season, and these farms offered fewer pick-up locations per week (one or two).

Member Socio-demographics

Our analysis of the socio-demographic factors found that over half the respondents were female (68%) (Table 2). This gender ratio differed from both the state and county percentages but was largely consistent with previous CSA surveys (e.g., Brehm & Eisenhauer, 2008; Cone & Myhre, 2000; Durrenberger, 2002; Goland, 2002). The two age groups with the largest number of respondents included those ranging from 30 to 39 years (33%) and those 40 to 49 years of age (22%), with a majority ranging from 22 to 49 years (76%). Respondents aged between 50 and 75 years accounted for 24% of the sample. The mean aggregate sample age was 41 and did not vary significantly between farm production size (i.e., crop acreage and number of members) or history subsamples (i.e., length of time in business).

CSA members were asked to report their annual household income for 2011. Of those who reported their income ranges (84 of 97 responses), most fell into either the US\$25,000–US\$99,000 (50%) or the US\$100,000–US\$149,000 (26.2%) income brackets. The median annual household income in our sample was approximately US\$73,100, higher than reported median incomes for both the state (US\$69,282) and county (US\$64,731) but similar to self-reported figures from previously published studies (Brehm & Eisenhauer, 2008; Cone & Myhre, 2000; Durrenberger, 2002; Goland, 2002; U.S. Census Bureau, 2012).

The majority of our sample had obtained a college degree (94.8%), with over half holding an advanced degree (masters or doctorate). When compared with the county and state levels of education, our sample population was much more highly educated than the general populace. Education levels of Pennsylvania and Centre county residents ranged from those who had obtained a high school degree or higher (87.9%, 92.9%, respectively) or a bachelor degree or higher (26.7%, 39.8%, respectively). The present level of education reported by these CSA members was also greater than levels reported in previous surveys (e.g., Brehm & Eisenhauer, 2008; Cone & Myhre, 2000;

Table 1. Farm Sample Summary

CSA Farm Type		Number of Surveys Collected	
		Valid %	n
Large	Large 1	27%	26
	Large 2	31%	30
	Average Membership ^a	180	
Small	Small 1	20%	20
	Small 2	22%	21
	Average Membership ^a	92	
Total		100%	97

^a Average membership only for the 2012 summer season.

Table 2. Socio-demographic Profile of Respondents

Socio-demographic Variables		Large Farms ^a (n=56)	Small Farms ^a (n=41)	Aggregate Sample ^a (n=97)	County ^b	Pennsylvania State ^b
— Valid Percentages or Means —						
Gender	Male	32%	32%	32%	52%	49%
	Female	68%	68%	68%	48%	51%
Age	Mean	40	41	41	N/A	N/A
	Median	N/A	N/A	39	29	40
Household Income (US\$)	\$25,000 or less	10%	9%	9.5%	N/A	N/A
	\$25,000–\$49,000	31%	17%	25%	N/A	N/A
	\$50,000–\$99,000	18%	34%	25%	N/A	N/A
	\$100,000–\$149,000	25%	29%	26%	N/A	N/A
	\$150,000 or more	16%	11%	14%	N/A	N/A
	Median	N/A	N/A	\$73,100	\$64,731	\$69,282
Education Level	High school graduate or some college	9%	0%	5%	N/A	N/A
	Bachelor's degree	20%	40%	28%	N/A	N/A
	Master's degree	50%	30%	42%	N/A	N/A
	Doctoral degree	21%	30%	25%	N/A	N/A

^a Percentages may not equal 100 because of rounding.

^b U.S. Census Bureau data (2007–2011).

Durrenberger, 2002; Goland, 2002).

Comparisons between members of the two farm groups (large versus small farms) were made for the socio-demographic factors of gender, age, annual household income, and education level. Findings indicated there were no statistically significant differences between the two group members for any of these factors.

$p < .05$ level) between large or small farms. Four items addressed respondent satisfaction with their CSA membership experience. Respondents were asked to separately rate the produce's "Quantity," "Quality," and "Variety" for the current season on a five-point scale ranging from "Awful" to "Excellent." In addition, a fourth item asked respondents to rate their overall CSA experience

Comparing Farm Groups: How Does Community Matter to Members?

The survey instrument contained a list of 11 possible reasons why people join CSAs. Comparisons made using a series of independent samples t-tests between responses from members of the two farm groups indicated that the mean scores of membership rationale did not differ significantly (i.e., at the

Table 3. Independent Samples t-test for Mean Satisfaction Scores by Farm Category

Items	Farm Group	Mean	Mean Difference	df	t
Quantity	Large	4.20	.56	95	-3.98***
	Small	4.76			
Quality	Large	4.41	.47	95	-4.20***
	Small	4.88			
Variety	Large	4.14	.37	95	-2.50*
	Small	4.51			
Overall Satisfaction	Large	8.70	.91	95	-4.73***
	Small	9.60			

* Significant at .05 level; **significant at .01 level; ***significant at .001 level

for the current season on a 10-point scale. Mean scores were significantly different by farm group for all four satisfaction variables: product quantity, quality, variety, and overall satisfaction (Table 3). Small farms had a statistically significant higher mean satisfaction score for each of these variables. The difference between large and small farm satisfaction scores of product quantity, quality, and variety ranged closely between .37 and .56, but the difference between the mean overall satisfaction increased to .91 between the two farm categories.

Respondents were also asked to answer yes or no to the following question: *Do you consider yourself a member of the community based on your CSA membership?* A series of chi-square tests was performed on these responses. No statistically significant difference was found between large and small farms.

What Community Means to CSA Members

Open-ended responses to the meaning of community in CSA generally fell into three broad categories (Table 4). Nearly a third of all respondents supplied a broad definition of community (community definition code=32%). For example,

although the particulars varied, in general community was defined as a group of people who shared something in common. A number of people struggled to define community (non-answer code=11%) and instead provided a list of benefits obtained through membership, such as organic food or access to healthy food. The remaining responses were more narrowly focused on one or more community attributes, personal motivations, or values (sum of categories=57%).

Member responses from the two farm types differed significantly in their definition of community. More than two-thirds of large-farm member responses (67%) included a broad definition of community (i.e., group sharing something in common), a non-answer, support of farming, and support of farmers. The remaining responses more narrowly focused on community attributes, personal motivations, or values. These specific attributes included support of local people, resources, and the importance of interactions.

Small-farm member responses were also dominated by the top four codes: community definitions, non-answers, support of farming, and

Table 4. Responses to the Question, “What does the community in CSA mean to you?”

Category	Large Farms ^a	n ^b	Small Farms ^a	n ^b	Aggregate Sample ^a	n
Community Definition	37%	54	26%	28	32%	82
Non-answer	11%	16	11%	12	11%	28
Support farm	13%	19	4%	4	9%	23
Support farmer	6%	9	9%	10	7%	19
Interaction	4%	6	10%	11	7%	17
Support local people	5%	8	7%	8	6%	16
Relationship	2%	3	8%	9	5%	12
Resources	5%	8	4%	4	5%	12
Farm gathering	3%	5	6%	6	4%	11
Support local resource	5%	7	2%	2	4%	9
Working together	2%	3	5%	5	3%	8
Interaction (place)	1%	2	4%	4	2%	6
Support local organization	1%	2	3%	3	2%	5
Interaction (resources)	1%	2	2%	2	2%	4
People	1%	2	1%	1	1%	3
Total	100%	146	100%	109	100%	255

^a Percentages may not equal 100 because of rounding.

^b An individual's responses could contain multiple ideas; hence the response count exceeds the number of respondents.

Table 5. Responses to the Question, “What aspects of this CSA community are important to you?”

Category	Large Farms ^a	<i>n</i> ^b	Small Farms ^a	<i>n</i> ^b	Aggregate Sample ^a	<i>n</i>
Product	27%	26	19%	13	24%	39
Local	19%	18	10%	7	15%	25
Community	7%	7	24%	16	14%	23
Personal farmer	12%	12	15%	10	13%	22
Lifestyle	11%	11	10%	7	11%	18
Farm outreach	8%	8	3%	2	6%	10
Convenience	6%	6	1%	1	4%	7
Food origin	3%	3	6%	4	4%	7
Peer-peer	3%	3	6%	4	4%	7
Farming practice	2%	2	6%	4	4%	6
Non-community	1%	1	0%	N/A	1%	1
Total	100%	97	100%	68	100%	165

^a Percentages may not equal 100 because of rounding.

^b An individual's responses could contain multiple ideas; hence the response count exceeds the number of respondents.

support of farmers. However, significantly more respondents focused on the personal, human dimensions of the transaction, including support of the specific farmer and local people, interactions, and relationships. More than one in three (34%) members of the small-farm responses defined community at a personal level through support, interaction, or relationships with specific people; only 17% of the large-farm responses focused on this more individual aspect of community.

Members from the large-farm CSAs more consistently defined community as a generic, broader concept (37%).

Likewise, the two farm types differed in the CSA aspects members believed were most important (Table 5). Nearly half (46%) the large-farm members named the product and its local origin as important aspects of their CSA community. Conversely, only a third of the small farm members named these aspects (product and local) as

Table 6. Responses to the Question, “What are the benefits of CSA membership?”

Category	Large Farms ^a	<i>n</i> ^b	Small Farms ^a	<i>n</i> ^b	Aggregate Sample ^a	<i>n</i>
Product	30%	38	28%	27	29%	65
Lifestyle	19%	24	15%	15	17%	39
Local	15%	19	14%	14	15%	33
Community	4%	5	7%	7	5%	12
Variety	6%	7	5%	5	5%	12
Price	5%	6	5%	5	5%	11
Food origin	6%	7	3%	3	4%	10
Personal farmer	5%	6	4%	4	4%	10
Convenience	2%	3	6%	6	4%	9
Quality	2%	3	4%	4	3%	7
Quantity	2%	2	5%	5	3%	7
Farming practice	2%	3	3%	3	3%	6
Farm outreach	2%	2	0%	N/A	1%	2
Total	100%	125	100%	98	100%	223

^a Percentages may not equal 100 because of rounding.

^b An individual's responses could contain multiple ideas; hence the response count exceeds the number of respondents.

Table 7. What Does the Community in CSA Mean to Farm-owners?

Category	Large Farms	<i>n</i>	Small Farms	<i>n</i>	Aggregate Sample	<i>n</i>
Community Definition	—	—	50%	3	25%	3
Non-answer	17%	1	—	—	8%	1
Support member	—	—	17%	1	8%	1
Interaction	17%	1	—	—	8%	1
Support local people	17%	1	—	—	8%	1
Relationship	17%	1	17%	1	17%	2
Farm gathering	17%	1	17%	1	17%	2
Interaction (place)	17%	1	—	—	8%	1
Total	100%	6	100%	6	100%	12

important. Small-farm members more frequently (39%) cited the community and farmer interactions as key aspects of their CSA involvement.

In general, the benefits cited by the aggregate members were the same across the two farm types (Table 6). What appeared to differ was the strength of personal networks formed by the respondents to either the farmers or their fellow CSA members. Large-farm respondents indicated that fellow CSA farmers and/or members were part of the larger, State College community, whereas small-farm members more readily identified their fellow farmers and/or members as *their* community presumably because of a heightened level of interaction and personal relations.

What Community Means to CSA Farm-owners

Following the initial member survey, the farm-owners were asked a small subset of the survey questions asked of CSA members to assess their concept of community in relation to their CSA. In particular, the farmers were asked *do you consider yourself a member of the community based on your CSA*

participation; what does the community in CSA mean to you; and what aspects of this CSA community are important to you? All four sets of farm-owners affirmed they felt they were members of their CSA community. In general, the results largely mirrored the member attempts to define community, including several community definitions that involved the concept of belonging to a group or having a sense of shared group identity. Surprisingly, most of the individual farm-owner responses focused not on broad definitions of community, but rather specific community attributes, personal motivations, or values (72%) (Table 7).

The farm-owners valued the community (group sharing) and farm outreach aspects most among the various features of their CSA groups (Table 8). Lifestyle and personal relationships, both with members and workshare personnel, however, were also highly rated. The farmers specifically mentioned gaining a sense of personal achievement or enjoyment from receiving positive member feedback (i.e., lifestyle code).

Table 8. What Aspects of This CSA Community Are Important to Farm-owners?

Category	Large Farms	<i>n</i>	Small Farms	<i>n</i>	Aggregate Sample	<i>n</i>
Community	20%	1	40%	2	30%	3
Personal farmer	20%	1	—	—	10%	1
Lifestyle	20%	1	20%	1	20%	2
Farm outreach	40%	2	20%	1	30%	3
Peer-peer	—	—	20%	1	10%	1
Total	100%	5	100%	5	100%	10

Discussion

Despite its location within a college town, the current study replicated the CSA member socio-demographics generally seen in other CSA studies. Survey respondents were predominately female, between the ages of 22 and 49, highly educated, and typically earned higher incomes than most of the local populace. Many of the similarities in raw data with previous CSA studies were striking, but the conclusions reached were often quite dissimilar. For example, Pole and Gray (2013) reported a low sense of community among New York CSA members.

The majority of central Pennsylvania CSA members surveyed in our study were highly satisfied with their CSA membership and most indicated they would retain it. This suggests, at a minimum, that the majority of surveyed members are willing to accommodate any economic and/or lifestyle changes associated with CSA membership, including changes to purchasing, processing, and consumption behaviors (Brown, C., & Miller 2008; Cone & Myhre, 2000; Durrenberger, 2002) and/or felt they were obtaining sufficient benefits from membership (i.e., social capital [Flora & Bregendahl, 2012]). Nevertheless, we found a statistically significant difference between satisfaction levels that correlated with production size and length of time the CSA has been in business. Members of the smaller, newly emerging farms were more satisfied than members of the larger, well established CSA farms. Thus satisfaction not only factored into the decision to remain a member, but was also associated with CSA community perception, as discussed below.

Members of established, larger farms defined community broadly as a group of people who shared something in common. For these members, it was a community of shared interest rather than of relationships, supporting the results of Cone and Myhre (2000). Discussions with established farmers suggested their outreach and education efforts focused more on broader social issues and ethics addressed through CSA membership (i.e., value-added purchasing). Thus, a broader community definition was conveyed to the members through the primary efforts of the farmers. In addition, members of the larger, established farms were

satisfied with their memberships because they believed their participation contributed to a greater good (i.e., broader social and ethical values).

Members of the smaller, emergent farms were more likely to define community on the basis of personal relationships. In other words, members defined their community by naming specific types of interactions or relationships with individuals, including the farmers. These small, emerging CSAs used existing social networks (e.g., families, church groups, and coworkers) and their farm products as a means to relate to members, building interconnectivity. They stressed the building of trust and reciprocity with their members; interactions were seen as equal exchanges. This concept of community was mirrored in the personal benefits listed by the members. Here, community was defined by the interaction of its members; these interactions, for the most part, existed prior to membership in the CSA. The CSAs were benefiting from the pre-existing, embedded social networks of the individual farmers. As such, the emerging farmers were initiating a “collective effort to provide food whilst building community” (compare with Fieldhouse, 1996, p. 43).

The heightened, personal interaction among the small farmers and members provides insight into the significantly higher satisfaction experienced by these members. While both large and small farmers, to a degree, were able to successfully re-embed their products in social and environmental relations, only the small farmers played an integral role in the lives of their members. In other words, there was an inverse relationship between the level of satisfaction and the distance of social relations. When actions were perceived to benefit specific individuals, the personal satisfaction was greater than when actions were perceived to benefit a faceless group. This difference might also be expressed as the difference between building an association based on belief in a common good and a community based on interaction (MacIver, 1931, in Wilkinson, 1991). Alternatively one might speculate that if the smaller CSAs have a more homogeneous membership, based largely on pre-existing social networks, then the farmers may be employing a form of bonding social capital (Flora & Flora, 2003). Likewise, larger farm operators

might be building bridging social capital through diverse and flexible networks, which has been theorized to increase both the community of interest and community of place (Flora & Flora, 2003, p. 219).

Conclusion

Our CSA farm sample was selected to represent the diversity of options present in the central Pennsylvania regional food network and included farms with differing production sizes and years in operation that serve the same semi-urban area of State College. Following Brehm and Eisenhauer (2008), we asked CSA members to define their concepts of community both directly through open-ended questions and indirectly through satisfaction measures. Qualitative analysis of the responses defining the concept of community in CSA indicated that definitions differed significantly between the large, established farms and the smaller, emerging farms. Although member socio-demographics did not correlate with perceptions of members' CSA community, satisfaction was significantly different between the large and small farms. While all members were highly satisfied, members of the smaller, emerging CSAs were more highly satisfied.

The results suggest that the way in which farm operators conceptualized the "C" in community supported agriculture influenced member perceptions of their CSA community. The large, well established farm operators conceptualized CSA communities in a broad sense as contributing to a greater good in social and ethical issues. This conception of a CSA community was then reflected in the responses of the large farm members who defined their CSA community as "a group of people who share a common interest." Conversely, the smaller, emerging farm members defined their CSA community in terms of more personal and specific relationships. This greater degree of personal interaction likely resulted in a heightened sense of CSA satisfaction.

These distinct yet juxtaposed findings present researchers with a paradox. As CSAs first enter the market, they are typically small in terms of both membership and production capabilities. This small and manageable size affords ample

opportunity to foster a strong sense of community relationships through interaction. Larger CSAs, however, may find this level of interaction difficult to facilitate evenly across the membership. Larger CSA organizations, by necessity, often encompass broader geographical boundaries, spreading themselves thinner across multiple distribution sites, thereby limiting the opportunities for interaction within the membership as a whole. We suggest that a key component to maintaining a sense of community within a CSA is to establish a membership threshold at which both customer satisfaction and sense of community are optimum for consumer and producer.

Our findings indicate that with effort, small CSAs can facilitate a holistic sense of satisfaction and sense of community, while their larger counterparts may exist as an intermediary somewhere between a true community-building enterprise and a more disconnected wholesale supplier. Anecdotal observations and owner interviews further support this concept by suggesting that at the center of many CSAs, particularly those that started small, is a core group of individuals who intently personify the notion of community. When these small CSAs expand, the number of members on the periphery of this core group increases, thus diluting the average or overall sense of community and customer satisfaction.

Although CSA membership is growing in the United States, membership turnover is also on the rise (Lang, 2010; Perez, Allen, & Brown, 2003). Our findings suggest that CSAs may retain more members from season to season if they foster a greater sense of community. By increasing opportunities for interaction among the CSA membership, such as potluck dinners and other events, members may find more satisfaction with their CSA experience. Opportunities for interaction in larger CSA operations may be increased by encouraging place-based interactions among the various pick-up location populations (i.e., sub-populations of the CSA membership). Increased interaction at distribution locations could be facilitated through recipes and unwanted produce exchanges, not only fostering a greater sense of community but also alleviating other common reasons for leaving a CSA, like food waste or

unfamiliarity with certain vegetables (Perez et al., 2003; Russell & Zepeda, 2008).

Our findings suggest that if larger CSAs wish to foster an inherent sense of community, they should consider a multiscale approach to facilitate membership interactions. Larger CSAs should encourage smaller-scale, place-based interactions at distribution locations, as well as farm-centered activities that encompass the entire CSA membership. Some individuals, however, may join a CSA more for the food production benefits with the intent of having limited involvement (DeLind, 1999, 2003). These individuals would be on the periphery of the CSA core group but may participate more in the broader community through other social networks (e.g., youth outreach, food banks, or shelters).

Further work is needed to provide insight into the ideal membership or group size at which both holistic community and customer satisfaction may be ideally maintained. Additionally, there is a need to document the social networks that may be used by new CSA operators and the extent of personal interactions seen in such communities. Research into the existing social networks of members, beyond the farm, could explore avenues of opportunity for the CSA operators. Moreover, an examination of the CSA non-core group or periphery members may document how these members are contributing to community-building activities in other aspects of life, placing CSA activities within a wider frame of reference. Other researchers have suggested a link between overall community attachment and CSA involvement (Brehm & Eisenhauer, 2008), but much additional work is needed to explore this relationship.

Acknowledgments

The authors thank our local CSA farm operators and their members for their assistance and participation in the study. This article reports the results of transdisciplinary, cohort-building research at The Pennsylvania State University conducted in fall 2012 and spring 2013. The authors additionally thank Ryan Scavo, Emily Osborn, and Stephanie Eisenbise for assistance with data collection and collaborative coding. Preliminary project results were presented in poster format at the 19th International Symposium on Society and

Resource Management (ISSRM) in Estes Park, Colorado, in June 2013, where ISSRM participants graciously gave of their time and experience to discuss and critique the project. They too are sincerely thanked.

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The branding of community supported agriculture: Myths and opportunities

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Submitted September 22, 2013 / Revised September 25, 2013; February 24, May 6, and December 1, 2014, and February 4, 2015 / Accepted February 4, 2015 / Published online May 29, 2015

Citation: White, T. (2015). The branding of community supported agriculture: Myths and opportunities. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 45–62.
<http://dx.doi.org/10.5304/jafscd.2015.053.008>

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Abstract

Since the mid-1980s, participants in community supported agriculture (CSA) have promoted, proliferated, and adapted the CSA model, resulting in CSAs gaining popularity as a trusted “brand.” They have developed and expanded CSA by pursuing common branding strategies, such as building name recognition, differentiating the brand from other farm and food producers, and developing CSA narratives and mythologies with positive associations that attract advocates. However, CSA has not been branded via a typical centralized, hierarchical process, but rather through the independent, informally organized collective efforts of its farmers and members. With no standardized licensing or certification process (unlike “organic”), CSAs remain liberated from a strict set of allowed practices, yet debates still occur about what constitutes a “real” CSA. Despite the fact that many idealistic promotional claims of CSA have been validated, one glaring weakness is that

many CSA farmers still struggle to achieve financial security. The positive brand mythology surrounding CSA has made it difficult for participants to acknowledge and confront this shortcoming. Drawing on qualitative field research and review of archival CSA materials, this paper examines the identity making and branding of CSA. I constructively critique some of the most fundamental aspects of CSA: its constructed image and its actual practice. Through this lens, I ask how the independent, open-source branding has helped or hindered CSA proponents in achieving goals. By focusing on these aspects my hope is that a variety of advocates, academics, farmers, CSA members, and others, can collaborate on developing a positive next era for CSA and its offshoots both within and beyond agriculture and food—projects aimed at strengthening consumer/producer alliances, cooperative practices, and ethically based community economies.

Keywords

community supported agriculture; branding; cooperative; open source; social movements; diverse economies

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We did not want to craft a tight definition or try to establish the criteria for identifying “the true CSA farm.” Rather we hoped to honor the diversity of this young, but quickly spreading movement.

—Elizabeth Henderson, pioneering CSA farmer
(Henderson & Van En, 2007, p. 8)

If there is a common understanding among people who have been involved with CSAs, it is that there is no formula.

—Traugher Groh, pioneering CSA farmer,
and author Steven McFadden (Groh &
McFadden, 1990, p. 107)

Introduction: Branding CSA?

Despite the widespread use of the unifying term “community supported agriculture” and its abbreviation CSA, a multitude of participants continually define, redefine, and expand the methods and goals of CSA. A symbiosis of independent *and* collective identity making has constituted a vital part of CSA history and is, I argue, at the core of CSA success. Could this process of identity making and proliferation be viewed as the “branding” of CSA? With its connotations of corporate power building and centralized control, branding might seem to be an unlikely (and perhaps unappetizing) term for the unfolding of a decidedly grassroots food and farming movement. But branding theory and literature do provide a useful framework to better understand how CSA has created name recognition, built a reputation, spread widely, and articulated a variety of goals and aspirations. The analytical lens of branding (especially cultural branding) provides an especially valuable perspective, as branding is one of the central means by which material, cultural, and political expressions take hold of the public consciousness and lead to action—or dissolve into obscurity. As Schroeder (2009) points out, “we live in a branded world: brands infuse culture with meaning, and branding profoundly influences contemporary society”; in essence, “brands themselves have become ideological referents that shape cultural rituals, economic activities, and social norms” (p. 124).

Consciously or unconsciously, CSA participants have taken part in branding CSA by building associations between the name and certain ideas,

values, and relationships. In this paper, I analyze the branding of CSA and examine how this unique movement represents itself within a larger context of food and farming, straddling a line somewhere between the institutional and the renegade. By looking at the way CSA is branded, I explore some of the more successful positive dynamics generated by CSA and also examine some CSA shortcomings and suggest ways they could be remedied (such as making the economic and financial realities more transparent—more of an “open book”).

Simply put, the process of branding involves producers presenting positive stories about their products that will motivate consumers to buy those products. Though many producers share basic facts about their operations such as “established in...” or “made in U.S.A.,” a significant part of branding is done through a more abstract expression of the attitudes and ideals intended to be shared with consumers. Marketer and author Seth Godin expounds on this idea, stating that a “brand is the set of expectations, memories, stories and relationships that, taken together, account for a consumer’s decision to choose one product or service over another” (2009, para. 1). Branding theory applied to CSA helps to understand the way CSA has evolved and come to be known. CSAs are noteworthy for fostering collaborative rather than adversarial producer/consumer relationships. They exist beyond typical notions of how brands and consumers interact. In many cases, CSA members do not see themselves merely as consumers, nor do they behave merely as consumers. Instead they practice a great deal of agency in promoting, problem solving, partnering with, and protecting the CSAs they are involved with. This paper uses branding theory to provide an analysis of how participants have co-created CSAs, and also explores new ideas of branding as a potentially non-exploitive practice with many possibilities for interpretation and application. Conclusions expressed here may be applicable to CSA directly, and/or to other agricultural or environmental efforts aimed at building ethical commerce, increasing consumer/producer interdependency, and initiating sustainable place-based economic development.

Since the origins of CSA in the United States around 1985, individual CSAs have identified and

promoted themselves both as unique localized operations and as part of a larger movement and brand. They engage in cooperation and occasional competition with other CSAs, but with an overall effect of collectively strengthening and validating the CSA model and name. Counter to the tightly controlled top-down branding campaigns of larger corporations, the branding of CSA has been a largely independent, unorganized, non-unified process conducted by countless CSA participants in a variety of settings.

To better understand the process of identity making and CSA branding, it is useful first to acknowledge how branding is very much tied to the creation of accompanying narratives and myths (Holt, 2004). I define myth for this purpose as a story that “embodies and provides an explanation or justification for something” and also generates “a popular conception of a person or thing which exaggerates or idealizes the truth” (Oxford English Dictionary, 2003). At the forefront of CSA branding is an alluring mythology that has been constructed consciously and unconsciously by CSA participants and observers. This mythology depicts CSA as ecologically and economically sustainable, and presents CSA as a symbolic and “enchanted” place and space that produces superior food, dignifies farmers, preserves farmland, and builds an enlightened and engaged community of supportive eaters (Farnsworth, Thompson, Drury, & Warner, 1996, p. 91; Thompson & Coskuner-Balli, 2007).

To a lesser extent, CSA also engages in a form of “anti-branding,” a force that draws strength and resilience from activist sentiments (Schnell, 2007, p. 562) to position the brand as a necessary alternative. As an anti-brand, CSA has no singular logo, trademark or central control, and is viewed as a vital, perhaps even incorruptible rebellion *against* industrial agriculture, exploitive supply chains, processed food and passive consumerism. CSA the anti-brand cannot be encapsulated or privately owned. It *rejects* hierarchical control and fixed meanings. Thus, the positive branding mythologies of CSA intertwine with critical anti-branding sentiments. This results in CSA embodying a variety of dynamic and hopeful possibilities, including “a decommmodification of food *and* land” (Guthman, 2004a, p. 185) in response to the

unhealthy and unjust conditions created by industrial agribusiness.

Applied to CSA, Holt’s ideas about “iconic brands” and their narratives or mythologies suggest a powerfully transformative pathway for CSA:

Iconic brands function like cultural activists, encouraging people to think differently about change. These brands don’t simply evoke benefits, personalities, or emotions. Rather, their myths prod people to reconsider accepted ideas about themselves. (Holt, 2004, p. 9)

The research presented here identifies CSA as operating on a thin line. In one aspect, CSA does “simply evoke benefits, personalities, [and] emotions.” But CSA has also prodded us to “reconsider accepted ideas” of ourselves. Today, the CSA identity-making process, its branding, is in a “don’t ask, don’t tell” phase. Its powerful myths both guide and restrict progress. CSA members (or shareholders) are reluctant to interrogate CSA too deeply, for fear of invalidating the brand mythology, and for the same reason farmers are often reluctant to reveal too much. But by building on and demanding more from their relationships, farmers and shareholders could deepen their conversations about CSA and influence its practices. Giving voice to this, CSA pioneer Jan Vander Tuin warns against complacency, stating that CSA participants need to confront and engage more boldly in larger issues of environmental degradation and economic inequity, while admitting that some of these “values are not in the culture yet” (personal communication, November 18, 2012). Complementing Vander Tuin’s point, another CSA pioneer, Traugher Groh, suggests that CSA progress could not have been achieved without a “higher ideal,” yet he also admits that is necessary to “explain this higher ideal and live it” (personal communication, January 2, 2103).

CSA has flourished in large part because of its elasticity regarding definition, philosophy, and operating methods. CSAs do not require certification or licensing and in general do not expect government support *or* oversight specific to operating as a CSA. Aside from early CSA pioneers who discussed the potential of CSA at great length

and who worked hard to promote the model in its first manifestations, the overall proliferation of CSA has been a decidedly organic and independent effort. Since the origins of CSA, a growing number of CSA collaborators have argued about and reaffirmed how CSA should work and why it is an invaluable alternative to industrial agriculture. In this paper I demonstrate how the branding of CSA has included some traditional practices but also has employed some radical departures from them, reflected in particular by the lack of centralized control and no singular CSA identity.

Methods and Approach

The initial data for this inquiry emerged as a by-product of qualitative field research I undertook at five CSAs in the Pioneer Valley of western Massachusetts between September 2009 and November 2012. The idea of CSA branding did not guide the initial research, but rather grew out of it. The intent of the initial research was to explore the concept of “diverse economies” (Gibson-Graham, 2006) as exemplified by CSAs. My goal was to see how participation in CSA influenced economic perceptions and economic behaviors. My research revealed that CSA participants become more engaged in diverse economic activity as a result of their involvement with CSA. CSA provides a fertile opportunity for participants to barter, volunteer, share, donate, self-provision, initiate work-trades, and band together to pursue collective community-based land ownership. The five CSAs were selected to represent many facets of the CSA movement: large, small, old, new, rural, urban, horse-powered, mechanized, biodynamic, nonbiodynamic, associated with nonprofits, independently owned, or cooperative.

I conducted 40 in-depth interviews accompanied by participant observation. Some of the questions had to do with how participants discovered CSA, what about CSA attracted them, and what their actual experiences were, both positive and negative. Farmers allowed me to recruit in person at CSA distributions, which provided most of my member interview contacts. In addition, I sometimes selected research subjects through purposive snowball sampling (asking one interviewee to recommend another). I interviewed

all farmers at each of the five CSAs, and I interviewed at least one apprentice or assistant farmer at each CSA. In other cases, I selected interview subjects from acquaintances whom I knew were associated with these CSAs, and in a few cases I contacted individuals who were leading educational events at or had other connections to CSAs. Over a three-year period I also did extensive participant observation at these five CSAs during food distributions, volunteer workdays, educational workshops, board meetings, festivals, and many other events. I created an ethnography based on these interviews and participant observation.

As I analyzed and began coding this data, I began to notice the range of perceptions about what CSA is and what it symbolizes. I paid closer attention to how CSA was represented in discourse—from farmer to member, member to member, member to nonmember. I reviewed each CSA's website and noted the use of imagery, narratives, and the many updates and re-articulations about what CSA was intended to achieve. I also spoke informally to additional CSA members and CSA advocates. Everyone had a definition of CSA, definitions that demonstrated both uniformity and uniqueness. I examined how farmers “advertised” their CSAs to the public, and how CSA members engaged in recruiting new members, sharing positive stories about what they liked or critiques about how CSA fell short of their expectations.

The coding of my ethnographic data, a grounded theory-driven approach, became the impetus for a new point of inquiry: could the evolution and proliferation of the CSA be considered a form of branding? This led me to review branding literature, confirming its relevance to understanding the evolution of CSA. I also carefully reviewed academic and popular literature on CSA, and examined early CSA promotional materials, including a rare (now on YouTube) promotional video documentary, *It's Not Just About Vegetables*, made in 1986 by CSA pioneers (Friedman, McGruer, & Vander Tuin, 1986).

In some respects the branding of CSA includes strategies similar to typical corporate branding, but in other significant ways it is a conscious rejection of these strategies. After the initial field research in the Pioneer Valley was completed, I also engaged

in additional participant observation at Temple-Wilton Community Farm in New Hampshire, one of the first CSAs in the U.S. and subject of the influential book on CSA, *Farms of Tomorrow* (Groh & McFadden, 1990). Additional interviews were conducted with CSA “pioneers” Traugher Groh, a co-founder of Temple-Wilton; Jan Vander Tuin, a co-founder of Indian Line Farm, in Great Barrington, Massachusetts; and Perry Hart, the founder of an early CSA based in Santa Rosa, California. I also consulted with staff at the national Robyn Van En Center for CSA Resources and the regional advocacy group Community Involved in Sustaining Agriculture (CISA) in western Massachusetts. Last, I conducted a short series of interviews with participants in emerging community supported enterprises based on the CSA model, including community supported fisheries, art programs, bakeries, and a community supported yoga program. These subjects talked about what the CSA brand meant to them, and described how and why they had modeled their initiatives on community supported agriculture. In total, I conducted 56 in-depth interviews with farmers, apprentices, members, and others associated with CSA or CSA-inspired enterprises.

How CSA Engages in Branding

Besides creating myths that define a brand, another fundamental role of branding involves differentiating a product from that of competitors (Palazzo & Basu, 2007); CSA has been carrying out this differentiation since its beginning. CSAs generally offer fresh, locally grown, non-uniform, organic produce (DeMuth, 1993). This produce is often distributed directly from the farm, a supportive local business, or via noncommercial settings such as members’ homes, schools, churches, or other community centers. Thus the CSA “product” stands in stark contrast to chemically grown and/or genetically modified food, trucked hundreds of miles and distributed via supermarket chains. One CSA member I interviewed expressed satisfaction knowing “no one was harmed in the production of this tomato,” and stated, “I don’t have to feel a little brightly packaged thing is yelling, ‘buy me, buy me.’”

One particularly interesting element of CSA

branding has been the focus on unpredictability as a revolutionary selling point. In CSA, diverse foods come out of a system that results in surplus quantities of some vegetables but lean quantities of others. As opposed to the consumption practices enabled by supermarkets and their supply chains, CSA members can only *hope for* rather than *count on* an abundance of tomatoes in late summer. The possibility for consumer pleasure and for what Thompson and Coskuner-Balli (2007) refer to as “enchantment” have also become part of the brand, as CSA members experience a reconnecting to land and seasonality. These ecological and emotional narratives surrounding the operation of CSAs exist in counterpoint to “McDonaldized” visions of corporate rationalization, predictability, and control (Ritzer, 2008) in which producers and consumers conspire to celebrate uniformity. However, despite consumer enchantment and the stimulating surprises of seasonality, at the same time these deeply ingrained and ever-increasing social expectations of choice and instant gratification also put pressure on CSA farmers to pursue greater efficiency, predictability, and control.

In addition to product differentiation, the strategic naming of “community supported agriculture” has played a significant role in the shaping of CSA as a model, a movement, and a brand. In his book *Brands* (2006), Danesi writes that humans claim specificity, individuality, and identity through naming themselves and myriad other elements of the world. When products or services are named, they become in a sense “humanized.” Thus, the naming or branding process involves blending character attributes, virtues, aspirations, and relationships. Corporate branding often involves a fastidious and calculated naming process in order to optimize brand identity. Although the overall branding of CSA has been a loose process, the creation of its name indicates an attempt by CSA founders to achieve a very strategic positive association. Regarding the naming of CSA, prominent CSA pioneer and Indian Line Farm co-founder Robyn Van En wrote, “Please know that every word was chosen after lengthy consideration” (Henderson & Van En, 2007, p. xiv). She and the other CSA pioneers at Indian Line Farm spent hours debating and carefully

crafting the initial language and principles that would describe and guide the replication of CSA (Henderson & Van En, 2007). Reflecting on the syntax of “community supported agriculture,” she commented, “we knew it was a mouthful and doesn’t fit easily into conversation or text, but to this day I can’t think of a better way to name what it’s all about” (Henderson & Van En, 2007, p. xiv). Van En also claimed she was “adamant” about using the word “agriculture” rather than “farms,” because she “didn’t want to exclude similar initiatives from taking place on a corner lot in downtown Boston” (Henderson & Van En, 2007, p. xiv).

This sense that CSA could grow in new ways and forms, through new participant collaborations, was expressed by many of its pioneers (Henderson & Van En, 2007). *It’s Not Just About Vegetables*, which provides a very early look at the Indian Line Farm CSA, closes with head gardener Hugh Radcliffe saying, “I see no reason why the general idea could not be realized in many locations, but each of them would have its own identity. Each would have its own particular character.” Following Radcliffe’s statement, another voice, the unseen narrator, furthers this notion: “In the years to come, community supported agriculture hopes to...help encourage the development of similar projects” (Friedman, McGruer, & Vander Tuin, 1986). As additional early CSA projects did sprout up, some called themselves similar names, such as “CSF” for “community supported farm” (Van En, 1992), and today some projects still choose to identify CSA differently, such as “community sustained agriculture” (Live Power, n.d., para. 4). However, the vast majority of projects identify themselves specifically as “community supported agriculture,” thus strengthening the recognition and power of this name.

Despite the initial strategic naming process, use of the terms “community supported agriculture” and “CSA” has remained free, untrademarked, and unrestricted. “Community supported agriculture” provides an essential identification tag, but it also brings forth larger notions about powerful relationships. Three-word identifications can carry strong implications, from “military-industrial complex” to “food not bombs.” The three words “community

supported agriculture” suggest a broader dynamic that is informed by a certain politics and worldview. While the words suggest positive relationships, it also hints at a larger project of cultural intervention, by implying that other forms of agriculture may *not* be community supported or community benefitting.

In this sense, the founding of CSA can be seen as an attempt to compress a much larger vision into a seed, ready for sowing and transplanting. The eventual products from that seed were intended to contribute to an alternative economic vision and practice. To help spread the concept of CSA, early advocates produced a variety of promotional materials: articles, books, and the aforementioned documentary film, which Van En considered “the best way to present the CSA concept” to an audience of potential new CSA initiators (Van En, 1992, p. 5). The authors of these resources repeatedly encouraged others to replicate CSA in their own contexts, providing detailed suggestions as to why and how to start a CSA, but they expressed no interest in franchising or controlling CSA offshoots. Thus a culture of autonomy was created, providing the freedom to adapt existing principles and practices and allowing the right for anyone to call their operation “CSA.” However, rather than cultivate a strictly maverick culture, these CSA “how-to” materials also encouraged a sense of camaraderie and collective resource sharing between CSAs, openly describing and referring to other CSA projects as valuable case studies (Friedman, McGruer, & Vander Tuin, 1986; Groh & McFadden, 1990, 1997; Henderson & Van En, 2007). While the first CSAs began autonomously, they did share some common influences, notably, connections to ideas developed and promoted by Rudolf Steiner. They adopted biodynamic farming practices and principles that promoted “organic practices,” envisioning the farm itself as a self-sustaining ecological “organism”; most enacted “associative economies” by creating interdependencies and risk-sharing between consumers/members and producers/farmers, and most formed relationships with nearby Steiner-inspired Waldorf schools or other “anthroposophic” institutions that became supportive collaborators (Friedman, McGruer, & Vander

Tuin, 1986; Groh & McFadden, 1990; Henderson & Van En, 2007).

Over time, new self-labeled CSA farms or farm collaborations both replicated aspects of the CSA concept or brand and reworked it. The independence with which CSA entrepreneurs could do so fueled the movement's growth and creativity. One long-time CSA farmer, Dan, whom I interviewed described the sense of optimism and reproducibility central to building the movement:

In a sense the entire CSA experience for people is about one other possibility. And the strength of this thing from a more grandiose standpoint has to do with the fact that...it can be sustainable year after year, then you have one example of something that happens—then people say, “Oh, that *can* happen. If that can happen, why couldn't you do that a hundred times?”

As the establishment and success of early CSAs encouraged others to adopt the concept, it proved to be a solidly replicable model. The promotional efforts of CSA pioneers and the enthusiasm they helped generate facilitated the social construction of CSA as a known entity—effectively, an established brand. By 2006, the number of CSAs in the U.S. was well over 1,000, according to the Robyn Van En Center for CSA Resources (C. Vosburgh, personal communication, March 2, 2011). The “buzz” and popularity of CSA was increasing. The CSA brand was strengthened through reputation building often performed by its own participants. This exemplifies a kind of “viral branding” in which a brand is able to “motivate the right consumers to advocate for the brand” (Holt, 2004, p. 14).

The broader process of CSA “cultural branding” aligned brand engagement—becoming a CSA member—with cultural affiliation and values. As one study noted, “CSA shareholders’ social objectives dominate their decision to join” (Farnsworth, Thompson, Drury, & Warner, 1996, p. 97); in other words, the motivation for becoming a CSA member can be not just getting farm-fresh foods but also being part of a like-minded community, one motivated to build a more

sustainable food system. Cultural branding also connects with the idea of brand loyalty. Several CSA participants I interviewed were members of several different CSAs simultaneously. More than being loyal to one particular CSA, they expressed loyalty to the CSA brand itself and the communities it helped form. They spoke of CSA as a desirable cultural alternative to supermarkets and even farmers markets, and were stimulated to try different versions of it. One member of multiple CSAs revealed the strong attraction of being part of a CSA:

If we were to move somewhere else tomorrow, it would be like “all right, we need to figure out what the good co-op is and what the good CSA is around here.” It would be like finding a new church. Like where is this element of community that is important?

Other interviewees reiterated this feeling, describing CSAs they belonged to in the past and mentioning that after relocating to new areas they had actively sought out new CSAs to join. This demonstrates that the broader CSA brand reputation can carry beyond a specific locale. As with any successful brand, CSA has its followers who continually seek it out as something known and desired—a trusted resource within changing territory.

An Iconic Brand

CSA can also be seen as an “iconic brand.” According to Holt, iconic brands have “distinctive and favorable associations, generate buzz, and they have core consumers with deep emotional attachments” (2004, p. 35). The following example of CSA as an iconic brand comes from my field research in western Massachusetts. The operators of several CSAs decided to collaborate on hosting a fundraising event to support local food pantries and land preservation efforts. Their first dance-party fundraiser was a success and became a popular annual event. Advertising for the event specifically highlighted the contributions of the local CSAs as the key sponsors and positioned CSA farmers, and, by association, their members, as cultural leaders; there were no large corporate

sponsors. This collaboration reveals the potential for CSA farmers to brand their projects through positive associations, garner attention, and act on the emotional and/or ethical attachments expressed by many of their members. This example also illustrates how CSA farmers can embrace and promote cooperative principles such as “cooperation amongst cooperatives,” and “concern for community” (International Co-operative Alliance, n.d.). In addition, most of the CSA farmers I studied also cooperated by occasionally combining with others’ crops to achieve more quantity and diversity, especially in off-season “winter shares.” One CSA received external produce from other farms when a severe storm destroyed much of its harvest. Explicitly practicing cooperative principles, one CSA I examined (Common Wealth CSA) was in fact a group of farms of various sizes that continually combined their produce to form shares that could be distributed at a single site. Such camaraderie and cooperation—or at least their possibilities—are solidly part of the CSA brand identity.

Holt also writes that “iconic brands” must be attentive to “cultural disruptions” (2004, p. 39), that after a brand’s mythic identity has formed it can be damaged or made irrelevant by cultural shifts. For example, cigarette sales have declined as cultural perceptions about smoking have become increasingly negative. Within the realms of agriculture and food, many cultural disruptions (some of which CSA itself has helped bring about) have generally strengthened CSA relevance to consumers, and contributed to its becoming a cultural icon and iconic brand. CSA is widely seen as a key symbol both in the disruption of industrialized food regimes and in the co-creation of a broad and swelling movement promoting fresh, diverse, organic foods, produced on small farms for local knowledgeable, engaged consumers. As an actual model operating in the real world, CSA inhabits a unique space as it is viewed as both established and yet also still emerging, a social institution in its own right that simultaneously serves as a vehicle for rebellion against other institutions.

It is important to note that CSA has proven over time its ability not just to make claims but to deliver on them, enabling CSA to gain authority.

As Holt explains,

successful brands develop reputations for telling a certain kind of story that addresses the identity desires of a particular constituency. In other words, iconic brands accrue two complementary assets: cultural authority and political authority. (2004, p. 211)

In the case of CSA, cultural authority has become a means to wield political authority. CSA resonates with people’s shared desires for a more ethical and sustainable food system. In addition to this, CSA wields some political authority by being, arguably, the flagship of the grassroots local organic food movement and by remaining independent of government control. While some CSA projects have received government support in the form of grants, loans, and extension services, the CSA brand or concept itself has not been co-opted or regulated by government. This is in contrast to the organic certification movement, which has seen its own organic standards threatened by the USDA and its fundamental principles partially co-opted by industry (Guthman, 2004b). In the U.S., CSA is not certified or controlled by any agency or nongovernmental organization (NGO) representing its “mission.” So, in essence, some of the cultural and political authority that the CSA brand holds is through its independence from the corporate realm and its freedom from rigid ideologies and imposed standards.

This largely unorganized proliferation of CSA is a counterpoint to typical notions of capitalist franchising and is a noteworthy departure from traditional branding strategy. The multitudinous efforts to explain, promote, and improve CSA are characterized by a continual environment of independence and have some similarities to the activities of the open source software movement, a “pragmatic methodology that promotes free distribution and access to an end product’s design and implementation details” (Open Source Ecology, 2015, “What is Open Source Permaculture?” para. 3). Kloppenberg (2010) has explored the notion of a “biological open-source” in examining the battle over seed ownership, and draws compelling connections between the need

Photo 1. Two Generations Examine Their CSA Farm Up-close in a Pick-Your-Own Field at Simple Gifts Farm



Photo by the author.

for smaller farmers to control and develop their own seed collections and the efforts of artists, musicians, writers, and other innovators to control and develop their own creative endeavors. Vital to this control is the capacity to remain free to share and build upon each other's work (Kloppenber, 2010). The feeling that CSA participants are also free to share and build on possibilities together has been inherent since the origins of CSA.

"CSA is...": Examples of How Five Diverse CSAs Define and Brand Themselves

Despite lacking traditional economic building blocks such as hierarchical control, profit-seeking investors, efficiencies of scale, and subsidies, CSAs continue to proliferate. The lack of hierarchical control of CSA has become emblematic of the brand as represented by its continual redefining. While many CSA operators adopt core unifying concepts, they also embrace the opportunity to define CSA in their own spatial and cultural contexts. The following profiles represent these varied definitions from the five CSA enterprises I researched in western Massachusetts between 2009 and 2012.

Founded in 2006, Simple Gifts Farm is a relatively new suburban CSA in Amherst (<http://www.simplegiftsfarmcsa.com>). Operating on over 30 acres (12 ha) of community-owned and preserved farmland nestled among single-family

homes, it serves a very localized consumer community, as the farm is within two miles (3.2 km) of 10,000 residents (see Photo 1).

The farm hosts a variety of farm-related public workshops. Its website describes some of the basic multifaceted components of CSA; its definition of a CSA speaks of economic interdependency, local and seasonal production, and fostering more meaningful relationships between producer and consumer:

Community Supported Agriculture (CSA) is a relationship that brings farmers and eaters closer together. Members have the opportunity to enjoy seasonal eating and a deeper connection to their food source, while helping local sustainable agriculture flourish. When you become a CSA member, you pay for a portion of the farm's expenses and receive a share of the harvest in return. (Simple Gifts Farm, n.d., para. 1)

Natural Roots CSA, founded in 2006, is in a remote and scenic riverside location in Conway, Massachusetts (<http://www.naturalroots.com>). The farmers utilize draft horses rather than tractors (see Photo 2).

The farm's website describes its CSA in place-specific terms, emphasizing consumer potential for becoming significant participants in this landscape:

Each distribution offers a great opportunity for connecting with friends and neighbors. Many families come and stay for hours. Kids love to climb the pine tree near the distribution barn, splash in the shallows of the river, watch the horses at work, and race to the berry patch together...The farm is a haven for wildlife, farm life, and human life as well. By becoming a shareholder you can help to preserve and enrich this treasured resource of

Photo 2. Visiting Farmer Apprentices Watch Draft-horse Plowing Demonstration at Natural Roots CSA

Photo by the author.

our community. (Natural Roots CSA, n.d., para. 4–5)

Founded in 1986, Brookfield Farm has a large membership (over 500) and is one of the oldest and most established CSAs in the U.S. (<http://www.brookfieldfarm.org>). It is located in a rural, though not remote, location and serves members in and around Amherst as well as an urban contingent in the Boston metro area. Brookfield's farmers are paid employees of the Biodynamic Farmland Trust, a nonprofit that owns much of the farmland.

Its CSA definition is more extensive and seeks to explain both abstract concepts and concrete systems while also emphasizing the relationships that can be built between consumer, producer, and landscape (see Photo 3):

Our prices are based solely on the costs of production which are kept to a minimum since we deal directly with you. We are working to ensure that farms are economically sustainable. We pay our farmers a living wage and provide you with the highest quality vegetables available at the lowest price around. We accept SNAP payments. ...Become a shareholder in Brookfield Farm and help promote our local economy

and preserve local agriculture. Our farm provides a practical step towards realizing a vibrant and healthy local food system....

Brookfield Farm becomes more than just your source of food, it can truly become your family's farm. (Brookfield Farm, n.d., para. 5–7)

Two of the CSAs profiled used less explanatory formats to describe their CSA projects. The website of the cooperative, multifarm Common Wealth CSA (<http://www.farmfresh.org/food/farm.php?farm=1843>), founded in 1998, begins with a stated intention of what a cooperative structure can bring to the creation of social bonds:

Photo 3. Young Field Workers Volunteer for a Potato Harvest at Brookfield Farm

Photo by the author.

As farmers we seek to cooperate with each other and with shareholders to develop an alternative food system that embraces our interdependence and uses it as a tool for change. By providing healthy and affordable food for all people in our community, we hope to grow our common wealth. (Community Involved in Sustaining Agriculture, n.d., para. 3)

The 2012 version of the Common Wealth CSA webpage concluded by referencing lines from a folk song (Rosselson, 2011) that celebrates the True Levelers, a.k.a. the Diggers, a 17th-century radical group of English agrarians who opposed private property and sought to democratize land use on a grand scale:

“We come in peace,” they said, “to dig and sow./We come to work the lands in common/ And to make the waste ground grow./This earth divided we will make whole/So it will be a common treasury for all.” (Red Fire Farm n.d., para. 5)

On the one hand, the authors of this website

romantically implicate CSA as part of a monumental undertaking to change radically the praxis of ownership and private enterprise. On the other hand, they succinctly describe the practical intentions of this collaborative CSA that has brought together both large-scale and microscale farmers in a nonhierarchical system (see Photo 4). By blending statements about communal agriculture 350 years ago with more contemporary notions of collective enterprise, Common Wealth CSA positions CSA within a larger historical context and links it to ongoing political and cultural movements.

The Pioneer Valley Heritage Grain CSA, founded in 2009, uses several growers and production sites to offer members shares of locally grown whole grains and dried beans (<http://www.localgrain.org>). The CSA operators have made a strong effort to educate and engage their members in opportunities local grain production offers by hosting meet-your-farmer events, where attendees can participate in grain cleaning and grinding (see Photo 5).

They often describe their CSA using highly personal and seasonally based narratives in a blog format:

Photo 4. Common Wealth CSA is a Collaborative of Several Farms, Rather Than a Single Producer, So Distribution Takes Place at a Central Urban Location



Photo by the author.

Between this weekend's distribution and the previous one, we moved *Ten Thousand Pounds* of local, organically grown grains into the eager hands of our CSA members. There were over 200 people in my living room and kitchen Saturday afternoon scooping their shares, there were five fantastic folks helping us make it all possible, and one sweet toddler happily demonstrating the new electric mill by her daddy's side. We're a little tired, but very,

very happy. (Pioneer Valley Heritage Grain CSA, 2010, para. 1)

As these examples demonstrate, CSA operators choose to define CSA using their own terms, concepts, references, impressions and formats. Emphasizing difference, unique relationships, specific landscapes and producer/consumer interaction, CSAs draw on diverse expressions to collectively enact core values. These definitions tell stories about CSA: some rooted in daily experience, some imbued with mythic dimensions.

Interrogating CSA Mythologies: Farmer Finances and What a Real CSA Is

Farmers and shareholders have co-created the CSA brand, promoted the model, and built its popularity. Together, CSA farmers and members have also turned many of the myths into functioning realities that form the foundation of a new food system that is ethically and ecologically driven. Despite this, there's a rub. Within this co-creation, CSA shareholders are attracted to CSA as a form of ethical consumption, and assume that the CSA structure adequately addresses farmer financial needs. However, for farmers, CSA represents an ideal that generally has not delivered economic security. According to a 2001 national survey of CSA farmers, "More than 68 percent were unsatisfied with their financial security (health insurance, retirement, etc.); 32 percent of those respondents were very unsatisfied"; yet the survey found "over 57 percent of the farmers were satisfied with their stress level and quality of life" (Lass, Bevis, Stevenson, Hendrickson, & Ruhf, 2003, p. 27). Echoing the survey's findings, Pilgeram's ethnographic study of

alternative food production bears the unsettling title, "The Only Thing That Isn't Sustainable Is...the Farmer." She suggests, "we need to interrogate a system that uses the personal beliefs and ideologies of sustainable-agriculture farmers to justify the personal sacrifices they make" (Pilgeram, 2011, p. 391). This critique is repeated by Galt, who identifies and problematizes CSA's "moral economy" as a "double-edged sword" that couples the allegiance farmers feel to the values of the CSA model with their tendency towards self-exploitation and low wages (Galt, 2013). With regards to the economic mythologies that the CSA brand expresses, there is reluctance towards transparency, even though early CSA advocates identified this as a crucial element (Bloom, 2008). When I inquired of one CSA farmer whether they ever made yearly financial reports available to members, I was told that no members had ever asked to see them and neither had the farmers felt inclined to share them.

CSA farmers appreciate the model and want to foreground the image and ideals of CSA, yet are reluctant to share some of its dysfunctional realities. Pivotal questions emerge from this condition: "So what is CSA—*really*?" and "how can CSA

Photo 5. Grain Share Distribution Day at Pioneer Valley Heritage Grain CSA



Photo by the author.

evolve to fulfill some of its deeper original aspirations?” Critique and argument about what an authentic CSA is or is not have been around since the beginning of the movement and continue today. The rise in some food distributors (non-farmers) identifying themselves as CSAs and being labeled and counted as CSAs bothers some who feel these are “fake CSAs.” Today, some of this debate takes place via Internet blogs and readers’ comments (McFadden, 2015). Comments such as “resellers posing as farmers is a disgrace” (Allanballiett, 2012, para. 4) raise the question of whether CSA in its success as a “brand” may in fact be vulnerable to being co-opted or exploited. Other critiques of “fake” CSAs complain that middle-management entrepreneurs are calling their enterprises CSAs and “pay farmers wholesale prices yet charge full retail...These services are using the positive image of CSA while simultaneously competing with real CSA farms” (Paul, 2012). Critics feel that these operations are “confusing to consumers” and can “create falsely high expectations of what a CSA farm can produce” (Paul, 2012). The removal of a broader sense of ethics about land and sustainability also bother the critics of fake CSAs. Farmer Allan Balliet says: “I’m seeing way too much tolerance in the Food Movement for food writers who want to re-brand this important social movement as ‘Just about Food’...there are few food programs that have the potential to do as much for the Future of Food as does the *original* [emphasis added] grass root CSA movement” (quoted in Nickel-Kailing, 2012, para. 3, 5). Despite these critiques, since there is no official definition of what a CSA is and how it must operate, the question of authenticity remains subjective and contested.

Consulting the Perspectives of CSA Pioneers

To investigate CSA as a movement, a model, and a brand, I consulted a variety of data sources. In-depth interviews with two CSA co-founders, Jan Vander Tuin and Traugher Groh, provided particularly extensive views into the past as well as insights into the future of CSA. Early in my conversation with Vander Tuin, he said, “One of the biggest tragedies of life to me is that there isn’t enough time to explain things.” He went on to

discuss the significant initial resistance he encountered trying to describe and promote the CSA concept in the 1980s, even among some biodynamic farmers he assumed would readily embrace the idea. Discussing various examples, he reflected that his experience trying to explain the alternative nature of CSA had been neither easy nor rapid. He echoed the aforementioned observations about how the schism between CSA ideology and practice had resulted in shortcomings—especially financial ones. He regarded transparency as a particular and enduring sticking point for CSA. That a CSA farmer should earn a living comparable to the peers in his or her community had been a crucial original goal he and other early CSA advocates were passionate about. He said that CSA has become just one way that many farms sell and distribute their produce, and that “most CSAs are mixing systems—they lack the confidence to present the true costs of production and to stand by these costs as having to get met.” He wondered, “How do you inspire confidence?” Though deeply proud of the proliferation and many diverse successes of CSA, he pointedly referred to vital work still to be undertaken to create more economic equity and stronger environmental practices, saying, “For what it’s worth, the CSA thing is not done and established by any means.”

Conversing with Groh produced several statements kindred to those of Vander Tuin. He expressed excitement about the expansion of CSA and especially its cultivation of young enthusiastic farmers coming out of countless CSA apprenticeship programs. Temple-Wilton Community Farm’s decades of survival as a highly principled, radically alternative enterprise is a monumental achievement. As a longtime proponent of the self-sufficient biodynamic farm organism, Groh’s books and presentations have associated CSA identity with sustainability and localism in the deepest ways, arguing that a farm’s inputs should be derived on-site and that a farm’s output should be consumed locally. He admitted, however, that this CSA vision has not yet been fully realized, even at one of the oldest continually operating CSAs in the country, which he helped establish: “We have basic problems at Temple-Wilton, we

have no grain [produced on-site to feed the cows] so we are not an organism, we have to realize that.” He added later that, despite the visionary narratives that CSA participants use to inspire themselves, “one has to be careful with these things that one doesn’t get romantic.”

Some interviewees I spoke with were involved in pioneering new versions of CSA, beyond the realms of farms and food. Programs described as “community supported art,” based on community supported agriculture, are being replicated in a variety of geographic and cultural settings. In CSArt, local artists rather than farmers produce shares of a creative harvest. One CSArt organizer I spoke with who worked at a regional arts advocacy organization in the Midwest told me how the local food movement had kept recurring in conversations among peers about how to better serve their community of artists. “We should do something like a CSA,” they mused. This organizer said that she “had been a CSA member for several years at a variety of different farms” and said that this experience made CSArt seem like an ideal concept that was ready to be transplanted into another realm. “That was the most important decision we made...to not try to think we should improve on it or make it different or even call it something different.” The initial project was an immediate success and led her to help other groups start dozens more CSArt programs around the U.S. One of the most important recommendations she made to new organizers was that they also refer to their programs as “community supported art” and make use of the popular and positive associations of the community supported agriculture brand. A variety of other fledgling community supported enterprises (CSEs), such as community supported fisheries, restaurants, breweries, and bakeries, are also making use of CSA’s reputable identity and cultural clout. The ethical foundations and practical applications of these CSEs and their efforts to attract new members will help further enrich our understanding of the potential of the CSA/CSE brand and aid us in assessing whether these new initiatives are strengthening or weakening fundamental CSA ideals.

Possible Actions and Applications:

A Discussion of CSA Practices

With a more visible and more critical acknowledgment of what CSA has and has not accomplished, CSA participants could generate a variety of new “to do” lists to help guide future practices. After considering the data represented in this paper, I assert that the independent character of CSA participants and their agency in creating and shaping CSA has been a strength—making CSA more replicable, adaptable, and attractive. Anyone can “own” and contribute to CSA, and thus it is a powerfully democratic and cooperative endeavor. The collectivity that CSA demonstrates has also been a strength, as participants of different CSAs learn from, partner with, and often promote each other. These dynamics offer examples that differ from long-held notions of the need for hierarchy and competition in business. In this way, CSA still offers a highly compelling pathway to rethink not only agriculture but ideas about our societies, our economies, and ourselves as well.

Instead of codifying or giving strict definition to what is a “real” CSA, I suggest that more CSA producers could adopt voluntary new practices of disclosure, a simple concept I will refer to as “Open Book CSA.” This would allow any project calling itself a CSA to list its practices in a more tangible way as opposed to the softer, more vague statements (i.e., “myths”) commonly expressed via their branding language. Open Book CSA disclosures would aid consumers, farmers and others in evaluating for themselves whether this is a project they wanted to participate in, promote, emulate, or collaborate with. Open Book CSA could be implemented, for example, by a CSA producer providing a “How This CSA Operates” summary on its website and listing some fundamental information:

- **“Where does the food come from?”** An explanation of where the produce in the share comes from, mentioning each source and stating if the majority comes from a single farm.
- **“Where does the money go?”** A confirmation that the recipient of the CSA membership fee is actually a farmer, not a wholesaler or middleman.

- **“How much do the farmers make?”** An estimation of farmer (and farmworker and apprentice) compensation (annual net income, wages, or salary) derived from the CSA, either projected or based on the previous annual amount. This would be a bold but necessary disclosure of information. Presenting it would increase the visibility of the farmer’s economic condition—a potentially intimate and vulnerable self-expression of economic status, often not fully known to members.

Some CSAs already provide the type of information that I propose for Open Book CSA. Hawthorne Valley Farm’s “Fast Facts & FAQ” (n.d.) provides basic information on farm and farmer income and extensive information on growing practices. It appears that older, more established CSAs such as Brookfield Community Farm, Live Power Community Farm, Peacework Organic CSA, and Terra Firma may be more comfortable with or committed to doing the same. For years, Temple-Wilton Community Farm has shared in-depth financial information with its members in person at large annual shareholder meetings, which farmers and members feel has helped them form especially close bonds and weather difficult financial periods. Here the operating budget is presented to the members who are then asked to make share “pledges” of varying amounts that will collectively cover the full budget. This process rejects any notion of market pricing and instead directly engages members to meet the true costs of production by negotiating among themselves. Were such practices adopted by more CSAs, a culture of greater transparency could be cultivated and become a more pronounced characteristic of the brand. In addition, CSAs practicing Open Book transparency could marshal possibilities for clarifying to the public what the true costs of production actually are. As one farmer told me in the context of why he did not offer work trades to his CSA members, “Most people overvalue their labor, and they undervalue how much food should cost.” If CSA farmers and members could come to know each other better and change such fundamental misperceptions, this could fortify efforts to

provide farmworkers with higher incomes and increase support for conserving affordable agricultural lands.

The branding, evolution, and growth of CSA provide an invaluable case study for academics and activists interested in social movements, ethical enterprises, and community development projects. For those who wish to emulate the fundamental processes of CSA development and apply it to new projects, here is a rudimentary template in three phases:

- **First phase:** Careful making and naming of a bold, visionary strategic plan that balances hopeful desires for something better with insightful critiques about what is not working. This step makes use of unifying concepts, but anticipates the vital energy inherent in allowing participants independence and autonomy.
- **Second phase:** “Letting go” and proliferation phase, in which the effort can be practiced, democratized, shared, and adapted, but not “owned” or centrally controlled.
- **Third phase:** Willingness and commitment to revisit the concepts and mythologies created from the prior processes, to assess them, problem solve, and make new goals and plans accordingly.

Researchers and social innovators alike should carefully consider the branding process of CSA and its unique practices and expressions. Though not an unequivocal success, the branding of CSA presents a radical departure from many traditional hierarchical attempts simply to guide the will of the populace and render them passive.


Conclusion

This examination identifies CSA as a brand, replete with name recognition, a differentiated product, cultural symbolism, and some political clout. The overall identity of CSA matches Holt’s qualifications of an “iconic brand” (2004) by challenging its followers to reconsider accepted modes of thinking and being, by creating myths that powerfully address both cultural anxieties and desires, and by

embodying those myths over time. This paper shows that the process of branding CSA has been a largely independent and open-source endeavor, with pioneers and subsequent participants rejecting hierarchical control of the brand and instead prioritizing localized consumer/producer interdependence and collaboration. This is in stark contrast with the globalized visions and methodologies practiced and promoted by industrial agriculture and its food production partners. The multistakeholder branding of CSA is also reflected by the lack of a CSA headquarters or profit center, and by the absence of certification, trademark, or single identifying logo.

CSA has brought forth a passionate vision for a participant-controlled, multifaceted alternative to industrial farming and the market economy. In practice, CSA has indeed helped cultivate a powerful new engagement with food systems that prioritizes social and environmental ethics. CSA has also been a catalyst and a practice space for increasing diverse alternative economic activity—a place for participants to experiment with noncapitalist or hybrid-capitalist ideas. However, as CSA is replicated and adapted again and again, will the powerful visions that have driven its continued growth be more fully realized or gradually diluted? Further research and discussion should ask: How can CSAs most successfully continue to connect producers and consumers to cultivate trust? How can CSAs provide more clarity about the relationships and commitments necessary for sustainable production and consumption? Perhaps most important, how can farmers use their access to members to communicate their financial needs more openly and confidently, and work toward earning higher incomes? (The wider adoption of Open Book CSA—style transparency is certainly one possibility here.) Especially interesting to watch will be the farm apprentices who will become the next generation of CSA farmers and members. How will they restate or reshape the brand?

CSA has been branded through a variety of activities undertaken collectively. In addition to typical branding approaches, the CSA brand has been strengthened by an unusual complementary force that draws on the more politicized

associations of CSA as a kind of anti-brand symbol, a rebuttal to the leaders of agribusiness and to corporate food processors and distributors. While a proliferation of “fake” CSAs—distributors posing as farms—might detract from the CSA movement, I feel strongly that a centralized attempt to define, standardize, regulate, or otherwise police CSA would cause serious harm by shifting collective ownership and vision away from the thousands of participants who have infused CSA with a vibrant blend of individual and cooperative values. As Muniz and O’Guinn state, “Brand communities are participants in the brand’s larger social construction and play a vital role in the brand’s ultimate legacy” (2001, p. 412). The agency with which CSA participants can and have shaped the brand has been and will continue to be a powerful opportunity. With this in mind, the responsibility for strengthening the ideals and outcomes of CSA lies with its participants, who must call themselves to action and resolve to embrace a deeper commitment to transparency and ethical interdependence. Rather than remain too passive, and accept CSA myths as promised and fixed, CSA producers and consumers could respectfully inform and push each other to realize their most ambitious collective visions. 

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From bread we build community: Entrepreneurial leadership and the co-creation of local food businesses and systems

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Submitted November 2, 2014 / Revised February 10, 2015 / Accepted February 10, 2015 /
Published online May 7, 2015

Citation: Mars, M. M. (2015). From bread we build community: Entrepreneurial leadership and the co-creation of local food businesses and systems. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 63–77. <http://dx.doi.org/10.5304/jafscd.2015.053.005>

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Abstract

This case study of a self-described community supported baker (CSB) in Southern Arizona explores entrepreneurial leadership as a model for promoting consumer co-creation of both local food businesses and food systems. The analytical focus of the case is the entrepreneurial strategy of the CSB to embed his customers in the creation of both his community supported business and the development of a more robust Southern Arizona local food system (LFS). Specifically, the CSB's business model positions customers not only as the purchasers of his product, but also as marketers of his breads, promoters of local grains, and champions of the Southern Arizona food

movement. Data was collected through a series of individual interviews with the baker and other relevant informants, as well as through multiple instances of participant observation. The case illustrates the capacity of entrepreneurial leadership to serve as a model that promotes consumer co-creation of local food businesses and more cohesive and extensive LFSs.

Keywords

entrepreneurial leadership, community supported bakery, consumer co-creation, local food systems

Introduction

Local food systems (LFSs) involve the production, distribution, and consumption of foods in ways that often directly connect producers and consumers¹ (Hinrichs, 2000). The operational models that directly connect local food producers with consumers include, for example, community supported agriculture (CSA) shares, cooperatives, farmers

emphasizes consumption without implying financial transaction. As such, the term “customer” is used to refer to individuals who specifically purchase local food products.

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¹ “Consumer” and “customer” are not treated as interchangeable terms. “Consumer” refers broadly to any individual who cooks with and generally eats local food. “Consumer”

markets, on-site sales, and roadside stands. LFSs vary from one community to another based on factors such as crop availability and diversity, delivery options, retail price tolerances, and urban versus rural settings (Patel & MacRae, 2012; Stephenson & Lev, 2004). Productive interaction between and among producers and consumers is a key stimulant to the innovation that is required to sustain and enhance LFSs (Hinrichs, Gillespie, & Feenstra, 2004). Unfortunately, the activities and initiatives that provide structure to LFSs are often highly fragmented. Such fragmentation causes disconnects between producers and consumers, and also promotes competition over cooperation between local food actors (growers and producers, processors, distributors, farmers market and CSA organizers, restaurateurs, retailers) that operate within shared LFSs (Hinrichs, 2000).

In this paper, I explore the entrepreneurial strategy applied by a self-described community supported baker (CSB) to help lead in the development of a cohesive Southern Arizona LFS. I rely on the conceptual constructs of entrepreneurial leadership and consumer co-creation to guide the exploration. Entrepreneurial leadership is framed as a set of strategies aimed both at increasing the financial dividends of local food entrepreneurs and bringing greater cohesion and sense of community to an otherwise fragmented and loosely identified LFS. This conceptualization of entrepreneurial leadership is consistent with other community and regional development models that are reliant upon the implementation of entrepreneurial principles and practices (see Clark, 2009; Smith, 2012; Vestrum, 2014). I also rely on the concept of value co-creation (e.g., Edvardsson, Tronvoll, & Gruber, 2011; Grönroos & Voima, 2013) to better understand the potential impact of direct consumer participation in the development of cohesive and well-defined local food identities on LFSs.

Background

LFS are often hampered by fragmented and loosely defined structures and relational arrangements. To counter such fragmentation, entrepreneurial strategies are sometimes relied upon to develop cooperatively based LFS supply chains (McFadden & Marshall, 2014). For example, Marsden and Smith

(2005) described a process of “ecological entrepreneurship” whereby producers positioned along local agricultural supply chains come together to share knowledge and engage in collective innovation in order to overcome shared challenges. Similarly, Clark (2009) showed how entrepreneurial networking among local English farmers contributed to overall gains in net incomes and reductions in dependencies on state subsidies. Others have shown more recently how entrepreneurial strategies can work to bring otherwise disconnected or competing local food actors together to collectively enhance the efficiency of relevant supply chains and promote the value of local food production and consumption to community stakeholders (Hughes, Crissy, & Boys, 2014; Matson & Shaw, 2014; Sullins, 2014). While the implications of entrepreneurial approaches to LFS cooperation and development have been well studied, the underlying leadership required to initiate such strategies remains mostly overlooked.

Consumers are known to subscribe to loose interpretations of the meaning and value of local food, which in turn lowers their long-term commitment to local consumption (Smithers, Lamarche, & Joseph, 2008). Such consumer “fickleness” compromises the long-term success and vibrancy of LFSs. One strategy for enhancing commitment to local foods is to embed consumers directly in the creation, implementation, and evolution of local food identities (Carey, Bell, Duff, Sheridan, & Shields, 2011; Feagan & Morris, 2009; Schnell, 2013). According to Guptill and Wilkins (2002), “the formation of a distinctly new kind of food system must include eaters who share in knowledge-production and decision-making, becoming, in other words, citizens of the food system” (p. 50). In short, direct consumer involvement in the development of local food identities is positively associated with increases in consumer commitment to local food consumption.

The strategic value of firms engaging consumers in the co-creation of markets, as opposed to positioning them only as recipients of products and services, is well documented in the management literature (e.g., Edvardsson et al., 2011; Grönroos & Voima, 2013; Prahalad & Ramaswamy, 2004; Vargo, Maglio, & Akaka, 2008). The prosperity of

businesses is directly determined by the experiences and perspectives customers accumulate over time, as well as the forecasts of their own future needs and desires (Helkkula, Kelleher, & Pihlström, 2012). Such experience and perspective make customers uniquely equipped to be co-creators of the strategies developed and deployed by the businesses from which they purchase goods and services. In describing the strategic relevancy of co-creation, Prahalad and Ramaswamy (2004) stated, “consumers want to interact and co-create value, not just with one firm but with whole communities of professionals, service providers, and other consumers” (p. 5). In this regard, co-creation is a function of purposefully designed and managed interactions between firms and consumers (Grönroos & Voima, 2013). Firms across a range of industries now actively work to develop and implement strategies for directly embedding consumers in strategic decision-making processes. However, no known research has been conducted that specifically focuses on the application of consumer co-creation to strategies aimed at the development of local food businesses or LFSs.

Conceptual Framework

In this paper I present a case study of the entrepreneurial leadership strategy a CSB in Southern Arizona has applied to simultaneously build his own business and develop a more cohesive local food identity and system. The CSB’s entrepreneurial strategy involves embedding his customers in the co-creation of both his bakery and the broader Southern Arizona LFS. The case brings further attention to the role entrepreneurship can play in the development of robust local food environments, as well as introduce the notion of consumer co-creation to the formation of local food businesses, identities, and systems. The following six constructs of entrepreneurial leadership guide my analysis of the case: vision, perspective, influence, creativity, planning, and interaction (Cogliser & Brigham, 2004; Fernald, Solomon, & Tarabishy, 2005; Gupta, MacMillan, & Surie, 2004; Kempster & Cope, 2010).

Vision refers to the capacity of leaders to construct and convey a compelling image of the intended goals and ideal outcomes associated with

emergent initiatives and broader movements (Bryant, 2004; Cogliser & Brigham, 2004). The entrepreneurial leader aspires to develop and promote a vision that compels others to invest, whether through their expertise, financial resources, reputations, social networks, or time, in the pursuit of a collective goal. Without a shared vision, the formation and advancement of a collective identity is jeopardized.

The inclusion of multiple *perspectives* within entrepreneurial leadership strategies expands the relevancy and strengthens the effectiveness of initiatives and broader movements. Accordingly, entrepreneurial leaders work to gain *influence* over a diverse set of participants and stakeholders and motivate others to collectively pursue shared goals and desired outcomes (Cogliser & Brigham, 2004; Hogg, 2010). Accordingly, entrepreneurial leaders influence participants and stakeholders in ways that make individual needs and goals secondary to collective pursuits and shared successes.

The capacity of entrepreneurial leaders to influence individuals and motivate stakeholder groups builds over time through continuous *interactions* (Surie & Ashley, 2008). Furthermore, effective entrepreneurial leaders must engage a variety of community- and professionally based learning networks and social systems (Kempster & Cope, 2010). Regular and wide-ranging interactions increase the depth and diversity of representation embedded within entrepreneurial leadership strategies and broaden the overall appeal of initiatives and movements.

Innovation is central to the creation of impact and a core feature of entrepreneurial leadership. *Creativity* inherently drives innovation (Alves, Marques, Saur, & Marques, 2007). Hence entrepreneurial leaders draw upon creativity to formulate novel solutions aimed at positively addressing targeted problems and issues. Creativity also benefits entrepreneurial leaders while developing strategic alliances and facilitating collective action (Cogliser & Brigham, 2004).

Lastly, entrepreneurial leadership is a relatively complex process that requires careful, continuous *planning*. Entrepreneurial leaders anticipate the critical points in time when resources must be allocated, as well as develop and execute action plans

that orchestrate the activities and tasks of multiple participants and stakeholders across complex arrays of settings and environments (Sirmon & Hitt, 2009). Entrepreneurial leaders also engage in fluid, multifaceted planning that is responsive to shifting conditions and unexpected challenges and opportunities (Brinckmann, Grichnik, & Kapsa, 2010).

Methods

Research Questions and Context

A single case study² of the entrepreneurial leadership strategies pursued by a self-described “community supported baker” was conducted to explore the following questions:

- How, if at all, does entrepreneurial leadership support the direct involvement of consumers in the creation of local food businesses?
- How, if at all, does entrepreneurial leadership support the direct involvement of consumers in the creation of cohesive and coherent LFSs?

Case selection

I selected the case featured in this paper using a theoretical-based sampling strategy. This strategy involves the purposeful selection of a single case (or set of cases) that is directly reflective of the theoretical and/or conceptual constructs that guide a particular study (Onwuegbuzie & Leech, 2007). Accordingly, I selected the Southern Arizona CSB as the focus of this single case study for three reasons, each of which is linked to the conceptual principles of entrepreneurial leadership and/or consumer co-creation. First, the baker is a proven entrepreneur as evidenced by having started a bakery in his two-car garage that has turned into a commercial kitchen that is now in its sixth year of operation, with an annual gross sales of US\$120,000. Second, and as described later in the paper, the baker’s community-supported business model involves a high level of customer participa-

tion. Third, the baker’s efforts to stimulate community involvement in the development of a more cohesive and coherent Southern Arizona LFS have been widely publicized. For example, he teaches noncredit classes on the history of artisan bread-making and its regional impact at the local university. He also regularly leads a community workshop at a regional seed bank that focuses on both bread making and the importance of heritage grains to Southern Arizona culture.

Case description

The baker described the evolution of his community supported bakery as beginning at the start of his baking career in the 1990s. He first trained as a baker in a standard retail bakery located in Northern Arizona, after completing an undergraduate degree in political science. After three years of on-the-job training, the baker started his own bakery in Northern Arizona, which was based on a standard retail business model. He closed this bakery within two years and moved to Oregon for a “change of scenery.” The baker next opened a second standard retail bakery in Oregon. He closed this bakery three years after it opened because his passion for baking had waned due to the pressures of managing a growing business (e.g., employee supervision, retail contracts). The baker returned to Arizona to pursue a graduate degree in education. Following the completion of his graduate degree, he taught middle school in Tucson for nearly eight years, during which time he gained statewide recognition for teaching excellence. In 2009 he made the calculated decision to return to baking, but under a community-supported business model that he had conceptualized during his time working as a teacher.

The baker’s community-supported business model involves reaching customers primarily through an online storefront from which customers order bread weekly off a rotating menu. He bakes, on average, 740 loaves of bread weekly that are purchased by about 250 customers. He distributes almost 50% of these loaves, most of which have been pre-ordered, directly to his customers at

through which the study was conducted.

² The design and methodology of the study were reviewed and approved by the Institutional Review Board at the university

a neighborhood farmers market. This market is held every Saturday at an upscale shopping plaza located within a middle-class Tucson neighborhood. The baker selected this particular farmers market due to its close proximity to his bakery. He delivers roughly 15% of his pre-ordered bread directly to customers at a local CSA pick-up site in a working-class neighborhood in the central part of Tucson. The baker distributes 25% or so of the pre-ordered loaves directly to customers through weekly “bread days” at four public elementary schools and one private preschool. The locations of the four schools together represent lower, middle, and upper income neighborhoods located across Tucson. The customers who pick up and pay for their bread during a typical school bread day include students, parents, teachers, and surrounding neighbors.

The baker recognizes that not all his current and prospective customers will be willing and/or able to access or navigate through the online storefront. For instance, he has learned through regular interactions with his customers, many of whom he has built lasting relationships with, that the online storefront is particularly challenging for older adults. Accordingly, the baker brings extra loaves of breads that exceed the online orders to each distribution site. These loaves, which make up about 10% of weekly production (about 75 loaves) help accommodate customers without pre-orders on a “first-come, first-served” basis. Having extra loaves on hand also helps get the baker’s bread in the hands of new customers (e.g., neighbors of one of the five schools who coincidentally learn about the bread days when passing by or visiting the campuses), who are then directed to the online ordering site. Thus, bringing extra loaves to pick-up site acts in part as an on-the-ground marketing strategy.

The baker’s rotating menu includes over 40 types of artisan breads, with three to five varieties being offered each week. The types of breads offered during a given week depend on the availability of particular types of wheat and other seasonal ingredients (e.g., locally grown basil) bought at local farmers markets. The baker would prefer to

bake all his bread using locally grown and produced ingredients. Supply scarcities, however, both in terms of variety and quantity, limit his capacity to do so. For example, he uses Sonoran wheat, which is a heritage grain that has been harvested in the Southwestern United States and Northern Mexico since at the least the 17th century, in nearly a quarter of his breads. The baker purchases this grain directly from a local farm, which I refer to throughout this paper by the pseudonym “SW Farm.” SW Farm grows mostly grows cotton and durum wheat on its 4,500 acres (1,822 ha) of cultivated land. These crops are sold mostly to national and global manufacturers. The farm began growing Sonoran wheat as an organic crop in 2013 with the intent of bringing attention to the contributions of both small and large-scale agriculture to a Southern Arizona economy that is otherwise understood to be dependent on tourism and defense contracting. The 2013 Sonoran wheat crop was grown using 2,000 pounds (907 kg) of seeds provided by a regional seed bank with the agreement that the farm would return 4,000 pounds (1,814 kg) of seeds to the bank once harvesting had begun. This commitment was easily fulfilled. Currently, SW Farm is losing a marginal (but undisclosed) amount of money through its production of Sonoran wheat. However, sales are beginning to increase and profits are expected within a five-year window.

As SW Farm’s largest *local* customer of Sonoran wheat,³ the baker purchases 75 pounds (34 kg) each month at a market rate of approximately US\$1.20 per pound. The wheat has a low protein level, which limits the ability of loaves to rise during the baking process; as a result, the baker is forced to use other wheat varieties that are not grown in Southern Arizona. He sources these other grains, which make up about 75% of the grains he uses, from farms located in California, Colorado, and Utah. The baker does not have a direct relationship with any of these out-of-state farms. Instead, he shops for wheat types that are viable in terms of both price and production properties (e.g., gas production, loaf-volume response, pasting behaviors, storability). The baker has encouraged

the United States.

³ The SW Farm sells the bulk of the Sonoran wheat it produces online to brewers and hobby farmers located across

the SW Farm to introduce a variety of hard red wheat to its crops. The higher proteins levels of the hard red wheat could then be used to offset the lower levels found in the Sonoran wheat. SW Farm is considering the baker's request in conjunction with the potential establishment of a local gristmill, which is discussed later in the findings.

The baker also tries as much as possible to use locally sourced ingredients purchased at local farmers markets. While the baker was unable to share the specific costs of the locally sourced products other than the Sonoran wheat, he did indicate the number of loaves he can produce that include locally sourced products is limited due mostly to price constraints. More cost-effective is the use of byproducts created during the brewing of beer (i.e., "spent grain") that the baker sources from local breweries. Regardless, the baker periodically tests the price points of his products with his customers by offering loaves that include more locally produced ingredients, but at higher prices. Based on these price point experiments, he has determined that he cannot currently increase his use of locally sourced ingredients and adequately meet consumer demand at tolerable price ranges.

Data Collection

I collected data mostly through semistructured interviews and participant observation. Specifically, I conducted four interviews lasting from one to three hours with the baker over a two-month period. I also interviewed the executive director, co-founder, education and outreach manager, and farm manager of a regional native seed bank and harvest center, as well as the founder and current director of one of the larger Southern Arizona community supported agriculture operations. Additionally, I interviewed the principal of a neighborhood public elementary school and the director of a private preschool. The elementary school under the principal's leadership and the preschool under the director's oversight both host weekly bread days. I also spoke with three representatives from SW Farms. I identified and recruited all the preceding 10 participants in this study through specific recommendations made by the baker. This recruitment strategy is consistent with the snowball sampling strategy described by Miles and Huberman

(1994). In general, the questions composing the interview protocol were designed to explore the informants' recognition and understanding of the baker's leadership in the development of the Southern Arizona LFS, as well as their perspectives on the challenges and opportunities confronting local food production and consumption in Southern Arizona.

I also called on participant observation during the data collection process. Participant observation involves researchers immersing themselves in the settings and environments within which phenomena of interest naturally occur. The primary advantage of participant observation is the ability to capture rich descriptions of the activities, behaviors, and events that are reflective of the phenomena being studied (DeWalt & DeWalt, 2002). In discussing the importance of participant observation, DeWalt, DeWalt, and Wayland (1998) state, "living with, working with, laughing with the people that one is trying to understand provides a sense of the self and the Other that isn't easily put into words" (p. 264). In the current study, I observed and when possible participated in the production and distribution of the baker's bread on seven separate occasions. Each observation lasted between one and six hours, throughout which I carefully kept field notes. Lastly I collected and analyzed announcements and publicly available conversations posted on the baker's social media pages.

Data Analysis

I analyzed the data using both deductive and inductive approaches. Deductively, I developed and applied a structured coding framework consisting of the six entrepreneurial leadership constructs (Miles & Huberman, 1994). This structured framework allowed for the entrepreneurial leadership strategies and practices of the baker to be revealed and thoroughly considered. I also analyzed the data using an open coding strategy in order to induce any salient patterns or trends not directly associated with the entrepreneurial leadership framework (Locke, 2001). Lastly, I compared and reconciled the themes and patterns revealed through the analysis of the data collected through the interviews, observations, and social media archives in order to

bring greater consistency and overall trustworthiness to the findings (Patton, 2002).

Limitations

The findings of the current study are not generalizable, which is an inherent limitation of qualitative research. Accordingly the goal of the study was not to produce generalizable results. Instead, the purpose of the study was to generate new insights on how entrepreneurial leadership strategies of local food entrepreneurs might contribute to the emergence and evolution of LFSs, which include promoting the direct involvement of consumers. The reliance on a theoretically based sample-selection strategy limits the scope of the findings. Indeed, entrepreneurial leadership is not the only leadership model that likely has impact on the development of LFSs.

Findings

The baker demonstrated all six entrepreneurial leadership constructs through his approach to the production and distribution of his bread. However, I focused less on the baker's talents as an entrepreneur in the conventional sense (i.e., as a small business owner) and focused more on exploring the entrepreneurial strategy he has applied to catalyze the development of a more cohesive and coherent LFS, which includes directly involving consumers in its creation.

Vision

The baker articulated a clear vision of the economic and community conditions that he and other local food actors with whom he contracts or regularly interacts with believe are required to achieve a cohesive and coherent Southern Arizona LFS. This vision includes the development of a more robust local manufacturing system capable of more fully supporting the processing, packaging, and distribution of locally grown and raised food products. Of particular interest to the baker is the need for a local gristmill. Currently, the Sonoran wheat that is grown in Tucson by SW Farm has to be shipped 150 miles (241 km) north to Phoenix to be ground into flour. This extra step raises the price of the ingredient, which the baker is forced to

pass on to his customers. (Recall that he has determined through interactions with customers and menu experimentation that he has reached a price point ceiling for his breads.) The baker is not the only local food actor who is affected by the costs of using Sonoran wheat, and other local ingredients for that matter. For example, he indicated that an owner of a local high-end pizzeria would like to use the heritage grain in his dough, but is unable to due to cost barriers. According to the baker, he, the pizza restaurateur, other local bakers, and the SW Farm leadership agree that establishing a local gristmill would lower the costs of production and elevate Sonoran wheat as a focal point of the Southern Arizona local food identity and system. The baker stated,

They [the local food producers] want to see grain happen here in Southern Arizona. They want to see a mill. They want to see local processing. That's what's going to tie them... there's lots going on and there's so many good people behind this we can't lose. (Anonymous, personal communication, August 26, 2014)

SW Farm leadership indicated that access to a local gristmill would further incentivize the inclusion of other specialty grains into the farm's crop production. In fact, the farm is considering hosting the mill on its property as a strategy to further develop its own local market niche and further support the overall LFS.

Momentum toward the development of a Southern Arizona gristmill has been inspired mostly by the baker's advocacy. By frequently interacting with his customers at weekly distribution sites and via his social media presence (e.g., Twitter and Facebook postings and exchanges), the baker has captured and conveyed a deep understanding of what local food consumers want and crave. Much of what he discusses with his customers is specific to their views of his breads and levels of demand for locally produced products. The insights gained through discussions with customers support the baker's advocacy of a vision for enhanced local grain production and processing capacity. This capacity in turn would help him and

other local food actors meet market demands for local foods at accessible prices.

The baker believes the development of a complete local grain supply chain will serve as a model to motivate and guide the expansion of other Southern Arizona food sectors (e.g., produce farms, breweries, and wineries). The education and outreach manager of the regional seed bank echoed the potential downstream impact of a complete local grain supply chain on the Southern Arizona LFS and acknowledged the leadership of the baker in promoting its development. She stated, “the mill would be a true community resource. I am glad he [the baker] is involved...relocalizing means rebuilding community capacity for food processing...this is not sexy stuff that most people like to talk about (Anonymous, communication, September 29, 2014).

The baker embraces his leadership role in advancing a vision for a stronger, more complete LFS in Southern Arizona. In describing his motives for taking on such a role, he stated,

I am acting on not just my passion for my craft and my business, but also my frustration that there is so much going on here [Southern Arizona] without any synergy between those of us who are doing the work and the community who wants more local food options. We [local food actors] have talked about what we want for a long time. Now we have to act! (personal communication, August 26, 2014)

The baker is not acting alone on a vision that he has developed single-handedly. Rather, he is working closely with other local food actors and his own customers to understand, frame, and act on a shared vision of a cohesive and coherent LFS. The strategies he is using to understand, articulate, and mobilize others, including consumers and other local food actors, around a common understanding of what the Southern Arizona LFS could be is reflective of entrepreneurial vision.

Perspective

The baker recognizes the importance of remaining

attentive to how those who buy his breads recognize, perceive, and value locally sourced and produced food. Using a simple flour-dusting technique during the baking process, he etches images of saguaro cacti and the Arizona state flag on the breads he makes from Sonoran wheat. These etchings are designed to remind customers of the local origins of the bread and generate discussion over the use of locally sourced ingredients. My observations of the interactions between the baker and his customers consistently revealed this strategy in practice. In describing the value of placing local production at the center of his business model and community-outreach efforts, the baker stated, “I learn something new about my product and my community every time I deliver my bread!” (personal communication, September 10, 2014).

The baker’s marketing strategy is aimed both at promoting his own business and bringing community awareness and participation in developing the Southern Arizona LFS. The baker stated,

Doing everything out of the goodness of my heart is not sustainable. I also have to support my family. It is just not practical to do this kind of business and try to spark a community movement without having some financial base to grow and work from. I see no problem trying to promote my business and benefit my community. They have to go hand and hand to make a difference in the long run. (personal communication, September 10, 2014).

It would not be economically feasible for the baker to forego his business interests at the expense of being fully focused on developing a cohesive and coherent LFS. Thus, the baker has elected to pursue a two-pronged strategy that blends his business interests and the goal of bringing the perspectives of consumers more directly into the development of the Southern Arizona LFS.

The baker also uses social media to seek out customer perspectives on both his breads and the Southern Arizona local food environment. Pictures of his dough, his bakery, and his breads are posted daily as a means of bringing attention to his prod-

uct, as well as generating community-wide discussion on the history, character, and benefits of heritage grains and other local foods. As an example, he recently included the following statement under a carefully staged photo of his bread posted on the bakery Facebook site: “If I had to make just one type of bread for the remainder of my career, it would be this one 1.5 Kilo Heritage Grain Miche” (Facebook posting, September 24, 2014). The hashtag connecting the post to other social media outlets was “#Azwheat.” This posting generated 18 follower comments regarding the flavor of the bread, preferences for various versions of the bread, and excitement over the use of locally sourced grains. Within similar posts, comments regarding the nature of the Sonoran wheat and its potential impact on the LFS are regularly discussed.

Interaction

The baker interacts with his customers with a clear purpose, which is to provide a local food experience and sense of community that is uniquely linked to Southern Arizona. Directly interacting with customers to differentiate a product from alternatives is not an uncommon business practice. However, the relationships the baker builds with his customers are not aimed just at selling his breads. Instead, customer relationships provide the baker with the opportunity to embed his customers directly in the local food narrative, which is a vital step in the process of co-creating a vibrant Southern Arizona LFS. In describing the weekly routine of distributing pre-ordered bread at a neighborhood farmers market, the baker stated,

Everyone wants to be there right at 11 o'clock when I arrive. Really if you think about it, why do they need to be there so early, because they don't. Their bread is already reserved and waiting for pick up. They're there because of the feel. They want to be there when the bread arrives and help carry it from the van to the site. They want to be part of experience. (Personal communication, September 1, 2014)

This statement helps illustrate how the baker's customers have become directly embedded in the

operations of his business.

The direct interactions between the baker and his customers have become part of his and their weekly routines. The baker believes these routine interactions help the customers feel more intimately connected to the community through their local food consumption. He stated,

They [customers] want to feel the community piece. This is what helps identify them week in and week out. This becomes part of their culture, part of their tribe, part of something to belong to... I help them to see this experience as something unique to our community. Bread is a great way to help people identify with themselves, their neighbors, their community, and the local food heritage. (Personal communication, September 1, 2014)

Through his interactive business model the baker also brings a greater sense of community to the CSA where he delivers bread on a weekly basis. The director of the CSA stated, “Having the bread at the CSA is an amazing thing, because the bread has such charisma. [The baker] himself has charisma that carries through the bread. People love his bread and him!” (Anonymous, personal communication, September 11, 2014). The CSA director went on to say, “He [the baker] is a champion of Southern Arizona agriculture. He doesn't just sell his bread, he sells the whole idea of why people should care and be involved in the local production of the food we eat” (Anonymous, personal communication, September 11, 2014).

The sense of community and enthusiasm for local food developed from the community supported bakery model was regularly observed through rich and diverse interactions between customers. I regularly observed customers arriving at bread days early to help the baker set up his tables, layout table clothes, and unload his baskets of bread. In this regard, customers have voluntarily embedded themselves in the baker's operational model. The routine provided by the bread days, whether helping to set up, picking up bread, or both, allows regular customers the opportunity to

form relationships with each other. These relationships promote discussions pertaining to family matters, health challenges, upcoming vacations, politics, etc. However, the customers also routinely shared information on other local food vendors, community events involving local food, cooking with ingredients native to the Sonoran Desert, and so on. The customers also encouraged one another to attend community events, such as a speaker series on indigenous foods that was hosted by the local university, in order to become more aware and involved in the LFS. By becoming embedded in the distribution of the bread, the bakery customers were empowered as ambassadors for both the baker's bread and the Southern Arizona LFS.

The baker brings together nearly 4,000 individuals through social media activities and campaigns. The responses to the baker's Facebook postings show that he is reaching local food actors and consumers, as well as bakers located across the country and the world who are interested in his CSB model. His posts often link to the sites and activities of other local food actors, as well as to community-sponsored events relevant to local food. For example, the baker posted a Facebook photo with the message "Beautiful Tucson evening at Tucson Meet Yourself. I will have loads of bread to sample again tomorrow (11-4pm). Stop by the booth at the entrance to the Library and check out the display for White Sonora Wheat" (Facebook, October 11, 2014). This post, which included a link to the SW Farm's website, was specific to a food festival designed to celebrate the overall richness and diversity of the Southern Arizona community. Such posts are not passively received. Instead, the baker uses social media posting to maintain an ongoing virtual dialogue with his followers on local food production and consumption. For example, one follower expressed her disappointment that the baker was not selected for a recent award and declared her support for local enterprise by posting, "I voted for you [the baker] and I'm disappointed to see that the winner is a corporate entity and not a local! You are by far the better choice! We'll get 'em next year!" (Facebook, January 20, 2015). Other customers commonly were observed sharing the baker's posts with others who are not already linked to the baker's site. In general, the

baker uses social media both as a promotional tool for his business and those businesses run by other local food actors, and as a platform for bringing consumers together as individual and collective advocates for the development of a cohesive Southern Arizona local LFS.

Influence

There is an explicit marketing element to the outreach and education the baker provides through social media campaigning and the more intimate interactions with customers that take place during the distribution of bread. As already described, such marketing directly benefits both the baker's business and his broader efforts to lead in the development and enhancement of a cohesive and coherent LFS. The baker's pride in his product in tandem with the enthusiasm he has for further developing the LFS appears contagious. Recall the customers surrounding the baker's minivan-turned-delivery-truck to help him unload his product and set up his tables for distribution, as well as customer participation in the local food narrative via social media outlets. The baker has motivated his customers to the point that they have voluntarily become cogs in his operational model and active participants in the development and promotion of a more cohesive and coherent local food identity.

The baker's enthusiasm has also influenced the development of productive relationships between those who convene weekly at individual distribution sites. I regularly observed customers engaging in rich discussions while waiting for their bread on pick-up days. These exchanges, which in some cases span generations and backgrounds, often focus on topics specific to the bread. However, other topics relevant to local agriculture and food are also commonly discussed. Examples of such discussion topics include the benefits of purchasing local produce and foods (e.g., freshness, supporting the local economy), where to find other locally produced foods, and home remedies tied to indigenous vegetation. For instance, one customer was overheard thanking another for the recommendation to join a local CSA, which was a model of which the new member would otherwise have been unaware. Accordingly, customers have developed relationships through their routine bread pick-ups

that have, in at least some cases, influenced one another to become more active in the broader LFS.

Informal conversations had between myself and customers revealed the baker's clientele includes a balanced mix of long-time local food consumers and so-called converts who learned of the bread through word of mouth, local news stories, or as one customer put it "his [the baker's] crusade to put Tucson on the local food map!" It should also be noted that some customers who began picking up their bread at the local CSA site later joined the CSA itself as a way of becoming more involved in the LFS. These observations point to the influence the baker, albeit to a certain degree indirect, has had on customer participation in the LFS through his decision to distribute his bread at a farmers market, CSA, and on the campuses of local schools. By embedding his business within and across the community, the baker has influenced his customers to not only purchase his products, but also become more involved as active participants in the development of the Southern Arizona LFS.

Creativity

The most obvious evidence of the baker's creativity is seen through the bread he produces and the community-supported business model he has constructed. However, creativity is also made evident by the novel strategy he has implemented to help catalyze the formation of a cohesive community and coherent identity specific to local food production and consumption. Consider, for example, the baker's strategic choice to distribute bread to his customers via school campuses. This strategy positions the baker in the heart of neighborhoods where customers can conveniently pick up their freshly baked bread just beyond their doorsteps. The customers are also able to observe firsthand the learning that is taking place within the boundaries of their neighborhood school. Teachers have the opportunity to discuss educational activities and issues with community residents who otherwise would not have a reason to visit the campus. Similarly, residents are able to visit with students and strike up friendships with parents. In general, community pride is easily recognized through the various exchanges that occur on school bread days.

The director of the preschool that hosts a weekly bread day described this bridge that is created between the school and the surrounding community through the weekly bread days. She stated,

At the beginning, it was the teachers and the parents that were getting the bread. He would always give us a bag of bread for the kids to have. There's something about a community sharing bread together. There's just something really powerful about that. Now we see that the whole neighborhood's onto it and they're lining up together to wait for the bread. (Anonymous, personal communication, September 29, 2014)

The infusion of education into the baker's supply chain has proven to be a creative, highly effective strategy for simultaneously developing a community-supported business and supporting the community through local food production and consumption. This approach of embedding education into the operational model of the bakery creates both economic and social value. Economically, the school bread days provide a distribution point for the baker and a convenient purchasing location for customers. Socially, school bread days provide a creative mechanism for enhancing agriculture and food literacy among children, building a local food identity, and further connecting customers to their community.

When asked to label his professional identity by title, the baker responded, "I am mostly a baker and social entrepreneur. I want to build my community and promote its heritage and local identity through my bread! But I also see myself as an artist, scientist, and educator." This self-identification by the baker was reflected in the following hash tags that accompanied a social media photo post of his bread: "feedyourcommunity," "communityservice," and "socialentrepreneur." Creativity is a common thread that weaves through all of these self-identified roles and further characterizes the baker as an entrepreneurial leader within the Southern Arizona LFS.

Planning

The baker has been very intentional in his efforts

to not only create a viable business, but also to promote and lead in the development of a synergist LFS in Southern Arizona. He described the Southern Arizona LFS as “lacking synergy and having very little sense of community and common identity. How can someone get excited about something they can’t see or understand? I want a food environment that helps my business and makes the community I live in stronger” (personal communications, September 10, 2014). Moreover, the baker indicated that his decision to leave a distinguished teaching career and return to baking was planned. He stated, “I gave myself eight years to be a teacher and plan out my community supported baking model. I knew I would return to baking, but in a way that allowed me to work more freely and to be directly involved in my community” (personal communication, August 26, 2014). These two comments illustrate how the baker’s business strategy and community leadership activities are being guided by an overall plan that is anchored in both personal ambition and a strong sense of citizenship.

The baker consistently demonstrates a clear strategy for achieving the long-term vision he and other local food actors and consumers have for a cohesive, vibrant Southern Arizona LFS. The cofounder of the regional seed bank, who is also a long-time local agriculture activist, emphasized the importance of the baker’s role in the planning and development of the Southern Arizona LFS. He stated, “[the baker] is linchpin in the LFS. He has a way of connecting all kinds of otherwise disconnected people together to support local agriculture and food. Without him mapping out for us where we all think we should be going, much less would be happening!” (Anonymous, personal communications, December 22, 2014). This statement points to the importance of local food communities having leaders who can not only capture a diverse range of perspectives and recognize and articulate a shared vision, but also lead in the creation and implementation of a plan to act on that vision.

Discussion and Conclusion

The baker’s activities and strategies demonstrate the processes of entrepreneurial leadership and

customer co-creation on two levels. At the business level, he purposefully embeds his customers within his community-supported business model. In doing so, he has built a loyal customer base that enthusiastically promotes his bread through word of mouth and social media postings, as well as voluntarily helps him operate his business. At the community level, the baker strategically embeds his customers in conversations and initiatives that promote the development of the Southern Arizona LFS. These conversations and initiatives are otherwise fragmented and involve only local food actors. Moreover, the baker creates opportunities to educate his customers on the value of locally grown and processed grains in an effort to grow and demonstrate the market demand necessary to expand the processing capacity of the Southern Arizona LFS (e.g., the installation of a local gristmill). He believes that showing market demand through customer advocacy will compel the SW Farm and other local food actors to invest individually or cooperatively in a mill. If this strategy proves effective, the baker expects his costs will decrease and his production of “local loaves” will increase.


Customers helping to unload the baker’s breads and set up his display tables generate few, if any, financial benefits. However, the weekly “work” routine makes customers feel more connected to the baker and his bread, as well as to the broader local food environment. Recall that customer loyalty to local food consumption has been shown to wax and wane based on uncertainties in the scope and importance of LFSs (Smithers, Lamarche, & Joseph, 2008). Thus, approaches such as the baker’s to embed customers directly within the operations of local food businesses may prove to be an effective strategy in building consumer commitment to local food consumption. More specifically, the creation of opportunities for consumers to be active in the creation of local food enterprise and systems may prove more effective than passive strategies aimed at education and the promotion of guilt-driven purchases.

Untangling the business- and community-based agendas that underpin the baker’s entrepreneurial leadership is not possible. Indeed, one agenda rests upon the other. Without acting in the

best interest of his business, the baker's capacity to influence the development and growth of a cohesive and more extensive LFS would be stunted, if not completely blocked. A more extensive LFS that supports the scaling of locally based production and processing capacities is needed if the baker is to scale his own production of breads made from local grains. Moreover, a loyal customer base that is inspired to become more active in the development of the Southern Arizona LFS is consistent with the baker's vision for his business, the local food environment, and his community as a whole. Future research on the multiple value propositions that can be nurtured through customer co-creation and the blending of entrepreneurial agendas that are market-facing and community-oriented are recommended.

One local food entrepreneur with a specific focus (e.g., bread and local grains) is unlikely to be able to singlehandedly lead in the co-creation of a LFS. Instead, networks of local food actors who recognize the collective promise of a community-wide customer base that is deeply immersed and committed to their LFSs should be formed and nurtured. These networks are not likely to emerge organically. Local food advocates and organizations, such as farmers market organizers and Cooperative Extension agents, are encouraged to bring local food actors together to develop a systemwide strategy for embedding consumers directly into the development and operations of LFSs. The entrepreneurial leadership constructs can together be a functional guide to creating such systemic co-creation strategies that are compelling to multiple actors based on the potential benefits to both individual businesses and broader LFSs. Furthermore, community organizations not otherwise directly linked to the LFSs should also be integrated into systemwide co-creation strategies. The baker's use of local schools as distribution sites illustrates this broader notion of "community co-creation." The school bread days simultaneously support the bakery, build community, encourage experiential learning, and promote the value of local food production and consumption. Each LFS has its own set of unique characteristics and community-based assets that should be holistically assessed with the goal of creating LFS networks of diverse and otherwise

disconnected organizations.

Additional research that examines the impact of customer co-creation on local food businesses, identities, and systems is needed. Specific questions that warrant attention include: Does consumer loyalty to local food production and consumption increase through co-creation? Does the co-creation of local food businesses and systems increase investment behaviors through unconventional funding models (e.g., crowdfunding)? Does co-creation contribute to the further development and enhancement of the supply chains that help underpin LFSs? These questions should not be limited to the academic domain. Instead, local food leaders, such as Extension agents, local and regional development officers, and board members of relevant nonprofit organizations, are encouraged to track such questions throughout co-creation processes. 

Acknowledgments

The author would like to thank Dr. Hope Schau and Don Guerra for the support and feedback they provided throughout the various iterations of this paper.

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Barriers and facilitators to local food market development: A contingency perspective

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Submitted August 16, 2014 / Revised November 25, 2014, and February 3 and April 10, 2015 /
Accepted April 14, 2015 / Published online June 16, 2015

Citation: Godette, S. K., Beratan, K., & Nowell, B. (2015). Barriers and facilitators to local food market development: A contingency perspective. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 79–96. <http://dx.doi.org/10.5304/jafscd.2015.053.012>

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Abstract

Many government and community supported programs and initiatives have been developed recently in response to social, economic, political, and environmental conditions presumed to be caused by the globalized food system. These programs are focused on building local food economies as a means to rectify these conditions and to enhance local communities. While efforts to strengthen local food systems (LFS) are increasing in number, little is known about how

well these initiatives are working and what factors contribute to or limit program impact. In this paper, we report on a comparative assessment of barriers and facilitators to the development of local food markets conducted from the perspective of 11 local food coordinators in the eastern region of North Carolina. Interviews with Cooperative Extension agents were analyzed based upon the contingency perspective to assess whether the development and success of local food markets depend on local conditions. Our findings suggest that local food markets are more or less successful given certain local conditions, but that local food markets are not being developed based upon assessment and analysis of local context. Further, institutional factors (e.g., food safety policy and institutional buyer attitudes) were found to have even more impact on local food market development than local conditions (e.g., urban proximity). The information presented in this report is intended to inform policymakers, planners, and administrators regarding environmental factors that should be considered when making decisions and plans to increase viability of LFS development.

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Note

Funding for this project was provided by the USDA National Institute of Food and Agriculture (NIFA) through the Agriculture and Food Research Initiative (AFRI) Foundational Program (Award Number 2011-67023-30061).

Keywords

local food systems; local food markets; local food system development; local market development; contingency; local food policy; GAP certification

Introduction

In recent years, U.S. government agencies and non-profit assistance organizations have responded to the profoundly negative ecological, sociocultural, and economic consequences associated with the dominant food system by creating programs to develop, promote, and support local food economies (Ilbery, Watts, Simpson, Gileg, & Little, 2006; Friedmann & McNair, 2008; Miroso & Lawson, 2010). For example, the U.S. Department of Agriculture (USDA) began its Know Your Farmer, Know Your Food initiative in 2012 to implement the president's plan to strengthen local and regional food markets (Maples, Morgan, Interis, & Harri, 2013; USDA, 2012). Such programs reflect a belief that the "localization trend shifts focus back to the context specific ecological and social factors global markets tend to externalize (O'Hara & Stagl, 2001, p. 535). Many of these programs are developed at some local level, proliferate due to policy initiatives mandated at the federal level, and are "operationalized," evaluated, and then expanded by a range of actors at state, regional, and community levels. A typical example is the USDA's Farm to School Program, a federal policy that encourages public schools to increase the amount of locally produced food purchased and consumed. The development of the necessary administrative, financial, and transport infrastructure for this program is left to local institutions. The 10% Campaign in North Carolina is a state-level program response to this nationally established local food policy (Center for Environmental Farming Systems [CEFS], n.d.; Dunning, Creamer, Lalekacs, O'Sullivan, Thraves, & Wymore, 2012).

While efforts to strengthen local food systems are increasing in number, little is known about how well these initiatives are working and what factors contribute to or limit program impact. Assessments of new initiatives can enhance knowledge about the

dynamics of food system change and increase the likelihood of program success (McKenzie-Mohr & Smith, 1999). Given the proliferation of new programs and initiatives and the complexity of local food systems, it is particularly important to understand how different markets interact with different environments and contexts so that program developers can select interventions that are well suited to their particular settings and conditions.

The local food system literature lacks accounts and assessments of the local food movement from the perspectives of local agents tasked to facilitate local food development. This paper begins to address this knowledge gap by investigating the facilitators and barriers to local food market development through the experiences and perceptions of Cooperative Extension agents designated as local food coordinators in an eleven-county region in eastern North Carolina. This is a state and region that has actively been promoting local food system development. The North Carolina Cooperative Extension Service has been an active participant in and change agent for local food development in the state; "local foods" was designated as a flagship program of this agency in 2010. Engaging in local food market development activity represents a significant proportion of extension agents' current tasks. The primary research questions we address are:

1. What local food markets are present, actively promoted, and developed across counties?
2. Is the existence of local food markets associated with urban proximity?
3. What other local conditions drive and limit the prevalence and success of different local food markets?

The information in this report is intended to provide policy makers, planners, and administrators with greater insight into how local environmental factors¹ can impact the development of local food systems. We argue that local food

characteristic of an area.

¹ By environmental or contextual conditions we mean geographic, socioeconomic, and institutional features

systems are complex systems, and given their complexity, local conditions should be considered and emphasized when making decisions and plans toward engineering these systems. The results of this study also suggest the types of support local agents need in order to implement more effectively state-level policy associated with local food system development.

Local Food Systems Definitions and Typology

A local food system (LFS) can be defined as a system in which foods are grown or produced, processed, and distributed locally at the household, neighborhood, municipal, and even regional level (Dahlberg, 1994). While there is no universally accepted definition of “local food,” there are characteristics used to define such systems, including geographic proximity, production methods, and absence of intermediated steps such as aggregation and processing (Martinez et al., 2010). One of the most important defining characteristics is that information about the particular farm of origin and production methods for each specific food item is available to the end consumer, and is considered to add value to the product. Development of a LFS involves the organizing, planning, and implementation of new programs and markets intended to support local farmers and lessen the distance between producers and consumers. This interest in developing and strengthening linkages between local producers and consumers has been reflected in recent scholarship on mid-scale value chains that focuses on increasing market access for small- and mid-scale farmers (Stevenson, Clancy, King, Lev, Ostrom, & Smith, 2011).

Local food systems include both indirect and direct market arrangements. Direct markets are outlets where farmers sell their fresh-picked produce and value-added products directly to consumers (Andreatta & Wickliffe, 2002;). Direct marketing activities include farmers’ markets, roadside stands, community supported agriculture (CSAs), and pick-your-own operations. We define farmers’ markets as any temporary or permanent outlet, whether a building or land space, that facilitates direct food transactions between farmers and consumers. CSAs are marketing arrangements in which

members purchase shares of a farmer’s expected yield before planting, and receive products at regular intervals during the growing season (Martinez et al., 2010). Other direct markets such as roadside stands and U-pick operations are arrangements in which consumers travel to farm sites to purchase and/or pick their own produce. Indirect markets are supply chains in which intermediaries such as brokers, distributors, grower cooperatives, food hubs, and food service operations facilitate exchanges between farmers and end consumers. These intermediated markets can be considered local if the information about the source of each product is retained and they have only a very limited number of intermediaries, such as when a farmer sells directly to a retailer or restaurant (Low & Vogel, 2011; Martinez et al., 2010).

Contingency Perspective of Local Food System Development

Previous studies addressing the opportunities for and challenges to LFS development have reported various environmental or contextual conditions that influence its progression (Andreatta & Wickliffe, 2002; Maples et al., 2013; Martinez et al., 2010; Miroso & Lawson, 2010; Smith & Miller, 2011). For example, Martinez and his colleagues found that capacity constraints for small- and mid-size farms include lack of distribution systems for moving local food into mainstream markets such as institutional and conventional markets; limited research, education, and training for marketing local food; and uncertainty related to regulations that may affect local food production, such as food safety requirements (Martinez et al., 2010). Local food systems have also been found to be influenced by characteristics of area residents, such as age, sex, income level, ethnicity, food preferences, food ideology (i.e., organic versus conventional production methods), and the degree of self-sufficiency vs. civic engagement (Maples et al., 2013).

A commonly reported environmental condition viewed as impacting local food development is proximity to population-dense (urban) areas (Low & Vogel, 2011; Martinez et al., 2010). A USDA Economic Research Service study of LFSs reported that most farms selling directly to consumers are

small farms with less than US\$50,000 in total farm sales, and are located in urban corridors of the Northeast and the West Coast (Low & Vogel, 2011; Martinez et al., 2010). While these studies report correlations between local food market prevalence and geographic conditions, as well as other environmental conditions, to our knowledge no studies examine whether the barriers and challenges to the success of different local food market arrangements (e.g., farmers' markets, food stands, CSA cooperatives) vary based upon similar conditions of geographic location and population density.

Because of the reported links between contextual conditions and local food market development, we view the contingency perspective as a good lens through which to address the question of what environmental conditions drive and pose challenges to the development of local food systems. The contingency perspective looks at effectiveness as a function of the degree of congruence or "fit" between structural and environmental variables (Heiens & Pleshko, 2011; Shenhar, 2001). This reflects the view of many organizational scholars since the 1970s, that there exists no set of universal strategies that is optimal for all organizations or systems (Galbraith, 1973; Ginsberg & Venkatraman, 1985; Heiens & Pleshko, 2011). For local food systems, the contingency perspective suggests that the economic performance of a given local food market is dependent on its level of congruence with relevant structural and environmental conditions such as population density, farm characteristics, and transportation infrastructure. In this study the contingency perspective is used as a tool for exploring the importance of considering contextual conditions when making planning, policy, and implementation decisions geared toward local food system development.

Methods

Data was drawn from a stratified sample of 11 counties in eastern North Carolina by a university-based research team. The sample was stratified based upon county geographic designation (defined and discussed later). These counties were chosen because expanding local food production and consumption was identified as an important goal by

regional level governmental institutions observed in the region. For this study, the authors represent 'outsiders' to the phenomenon of inquiry. While the authors have expertise in LFSs, community/economic development, and institutional design, none of the authors have a direct affiliation with university or county extension.

North Carolina is an information-rich place in which to study LFS development at state, regional, and county levels. The state ranks seventh nationally in farm profits with a net farm income of over US\$3.3 billion. Agriculture contributes US\$70 billion annually to the state's economy, accounts for 18 percent of the state's income, and employs over 17 percent of the work force (NCDA&CS, 2012). According to Local Harvest (2011), the state has an estimated 828 farmers' markets, 260 CSAs, and over 1,000 farm locations, including U-pick, roadside stands, and agritourism operations. In addition, Census of Agriculture (USDA, 2012) data shows that direct-to-consumer food sales in North Carolina have grown over 9 percent. Between the years of 2007 and 2012 direct consumer sales in the study region increased approximately 78 percent. The prevalence of local food markets and growth of direct market sales are indications that the interest in and action toward local food system development exists.

Several interest groups in North Carolina are dedicated to building sustainable local food systems; these include Appalachian Sustainable Agriculture Project (ASAP), Carolina Farm Stewardship Association (CFSA), Carteret Catch, Central Carolina Community College (CCCC), and the Center for Environmental Farming Systems (CEFS). A particularly influential initiative is the 10% Campaign, launched in July 2010 through a partnership between CEFS and the North Carolina Department of Agriculture and Consumer Services (NCDA&CS). The goal of this program is to encourage North Carolinians to spend at least 10 percent of their food dollars on locally grown and/or produced food.

Actions by these state-level interest groups and institutions at multiple levels led to designation in 2010 of "local foods" as the flagship Cooperative Extension program in North Carolina (Dunning et al., 2012). To implement this new policy, each

county's Extension director designated a member of their field faculty as that county's local foods coordinator. These agents were tasked with supporting the 10% Campaign through promoting and facilitating local food market development. While many extension agents had previously been in engaged in local food activities prior to this formal designation, this initiative provided state-level support and legitimacy to the local food movement. The designation of Cooperative Extension as local food agents has been characterized as an effort towards developing institutional change in the state's food system (Dunning et al., 2012). Several county agents attended state-sponsored professional training programs, where they were informed of current methods and approaches to building community-based food systems (for more details about these trainings, see Dunning et al., 2012; and Mettam, King, & Dunning, 2013).

While LFS interest and development has grown in North Carolina and across the U.S., close observation of the process suggests that market development is not widespread and benefits generated from these markets are not distributed equally. For instance, local food research suggests that while the popularity of local food markets has grown, limited market accessibility is increasing disparities in nutritional opportunities for low-income consumers (Jones & Bhatia, 2011) and in economic opportunities for small-scale limited resource farmers (Anderson, 2007; Beratan, Jackson, & Godette, 2014; Stevenson et al., 2011). Therefore, more in-depth examination of how local context can impede the development or expansion of local food markets is necessary, as it may give us insight into what conditions contribute most to the limited accessibility disadvantaged groups have.

Study Data

Data for this study consisted of secondary analysis of datasets that describe existing local food system conditions and infrastructure within each county, as well as in-depth key informant interviews with

county-level cooperative extension agents. Extension agents were chosen as knowledgeable informants for local food market activity within their counties. These boundary-spanning individuals² engage with local producers and community members on a daily basis, and serve as a critical link between farmers and state-level policy and resources. Therefore, county extension agents can provide a unique and important perspective on factors that challenge and facilitate the success of different local food marketing strategies.

Telephone interviews lasted one hour to an hour and a half. Key informants were asked to identify and describe what local food markets were present or being developed in their county, and what factors they viewed as facilitating or limiting their development. The transcribed interviews were coded in three steps. First, the interviews were categorized as urban, peri-urban, or rural based on county proximity to population-dense areas. Within each category, agent statements were structured based on the types of local markets (direct vs. indirect). Third, statements were organized based on agent references to specific markets they identified as existing in their county, then coded based on factors identified as facilitating or impeding each local food market arrangement.

Secondary county-level data from the 2012 Census of Agriculture used in data analysis included geographic (population density), socioeconomic (median education and income), and agriculture data (farm population and size) (Table One). In addition, information about local food markets in each county was obtained from the Local Harvest National Directory.

The U.S. Office of Management and Budget classification of geographical statistical areas—metropolitan, micropolitan, and rural—was used to determine each county's geographic designation. The OMB defines metropolitan counties as territories (or counties) with a high degree of social and economic integration, with the core factor measured by commuting ties. Micropolitan statistical

² The term "boundary-spanning individuals" refers to actors that are strongly linked internally and externally, so that they can both gather and transfer information from outside their sub-unit (Tushman, 1977; Tushman & Scanlan, 1981). In this

study, extension agents are viewed as boundary spanners within multiple systems (e.g., government and food systems) attempting to create and strengthen ties between actors and the organizations necessary to develop LFSs.

Table 1. County Geographic, Socioeconomic, and Farm Characteristics

URBAN COUNTIES				PERI-URBAN COUNTIES							RURAL COUNTIES			
C1	C2	Avg.	C3	C4	C5	C6	C7	C8	Avg.	C9	C10	C11	Avg.	
Population & Education														
Total Population	323,011	50,495	186,753	135,379	122,132	90,387	59,579	36,205	46,433	81,685	63,948	34,948	27,648	41,181
% population with higher degrees	22.4	16.4	12.9	17.6	30.4	20.0	30.4	14.5	12.0	18.0	13.2	11.1	14.6	13.0
Income														
Median household income	45,413	46,900	46,157	30,167	44,242	48,238	45,284	30,472	31,726	38,354	37,447	30,031	32,798	33,425
Farm Population														
Total farms	389	202	296	941	797	718	246	150	277	522	1067	492	250	528
% small-scale farms	86.1	80.7	83.4	80.4	85.1	88.7	97.2	73.3	69.0	82.3	73.3	78.0	71.6	74.3

areas consist of a minimum of one urban cluster with a population of at least 10,000 but less than 50,000, along with adjacent territory having a high degree of social and economic integration with the core (OMB, 2012). While OMB does not explicitly define rural statistical areas, we define them as areas with relatively low population density and distant from areas with a high degree of social and economic integration. For the purpose of simplification, we refer these geographic designations as urban, peri-urban, and rural, respectively.

In qualitative research, the concept of transferability³ rather than generalizability is often used to evaluate the trustworthiness of analysis (Bloomberg & Volpe, 2012; Guba & Lincoln, 1998). Following this tradition, we emphasize that findings and conclusions in this study should be viewed as transferable insights. It is likely that findings in this setting might be useful in other settings, with similar contextual features.

³ In qualitative research the concept of transferability does not involve general claims; rather it involves applying findings in similar contexts or settings

Findings

In this section we provide basic social and economic profiles of the different county population designations. In addition, we outline findings regarding extension agent identifications of existing markets and the factors they view as driving and facilitating their efforts in the development of different local food market arrangements.

County Geographic and Socioeconomic Characteristics

Two out of the eleven counties are classified as urban, six are peri-urban, and the remaining three are rural. In 2012, the average population in the urban counties was 186,753, in the peri-urban counties 81,685, and in the rural counties 41,181 (Table 1). The average median household incomes for the urban, peri-urban, and rural counties were US\$46,157, US\$38,354, and US\$33,425, respectively (USCB, 2011). Urban and peri-urban counties had the largest

(Bloomberg & Volpe, 2012).

Table 2. County Local Food Market Count

	URBAN COUNTIES			PERI-URBAN COUNTIES							RURAL COUNTIES			
	C1	C2	Avg	C3	C4	C5	C6	C7	C8	Avg	C9	C10	C11	Avg
Market Type														
Farmers' Markets	3	2	2.5	3	0	4	2	2	1	2.0	2	2	2	1.3
CSAs	2	0	1.0	1	3	2	1	0	0	1.2	2	0	1	1.0
Total Local Food Markets	5	2	3.5	4	3	6.0	3	2	1	3.2	2	2	3	2.3

percentage of the population with higher degrees of educational attainment⁴ (19.4% and 18%) compared to rural counties (13%) (USCB, 2011). A large percentage of the farms within the different counties are small-scale farms,⁵ with urban and peri-urban counties having a higher proportion of small-scale farms (between 82-83%) than rural counties (74%) (U.S. Census of Agriculture, 2012).

Local Market Prevalence

Although there is some variation in the prevalence of different local food markets by population density, a pattern is not strongly expressed in this sample (Table 2). Both urban counties in the sample had existing farmers' markets, and the county with the largest population had the greatest number of farmers' markets (3), while the second urban county had two. The county with the largest population density also had the most CSAs (2), while the other urban county had none.

The peri-urban counties averaged two farmers' markets per county, ranging between zero and four. The county with greatest number of farmers' markets had the third largest population among the eleven counties, while the county with the fewest had the second largest population. CSAs were present in all but two counties; the county with fewest farmers' markets had the largest number of CSAs. The county with fewest CSAs had the lowest population.

Among the rural counties, the county with the largest population had no farmers' markets while the other two counties had two each. The most populous of the rural counties had two CSAs, the

least populous had one, and the remaining county had none. It is important to note that while agents identified roadside stands as local food markets which exist in the counties, the lack of comprehensive data on these markets limited our ability to provide accurate prevalence data.

Perceived Relationships Between Context and the Success of Local Food Markets

Across the eleven counties, agent interviews suggested a potential disconnect between the strategies that are being promoted at the state level and how these strategies are implemented at the local level. From the extension agent perspective, there was an expectation for them to implement a specific set of local food system development strategies that may or may not be feasible given the conditions of their county. While there were no clear correlations between population and the number of local food markets, agents did view the success of different local food market arrangements to be dependent on certain other contextual factors. This was not apparent in agent identification of the market strategies they promote; agents tended to promote the same strategies in all of the counties. However, the agents did express concerns with the general application of a suite of local food strategies in all contexts. For example:

The biggest issue with local food initiatives is that they are coming up with the solutions without finding out what the problem is.... There is no one-size-fits-all local food system....No one has bothered to research the

⁴ Higher degrees of educational attainment refers to the percentage of adults in a county who are 25 or older who attained a degree higher than a high school diploma.

⁵ Small-scale farms are defined based upon the USDA-ERS farm typology definition. Refer to <http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib-110.aspx>

difference between counties before coming up with the solutions....A round block cannot fit into a square hole.

One of the biggest issues is the preconceived ideas that because one program or set of activities works for one area or context doesn't mean it will in another....We need to take a case by case basis.

Many agents identified proximity to densely populated areas, high income, and high educational attainment as necessary factors for the successful development of some local food markets such as CSAs and farmers' markets. They explained that the socioeconomic makeup and concentration of population are important factors that influence farmers' market decisions. In addition, they believe that these are important features to consider when decisions are made as to what local food markets should be developed.

Drivers and Challenges of Direct Local Food Markets

The agents described local direct markets as the most favored types of markets in their counties, stating that farmers view them as more straightforward, accessible, and profitable. Direct markets in general were the most promoted local food market strategy. Agents described contextual factors that they view as important determinants of the success or viability of direct market strategies, and how these differ between farmers' markets, CSAs, and roadside stands.

Farmers' Markets

Many agents view farmers' markets as the most accessible kind of local food market. A few questioned the viability of this strategy, focusing on the need for a more concentrated population to support the market and on the challenge of reduced market share due to competing local food strategies:

Farmers' markets are no good for [our] county because the county does not have the concentrations of populations in certain areas.

We have tried several different times, in

several different years to set up a farmers' market here in [city X] but it has not worked....The biggest problem is that there is no market here for that. The homeowners can go right to those roadside stands, which are fairly convenient around town.

Despite widespread endorsement of farmers' markets as an accessible strategy, all county agents interviewed expressed concern about the lack of participation by local farmers in farmers' markets. The reasons included lack of local demand, a history of farmers exporting to areas with larger populations, and competing alternative market outlets. In particular, agents from urban and peri-urban counties talked about farmer exportation of food and competing markets. For example, one agent from an urban county stated:

The [city X] farmers' market is comprised [sic] of several small farmers. Over the years there has been a somewhat increase in patronage... Most farmers take their products to farmers' markets in [bigger City A] or may have a couple of contracts with someone or sell on the farm.

Another substantial concern expressed by agents is that the establishment of farmers' markets is not driven by consumer demand. One rural agent, referring to a newly opened government-sponsored farmers' market, stated:

[The county] just opened a farmers' market three weeks ago. It consists of only [Vendor A] and [Vendor B], which are permanent vendors. This building transition was made possible by grant money...opening day was comprised [sic] of politicians... after that day it only had marginal participation...if [Vendor A and B] did not exist the building would probably be abandoned.

In sum, agent remarks indicate that farmers' markets are most viable in more urban areas with sufficient population density to support the market. While they can also be a viable strategy in less urbanized areas, success is more contingent upon

minimal competition from alternative local food market strategies and upon commitment of sustained participation from local farmers, in addition to consumer demand.

Community Supported Agriculture (CSAs)

The agents reported difficulties in promoting CSAs, and described them as a strategy that was most readily accepted by consumers with above-average incomes. As one peri-urban agent put it, “CSAs have to have a certain structure in order to flourish where the income per capita is very high....This is also true with organics.” The agents explained that because CSAs necessitate greater investment from the consumer as well as sharing production risks by both consumer and producer, CSAs are more likely to succeed in areas having more individuals with relatively high disposable incomes.

Another challenge to the viability of CSAs is simply the fact that this market strategy is not well known in the region. Not only is the level of consumer demand uncertain, but farmers are less familiar with the operation of these markets. In addition, the transaction costs are higher. One agent who spearheaded formation of a CSA stated that although consumer demand was demonstrated, the farmers showed a significant level of resistance towards participation. The agent described this experience as:

Excessive hand-holding and teeth-pulling to get them to participate....Even if I show farmers the evidence of new opportunities, they still will not expand to meet this new market that is being developed.

Collectively, the interviews suggest that CSAs may be best suited to higher-income areas. In addition, successful introduction of CSAs into new areas may require extensive institutional support to educate both farmers and consumers about the benefits of this market strategy.

⁶ Note that this study was a part of larger study that was being conducted in the region at the time. Therefore, we engaged with several local food stakeholders within the region about

Roadside Stands

While a few agents described roadside stands as favored by some farmers in their county, none mentioned active promotion of these markets. Some of the factors that agents identified as contributing to the viability of roadside stands are tradition, convenience, and tourism:

Farmers sell [produce] almost exclusively through roadside stands due to the [geographic] layout and demographics of our county.

Due to the county tradition [a number of decades] and the roadside stand location on the route to the beach, people tend to visit the roadside stands.

The agents noted that roadside stand ventures tend to be owned by farmers with a considerable amount of land and extra produce to sell. Agents therefore associated these markets with medium- to larger-sized farms. As two peri-urban agents stated:

We have a few farmers that are producing small amounts of veggies that they sell at roadside stands during the summer. Usually the farmer has some property and owns a roadside stand where they can market their own product.

The county is comprised [sic] of small-scale farms who are operated by retired agriculture teachers....The typical fruit and veggie farm is a hobby farm. We have three to four farmers that are larger scale....These farmers tend to have roadside stands or sell at the market.

In all, based on our discussions with agents and other local food stakeholders in the region,⁶ roadside stands appear to be one of the simplest and more flexible marketing strategies. They require little to none of the coordination between

similar topics. We focused on Cooperative Extension agents in this study because they have an important and unique perspective on these topics.

Table 3. Direct Markets: Development Barriers and Facilitators

Market Type	Facilitators	Barriers
Farmers' markets	High population density	Lack of local demand
	Local farmer and consumer commitment	Competing (local) food outlets
CSAs	<ul style="list-style-type: none"> • Population with higher average household incomes • Institutional support to educate both farmers and consumers 	Consumer and producer novelty and uncertainty of strategy
Roadside stands	Tradition, convenience and tourism of area	Limited land and marketing capacity

producers required by farmers' markets. In addition, very little infrastructure is needed to support roadside stands. This is in contrast to farmers' markets, which generally require significant public space and infrastructure that may need to be assembled and disassembled each market day. The operation of roadside stands is much simpler than CSAs, which require more complicated management systems to support communication and distribution to consumers. To see a list of contextual factors that may drive or impede the development of direct local food markets, see Table 3.

Barriers to Local Indirect Market Development and Viability

Local indirect market arrangements are less prevalent than direct markets throughout the area. All of the agents reported difficulty in facilitating indirect and institutional market exchanges and contracts. The majority of agents were able to recall only a few—if any—farmers in their county that sell or contract with indirect markets. The following factors were identified by the agents as systemic barriers to farmer entry into indirect markets.

Local indirect market is challenged by producer cost, uncertainty, and risk regarding labor and production. According to the agents, farmers are not convinced that there is any real incentive to sell to indirect markets due to the associated costs, uncertainty, and risk. Farmers—especially small-scale farmers—are not convinced that the likely return on investment is sufficient to take the risk of changing. One peri-urban agent described this issue in terms of farmers' uncertainty about benefits, labor and production costs:

Labor is an issue....If farmers were to ramp up to enter into more institutional-type sales, this would require an increase in production and farmers would be faced to revisit the labor situation. Because of this uncertainty and increase in cost, they are not sure they can get the income increases that would warrant such a transition...Therefore, this is not just a matter of creating demand but also a matter of helping farmers figure out how to minimize their costs to produce so that they can sustain their operations to meet demand.

Indirect market transactions are challenged by producer limited land and capital resource capacity. Accessing indirect markets was described as requiring significantly greater production output in order to meet institutional market demands relative to direct market strategies. Increased production translates into need for more land resources and the environmental conditions to support agricultural expansion. Consequently, in more urbanized counties, significant consideration is given to land value and how it influences production decisions. An urban and peri-urban agent conveyed these points:

Growers that sell to institutions will require more land and will have to be located in a county where the tax values in land are lower. As you get closer to [large] populations the price and tax value of land increases; therefore, farmers living in these areas have substantially higher overhead costs. Farmers simply cannot afford to sell produce to institutions or wholesalers if they are in close proximity to high populations....They are barking up the

wrong tree....The rainfall in this county is insufficient and the land value is too high.

Farmers' attitudes towards change are viewed as significant barriers to farmer access to indirect markets. Many extension agents in this study identified farmers' resistant attitudes towards change as a significant factor impeding development and facilitation of indirect market exchange. As two peri-urban agents noted:

They [farmers] are driven by a mentality that is driven by its environment....Some farmers are in their 80s....I try to keep up with the trends in local food and try to inform the farmers; however, the responsiveness is low....They don't seem to be interested in change.

The automatic assumption is that farmers want to sell to institutions....In our county they do not.

Agents also stated that farmers are aware that there are significant barriers to accessing indirect markets based on their own past experiences or through hearing of the experiences of others. Several agents shared stories of farmers' negative experiences in attempting to sell to local institutions such as public schools. According to one peri-urban agent, after going through stringent processes to meet the requirements set by the institutions, the farmers were "contracted" for only one delivery and no other sales were made. The agent recalling the story stated:

Three of our strawberry farmers collaborated to get GAP [Good Agricultural Practices] certified and only sold to the school once. The farmers got certified on a Monday, but could not sell to the school until that week....They sold to the school the next week, the following week was spring break, and the next week the grow season was over. The farmers went

through the extensive process of getting certified and did not recoup that cost.

According to the agents, farmers also believe that indirect markets cannot offer the same prices and practical benefits as direct markets. An urban agent stated:

The farmers' feeling is to not sell to institutions because they [institutions] are unable to pay the amount the farmer can get retail....These institutions have limited money. To sell to schools, farmers have to be big enough to sell to gain their contracts. These programs such as farm-to-school may make the school systems buy; however, it does not support price increases for the farmers' product....Also the school is not some place where farmers can dump their surplus.

Agents also mentioned the increased oversight and paperwork that is often associated with indirect markets as a factor limiting farmer interest in pursuing indirect markets. The farmer point of view is that institutional market initiatives represent excessive regulation, oversight, paperwork, and unrealistic standards as well. Referring to a local institutional food initiative, a rural agent stated, "The majority response from the farmers is that they are scared to death to get involved in any [institutional system] due to the extent of government regulation that come along with it."

The agents emphasized that the difficult challenge of convincing farmers to change is made even more difficult when there is not much incentive or evidence to justify change.

It is difficult for farmers to jump outside the box as well as for others to convince them to change. Even if you enforce the "see it to believe it" practice, they have to see it a lot.

Institutional barriers⁷ impede indirect market

⁷ In this paper, the concept of institution is applied in two ways: (1) to describe the policies, behaviors, and norms of institutional buyers (e.g., institutional buyer attitudes and behaviors toward buying local); and (2) to describe an

actual organization or network (e.g., schools or hospitals). Here, institutional barriers refer to institutional buyer attitudes and behaviors about purchasing from local farmers.

arrangements between county farmers and local institutional food buyers. The agents identified the prioritized values of institutional buyers as barriers to access to indirect markets by local farmers. For example, one peri-urban agent stated:

It's so hard getting [local] food in the school system and on military bases....They say they want it, they want it, they want it, but then they put all these boundaries up and so it is not easy to get it [local food] in these places.

According to agents, the conventional decision-making processes of institutions and the valuation of food (i.e., the perceptual value of food) from institutional and consumer perspectives also impede indirect food exchange. One peri-urban agent conveyed this point by explaining why many institutions are not buying local food:

...because of this cheap food mentality....In other words, if you are going to sell either to the school or the military, the compelling thing is that the produce must be cheap, it must be the lowest cost....It is sort of a commodity view of veggies....It's a difference in the way people view their food.

Describing the influence of institutional decision making on smaller scale farms, another peri-urban agent stated:

For institutions like the school and military the purchasing decisions are all about the bottom line...getting the cheapest price. If we want to have local farms be the recipients of these contracts, this cannot be the basis of their decisions. There have to be other incentives for the military and schools to go to local producers. Only in rare cases will the local producer be able to make the changes necessary to meet such standards.

These findings suggest that local farmer access to institutional markets is severely limited by institutions—especially public institutions—inability or unwillingness to alter attitudes involving food valuation.

Food safety regulations limit small-scale

producer access. All agents stated that government and institutional level policies related to food safety, such as the Good Agricultural Practice (GAP) and Good Handling Practices (GHP) certification processes, are difficult for small- and midsize farms to navigate:

There is only one required GAP certification; that is the USDA GAP certification. If you don't produce more than [US]\$500,000 of produce in a three-year period, you are not required to be GAP-certified. In this county, there is only one producer that produces enough to get GAP-certified. Most of the county producers do not produce enough to meet this requirement. So the only time they may be required of this is when a private retailer or wholesaler requires it by their own standard. Different retailers, distributors, or brokers have their own unique requirements or standards. This is what makes GAP certification difficult to understand because it is such a vague concept.

One peri-urban agent described the effect of these policies on small farmers:

The current state of the local food system, in a sense, is killing the small farmer....The push is to go back to the small farmers and to local foods; however, the problem is that regulations such as the Food Safety Act and the GAP certification do not support the local food mentality.

More rural agents than agents from other population designations reported having GAP-certified farmers in their counties. According to agents, this is due only to institutional push to conform to these standards. One rural agent stated, "The current farmers who are GAP certified are so because they had no other choice but to get GAP certified, it is necessary in order to sell the product."

Insufficient regional infrastructure creates barriers to entry to indirect markets.

Overwhelmingly, agents identified lack of local regional distribution and processing infrastructure as a major barrier impeding expansion of local institutional markets. The lack of accessible local processing and distribution networks is viewed as particularly limiting to the capacity of small- and mid-sized farmers to participate in institutional markets. This lack of accessible distribution networks in turn limit the ability of these farmers to compete with larger farmers, who tend to have stronger ties to major processors, distributors, and brokers. Two peri-urban agents stated:

We just don't have the infrastructure to deliver product to the institutions....The current national design of distribution, lack of regional infrastructure to support a local system. These are some of the issues that must be addressed in order to move us forward.

Another challenge identified by some agents is infrastructural deficiencies within some institutions. One example is a lack of food handling and preparation capacity in institutional food service facilities, particularly public schools and hospitals. One agent describes this:

It will take a bit of work to engage with schools....The reality is that most schools are not equipped to handle fresh produce....They do not have processing equipment....They take it [processed food] out of a cooler and pop it in the microwave....Some schools do not have full kitchens anymore.

Lack of strong network ties between local producers and institutional buyers impedes indirect market development. Many extension agents reported that only a few of their farmers are connected to or contract with local indirect markets. Agents describe these relationships as exclusive, entrenched in inert social exchanges, and based on low cost-values. A crucial limiting factor identified by agents is limited capacity of small- and mid-sized farmers to produce high volumes on a routine basis. Institutional buyers are less inclined to work with small- and mid-sized farmers due to this limited capacity to meet their demands. One

urban agent described the problem: "It is tough to get into it...It is a game, based on relationships. Brokers will maintain relationships with farmers that are proven to supply what they need and when they need it."

Several agents indicated that the key to the expansion and success of local indirect exchanges is for farmers to develop strong relationships or ties with these businesses. According to agents, many small- and midsize farmers are not part of large and/or strong institutional networks, and therefore are considerably limited in accessing new markets. Agent-identified mechanisms for making more connections to new institutional markets included hosting local dinners and farm tours.

While some agents reported having marginal success with these strategies, others described difficulties in establishing and sustaining these ties. An urban county agent stated that trying to develop these connections is difficult in the private processing, distribution, and retail outlets. According to a peri-urban agent, establishing relationships with other indirect markets such as local restaurants is fairly easy; the challenge is maintaining these relationships: "[Building relationships is] actually easier than you think...The hard part is once you raise that awareness then somebody has got to make sure that all of these partners stay connected."

Discussion

The same types of local food markets are being promoted in each county of the study area despite variation in proximity to population centers and in socio-economic conditions (e.g., median income, minority population, and education attainment). The Cooperative Extension agents themselves identified this as a problem, indicating that what they promote is being driven by institutional training and state-level policy, rather than from any analysis of local conditions and market demand. This suggests that institutional factors (e.g., program orientation, training, rules and/or norms) may be exerting more influence on choice of market strategies than relevant basic socioeconomic and geographic characteristics.

In support of their view that local food market success is contingent upon local context, agents

identified local conditions and factors that contribute to the potential success or failure of a food market (Tables 3 and 4). Among the most commonly mentioned factors impeding local food market development is farmer reluctance to change the way they operate. The agents noted that farmers' attitudes are substantially influenced by their perceived ability to meet demand, the relative novelty of the suggested strategy, their past experiences, and the existing local and macro food system conditions (e.g., community/regional food infrastructure and food policy). The agents believe that in order to progress farmers need to diminish their reluctance to change practices and strategies that have worked in the past, and that farmers are working against their best interests by not taking advantage of offered opportunities.

Agents' observations are consistent with past studies showing that farmers tend to be risk adverse (Binswanger & Sillers, 1983; Feder, 1980). However, the view from the farmer's perspective offers a very different interpretation. Given the risks associated with change, their risk aversion can be viewed as economically rational and appropriate decision-making rather than as a failure of initiative. If experience tells them that taking risks, such as attaining GAP certification, will result in a net loss rather than a gain in profitability, then it is reasonable for them to choose not to take such risks. From an economic perspective, therefore, the resistant behaviors of farmers can be viewed as a reasonable risk mitigation mechanism adopted in response to uncertainty, high transaction costs (Hardesty, 2008), low access to capital resources, and high average age. These can be considered contingency factors affecting farmer decisions.

Another contingency factor influencing their decision-making is lack of suitable intermediary infrastructure, such as appropriately sized processing facilities, distribution, and brokering networks to facilitate exchanges between small- and midsized growers and indirect markets. Efforts are being made in North Carolina, as in many states, to address this infrastructure gap, but with only limited success. For example, one strategy being promoted in this region is the development of food hubs, a commonly promoted market strategy for connecting small- and midsized farms

Table 4. Barriers to Indirect Market Development

- Local indirect market arrangements are challenged by producer cost, uncertainty, and risk regarding labor and production; indirect market transactions are challenged by the producers' limited land and capital resource capacity
- Farmer attitudes towards change are viewed as significant barriers to their access to indirect markets
- Institutional and cultural barriers impede local indirect market arrangements between county farmers and local institutional food buyers
- Food system policy limits small-scale producer access
- Insufficient regional infrastructures create barriers to entry to indirect markets
- Lack of strong network ties between local producers and indirect market organizations

to larger and more profitable intermediated markets (Schmidt, Kolodinsky, DeSisto, & Conte, 2011; Stevenson et al., 2011). However, the feasibility and profitability of this market strategy has not been demonstrated to farmers. This has contributed to a challenge described by agents in this study: difficulty encouraging development of strong ties between small- and midscale farmers and vendors of local indirect markets.

Recognizing these types of system-level contingencies is an important step that organizations and policy makers can take toward leveling the playing field for small-scale farmers with limited resources (Anderson, 2007). Once these challenges are recognized, assistance organizations and policy agencies must then generate the energy and resources necessary to mitigate contingency factors, a step that is critical for convincing small- and midscale farmers to adopt new practices and participate in new market opportunities. If farmers observe real efforts toward resolving issues aligned with their concerns, they may be more willing to take on more risks. For instance, increased availability of intermediary food infrastructure might convince farmers that the costs of participation, such as GAP certification and production expansion, are justified. Additional research is needed on how assistance agencies can facilitate the establishment, development, and sustainability of necessary infrastructure, whether social or physical, to establish and support strong network ties between small- and midscale farmers and intermediary organizations and services. This

information can help planners, developers, and change agents build more sustainable and effective local food systems.

At present, most of the burden of changing LFSs is placed on the individual farmer. Strategies promoted by agricultural assistant agencies focus on actions individual farmers need to take in order to gain access to established local institutional food markets and to build consumer demand for direct market outlets. Small- and midscale farms on their own lack the resources to meet demands and adhere to standards imposed by the institutional food system. In addition, they lack access to concentrated populations of consumers willing to pay premium price for locally and/or sustainably grown products. Without these premium prices, small- and midscale farms are unable to sustain operations at a level that generates reasonable profit margins.

Given this business context, farmers are quite reasonably skeptical about getting involved in new ventures, and feel increasingly excluded from participation in the food system. This study suggests that there may be substantial disconnect between farmers' and assistance organizations' capacity and expectations in terms of working with one another. Relationships between farmers and assistance organizations such as Cooperative Extension are likely to erode if the assistance organizations continue to push strategies that farmers believe poorly fit their capacities and have

a low likelihood of success.

If the local food movement is to succeed in enhancing the livelihoods of disadvantaged groups, such as small- and midscale farmers, then systemic changes must take place within the current food system to support their participation. More than one part of the system must be fixed in order for more profitable market arrangements to exist at the local level; farmers cannot do it all themselves. Small- and midsize farms cannot survive and prosper unless the agriculture system and policies are restructured in a way that fits their needs and capacities. Therefore, given the significance of institutional factors in creating challenges in local food market development, it is important to study how LFS design can accommodate local contexts such as institutional buying cultures and the policies local farmers must adhere to.

Considering the small sample size, the findings in this study may not be generalizable to all contexts. However, we believe that the richness of the information provides some knowledge that can be transferred to most contexts. For instance, we believe that in the development and implementation stages of food system change certain contingency factors (i.e., local context factors or conditions) should be considered (Table 5). We also believe that consideration of these factors promotes a more holistic view of local food system development, which will improve the sustainability and resilience of food systems as a whole.

Table 5. Contextual Factors Stakeholders Should Consider When Developing Local Food Systems

Type of Contingency Factor	Example of Contingency Factors
Institutional Factors	<ul style="list-style-type: none"> • Institutional demand and buying cultures • Food production, handling, safety policy (e.g., GAP) • Labor and workforce policies
Infrastructural Factors	<ul style="list-style-type: none"> • Existing aggregation, processing, and distribution networks
Socioeconomic Factors	<ul style="list-style-type: none"> • Disadvantaged groups (e.g., small-scale farmers and low-income households), access to food markets
Food Production Capacity	<ul style="list-style-type: none"> • Total farmland available • Number of existing farms • Farm labor/workforce
Economic Factors	<ul style="list-style-type: none"> • Local demand • Food prices • Land taxes

Conclusions

The experiences of Cooperative Extension agents charged with implementing key aspects of North Carolina's local food system policies support the contingency perspective view, that the design of a local food system market structure should be driven by local context; local food market strategies that work in one place are not necessarily going to work

in another. This may be particularly true when strategies developed for urban areas are transferred to rural settings. We suggest that two things must be kept in mind when attempting to develop more accommodating local food systems: (1) local food promotion will not be successful if the local context does not support it; (2) local conditions matter: there is no one-size-fits-all design for local food systems.

Development of a locally relevant strategy requires considerable effort. While not explicitly noted in the findings, many agents highlighted the fact that they lacked sufficient time and resources to commit to local food system development goals. Additional support is needed for agricultural and community assistance organizations such as Cooperative Extension to continue to support the goals of the local food movement. Support includes more refined tools and guidelines to help local agents assess local conditions (such as the ones outlined in Table 5) so that they can promote relevant strategies and reduce local barriers to market success. Further research is needed regarding what strategies are most suited for different types of farms. Perhaps most importantly, agencies need to allocate adequate time and resources for agents to successfully lead and facilitate system change. Agents cannot succeed if this responsibility is simply added on top of existing job responsibilities.

Policies at the federal and state levels need to better support the initiatives that assistance organizations are attempting to implement. They can do so by coordinating and synchronizing efforts so as to reduce conflicting and confusing requirements that impede progress at local levels.

Our findings support the view that the fit between local conditions, policy, and strategy impacts the performance of local food systems. If the goal of local food development is to create more equitable and sustainable food systems for all (Hendricks, 2000), then careful consideration must be given to local contextual features. Failure to consider local contingencies will limit certain groups and locales from realizing the potential benefits of local food systems, in effect diminishing the promise of more inclusive and equitable food systems.

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Building the capacity for community food work: The geographic distribution of USDA Community Food Projects Competitive Grant Program grantees

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Submitted August 28, 2014 / Revised January 12 and January 26, 2015 / Accepted January 27, 2015 /
Published online May 21, 2015

Citation: Tanaka, K., Indiano, E., Soley, G., & Mooney, P. H. (2015). Building the capacity for
community food work: The geographic distribution of USDA Community Food Projects Competitive
Grant Program grantees. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 97–111.
<http://dx.doi.org/10.5304/jafscd.2015.053.006>

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Abstract

The U.S. Department of Agriculture's Community Food Projects Competitive Grants Program, or USDA CFPCGP, supports community efforts to address food system issues. Over the last 15 years the program has funded diverse community-based projects across the nation, including youth education programs on healthy eating, farm-to-table initiatives, and community food assessments. In

this initial study, we endeavor to understand the contribution of the CFPCGP in building a community's capacity to address its own challenges for food security. To analyze funding patterns of the CFPCGP program between 1996 and 2012, we used the websites of the CFPCGP and the WhyHunger Network to identify 420 competitive grant applications successfully funded by this grant program. In this paper we present findings on the geographical distribution of successful applicants and the common objectives of these projects. All but three states had successful applicants. We found considerably uneven (disproportionate to population) distribution of successful grantees

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Author Notes

This project was supported by a grant from the University of Kentucky College of Agriculture, Food and Environment. Earlier versions of this paper were presented at the 2014 Annual Meeting of the Southern Rural Sociological Association Meeting in Dallas, Texas, and the 2014 National Conference on Undergraduate Research in Lexington, Kentucky.

among 50 states and U.S. territories, as well as among the four USDA Sustainable Agriculture Research and Education (SARE) regions (Northeast, North Central, South, and West). Organizations and cities receiving multiple grants tended to be located in the metropolitan Northeast or West. Training, education, and gardening are common activities proposed in the funded projects. “Low-income” residents in the community are identified as the target group for nearly one third of the funded grants. We discuss key implications of our findings and offer suggestions for building the capacity of limited-resource communities and organizations to successfully compete for CFPCGP funding.

Keywords

community food work, food security, community development, federal funding, food localization movement, regional disparity

Introduction

Food brings people together. Few celebrations or ceremonies in our lives can proceed without food. Yet food also divides people into categories based on class, status, gender, religion, race, ethnicity, ideology, etc. Enormous inequalities persist in the United States among individuals and communities in terms of access to affordable, culturally, and nutritionally adequate food. The USDA Community Food Project Competitive Grant Program (CFPCGP) is intended in part to ameliorate those inequalities. This paper considers how the funding of this program is distributed among organizations, cities, and regions in the United States.

In 2013, an estimated 14.3% of U.S. households were food insecure, or lacked “access to enough food for an active, healthy living” for all household members (Coleman-Jensen, Gregory, & Singh, 2014). One in five children was estimated to be food insecure and did not know where his or her next meal was coming from (Coleman-Jensen et al., 2014). In 2012, 83% of 51 million eligible individuals participated in the Supplementary Nutrition Assistance Program (SNAP) (Eslami, 2014). Feeding America estimates that in 2014, 46.5 million individuals were served by its network of food banks (Weinfield, Mills, Borger, Gearing,

Macaluso, Montaquila, & Zedlewski, 2014). Even with assistance, 23.5 million Americans live in food deserts, experiencing difficulty accessing healthy food at a reasonable price (Ver Ploeg, Breneman, Dutko, Williams, Snyder, Dicken, & Kaufman, 2012).

Within the last decade, the number of community-based initiatives devoted to addressing food insecurity has grown dramatically (Winne, 2008). Such terms as food deserts, food miles, “know your farmer, know your food,” and farm-to-table have become part of an everyday lexicon for many people. Food has become a critical arena in which we have come to reflect on ourselves, our community, and the economy by asking: What constitutes a good food system? How do we build such a food system in our own community?

Our research project focuses on community efforts to build good food systems. In particular, we examine the role of the USDA CFPCGP in facilitating concerned citizens, activists, and professionals to build capacity to define and address food-security challenges in their own communities, or what we call in this paper *community food work*. In this paper we address the questions: (1) Who are the successful grantees of the USDA CFPCGP? (2) Where are they located? (3) What kind of activities do they propose to implement through their projects? By asking these questions, we aim to explore the geographic distribution of successful grants and highlight the critical role that federal competitive grant programs may play in shaping community food work in the United States.

Below we will first briefly discuss the increased significance of community food work in recent years. Then we present our initial findings on the key trends and characteristics among the grant applicants who successfully competed for CFPCGP grants between 1996 and 2012. Finally we discuss some implications of these findings, provide suggestions for improving the CFPCGP, and conclude by laying out our plan for further analysis in this research project.

Community Food Work

The level of a nation’s economic development or social progress is often tied to its capacity to feed its population (Braudel, 1992a, 1992b, 1992c;

Busch & Lacy, 1984; Sen, 1983; also by Food and Agriculture Organization of the United Nation's Committee on World Food Security, available at <http://www.fao.org/cfs/cfs-home/en/>). The term *community food work* is often used to describe the work involving the improvement of food security through community-based strategies. Today this includes a wide range of activities by various types of organizations, such as food banks, soup kitchens, public programs supporting food access (e.g., SNAP, school feeding programs), and healthy-food advocacy groups.

Yet the history of public interventions in ensuring food security in the U.S. population is relatively short (Poppendieck, 1999). Some of the key public programs for feeding, e.g., the first pilot food stamp program, started in the 1930s in response to the Great Depression. The National School Lunch Program (Poppendieck, 2011) and victory gardens were promoted as a part of the nation's war effort during the two war periods to feed those who remained in the homeland. Many of the contemporary programs with which we are familiar today, e.g., the food stamp program (which became SNAP), grew out of community food work associated with the War on Poverty in the 1960s (Poppendieck, 1999; USDA-FNS, 2013).

Within the agrifood studies literature, the current community food security movement is understood as a convergence of two interrelated yet distinct social-movement sectors calling for an alternative food system (Allen, 2004; Constance, Renard, & Rivera-Ferra, 2014; Goodman, DuPuis, & Goodman, 2014). One sector emphasizes the goal of transforming agriculture to use more environmentally, economically, and socially sustainable *production* by fostering more ecologically sustainable *farming* practices, capturing high added value to maintain commercially vibrant farm enterprises, and enhancing the quality of life for farm families (National Research Council [NRC] Committee on Twenty-First Century Systems Agriculture, 2010). This group tends to be made up of organizations whose members are largely farmers and advocates for family farming. These organizations promote direct linkages between farmers and consumers through such marketing arrangements as community supported agriculture

(CSA), farmers markets, and institutional purchasing (e.g., farm-to-school, farm-to-hospital, consumer cooperatives) to establish a localized food system. In addition, some organizations advocate for production practices and institutional arrangements for socially just food systems, such as fair labor arrangements, socially responsible production practices, and ethical treatments of animals.

The priority of the other social movement sector focuses on food *consumption* by advocating for the need to improve consumers' *access* to healthy, nutritious, and culturally adequate food at affordable prices. This latter priority is highly fragmented in comparison to the sustainable agricultural production priority. Some of the organizations pursuing this priority were formed between the mid-1960s and early 1980s in anti-poverty and anti-hunger work, including provision of emergency food assistance (e.g., food banks, food pantries, soup kitchens). These organizations tend to focus their effort on food access among community members with limited resources. On the other hand, a newer subgroup under the food consumption priority that has proliferated in the last two decades tends to emphasize improving the adequacy of food that is available to all community members and their health behaviors (see Winne, 2008).

Although these two sets of priorities—sustainable agricultural production and improved food consumption—are not mutually exclusive, they can be considered as a “wicked problem” (Nelson & Stroink, 2014). While family farmers hope to capture premiums for their harvest, urban consumers want to be able to afford these products. On the one hand, the food consumption priority is oriented toward the needs of urban consumers, thus paying less attention to sustainable farming and food production activities. On the other hand, the sustainable agriculture/food localization priority tends to attract highly educated and/or economically privileged consumers. This group tends to understate the structurally generated social inequalities that often exclude certain groups of consumers (e.g., racial and ethnic minorities, the poor) from participating in the localized food system (see Alkon & Agyeman, 2011).

Institutional purchasing of fresh fruits and

vegetables through the farm-to-school/college/hospitals, gleaning for redistribution at food pantries and soup kitchens, and establishing food hubs are examples of *economic approaches* that link the needs of farmers and consumers. These approaches create a food system that consists of short chains between farmers and consumers while taking advantage of economies of scale. Examples of *political approaches* include establishing food policy councils at the local, county, or state level that may include creating a local-food coordinator position in the local government (see Winne, 2008). Both the economic and political approaches are intended to create a forum to bring together representatives from diverse types and sectors of the food system to collaborate in the community work through the political process (Burgan & Winne, 2012). Our analysis in another research project on the food policy council movement suggests that the agriculture sector is not well represented in many food policy councils at the local level. If represented, it tends to be limited to a rather narrow range of agricultural interests (Mooney, Tanaka, & Ciciurkaite, 2014).

As a grant program of the USDA, the CFPCGP explicitly encourages grant applicants to demonstrate how their project contributes to connecting farmers and consumers. The proposed projects need to lead to a sustainable institutional mechanism to address food security challenges in the community beyond the expiration of the grant. This program aims to address food insecurity issues in low-income communities by funding projects that will “unite the entire food system, assessing strengths, establishing linkages, and creating systems that improve self-reliance over food needs” (USDA NIFA, 2010, para. 4). Below we examine the programs that were successful in receiving grants under the USDA CFPCGP.

USDA Community Food Project Competitive Grant Program

The CFPCGP is established under legislative authority of the Food Stamp Act of 1977 (PL 108-269; see 7 U.S.C. 2034). In 1996, the Federal Agriculture Improvement and Reform Act (PL 104-127-APR. 4 1996) authorized the funding of this grant program to encourage self-reliance in

building food security in low-income communities. The Farm Security and Rural Investment Act of 2002 (PL 107-171) reauthorized the program. Then the legislative authority was amended by the Food and Nutrition Act of 2008 as well as Section 4402 of the Food, Conservation, and Energy Act (FCEA) of 2008 (PL 110-246). According to the 2014 CFPCGP request for applications (USDA NIFA, 2014a):

The primary goals of the CFPCGP are to:

- Meet the food needs of low-income individuals through food distribution, community outreach to assist in participation in federally assisted nutrition programs, or improving access to food as part of a comprehensive service;
- Increase the self-reliance of communities in providing for the food needs of communities;
- Promote comprehensive responses to local food access, farm, and nutrition issues; and
- Meet specific state, local or neighborhood food and agricultural needs including needs relating to:
 - Equipment necessary for the efficient operation of a project;
 - Planning for long-term solutions; or
 - The creation of innovative marketing activities that mutually benefit agricultural producers and low-income consumers. (p. 23)

The program offers three types of grants, including: (1) Community Food Projects (CFP), (2) Planning Projects (PP), and (3) Training and Technical Assistance (T&TA) Projects. Due to the lack of detailed information about each funded grant, we were unable to consider differences among these three grant types in the present analysis. Regardless of the type of grants, the CFPCGP aims to facilitate capacity building of low-income, limited-resource communities.

Any private, nonprofit organizations as well as public food service providers and tribal organizations are eligible to apply for a grant under this program. However, the proposal must demonstrate that the lead organization has experience with

“community food work, particularly concerning small and medium-size farms, including the provision of food to people in low-income communities and the development of new markets in low-income communities for agricultural producers,” competence in successfully implementing a project, and willingness to share the findings and lessons from the project with other practitioners and researchers in community food work (USDA NIFA, 2014a, p. 9).

The program specifically encourages diverse types of organizations (e.g., academic, non-academic, public, private, business, nonprofit) from multiple sectors in the food system to build partnerships and share resources and expertise. Through strong collaborations among stakeholders in the community, each project is expected to generate sustainable solutions to what they collectively consider to be challenges to food security in their own community while also developing knowledge, skills, and institutional frameworks necessary for building a community-based, local food system according to the vision of the project team (USDA NIFA, 2014a).

Because of the emphasis on integrative approaches to addressing food, farm, and nutrition issues, the CFPCGP becomes a space for facilitating “a national incubator in which comprehensive, but relatively small-scale, food system innovation is taking place community by community” (Maretzki & Tuckermanty, 2007, p. 335). Pothukuchi found that CFPCGP projects between 1999 and 2003 contributed to making “healthy food more available in low-income communities; enabled youth and adults alike to gain skills in food production and marketing; supported the development of local jobs and food-related businesses; and developed a host of innovative approaches to problems linking food, agriculture, and nutrition” (2007, p. 5). Our aim in this paper is not to evaluate the validity of these claims or efficacy of the grant program. Instead, we ask who are successful grantees of the CFPCGP, where are they located, and what activities do they propose to implement? Answering these questions will help us understand how a federal competitive grant program such as the CFPCGP shapes community food work in this country.

Methods

To collect the information on the successful grantee applicants, we carried out an exhaustive search of publicly available data and identified two critical websites. The USDA CFPCGP website provides key information about funded projects between 1996 and 2012. The WhyHunger Network website (2014) also includes a database of the projects funded between 1996 and 2012. We identified 420 CFPCGP projects. The amount of information readily available from these sources varies tremendously depending on the grant year. For example, a list of the funded projects for the year of 2004 was published in the form of a press release (USDA Office of Communications, 2004). We also used the decennial report on the CFPCGP, *Healthy Food, Healthy Community*, for information on the funded grants between 1996 and 2006 (Community Food Project 10th Anniversary Production Team, 2007). Although several successful grant applicants may be missing from the USDA and WhyHunger Network data sets, we assume that no systematic bias exists in the missing data.

For each CFPCGP project we recorded the following variables: the grant year, the location of the lead organization, the grant amount (which ranged from US\$6,560 to US\$300,000), the objective or mission statement of the project, the contact name for the grantee, the email of the contact person, and the web address of the project. We created a spreadsheet to identify any patterns in the historical trend of grant funding, including: the number of grants per state, the number of institutions that received multiple grants, and common themes and activities.

For most projects funded between 1996 and 1999, we were unable to locate anything beyond the title and lead organization of each project, and therefore excluded those from the analysis of funding amounts and common themes and activities. We also were unable to find any mission or objective statements for some projects funded in the years of 2000 and 2006. Thus 359 projects out of the original 420 projects were used for analysis of thematic patterns.

To examine the geographical distribution of grants, we used the four Sustainable Agriculture

Research and Education (SARE) regions of the United States, a modified version of the federal regions designated by the U.S. Census Bureau and commonly used by the USDA (see Map 1). These are defined as (USDA SARE, n.d.):

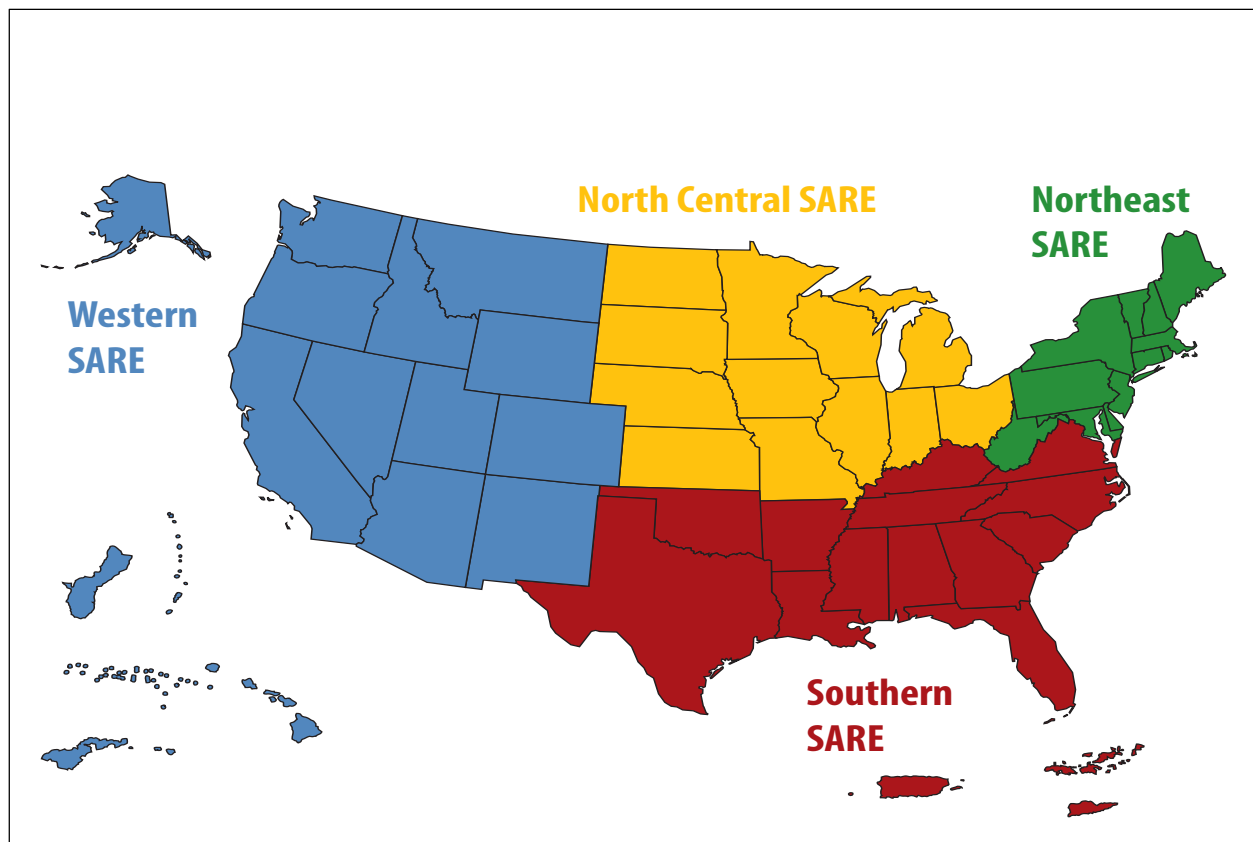
- North Central Region: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin;
- Northeast Region: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and West Virginia;
- Southern Region: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma,

Puerto Rico, South Carolina, Tennessee, Texas, U.S. Virgin Islands, and Virginia; and

- Western Region: Alaska, American Samoa, Arizona, California, Colorado, Guam, Hawaii, Idaho, Micronesia, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

To examine the patterns in what the successful grantees proposed to do, we used NVivo, a software program for qualitative data analysis, to identify common words and phrases used in the statement of the project objectives and approaches in 359 projects funded between 1996 and 2012. We then categorized these words and phrases by project to examine the geographical place of the proposed community food work, the type of activities, and the target groups. Because we used project

Map 1. Regions of the United States as Defined by the U.S. Department of Agriculture (USDA) Sustainable Agriculture Research and Education (SARE) Program and Used in this Study



Reprinted with permission from SARE's four regions (<http://www.sare.org/About-SARE/SARE-s-Four-Regions>). Citation of SARE materials does not constitute SARE's or USDA's endorsement of any product, organization, view, or opinion. For more information about SARE and sustainable agriculture, see <http://www.sare.org>

summaries, which are publicly available, we did not analyze in depth how words (e.g., business, gardening) and phrases (e.g., access to the market) that appeared frequently were intended by these different organizations in diverse projects.

There are several limitations to our analysis. First, we used the address of the performing institution as the location of the project. This was problematic because many of them are located in urban areas even though their activities serve the needs of rural communities and residents. Another problem with the use of the organization's address was differentiating between those nonprofit organizations that have a national or regional scope (such as the Community Food Security Coalition (CFSC) and Janus Youth Program) and those with a scope of work within a single state. We do not know the precise number of the grant recipients that work beyond the state level. We reviewed the websites of multiple grant recipients to understand the geographical scale of their organizational activities.

Second, the project summaries preclude assessment of the extent to which the proposed activities were completed and generated the expected outputs and outcomes. Although they were extremely useful, the evaluative reports on the CFPCGP published by the CFSC (e.g., Community Food Project 10th Anniversary Production Team, 2007; Pothukuchi, 2007; Tauber & Fisher, 2002) provided detailed information about only those projects that were considered to be successful and exemplary. Moreover, these project summaries and descriptions did not include a list of collaborating organizations and individuals. We therefore do not know how many performing organizations are involved in multiple CFPCGP projects in their state or region. As discussed below, our future analysis will include the annual reports and final project reports from several projects selected for case study.

Third, this analysis did not taken into account historical transformations of the grant program. The amount appropriated for the CFPCGCP as well as the priority areas and eligible activities have changed over the 15-year period. Our future analysis will investigate the transformations of the grant program in relation to changes in the community food security movement in the U.S.

Results

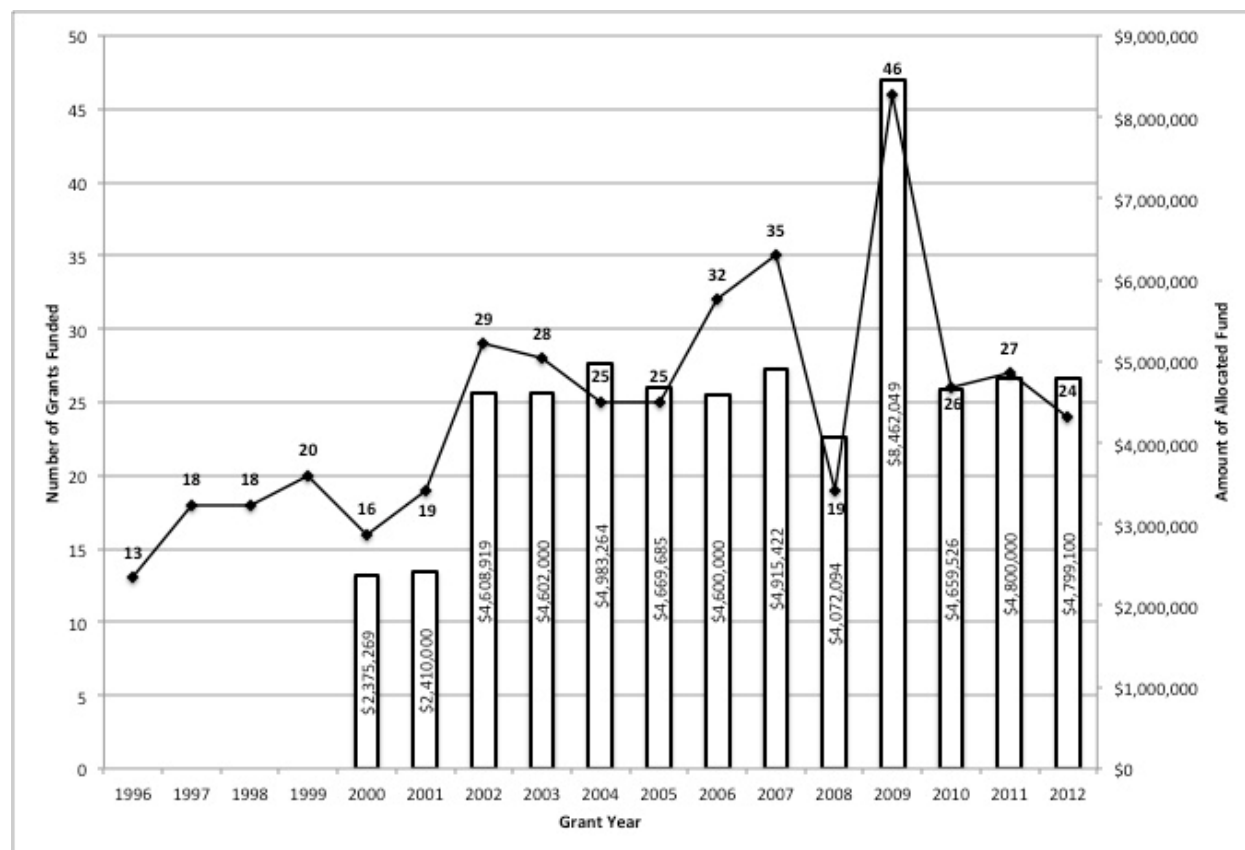
Between 1996 and 2012, the USDA CFPCGP funded 420 projects. As shown in Figure 1, in the first three years of the program the number of grants funded was very small ($n=13$); the total federal funding allocated to the program appears to be very small. Since 2002, the federal appropriation to the program seems to be more or less stable at around US\$4.7 million, except for the funding year of 2009. During the 10-year period of 2002 to 2012 (excluding the anomalous year of 2009), 27 projects on average were funded annually. We were unable to explain why the funding allocation for the year of 2009 doubled. This section presents the geographical patterns and common themes of these projects.

Geographical Distribution of Grant Funding

Forty-seven states received at least one CFPCGP grant. Kentucky, New Hampshire, and Utah have never received a grant. American Samoa also received one grant and Washington, D.C., received three. Although Washington, D.C., is technically not part of any of the SARE regions, we included those grants in our analysis of the geographical distribution as part of the Northeast SARE region. Table 1 shows the 10 states with the most grants funded by the program over the 15-year period. All these states hold reputations as trend-setters in the sustainable agriculture and community food security movement. They are all located in either the Northeast or Western regions of the United States.

There are enormous differences among the "food environments" of these 47 states (see the USDA ERS Food Environment Atlas, <http://www.ers.usda.gov/data-products/food-environment-atlas.aspx>) as well as among their agroecological conditions for farming, socio-cultural history of community-based activism, and the these factors. To better grasp the regional distribution of CFPCGP grants, the data are grouped into the four SARE regions. Between 1996 and 2012, the Western region received the most grants, with 160 out of 420 grants (39%), followed by the Northeastern region, with 112 grants (27%), the North Central region with 76 grants (18%), and the Southern region with 69 grants (16%). Considering that both the North-

Figure 1. Number and Amount (in US\$) of CFPCGP Grants per Year, 1996–2012



eastern and Western regions include states known for their vibrant sustainable agriculture and community food security movements, this regional discrepancy may not be surprising. Table 2 compares the distribution of grants by region over four time periods. As indicated in the table, the Southern region has a substantially greater population than the other regions (U.S. Census Bureau, 2014), but received the least number of grants in each period. Compared with other regions, the Southern region has much higher rates of obesity and household food insecurity (Tanaka, Mooney, & Wolff, 2014). This distribution of CFPCGP grants among the four regions did not change substantially over time.

Even after the sustainable agriculture and community food security movement began to spread across the U.S. from the two coasts, the Western region received more than twice the amount of funding from the CFPCGP than the North Central or Southern regions.

Distribution of Multiple-Grant Recipient Organizations and Cities

Among the 420 grants, 260 grants (62%) were given to first-time recipients. The remaining 140 grants were distributed among 58 organizations,

Table 1. Top 10 States by Number of USDA CFPCGP Grants, 1997–2012

State	Number
California	59
New York	28
Massachusetts	26
Oregon	22
Maine	17
New Mexico	16
Arizona	16
Pennsylvania	14
Wisconsin	14
Washington and Minnesota (tied)	13

Table 2. Distributions of USDA CFPCGP Grants and Population by Region, 1997–2012

		Population (1,000s)			Grants				
		1990	2000	2010	1997–2000	2001–2004	2005–2008	2009–2012	Total
Northeast	N	58,658	62,055	64,443	23	30	24	36	113
	%	24%	22%	21%	27%	30%	22%	29%	27%
North Central	N	59,669	64,393	66,927	16	21	22	16	75
	%	24%	23%	22%	19%	21%	20%	13%	18%
West	N	52,784	63,198	71,946	30	35	45	53	163
	%	21%	22%	23%	35%	35%	41%	43%	39%
South	N	77,607	91,776	105,430	16	15	20	18	69
	%	31%	33%	34%	17%	14%	18%	15%	16%
Total	N	248,718	219,367	244,302	85	101	111	123	420

Sources: Mackun & Wilson, 2011; Perry & Mackun, 2001.

including 35 organizations with 2 grants, 12 organizations with 3 grants, 8 organizations with 4 grants, Southside Community Land Trust (Providence, Rhode Island) with 5 grants, Janus Youth Program (Portland, Oregon) with 6 grants, and Community Food Security Coalition (Portland, Oregon, and Venice, California) with 17 grants. Some of the multiple-grant recipient organizations work beyond the state level. Table 3 lists the organizations that received four or more grants.

As mentioned above, the CFSC was a national organization composed of over 300 member organizations who focus on various types of community food work, including sustainable agriculture, hunger and food security, food sovereignty, and farm-to-institution, until it dissolved in 2012. World Hunger Year (currently known as WhyHunger Network) and First Nations Development Institute are also national organizations. Although Farm to Table emphasizes building the capacity for community food work in New Mexico, it “works at the local, regional and national levels through innovative, community-driven programs and strong partnerships” (Farm to Table, n.d., para. 1). Janus Youth Program, founded in 1972, provides community-based residential care for homeless youth and substance abusers in Oregon and Washington. Although not listed in Table 3,

Southern Sustainable Agriculture Working Group (Southern SAWG; $n=3$) is a regional organization that operates in 13 Southern SARE states.

These national and regional organizations often become a hub for nonprofit organizations to collect resources—e.g., data, potential partners, best management practices in community food work—necessary for designing projects and writing grant proposals. For example, through its annual meetings and regional workshops, the CFSC and the Southern SAWG offer training for their member organizations or individuals to design community-based food projects and assist them in developing fundable proposals. The CFSC conducted evaluation studies to identify the best practices among CFPCGP-funded projects and disseminated a guidebook for designing and implementing successful community food projects (e.g., Community Food Projects 10th Anniversary Production Team 2007; Pothukuchi, 2007; Pothukuchi, Joseph, Burton, & Fisher, 2002; Tauber & Fisher, 2002).

Next, we examined how many cities and townships in the United States received multiple grants from the CFPCGP to tackle their food challenges. Between 1996 and 2012, 237 cities received at least one CFPCGP grant; 73 of these cities received multiple grants. Top recipient cities

Table 3. Lead Organizations with Multiple USDA CFPCGP Grants, 1997–2012

Organization Name	Organization Location	Number of Grants Received
Community Food Security Coalition	Portland, Oregon, & Venice, California	17
Janus Youth Program	Portland, Oregon	6
Southside Community Land Trust	Providence, Rhode Island	5
Community Teamwork	Lowell, Massachusetts	4
Cultivating Community	Portland, Maine	4
Farm to Table	Santa Fe, New Mexico	4
First Nations Development Institute	Fredericksburg, Virginia, & Longmont, Colorado	4
Florida Certified Organic Growers and Consumers	Gainesville, Florida	4
Growing Power, Inc.	Milwaukee, Wisconsin	4
Nuestras Raices	Holyoke, Massachusetts	4
Youth and Farm Market Project	Minneapolis, Minnesota	4

are Portland, Oregon, with 17 grants; New York City, with 13 grants; Philadelphia, Pennsylvania, with 11 grants; Los Angeles, California, with 8 grants; Milwaukee, Wisconsin, and Santa Fe, New Mexico, with 7 grants each; and Lowell, Massachusetts, San Francisco, and Seattle, with 6 grants each. Because 58 organizations received more than one grant as noted above, we ranked the cities with multiple grants based on the number of distinct organizations being funded by the CFPCGP. While Portland, Oregon, received the largest number of grants with a total of 17, the largest number of organizations funded by the CFPCGP was in Philadelphia ($n=10$), followed by New York with 8 organizations; Los Angeles with 7 organizations; and New Orleans, Portland, Oregon, San Francisco, and Seattle with 5 organizations. Although Lowell, Minneapolis, Providence, Rhode Island, and Venice, California, received 5 or more grants, these grants went to one or two organizations.

Common Activities and Target Groups, 1996–2012

Of 420 projects funded between 1996 and 2012, we were successful in obtaining objective statements for 359 projects (see the Methods section above). Project objectives were used to identify common activities as well as target groups

among these grants. As shown in Table 4, gardening is the most common *activity* proposed by successful applicants to this grant program, mentioned in 70 out of 359 projects. As expected, training and education are also common activities proposed by CFPCGP grantees, while planning, networking, and policy work are other commonly proposed activities. Improved access to market ($n=89$), business ($n=33$), and distribution ($n=22$) frequently appeared as *goals* through these activities. Besides gardening, nutrition ($n=43$) is often included as an area for *skill development*.

In accordance with the objective of this grant program, which is to address food insecurity issues, 122 of 359 funded grantees explicitly claim “low-income” populations in their community as their target group for their proposed activities. Yet other groups such as farmers, youth, and schools were included as important components in addressing food insecurity in the community (see Table 4).

Table 4. Common Activities and Target Groups, 1996–2012 (N=359)

Activity	<i>n</i>	%	Target Group	<i>n</i>	%
Gardening	70	19.5	Low income	122	34.0
Training	62	17.3	Farmers	59	16.4
Education	54	15.0	Youth	46	12.8
Planning	46	12.8	Schools	38	10.6
Networking	27	7.5			
Policy work	23	6.5			

Discussion

Receiving federal funding for a project can have significant effects on a community. Since its inception, the CFPCGP has become a critical source of funding for many nonprofit, community-based organizations to develop and pursue projects to transform both the community's infrastructure and residents' capacity for food access in the community. The above findings show clear patterns in the distribution of CFPCGP grants. Metropolises in the Western and Northeastern regions are more likely to be funded by this program than those in the Southern and North Central regions. As pointed out below, these regional discrepancies require more comprehensive analysis to identify key organizational and human resource factors that lead to success in this highly competitive grant program.

On the one hand, our findings suggest that federal funding indeed plays an important role in developing and shaping leadership in the community food security movement. As pointed out above, the social movement surrounding community food security grew in the last three decades as two distinct, though overlapping, sets of social movements: one for sustainable agriculture and food localization, and the other for anti-poverty and anti-hunger (Allen, 2004). Among recipients of multiple grants, WhyHunger Network and Janus Youth Program were established in the 1970s as anti-hunger organizations, while organizations such as CFSC, Farm to Table, and the Southern SAWG began in and after the 1990s as the sustainable agriculture and food localization movement grew. Over the last 25 years, these organizations have played a leading role in the community food security movement.

On the other hand, our current data cannot answer the question: "Are those multigrant recipient organizations receiving funding because they are organized, or are they organized because they are funded by these federal grants?" Until its closure in 2012, the CFSC acted as a nongovernmental partner of the CFPCGP by disseminating information about the program, training grant-seeking organizations to design fundable projects for the program, and carrying out evaluation of the grant program (Pothukuchi, 2007). WhyHunger

Network maintains a database of the funded projects of the CFPCGP to help community-based organizations building partnerships with other organizations in community food work.

This "chicken-and-egg" question of resource mobilization requires further analysis for three reasons. First, the CFPCGP seeks to address public issues such as hunger, food insecurity, and obesity that have causes rooted in the historically and spatially embedded inequality of resource access among various groups of the American population. This small grant program creates a *market* in which community-based organizations must compete for grants, each of which is less than US\$300,000 over three years, and assume responsibility for addressing food insecurity in their communities. In this market, experienced and well-resourced organizations tend to be more competitive. The quandary is that this *may* exclude some of the very communities that need to build capacity and gain experience in community food work.

Grant requirements for cost-matching and detailed accounting advantage certain types of organizations while constraining others, and therefore potentially contribute to furthering the discrepancy in the capacity for community building among these organizations. As the federal funding for nondefense programs continues to shrink, it is critical to identify successes and failures in resource sharing among diverse organizations within the community to address their food challenges.

Second, the CFPCGP reflects a tension within the community food security movement between the two social movement sectors, namely those who prioritize the goals of building sustainable agriculture and localizing the food economy versus those who prioritize the goal of addressing poverty and hunger in the community. As we have emphasized, these two sets of priorities can be conflicting. Farmers and other actors involved in food production wish to receive fair prices for their food products and a return for their labor as protection of their own economic security. Urban consumers, particularly those with limited resources, wish to access fresh fruits, vegetables and other healthy food products at affordable prices. Answering the chicken-and-egg question regarding resource mobilization helps us understand the role of a

USDA agency in managing the complex and interdependent relationships between producers and consumers and creating opportunities for linking these interests to improve the quality of the food system in the community.

Finally, the CFPCGP raises a concern regarding its responsibility to address the geographical disparity in food security. As Tanaka, Mooney, & Wolff (2014) point out, high rates of food insecurity are more prevalent among rural (or nonmetro) households than urban and suburban (or metro) households as well as households in the Southern and Western regions than those in the North Central and Northeast. Our analysis suggests that thus far the CFPCGP has not been able to address the unequal spatial distribution of economic, political, social, and cultural capital that is associated with high food insecurity and obesity rates. Understanding the lower rates of CFPCGP funding in Southern states will help us identify key factors that enable and constrain certain communities in building their capacity to address their community food security issues.

Nevertheless, the contribution of the CFPCGP to building community capacity for food localization is undeniably valuable; we hope the program will receive increased funding. Through 420 grants, 318 organizations with diverse goals and memberships were funded to examine the state of food security and to design and implement a project to reduce food gaps and food deserts in their community. By encouraging grant applications to explicitly show the contribution to building connections between farmers and consumers, this grant program creates a space for collaborations and coalitions among various groups and individuals working in community food work. We therefore emphasize the CFPCGP's potential in building a robust bridge between the sustainable agriculture and food localization camps within the community food security movement.

Based on the results of our analysis, we make the following three recommendations.

First, with the loss of the CFSC as the nation's leading coalition organization representing over 300 community food work organizations, the CFPCGP needs to consider strategies for disseminating information and resources about the grant

program, training smaller community-based organizations to design a fundable project, and evaluating the efficacy of the community food work among these organizations. Under the category of Training and Technical Assistance (T&TA) Projects, the CFPCGP began providing larger, multiyear grants to well-established organizations for these purposes, as well as evaluating and improving the effectiveness of this grant program. The impact of creating this new funding category demands further analysis. However, we recommend that the T&TA grants be distributed strategically to address regional discrepancies in the capacity for community food work.

Second, we suggest that the USDA National Institute for Food and Agriculture (NIFA) consider the SARE program as a potential model for decentralizing the CFPCGP. Based on our analysis, the CFPCGP seems to fall short in its ability to address regionally specific needs in community food work. Unfortunately, the funding level of the CFPCGP is considerably smaller than SARE. In the 2014 fiscal year, SARE's budget is about US\$23 million while the CFPCGP is around US\$5 million (USDA NIFA, 2014b). It is therefore unrealistic for the CFPCGP to be run by regional offices as SARE is. To maintain the emphasis on farmer-consumer connections, the CFPCGP should remain independent and autonomous from SARE. We recommend the creation of an advisory board with regional representatives who work with the review panel in recommending funding allocations.

Finally, while advocating regional decentralization of funding, we also suggest the coordination of funding between federal agencies for community food work. Under the USDA NIFA, a few grant programs support projects to localize the food economy and facilitate healthy eating. The National Institute of Health (NIH) also funds community-based projects to promote healthy eating behaviors. In a given year, many community-based organizations with limited human resources and technical expertise end up spending an enormous amount of time and effort applying for these grants. This fragmentation of federal funding for community food work may contribute to widening a gap among organizations, communities, and regions in addressing their community

food security challenges. A possible solution may be to create a joint grant program, a collaboration of the NIFA, NIH, and other federal agencies, that provide larger, multiyear grants for statewide coalitions in community food work.

These three sets of recommendations are tentative because further, more nuanced analysis of the CFPCGP is required. In conclusion, we will lay out our plan for future analysis.

Conclusion

Food should bring individuals in the community together, rather than dividing them. This is the underlying assumption used in the CFPCGP for funding community-based, multisectoral projects that foster self-sufficiency in community food work. In doing so, what role do these and other related federal funding programs play in building the community food security movement across the nation? By focusing on community capacity building for self-sufficiency, how effectively and efficiently is the limited federal funding distributed to enable communities and organizations to address their food security challenges? Under the current political climate of fiscal austerity, answering these questions is critical to identify shortcomings of these federal grant programs and generate recommendations for improving their transformative potential.

This paper is our first step in understanding the role of the CFPCGP in creating better food systems in the United States. Our next two steps include: (1) an historical analysis of transformations in the grant program through the document analysis of project reports and requests for proposals, and interviews with representatives of USDA NIFA, the CFSC, and other major recipient organizations; and (2) case studies of some systematically selected projects to represent critical variables such as spatial scope, urban versus rural focus, and types of activities.

Food is fundamental to our survival as well as to our essence as individuals and members of households, families, communities, and the nation. To improve a federal program that enables us to do community food work is therefore a critical public policy goal.



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Using social network analysis to measure changes in regional food systems collaboration: A methodological framework

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Submitted October 21, 2014 / Revised February 6 and April 3, 2015 / Accepted April 20, 2015 /
Published online June 18, 2015

Citation: Christensen, L. O., & O'Sullivan, R. (2015). Using social network analysis to measure changes in regional food systems collaboration: A methodological framework. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 113–129. <http://dx.doi.org/10.5304/jafscd.2015.053.013>

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Abstract

This article presents a methodological approach to studying and evaluating increasingly complex regional food systems. Social network analysis has been used to measure collaborations in health and education and is potentially a tool for regional food systems. The authors demonstrate the

methodological advantages of using social network analysis to track changes in collaboration over time, illustrated through a case study of a multi-tiered, three-year food systems project in North Carolina. There are multiple benefits of using social network analysis; for food systems two of the most useful are its ability to create illuminating visualizations of collaborators, and its ability to use inferential statistics to evaluate significance of changes in food system projects.

Keywords

collaboration; evaluation; local food systems; regional food systems; social network analysis

Introduction

In this article we describe a methodological framework, social network analysis (SNA), for analyzing and visualizing collaboration in the food system, and we illustrate the usefulness of this methodology through a case study in North Carolina. Our use of SNA emerged during a multiyear program

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Author notes

This project was part of a larger evaluation conducted by the authors in a consulting role for North Carolina State University. The project was conducted for the Center for Environmental Farming Systems in North Carolina, a joint effort of North Carolina State University and North Carolina A&T State University, supported by funds from the W. K. Kellogg Foundation.

evaluation of a statewide effort to strengthen local food systems. Focusing on this particular methodological aspect of the evaluation, we demonstrate the use of social network analysis as an innovative, systematic, and useful analysis tool to understand regional food systems and to support the work of food system organizations.

Social networking analysis (SNA) is a quantitatively based summary procedure that allows for the systematic description of interactions among individuals, groups, and/or organizations (Carrington, Scott, & Wasserman, 2005). While it has been used since the 1930s in the disciplines of sociology, psychology, and anthropology, recently its use has expanded into other disciplines with the growth of computers and software that can handle its complex calculations and graphing. The process entails gathering data about the interactions of individuals, groups, and/or organizations and then using this information to describe various aspects of collaboration, which are determined by the research questions, including frequency, type, and strength of contacts. Furthermore, geographic information software allows these interactions to be graphed by location.

While the topic of networks is increasingly popular in food system literature, attention has been almost exclusively on producer-consumer and producer-producer interactions. Producer-consumer networks look at the interactions taking place in markets through economic transactions (Holloway, Kneafsey, Venn, Cox, Dowler, & Tuomainen, 2007; Lockie, 2002; Selfa & Qazi, 2005). These networks are often categorized in terms of conventional versus alternative and strong versus weak (Watts, Ilbery, & Maye, 2005). Producer-producer networks look at the transfer of knowledge (Hoffman, Lubell, & Hillis, 2011; Starr, 2010; Warner, 2007) and coordination of processing and marketing efforts (Lev & Stevenson, 2011; Porter, 2000). Further, food is moving from

the “farm and table” into the classroom, the newspaper, and our front yards. The growing interest in regional food system movement¹ can be seen all around us, from the increased availability of locally produced food products to national conversations about the future of food and agriculture (Bittman, 2012; Smith, 2014). As the movement has grown, so has the complexity in the way that we approach food systems change. We have moved beyond the direct action of individual growers and consumers, toward efforts that are seeking to coordinate a growing number and diversity of actors to have bigger impact both geographically and temporally. What have emerged are polycentric networks of organizations. The organizations do not agree on everything, and yet still collaborate and copromote a shared vision or goal (Starr, 2010). Developing a tool to evaluate whether these organizations are successfully moving toward achieving these goals is the subject of this paper.

Regional food researchers and advocates have been limited in the tools they have to study, analyze, and visualize the different actors and interactions taking place. Navigating and distilling key takeaways from the myriad of activities is often a daunting task. Researchers continue to struggle to identify the conditions for success and to measure effective change. Most food system researchers continue to rely on in-depth, time-intensive case studies primarily utilizing surveys, interviews, and observations. These often lack a standardized methodology, which limits replication and does not allow meta-analyses across time and space. Selfa and Qazi (2005) provided an excellent example of this type of nonquantitative analysis. In this article, we share a methodological tool that assists in overcoming these challenges and expands our understanding of increasingly complex food system networks.

We begin briefly reviewing program evaluation and the role of collaboration in the field. This was

1 Recognizing that the concept of local or regional food systems is socially constructed and can be controversial (Born & Purcell, 2006; Hinrichs, 2003), it is important for the authors to present our definition before moving forward. For the purposes of this article, we use the definition identified by

the North Carolina Center for Environmental Farming Systems (CEFS), the focus of this study: Local and regional food systems are food and farming systems that protect the environment, strengthen local communities, and provide economic opportunities in North Carolina and beyond.

the starting point for our project. We move on to discuss strategies for measuring collaboration and the use of SNA as a strategy to systematize the concept of collaboration. Then we review some of the opportunities and challenges posed by the SNA method. We support this by presenting our case study and demonstrating how the approach is operationalized. We end by emphasizing the significance of our approach for studying regional food systems change and highlighting what we would do differently in the future, acknowledging further questions this approach raises.

Literature Review

Program evaluation is “the systematic assessment of the operation and/or outcomes of a program or policy, compared to a set of explicit or implicit standards as a means of contributing to the improvement of the program or policy” (Tuberculosis Evaluation Work Group, 2006, p. 4). It is a method that was popularized in the 1960s during the Kennedy and Johnson administrations, when investment in social programs expanded and the impact of those investments was largely unknown. At its core, program evaluation seeks to answer the seemingly simple questions of: Is a program working? and/or How can it be improved? In the realm of food system research, a vocal minority has acknowledged the importance of program evaluation to the movement, calling for more attention and resources to be funneled to the area (Feenstra, 2002; Lincoln, Thorp, & Russon, 2003; Webb, Pelletier, Maretzki, & Wilkins, 1998).

While this call has been heeded by some external-funding organizations, particularly the W. K. Kellogg Foundation (WKKF) and the U.S. Department of Agriculture (USDA), both of which require projects to do some form of program evaluation, recent food system academic literature does not reflect similar commitments. In fact, the concept of evaluation has essentially been absent from the food system academic literature since the mid-2000s, with the exception of evaluation of sustainable food systems education and health programs (Galt, Clark, & Parr, 2012; Lachance et al., 2014; Malone, Harmon, Dyer, Maxwell, & Perillo, 2013). This may be attributed to the fact that academics perceive evaluation as a tool primarily used for

project political survival and continued acquisition of funding (Webb et al., 1998) with little relevance to expanding the body of knowledge. Yet evaluation lends itself to assessing a program’s longevity or sustainability (Scheirer, 2005).

A key strategy for the sustainability of a program is the relationships it builds and maintains with other agencies, organizations, and leaders in the community (Frey, Lohmeier, Lee, & Tollefson, 2006; Hogue, 1993; Lachance et al., 2014; Peterson, 1991). This concept, often termed “collaboration,” is frequently an explicitly identified objective both for the program as well as funders. It must be noted, however, that the term collaboration, as currently used in the literature, is not uniform; sometimes the definitions of collaboration overlap, while other times they have very distinct meanings. Thus, we use the term “collaboration” from here forward as meaning the cooperative way that two or more entities work together toward a shared goal (Frey et al., 2006). It should also be noted that there are varying stages and types of collaboration. These types of interactions can be described in terms of the intensity, ranging from co-existence (where each node exists before any interaction has begun) to coadunation (where pre-existing organizations relinquish their autonomy in an effort to strengthen a surviving organization resulting in merged nodes) (Gajda, 2004).

Many have recognized the importance of collaboration to social movement change (Tarrow, 1994). Starr (2010) used a social movement analytical approach, identifying the collective action of a diverse set of actors toward a shared goal as one of the distinguishing characteristics that makes the development of local food more of a social movement rather than a mere market shift. Our SNA example for this paper, which was a result of a larger project evaluation, simply examined the presence or absence of entities in a food project’s system by region and type of organization across a three-year time period. SNA also can be used, however, to measure the strength of the collaboration (e.g., see Granovetter, 1973), along with a variety of other dimensions and types of collaborations.

The food system movement persists with a focus on the role of collaboration (Miller &

McCole, 2014), often in contrast to the globalized food system with its failure to acknowledge the interconnectivity of systems, resulting in negative externalities (Buttel, 2001). The globalized food system is characterized by homogenous, hierarchical, opaque, distrustful, and competitive networks, while regional food systems are described as heterogeneous, heterarchical, transparent, built on trust, co-operative networks, and based on an understanding of the interconnectedness of environmental, social, and economic systems (Hinrichs, 2003; Sonnino & Marsden, 2006).

Despite the recognition of collaboration as an important component throughout the food system, some subdisciplines are limited in their focus and divide the food system up into various components of production, distribution and processing, and consumption. Agroecology is defined “as the integrative study of the ecology of the entire food system, encompassing ecological, economic, and social dimensions” (Francis et al., 2003 p. 100). Yet research studies in the field of agroecology “focus on narrow components of agricultural production and their immediate environmental impacts” (Francis et al., p. 101). Recently the concept of the value-based supply chain has emerged to study supply chains that differ from “traditional supply chains in that they attempt to enhance small and midscale farmers’ financial viability” (Feenstra et al., 2011 p. 71). One reason for the emergence of this field and earlier alternative food networks was the belief that by investigating processes and flows² researchers could study production and consumption together. In doing so, researchers hoped to overcome the tendency to use different if not competing methodologies and to reduce the nature-versus-society division (Guthman, 2008). Yet supply chain and alternative food network research focuses almost exclusively on market actors, producers, and buyers,³ viewing capitalist spheres as spaces to create alternative food systems (Guthman, 2008; Stevenson & Pirog, 2008). As Jarosz (2000) argued, for the local food movement

to flourish and to provide a real alternative, agri-food networks must build and rely upon social relations that are embedded in a particular place. While the literature often recognizes the role of place and non-economic actors, often including the researchers themselves, it fails to fully acknowledge or explore the role these nonmarket actors play in the success or failure of the alternative food systems through collaboration and the creation of nonmarket-based solutions or alternatives (Guthman, 2008).

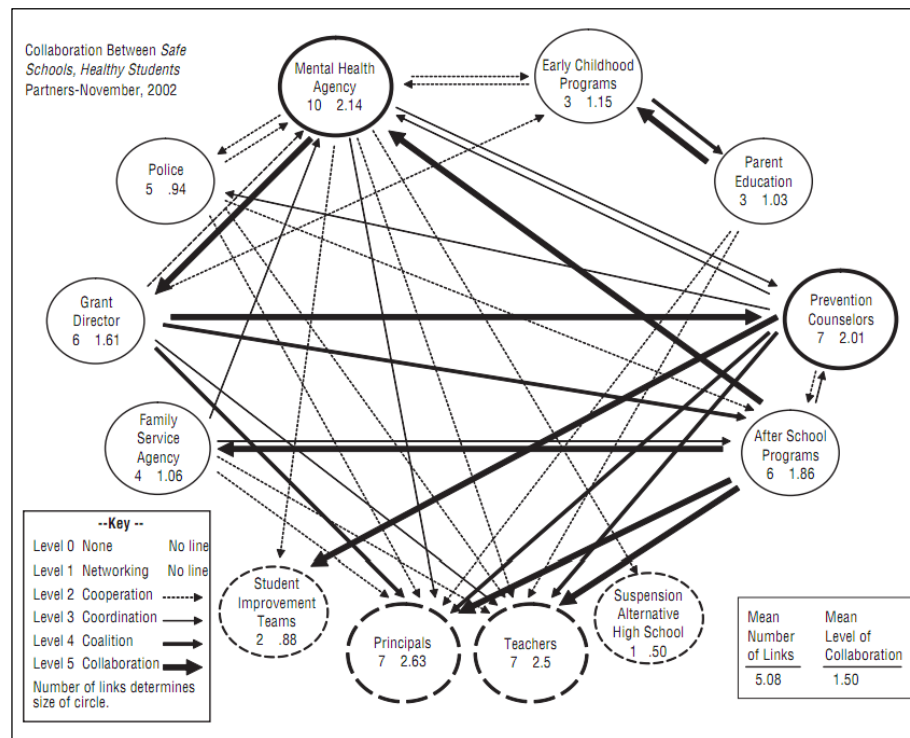
Acknowledging the importance of interactions among groups does not provide a method by which to measure these phenomena. Collaboration is quite complex and therefore difficult to measure. Nevertheless, some efforts to measure collaboration in the field have occurred. Frey et al. (2006) developed and promoted a methodology of collaboration mapping in the context of a Safe Schools, Healthy Schools community-based grant (see Figure 1). This model represents individual organizations by circles (nodes). Types of collaborations among organizations are represented by lines. The size of circles reflects the number of links, and thickness of lines represents types of collaboration; the stronger the collaboration, the thicker the line. Frey et al.’s map of collaboration, however, is limited. It is primarily for visual analysis. It is also limited to fairly simple networks. With the example below there are only 12 organizations.

Collaboration may be conceptualized as the density and type of links between a set of nodes. Peterson (1991) and Hogue (1993) identified a number of stages of collaboration, or the places along a continuum of collaboration, that were later expanded by Frey and colleagues (2006) with their Seven Stage Model. On one end of the spectrum each node is an isolate, termed co-existence, where each node exists before any interaction has begun; at the opposite end of the spectrum there is relinquish their autonomy in an effort to strengthen a surviving organization, resulting in

² Feenstra et al. (2011) outline three types of “flows” that are important processes of the value chain: product, financial, and information flow.

³ Here buyers include institutional buyers, restaurants, retailers, distributors, individual customers, and/or processors.

Figure 1. Example of Frey, Lohmeier, Lee, and Tollefson's Collaboration Map



From "Measuring Collaboration Among Grant Partners," by B. B. Frey, J. H. Lohmeier, S. W. Lee, and N. Tollefson, 2006, *American Journal of Evaluation*, 27(3), p. 389. Copyright 2006 by SAGE. Reprinted with permission.

asked respondents about the effects of the project on various aspects of collaboration and then asked them to identify a pre-established set of organizations with which they may have had contact. Respondents were asked to identify themselves and their organizations as well. Over the five years of the project, survey results were reported descriptively for project outcomes and network growth. Once again this approach to measuring collaboration is limited in what it can say about the process beyond basic descriptive statistics.

In order to perform a network analysis, individuals and/or organizations need to be

coadunation, where pre-existing organizations merged nodes (Gajda, 2004). Collaboration, the sixth stage on the scale and fifth stage on Frey et al.'s (2006) scale, is characterized by integrated strategies, collective purpose, and frequent communication based on mutual trust (Gajda, 2004).

Researchers have used descriptive surveys and interviews to describe the nature of collaborations from both unidimensional and multidimensional perspectives, describing the type, breadth, and/or strength of collaborations. Some of these studies have used traditional survey formats to ask about network interactions; others intending to use SNA in more complex networks use a two-stage process to gather data.

Similar to Frey et al. (2006), O'Sullivan, Heinemeier, and Masina (2001) developed a multidimensional survey to assess collaboration among approximately 50 community organizations engaged in a comprehensive early childhood support program. As shown in Figure 2, the survey

linked. In a relatively closed network, as the one above, a finite number of known collaborators are expected to participate. When the desired outcome, however, is increased collaboration, all network members are not necessarily known. Should this be the case, then a two-stage survey process is needed: one survey to identify the network members (either individuals or organizations) and the second survey (generated from the results of the first) to identify all possible partners and relationships of interest. This second survey is then redistributed to respondents of interest.

O'Sullivan and O'Sullivan (2009) followed this two-stage survey process to conduct an SNA of partners for the evaluation of a watershed project with an outcome of enhancing collaboration. After gathering an extended list of partners, the survey, shown in Figure 3, was used to gather additional information about which members interacted with one another and how. For this evaluation, no comparative data were collected.

SNA investigates relationships among entities, including the patterns and implications of these relationships (Wasserman & Faust, 1994). It can be an invaluable tool for systematically assessing and then intervening at critical points within a network to improve project management (Cross, Borgatti, & Parker, 2002). At its most basic level, the use of SNA to create sociograms (graphic representation of social links) allows the user to visually assess patterns of relationships that can reveal a number of interesting and actionable points. It should be noted that there are a number of potential challenges to using SNA in evaluation (Penuel, Sussex, Korbak, & Hoadley, 2006). SNA requires access to as many members of the network as possible, which takes significant time and money if the evaluator is responsible for collecting the data. Further, if the networks boundaries are unknown it may be impossible to conduct an analysis on the patterns of relationships of the entire group.

A number of evaluators have turned to SNA as a tool for analyzing complex program collaboration networks in the fields of education, health, and conservation, but it has not been used widely within the field of program evaluation (Beatty, Harris, & Barnes, 2010;

Eisenberg & Swanson, 1996; Hidalgo-Hardeman, 1993; Penuel et al., 2006). A primary goal of applying SNA has been to determine the value of using collaboration as a strategy for program sustainability. Provan, Veazie, Staten, and Teufel-Shone (2005) have argued that many other fields can benefit from the use of network analysis because it can build and sustain local networks. It allows managers to see how their organizations fit within larger structures and how larger systems operate (Provan & Milward, 1995; Provan et al., 2005).

Figure 2. Descriptive Collaboration Survey Prototype

I. Please respond to all the questions on a continuum from "None" to a "Great Deal" in relation to your agency's participation in the Smart Start project.

Please darken the circle corresponding to the appropriate response.	None	→	→	→	→	→	→	Great Deal
1. How much collaboration has your agency conducted during the past year?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. How much has your participation in the project facilitated your agency's collaboration efforts?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. How much has collaboration with other project agencies enhanced the delivery of <u>your services</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. How much has collaboration with other agencies increased the impact of your services for your <u>clients</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. How aware are you of other available services and activities of the project?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. How aware are you of other available services and activities in <u>other counties</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. To what extent do you rely on collaboration to maintain your <u>desired</u> level of services?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

II. For the following agencies, please indicate in the appropriate column(s) whether you: (1) are aware of the services they offer, (2) refer clients to them, (3) use their services, (4) provide services to them, and (5) work together regularly. Please fill in the circles for all that apply for each program.

Project Programs	Aware of Services/Activities	Refer Clients to Them	Use Their Services	Provide Services to Them	Work Together Regularly
Emergency Care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scholarships and Subsidies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community Involvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education and Parenting Materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scholarships for Child Care Providers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Partners	Aware of Services/Activities	Refer Clients To Them	Use Their Services	Provide Services to Them	Work Together Regularly
County Health Department	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Department of Social Services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local School District	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify):	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

From "Promoting Evaluation Through Collaboration with Community-based Programs for Young Children and their Families," by R. G. O'Sullivan, S. Heinemeier, and P. Masina, 2001, a paper presented at the annual meeting of the American Evaluation Association, St. Louis, Missouri. Reprinted with permission.

Figure 3. Example of Watershed Network Collaboration Survey

The purpose of this survey is to help us begin to understand the collaboration dynamics surrounding the Strong Communities, Healthy Waters Project. Please take a few moments to identify the individuals below and describe your working relationship to them.

First, please identify your organization: _____

Your Name: _____ Position: _____

List of People	Organization	Don't Know	3 rd Circle Aware of but no contact	2 nd Circle Limited contact	1 st Circle Work with Directly	Please describe 1 st Circle Activities:
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

From "Chesapeake Bay Funders Network Evaluation Report Year 2," by R G. O'Sullivan and J. M. O'Sullivan, 2009, Chapel Hill, North Carolina: O'Sullivan & Associates. Reprinted with permission.

While just emerging within local food systems contexts, this sort of preliminary SNA has been used in a few studies. As introduced earlier, O'Sullivan and O'Sullivan (2009) used SNA to identify partners within a local watershed collaborative. Similarly, Springer and de Steiguer (2011) used SNA to examine connections between people and organizations for another watershed collaborative group in southern Arizona. Speaking about SNA, they noted, "despite its usefulness to the study of these relations, there have been relatively few applications to situations in agriculture and natural resources" (Springer & de Steiguer, 2011, p. 1). Thus the purpose of this article is to explore how SNA can be used to measure changes in collaborations, which, if viable, should indicate the strengthening of local food systems.

Applied Research Methods

The purpose of this case study is to demonstrate how SNA was used for one component of the evaluation of a multiyear local food systems project. Our intent is to describe in detail how the SNA of collaboration was conducted, which we hope will promote better understanding of this analysis approach and demonstrate its potential application to the efforts of others. The specific

evaluation questions for the case focused on different types of groups and organizations that were participating in the project within one state. The project leaders wanted to know about growth in collaboration across the state, regional distribution of collaborators, types of organizations represented, and extent to which collaborations were distributed across project objectives. It

should be noted that there are other uses of SNA in measuring collaborations that were not included in this specific case study.

Research Setting

In 2009, North Carolina State University (NCSU) and North Carolina Agriculture and Technical State University (NC A&T) were awarded a multi-year grant by the W. K. Kellogg Foundation. The grant was intended to facilitate the development of partnerships between the grantees and various organizations in North Carolina. In doing so, the intent was to promote institutional change in the food system by increasing access to healthy, green, fair, and affordable food within all communities and to address the needs of vulnerable youth and their families. The two universities have a history of working collaboratively on food system projects. NCSU and NC A&T, in coordination with the North Carolina Department of Agriculture, established the Center for Environmental Farming Systems (CEFS) in the eastern part of the state in 1994. CEFS develops and promotes food and farming systems that protect the environment, strengthen local communities, and provide economic opportunities in North Carolina. The W. K. Kellogg grant was awarded to CEFS.

The evaluation team used a logic model approach to work with the two key partners, NCSU and NC A&T, to identify projects outcomes. Its activities addressed four objectives:

1. Increase access to “good” food (with a special emphasis on meat) that increases opportunities in retail and foodservice for higher-end niche production while simultaneously incorporating products into innovative initiatives that expand access in low-income communities;
2. Promote institutional changes and develop potential models that encourage “good” food production and engagement of vulnerable youth and their families in building sustainable local food systems;
3. Support the implementation of community-based food systems that engage youth throughout North Carolina and increase access to fresh and nutritious products for at-risk youth; and
4. Promote policy, research, and educational outreach that encourage adoption of community-based food systems.

An anticipated outcome of the fourth project objective was that community members, organizations, and university Cooperative Extension agents would become actively engaged in developing community-based food systems at the local level. It was for this objective and to address the funders’ interest in the sustainability of the project that the SNA was initially planned. As shown earlier in this paper, one way to show sustainability is through collaboration and the expansion of robust relationships. The evaluators and the partners hoped that

the SNA would help to identify gaps in their current relationships and help develop and maintain these relationships. Because of the regional differences in North Carolina (Table 1), the evaluators and partners were especially concerned with seeing engagement with community partners across the state. North Carolina is 585 miles (941 km) east to west and comprises 100 counties. The state is often divided into three regions: western, central, and eastern. The western and eastern regions of the state have historically been geographically isolated, poorer, and more sparsely populated. The central region is home to the six most populous cities, including the state capital and Research Triangle Park. Residents in the central region are typically more educated and have higher incomes.

The analysis compared collaborators prior to 2008, before the grant was awarded, and then again in 2011, three years after the grant funding began. The pre- and postgrant analysis were intended to determine if the grant successfully fostered new relationships and strengthened alternative food systems in North Carolina. More specifically, evaluators planned to use the SNA to answer four questions:

- A. How, if at all, did the project increase collaboration from 2008 to 2011?
- B. To what extent over time were the collaborating groups representative of the three regions in North Carolina?
- C. What change, if any, was there in the type of organizations participating in the collaboration?
- D. How, if at all, did the nature of collaborations in 2011 fit across project objectives?

Table 1. North Carolina Regional Characteristics

Region	Total Population (2010)	Population Change, 2000–2010	People per Square Mile (2010)	Median Household Income (2013, US\$)	% of Population Below Poverty Level (2013)	% of Total Population White (2010)	% of Total Population Black (2010)	% of Total Population Hispanic or Latino (2010)
Western	1,403,695	9%	205	\$38,070	20.0%	86.3%	7.2%	5.5%
Central	5,394,428	16%	778	\$51,463	17.9%	67.0%	22.3%	5.6%
Eastern	2,737,360	13%	178	\$39,767	20.7%	61.9%	27.5%	6.6%

Sources: U.S. Census Bureau, 2010 Census; U.S. Census Bureau, 2000 Census; U.S. Census Bureau, 2013 American Community Survey 5-year Estimates.

The reported study was intended as one step toward incorporating and using more complex network analyses in subsequent years.

Assessment Methods

Eight key project staff members were asked to identify, by each of the four project objectives, organizations with which they worked closely. Another project staff member who had been active with the project since its inception was asked to identify collaborating organizations retrospectively from 2008 along the same two dimensions. Nearly 400 organizations were identified. Each of these organizations also had associated attribute data, including organization type (e.g., university, non-profit, livestock operation, processor, and food-service), geographic focus of work (by county, statewide, or outside the state, and which of the four project objectives most closely aligned with the organization's mission. Data were then compiled in a spreadsheet and analyzed using UCINET.

Results

We report our findings below, organized by our four research questions. We show how social network analysis can be a useful methodological framework for analyzing and visualizing collaboration in the food system.

Increased Collaboration 2008–2011

During the three-year period, there was a substantial increase in the number of relationships between CEFS and partner organizations across the state. The total number of collaborators grew from 87 to 372. Figure 4 (next page) shows the network map for 2008, and Figure 5 (next page) shows the network map for 2011. The nodes are clustered by geographic region: western, central, eastern, statewide, or outside the state. The two nodes above the map in the upper left are outside the state, and the six nodes located at the central top part of the map are statewide. In addition to the geographic attribute, each node is assigned a sector of the food system. There

are 14 sectors represented by different symbols that are explained in the key in the right portion of the map. The important presence of nontraditional food system actors is also visible in the map, represented by circles. Nontraditional actors include educational, economic development, government, health, youth, conservation, faith, and funder organizations. The triangles and diamonds represent more traditional food system actors like processors, farmers, distributors, retail, and restaurants. CEFS is located in the center of the network. Clearly the number of collaborating organizations vastly increased from 2008 to 2011.

Representation of Collaborators by Geographic Region

Figures 4 and 5 indicate the expansion in the number of collaborators across geographic areas of the state. This geographic expansion of project partners, however, is more clearly seen in Table 2. While the total number of organizations went from 87 to 372, their proportional relative locations, vis-à-vis the state, stayed nearly the same, with a decrease in the proportion of ties to the central and eastern regions and an increase of the proportion of ties to the western region, state, and outside. Clearly the hub of activity was in the central part of the state. While a chi square test showed no difference among percent of totals, differences in magnitude from 2008 to 2011 are substantial and statistically significant ($t=2.23, p=.045$).

Changes in Types of Participating Organizations

As shown in Table 3, in addition to the growth in the total number of food systems partners, the proportion of ties to different sectors increased (with the exception of education, which decreased). In 2008 the largest proportion of ties were with education organizations. This is as would be

Table 2. Comparison of Collaborating Organizations by North Carolina Region, 2008 and 2011

Region	2008		2011	
	Frequency	% of Total	Frequency	% of Total
Western	8	9%	42	11%
Central	51	59%	211	57%
Eastern	20	23%	66	18%
State Level	6	7%	35	9%
Outside	2	2%	18	5%

Figure 4. CEFS 2008 Network Map by Location and Type of Organization

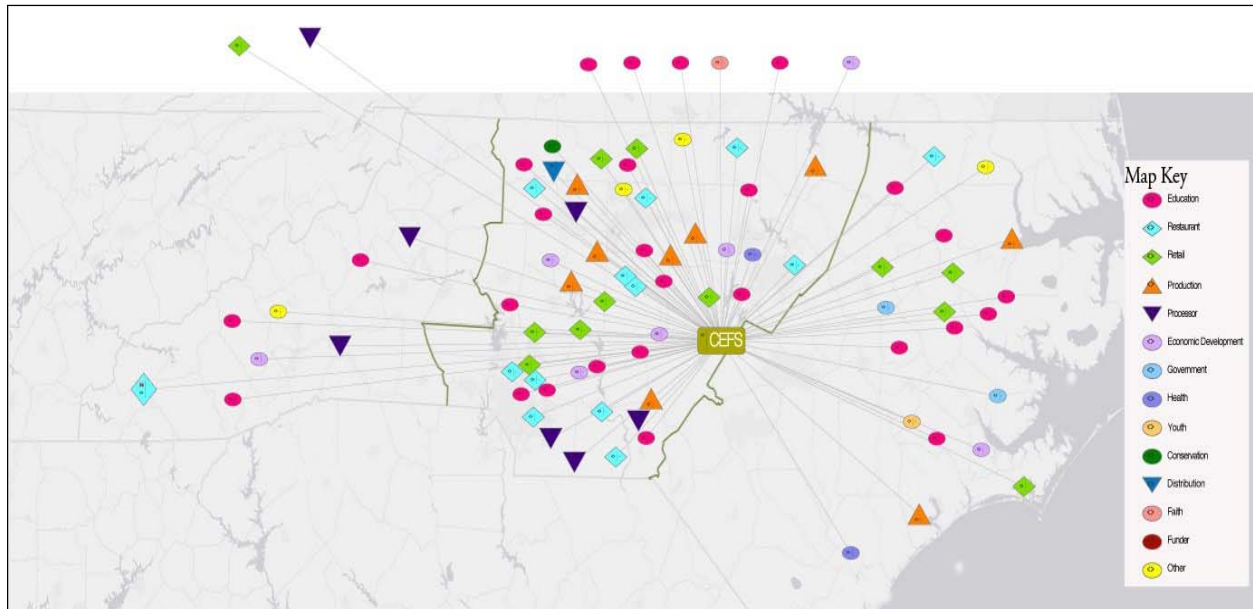
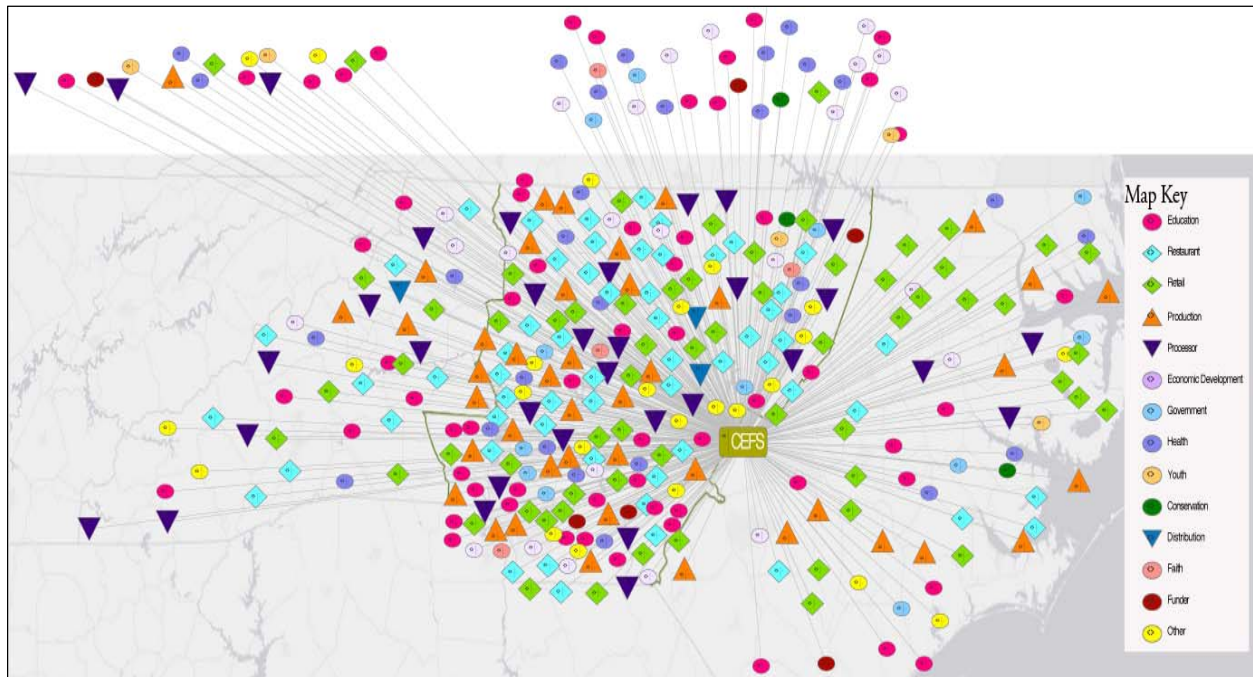


Figure 5. CEFS 2011 Network Map by Location and Type of Organization



expected when looking at CEFS project objectives prior to 2008, which centered primarily on educational activities. As part of the WKCF funding, CEFS was able to diversify its project objectives and increasingly sought to engage with more diverse organizations. This resulted in an

increase in the variety of organizational sectors represented. There was also a shift in the ratio of traditional to nontraditional food system actors. In 2008 and 2011, nontraditional food system actors accounted for 51.7% and 45.9% of all of the organizations, respectively. The greatest percent of

Table 3. Comparison of Collaborating Organizations by Type, 2008 and 2011

Type	2008		2011	
	Frequency	Percent Total	Frequency	Percent Total
Education	27	31%	63	17%
Restaurant	13	15%	59	16%
Retail	12	14%	63	17%
Production	9	10%	43	12%
Processor	7	8%	33	9%
Economic Development	7	8%	25	7%
Government	2	2%	12	3%
Health	2	2%	29	8%
Youth	1	1%	5	1%
Conservation	1	1%	3	1%
Distribution	1	1%	3	1%
Faith	1	1%	4	1%
Funder	0	0%	6	2%
Other	4	5%	24	6%
Total Participation	87		372	

change occurred in the health sector, increasing from 2 to 29 organizations, a 13-fold increase.

Collaboration Fit across Project Objectives

The SNA was deliberately planned to focus on project objective D, which addressed promoting policy, research, and educational outreach that encourage adoption of community-based food systems. In addition to using SNA to measure the growth in project collaborators, their regional distribution, and type of organization, we also used it to measure the degree to which collaborators were involved with different aspects of the project.

Collaborators were assigned to each of the project activities, which in turn were associated with each of the four project objectives. As part of the SNA, centrality measures were calculated to see how collaborators' activities fit within project

Table 4. Two-Mode Centrality Measures for 2011 Project Objectives

Project Objective	Degree	Closeness	Betweenness	Eigenvector
A	0.116	0.328	0.180	0.032
B	0.148	0.348	0.151	0.100
C	0.129	0.344	0.142	0.067
D	0.752	0.672	0.941	0.992

objectives. In SNA, centrality refers to the results of various indicators that identify the most important nodes in a sociogram. These centrality measurements include degree, closeness, betweenness, and eigenvector. Degree is the ratio of individual node connections to the total number of connections in the network. Objective D had a degree ratio of 0.752, meaning that 75% of all node connections in the entire network

were between Objective D and nodes. Closeness can be thought of as how long it will take to spread information from the node of interest to all other nodes. Betweenness measures the number of times a node acts as a bridge along the shortest path between two other nodes. The eigenvector is a measure of influence of a node in a network. From our analysis (shown in Table 4) it is clear that objective D had the strongest centrality measurements.

Other SNA Dimensions Used To Describe the Collaborations

After the initial SNA results were presented, evaluators became interested in further describing the groups of collaborators. They wanted to know the extent to which collaborators participated across multiple objectives. SNA allows researchers to measure overlap among collaborators across objectives, using affiliation matrices. Somewhat surprisingly, as shown in Table 5, there was relatively little overlap between collaborators working in the four different components. This was especially true for objective A activities, which were aimed at increasing accessibility to good food by increasing the number of farmers selling directly to the public. Table 5 illustrates how 44 of the collaborators only participated in objective A activities,

while eight also were involved in objective D, which addressed the policy arena. It should also be noted that collaborators were able to participate in multiple project activities, which is why the sum of the diagonal exceeds the total 372 collaborators. North Carolina is relatively small, and food system issues are still a fairly novel social cause. Following the logic of Wasserman and Faust (1994) we expected to find that of the 372 collaborators there would be a large amount of overlap between the four project components, but in fact there was not.

To further explore which groups worked together in similar fashion across activities for each of the project objectives, a clique analysis of the collaborations was conducted. A clique subgrouping in UCINET found five cliques. Four of the cliques shared the same partners as the four project components (A, B, C, and D). These four cliques correspond to those collaborators who only participated in activities under each of the four project objectives. The fifth clique comprised 37 collaborators, who were involved in two or more of project objectives B, C, or D.

Discussion and Conclusion

Using SNA allowed us to gather systematic evidence for project staff to provide to funders that answered important evaluation questions. Furthermore, it provided some information about aspects of the project that were of interest to the project staff. Finally, it provided a way to demonstrate to the public and other organizations the growing importance of the local food systems work in which the project was engaged through the increase in the number of organizations involved in food system work throughout the state and the role of the project as a networker between these various organizations.

Evaluation Question Data

Revisiting the four evaluation questions, the SNA showed that the project had (1) substantially increased the number of collaborators in its network from 2008 to 2011; (2) increased the number of collaborators across the state, but did not change their proportional regional representation; (3) seen changes in the types of organizations participating in the network; and (4) shown how the majority of project collaborators in 2011 were working to make positive modification in the local food systems policy area.

The network maps of 2008 and 2011 clearly demonstrate the growth of the network in a way that can be understood by technical as well as lay audiences. While explaining that the number of collaborators had grown from 87 to 372 would have been possible without the SNA, the graphic depiction of the two networks for the two years shows where across the state collaborators were located and what types of organizations they represented. At the same time, SNA data also allowed for summarizing the data for collaborators by region in the state and testing the significance of these differences statistically. Thus the number of collaborators in 2008 and 2011 showed substantial and statistically significant changes for each region, whereas a chi square analysis of proportionality changes by region over the two years showed no significant difference. For technical audiences who ask for the quantitative or inferential evidence, SNA has the ability to deliver.

Similarly, SNA easily allowed for a description of changes in the type of organizations participating in the collaboration in 2008 and 2011. Evaluators decided to organize the data descriptively so that project staff and funders could see how growth in the types of organizations had changed.

Table 5. Affiliation Matrix of 2011 Project Component Membership

Project Objectives	A	B	C	D
A. Increasing access to "good" food (especially meat products)	44	0	0	8
B. Increasing engagement of vulnerable youth and their families in food systems	0	56	21	22
C. Implementing community-based food systems that engage youth	0	21	49	14
D. Promoting policy, research, and educational outreach that encouraged adoption of community-based food systems	8	22	14	285

For this analysis, frequencies were sufficiently small as to not warrant additional statistical treatment. Program staff members saw that the balance of groups represented had expanded, primarily by reducing the proportion of Education groups and increasing the proportion of Health groups. This was an effect that they had intended, so they were pleased to see the results. They could also see that the percentages of organizations from Youth, Conservation, Distribution, Faith, and Funders organizations were relatively low and that additional efforts would be needed to increase participation of these groups. Additionally the network map allowed for the categorization of organizations as nontraditional food system actors, depicted as circles (i.e., educational, economic development, government, health, youth, conservation, faith, and funder organizations) and more traditional food system actors, depicted as triangles (i.e., processors, farmers, distributors) or diamonds (i.e., retail, and restaurants). This allowed audiences for the evaluation to visualize in two pictures what would take multiple tables to explain.

Finally, in terms of the evaluation questions the SNA was able to demonstrate how the nature of collaborations in 2011 fit across project objectives. An underlying assumption of the project was that growing the number of collaborators in the network would strengthen the project's ability to precipitate positive policy changes. The SNA provided clear evidence through centrality measures that more than 75% of the collaborators were participating in project activities aimed at positively changing local food policy. In the three years of its existence, the project could list positive policy changes that had occurred around local food systems. While not evidence of causality, SNA provided systematic evidence to indicate growing efforts to bring about change.

Other Project Aspects

The initial SNA results were presented to project staff. The network maps for 2008 and 2011 were clearly understood and the growth in collaboration celebrated. Evaluators later became interested in further describing the groups of collaborators. They wanted to know the extent to which collaborators participated across multiple objectives,

because they believed that policy work would best be informed by a broad base of collaborators. The affiliation matrix produced with the SNA showed that there were organizations that were not participating across multiple objectives. The clique analysis demonstrated that a group of 37 collaborators were participating in at least two of their three objectives, but the food production and distribution objective was more isolated.

The communicative power of the network map transcended the evaluation report. CEFS was nominated for a Community Engagement Award sponsored by the Association of Public and Land-grant Universities (APLU). The space available for evidence in the nomination process was very limited. The two years of network maps were included among the documents submitted, and CEFS won at the regional level.

In sum, the social network analysis provided clear and compelling evidence that the collaboration between NCSU and NC A&T with the financial support of the W. K. Kellogg Foundation dramatically increased the level of participation of various stakeholders throughout the state and beyond. In three short years, the program expanded its partner membership by fourfold, from 87 to 372. The separate project components successfully involved representatives from a broad array of organizations, and the proportional increase in network partners remained constant geographically. The SNA allowed the evaluators an opportunity to present information about a complex food system, which includes nearly 400 market and nonmarket actors and their interactions, in a visually appealing way so that project stakeholders could see the results and project managers could make informed decisions about next steps.

Potential of SNA in Other Local Food Systems Situations

Social network analysis as a tool for program evaluation responds to Lincoln et al.'s (2003) call for a strategy that aggregates case-study data while preserving "local stories." It also allows for quantitative testing of changes pre- and postproject, differences between and among groups, relationships, and more. The use of systematic mixed methods in a single analysis approach is extremely powerful in

almost any situation that examines collaboration. Where there is group interaction, SNA can be used to measure it. The example we provided was specific to one project evaluation. Other uses for SNA in local food systems research are numerous. It may be used within a group of individuals who are working toward similar goals, within organizations that have groups and/or individuals with different responsibilities, and across groups with similar or diverse missions.

When individuals within a group need to interact and/or collaborate, SNA can be used to describe those interactions. A farmer cooperative might be interested in making sure that its members are aware of changes in practice or services available to them. The cooperative may not have the personnel to communicate easily with all its individual members, so it needs to identify key people within the group who could help disseminate information. SNA could be used to identify those key people and create effective communication clusters. A community supported agriculture (CSA) operation might want to identify optimal distribution points in a similar manner.

Within organizations SNA may be used to see which individuals and/or departments are interacting with one another and how. Within a Cooperative Extension office, SNA might be used to determine which personnel or departments are engaging in local food activities, what those activities are, and how the personnel or departments are interacting. Multiple-year network maps could be used to show changes in these activities and alignments. Pre- and postproject statistical analysis could be used to look at significant changes in these practices.

Across groups SNA may be used to examine clusters of work efforts, key leaders around particular issues, and/or types of interactions. Statewide collaborative efforts to determine sustainable food systems indicators, as are occurring currently in Michigan and North Carolina, could use SNA to track subgroup efforts and interactions. This would provide them with evidence of the extent to which participating groups are representative of the state and the various actors essential to making such a system work.


SNA Limitations

While we have demonstrated how social network analysis can be a very useful tool, limitations are certainly present. Primary among limitations is that SNA is not very well known and its value not well understood. Beyond that, as an evaluation tool SNA is one of many tools that may be used. In fact, findings from SNA often are strengthened when paired with qualitative data collection. Qualitative data can be used to communicate the type and quality of network ties. Finally, SNA is most powerful when doing analysis across years and thus requires advanced planning as well as multiple years of data collection.

As mentioned earlier, the use of SNA parallels the advent of computer programs that have made it more straightforward to use. As such, its popularity is growing, but it has not penetrated much of the local food systems literature. Program leaders and researchers may not be aware of what it is and how it might benefit them. This article is one effort to address this limitation; more examples using SNA are needed.

As an evaluation tool, SNA is probably a third- or fourth-tier strategy. Many local foods programs and projects do not evaluate their efforts at all. When evaluation does occur, it is often very cursory; perhaps a written participant survey or interview is conducted. Some programs, however, do take evaluation more seriously, construct evaluation plans with logic models, and implement these plans. Depending on the individuals responsible for the evaluation, they may or may not be aware of SNA or have the capacity to conduct one. Evaluation efforts need to be more incorporated into food system work. SNA will only become more common as evaluation efforts are more rigorous.

A final limitation of SNA is that it is most powerful across years and thus requires advanced planning as well as multiple years of data collection. This is hard to orchestrate, in part because it require more resources. Future studies could benefit evaluation efforts by collecting more data across multiple time periods. This would allow for testing both relational and attributional hypotheses over time, which would allow for directional analyses and more robust network assessments.



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Potential of local food use in the Ohio health care industry: An exploratory study

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Submitted February 2, 2015/ Revised March 21 and April 9, 2015 / Accepted April 13, 2015 /
Published online June 11, 2015

Citation: Raison, B., & Scheer, S. D. (2015). Potential of local food use in the Ohio health care industry:
An exploratory study. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 131–147.
<http://dx.doi.org/10.5304/jafscd.2015.053.011>

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Abstract

Institutionalized foodservice in health care is evolving. Some hospitals have introduced local foods as a means of improving health and wellness. Investigation into the hospital foodservice literature, however, leaves unclear what percentage of hospitals actually participate in procuring, serving, or promoting local foods to patients and employees.

We investigated the factors that contributed to hospitals purchasing or not purchasing local foods for their operations. A census of Ohio hospital

foodservice directors ($n=155$) was undertaken in the fall of 2014. The response rate was 67.8%. The broad research questions asked about how much knowledge they had of the local food movement, to what extent they currently used local foods (or had interest in purchasing local foods in the future) for their institutions, and what systemic issues advanced or impeded their institutional use of local foods.

We found that 77.9% of the respondents had knowledge of the local food movement. However, only 57.7% were currently using local foods in their operations. Even fewer were implementing programs related to local food. The findings revealed the major reasons for not incorporating local foods into operations were based on concerns over inconsistent supply levels, liability insurance, refrigeration, and other food safety issues. Lastly, the findings showed that foodservice directors are interested in programs that incorporate more local foods into their operations.

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These findings provide insight into how food systems workers can help hospitals, local farmers, and food production and/or distribution operations coalesce in triple-bottom-line results that deliver positive social, environmental, and economic outcomes.

Keywords

local food systems; health care; hospital foodservice; institutional foodservice

Introduction: Local Foods in Institutions

Local food has been described as items grown within a specific geographic area or within a specific distance from the point of consumer purchase (Buck, 2012). George (2011) and Martinez et al. (2010) note that definitions and attributes of local food vary greatly, but growers tend to perceive local as 20 to 50 miles (32 to 80 kilometers) from their farm. Over the past 10 years, the local food movement has significantly expanded across the country (Johnson, Aussenberg, & Cowan, 2013; Martinez et al., 2010; National Sustainable Agriculture Coalition, 2013; Sanger & Zenz, 2004; Worley & Strobbe, 2012). This was in response, in part, to the disconnection of people from the “sources of their sustenance” (Feenstra, 2002, p. 99). Along with the culmination of decades-old grassroots efforts, new U.S. Department of Agriculture (USDA) programs, such as “Farm to School” and “Know Your Farmer, Know Your Food,” and Center for Disease Control and Prevention (CDC) healthy-food programs have intensified and bolstered efforts (CDC, 1996, 2013; Johnson et al., 2013; Ritchie & Chen, 2011; USDA, 2013). Academic institutions have given support as well by procuring and serving local foods (Gustafson, 2012; Katzman & Graham, 2011; Ritchie & Chen, 2011; Sanger & Zenz, 2004), and by developing beginning farmer programs at numerous universities, including Iowa State (Iowa State University, n.d.), Missouri, South Carolina, Nebraska, Ohio State, and others. The national land-grant university system’s Extension service now offers a myriad of research, programming, and partnerships around local food systems in individual counties nationwide (eXtension, 2013). New farms with nontraditional proprietors are emerging

to sell in local markets (Inwood & Sharp, 2012; Low & Vogel, 2011; Sharp, Clark, Davis, Smith, & McCutcheon, 2011), and entrepreneurial gardens are flourishing (Feenstra, McGrew & Campbell, 1999). In Ohio, the number of farmers markets has doubled since 2008 (Sylvester, 2011; USDA, 2012). A brief scan of the Internet will return numerous academic journals and posts from the popular press brimming with new research reports and feature stories on local food.

In the midst of this conversation, a generic construct of “farm to institution” has emerged (Ritchie & Chen, 2011; USDA, 2013). The phrase is applied to schools, hospitals, businesses, non-profits, and other large institutional purchasers (Sachs, 2011). In theory, if institutional purchasers engage in increased local foods procurement, more money will circulate in the local economy (Beery & Vallianatos, 2004; Feenstra, 1997; Health Care Without Harm, 2006), and consumers will enjoy fresher foods picked at the height of ripeness, which may result in higher nutritional values (Center for Health and the Global Environment, 2012; Frith, 2007; Halweil, 2007; Matheson, 2012; Saha & Nath, 2006).

By virtue of its implicit mission to improve the nation’s health, the U.S. health care industry lies at the heart of this conversation. In its *Healthy Hospital Choices* report (Wiseman, Boothe, Reynolds, & Belay, 2011), the CDC notes that hospitals, due to their large food procurement and purchasing power, have the potential to be powerful community leaders “by providing the healthiest food venues possible for their employees and community” (p. 4). They also call specifically for serving locally produced foods. This, in conjunction with the growing interest by federal agencies, non-profits, and national foundations (e.g., Robert Wood Johnson Foundation, W. K. Kellogg Foundation, Winrock International), seems to indicate an increased potential to support “social solutions that address problems at the intersection of food, environment, and health” (Sachs, 2011, p. 100). These ideas can have a major impact on increasing local food use while at the same time promoting wellness among employees (Matheson, 2012), for example through interactions at hospital farmers markets or gardens.

In 2009, the American Medical Association's Council on Science and Public Health prepared a report outlining the health effects of the predominant food industry system. This prompted the adoption of a California Medical Association resolution on sustainable food systems calling for "practices and policies to support 'healthy and ecologically sustainable food systems,' legislative advocacy at the federal level, and patient education efforts" (Sachs, 2011, p. 101). The Healthy Food in Health Care (HFHC) initiative emerged from Health Care Without Harm (HCWH) in 2005 to help hospitals improve their foodservices' sustainability. A key focus of the program included education, tools, and support for local and sustainably sourced food procurement, linking it to an institution's patients, staff, and community.

The sheer size of the nation's health care system places it in a position to participate in and affect this local food movement. But what issues, systemic to the health-care industry, advance or impede its participation?

The focus of this research project was on one segment of the health-care industry—hospitals—and their engagement with this highly visible local food movement. Sachs (2011) noted that sustainable food efforts had gained ground in the kindergarten-through-twelfth-grade and higher education sectors, but had not advanced as rapidly in health care. Hospitals have an inherent mission focused on health and wellness for not only patients but also their employees (Crompt, Cheadle, Solomon, Maring, Wong, & Reed, 2012; Gaby, 2008; Matheson, 2012; Mitchell, 2009). So in theory they should be central in the conversation. The American Medical Association (2012) notes that a large predictor of both hospital patients' and the general public's health is the quantity and quality of food intake. Hence a hospital's stance on food (both communication about and delivery of) is of critical importance. Wellness and nutrition education and training programs and in-house foodservice should arguably be as important as medical treatment for overall patient and employee health (Cohen, 2013; Denton, n.d.).

The health-care foodservice industry is changing. This project aimed to discover if and how hospitals participate in one narrow segment of

foodservice: local food procurement. As noted, the sheer number and size of hospitals (including patients and staff) provide great potential to impact market demand for local foods.

One important aspect that must be considered is healthy eating in hospital dining facilities. Across the country, the fast-food restaurants that once dominated hospital lobbies (Cram, Nallamotheu, Fendrick & Saint, 2002; Lesser, 2006; Lesser et al., 2012; Physicians Committee for Responsible Medicine, 2011) have been removed (Gordon, 2012; Lawrence, Boyle, Craypo & Samuels, 2009). In some, establishments serving more healthy and local foods are taking their place. There have been some opponents of this change, who claim that comfort food may be therapeutic in some manner; however, the physical health implications outweighed these arguments.

Farmers markets have shown up on some hospital campuses as well. MacVean (2009) states that Kaiser Permanente was perhaps the first hospital system to utilize farmers markets to put nutrition within reach of employees, visitors, patients, and the community. In Ohio, the Cleveland Clinic has operated a local farmers market at its main campus for six years (Cleveland Clinic, 2013). It too aims to bring healthy, locally grown and produced foods to not only hospital employees and guests, but also to the local community.

Across the country, hospitals conduct employee wellness training and programming. These often cover exercise, diet, mental health (e.g., stress reduction), and other wellness issues. Most hospitals also conduct community outreach programming on health matters, and many provide volunteers and leadership to community improvement efforts. Could these all be tied together via local food systems thinking?

As documented by Louise Mitchell of the University of Maryland in her *Local Foods to Local Hospitals* report (2009), there are numerous anecdotal and popular-press accounts of hospitals that have begun to engage in the local food movement. She provided over 20 examples in her report's Appendix E (pp. 71–100). In addition, Kaiser Permanente (2013), *The Nation* (Klein, 2012), and numerous other articles and news reports have covered the phenomenon. However, these popular

media articles and informally published reports are backed up by very few articles from scientific peer-reviewed journals (Clancy, 2013; Ritchie & Chen, 2011; Smith, Kaiser, & Gómez, 2013). Of those that were available, most were very small and geographically concentrated. For example, the Fletcher Allen Health Care (now the University of Vermont Medical Center) in Burlington, Vermont (Bellows, Dufour, Bachmann, Green, & Moore, 2013; Lee, 2013) has instituted programs to provide nutritious, local foods to patients and employees recognizing that “fresh food is vital to patients’ health and aids in the healing process” (Bellows et al., 2013, p. 9). But this was only one hospital. Worley & Strobbe (2012) describe how a hospital in Iowa, Cass County Memorial, has been sourcing local food since 2005. It believes that “purchasing local produce promotes more vegetable intake” by both patients and employees (Worley & Strobbe, 2012, p. 28). And on the east coast, the Maryland Hospitals for a Healthy Environment (MD H2E) launched a “Local Foods to Local Hospitals” project in September 2007 to encourage healthier local foods in hospitals and to support local farmers (Mitchell, 2009). This early initiative was one of the largest we discovered. It netted a measurable shift as nearly 20 hospitals began or increased their local food purchases. Again, with the limited academic literature on this topic, the data from this study may contribute valuable information for use in the field. Findings may point to opportunities for engaging hospital foodservice directors (FSDs) with interest in purchasing (or increasing the use of) local foods in their operations.

Key Issues and Questions to Consider

For the past 40 years, the nation’s predominate food supply chain has been rooted in a high-volume, concentrated, and heavily conglomerated commodity process that has provided an abundant supply for U.S. citizens and much of the world (Lev & Stevenson, 2013; Matson & Thayer, 2013). In comparison to this system, the relatively recent and expansive growth in the local food movement may be described as a new or innovative approach in which we find early adopters, early majority, late majority, and laggards diffusing the idea in various stages of progression (Rogers, 1962, 1995).

As the local food movement spreads across the nation, one example of innovative diffusion in local food procurement can be found in the 10-year-old USDA Farm to School (F2S) program which is just now beginning to see broad success (Benson, 2013; Virginia Tech Department of Agricultural and Extension Education, 2012; National Farm to School Network, n.d.; Sanger & Zenz, 2004; Ugalde, 2012). This success has likely been aided by stimulus programs, direct payments, and extensive publicity from the USDA. A recent study by the Virginia Cooperative Extension Service (Virginia Tech Department of Agricultural and Extension Education, 2012) provided examples of exactly how those programs were making an impact. Virginia’s Page County Public School system, for example, sourced 37% of the produce it used in the 2012–2013 school year locally. A program participant said, “We hope this percentage will continue to grow so that children receive even more fresh, local produce” (p. 30).

Success in the school system begs one to investigate whether this innovation can penetrate other sectors or institutional systems. As noted, hospitals may constitute a natural fit for this inquiry due to their inherent mission and focus on health and wellness. However, aside from the aforementioned internal hospital newsletters and popular press accounts, investigation into the hospital foodservice literature leaves it unclear as to whether any sizable percentage of hospitals currently participate in procuring, serving, and/or promoting local foods to patients and employees. This may indicate a significant opportunity for hospital foodservice directors (FSDs) to engage with this movement. In doing so, they could positively affect the local economy via local food procurement (Low & Vogel, 2011; O’Hara & Pirog, 2013), stimulate hospital staff and patient awareness of and interest in healthy, nutritious eating via local foods, and achieve positive publicity in the community for their institution (Mitchell, 2009).

Incorporating local foods has become a relevant issue for hospitals with implications for social, environmental, economic, political, and public health systems. But what hinders hospital participation or adoption of this innovative

movement? Are systemic issues advancing or impeding action? Will the innovation diffuse through hospital foodservice directors?

The purpose of this study was to understand, measure, catalogue, and evaluate what factors contributed to hospital FSDs purchasing or not purchasing local food for use in their operations. A census of Ohio hospital FSDs ($n=155$) was undertaken. The following key themes guided our research:

- the level of knowledge Ohio hospital FSDs had of the local food movement and its relationship to health care;
- the extent to which FSDs currently used local foods, or their interest in purchasing local foods in the future;
- the issues that advanced or impeded FSDs use of local foods, and what challenges were seen as the greatest barriers; and
- the relationships between demographic variables and the use of local foods.

A fifth theme examined to what extent Ohio hospital FSDs were aware of the Cooperative Extension system and its programs on local foods. This thread will be explored in a separate manuscript focused explicitly on implications for Cooperative Extension.

Methods

The population frame consisted of all Ohio hospital FSDs. Ohio has numerous attributes that made it a good geographic frame for study. Since the 1980s Ohio has been utilized by national corporations as a test market for many new product trials (Knepper, 2003; Smith, 2012). It has a relatively dense, heterogeneous population that includes both rural expanses and urban centers. From a health-care perspective, Ohio has approximately 244 hospitals with 34,000 beds (Ohio Department of Health [ODH], n.d.). Each year, more than 1.5 million people are admitted to these facilities. In addition, outpatient visits total more than 30 million. Ohio also has approximately 275,000 employees who serve those patients each day (Ohio Hospital Association [OHA], 2014). These numbers suggest that there is a sizable

potential for data gathering, analysis, and the subsequent informing of potential implications and/or programming. Therefore, though the results of this study are limited in their generalizability to other locations, this study may garner a broad interest outside the state for hospitals pursuing local foods, and for food system workers with interests in the topic.

The quantitative questionnaire was developed based on two existing instruments. One had been utilized by Benson (2013) during his study of Extension's participation in the USDA Farm to School (F2S) program that provides local food for use in school systems. The second was based on an instrument from Benson and Niewolny (Virginia Tech Department of Agricultural and Extension Education, 2012) used in their Virginia farm to school (F2S) survey. These research projects closely mirrored the inquiry of foodservice directors in this new Ohio hospital study. The issues of institutional food purchasing overlap substantially among schools, hospitals, or other large institutional buyers. The USDA (2013), in fact, uses the term "farm to institution" to convey the meaning of selling local foods to any institutional purchasers. The final instrument included three main sections and consisted of 22 numbered questions that included 36 total items.

An expert panel was used to review the instrument for validity. It was made up of 12 researchers and practitioners who were familiar with the local food movement and/or Extension's outreach in hospitals or institutions. The instrument was sent to these subject matter experts to judge its content validity. They also reviewed the instrument for face validity, a measure of how well respondents will understand the survey. The instrument was revised based on the panel's recommendations.

Results

The full quantitative survey instrument was administered to Ohio hospital FSDs in June 2014 via Lime Survey, a secure, online electronic survey website. A total of 155 potential Ohio hospital FSDs were contacted. A total of 105 responses were received for a 67.8% response rate. Cronbach's alpha coefficients were calculated for each construct in order to verify the indication of good

reliability and internal consistency. The coefficients ranged from .714 to .912.

This analysis reports summary findings using mostly nonparametric, descriptive statistics. The mean age of the responding 105 FSDs was 46; their average tenure on the job was 8.6 years; they oversaw between one and 13 hospital kitchens; they were 50.5% female; and nearly 94% were white. The hospitals in the study varied greatly in terms of staffing and meal production and output. Table 1 provides a summary of the foodservice characteristics of the hospitals.

Hospitals with contracted foodservice were asked about their foodservice vendor. Hospitals that do not use contracted foodservice were asked to list their three major suppliers. Results indicated a high concentration on a limited number of large, national broadline food distribution suppliers and group purchasing organizations (GPOs).

The following section present results from the four themes explored in the study:

1. The level of knowledge Ohio hospital FSDs had of the local food movement and its relationship with health care.

In this initial theme, we found that just over half, 54.9%, of FSDs felt the use of local foods has been increasing among U.S. hospitals. However, only 45.6% indicated that they knew how to find and purchase local foods to serve in their hospital(s). Knowledge of government programs to

Table 1. Hospital Characteristics

	Frequency (n)	Percent (%)
Location^a		
Rural	57	46.3
Urban	38	30.9
Suburban	28	22.8
Foodservice		
Contracted out	37	35.2
In-house	68	64.8
Type of cooking (percent)		
Scratch cooked	31%	
Heat and serve cooked	69%	
Number of staff (as full-time equivalents [FTEs])		
Range	3 to 800	
Mean	61.5	
Mode	Multiple: 6, 9, 10, 25, 35	
Average number of meals/day		
Patient	490 (Multiple modes: 45, 100, 300)	
Staff and visitor (Monday–Friday)	1,702 (Mode=250)	

^a Responses total 123 as respondents could choose more than one answer.

help hospitals and the USDA's support of local food use in hospitals were the least known resources, with only 19.5% and 15.6%, respectively, of FSDs reporting knowledge of them.

Overall, we found that 77.9% of the respondents were "hearing more about" the local food movement, but only 57.7% (Table 4) were

Table 2. Level of Knowledge of Local Foods

Variable	# of Responses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have been hearing more about local foods (in general) in the past few years.	n=104	0.0%	5.8%	16.3%	25.0%	52.9%
The use of local foods has been increasing among hospitals in the U.S.	n=102	2.0%	9.8%	33.3%	29.4%	25.5%
I know how to find local foods to serve in my hospital.	n=103	7.8%	18.4%	28.2%	26.2%	19.4%
I know how to purchase local foods to serve in my hospital.	n=102	7.8%	21.6%	25.5%	22.5%	22.5%
There are government programs to help institutions learn how to buy local foods.	n=103	10.7%	19.4%	50.5%	11.7%	7.8%
The USDA "Know Your Farmer, Know Your Food" program supports hospital participation in local foods procurement.	n=103	8.7%	18.4%	57.3%	10.7%	4.9%

Note: Total possible n=105.

participating in it. This was consistent with anecdotal evidence from hospital internal literature (newsletters, communications, websites) that provided numerous examples of local food connections and programs at hospitals across the U.S., but which often did not detail the extent or reach of the local food programming or use. Table 2 provides additional detail on specific aspects of FSDs' knowledge of local foods.

Respondents also provided information about their participation in activities associated with gaining more information on using local foods in hospitals. This specific construct measured actual past behavior in learning or communicating about local foods, thus providing an immediate and recent indication of their knowledge (by learning their interest and action). For this question, FSDs responded to statements indicating "yes" or "no." We also probed for an indication of future plans by including the option of checking, "I plan to in the next 12 months."

Here, we found that only 25.9% have *not* sought information on using local foods in their operations. The remaining items were split roughly 55% to 45%, indicating that just over half have done some level of additional investigation on the issue. Table 3 provides additional detail of their potential interest and action around local food.

It may be noteworthy that over 70% indicated they had sought out information about using local foods or were planning to in the next 12 months. But only half had communicated with other hospitals about local foods, asked their broadband

distributors to procure them, asked their administration to support local, and/or assisted with planting a hospital garden or establishing a farmers market at their hospital.

2. The extent to which FSDs currently used local foods, or their interest in purchasing local foods in the future.

This theme was designed to explore the current activity and behavioral intentions of hospital FSDs toward local food use. FSDs responded whether they were currently using local foods in their operations (see Table 4). For those who indicated "yes," a skip-logic program moved them to a questioning series that probed the extent of their local food use as well as a ranking of the factors most important to that activity.

Table 4. Current Local Food Users (n=104)

Variable	Frequency (n)	Percent (%)
Local food user:		
No	44	42.3
Yes	60	57.7

Current *local food using* hospital FSDs provided data about their participation in activities such as farm to hospital, composting, community supported agriculture (CSAs), farmers markets, gardens, and wellness campaigns using local foods. Again, this question went only to the 60 respondents who indicated that they were currently using local food. Table 5 provides a summary of the

responses regarding their interest and action around local food. Of note here is that just over 71% of respondents had conducted and/or planned healthy eating and/or wellness education using local foods at their operations.

Table 3. Potential Interest and Action Around Local Food

Variable	Yes (%)	I plan to within 12 months (%)	No (%)
Have you ever sought out information about using local foods in hospital cafeterias?	55.6	14.8	25.9
Have you ever communicated with other hospital food service professionals about serving local foods?	44.4	8.3	42.6
Have you ever asked your broadband distributor/GPO to procure local foods?	42.6	7.4	45.4
Have you ever asked your hospital administration to support local food use?	39.8	11.1	44.4
Have you ever helped arrange a farmers market or garden at your hospital?	45.4	6.5	43.5

Note: n=105 for each response. Totals do not equal 100% due to missing responses.

Table 5. Potential Interest and Action Around Local Food (current local food users)

Variable	Yes (%)	I plan to within 12 months (%)	No (%)	Frequency (n) ^a
Farm market at hospital	34.4	6.9	58.6	58
CSA (community supported agriculture) program at hospital	16.9	13.5	69.5	59
Gardens at hospital (employee or patient)	22.8	12.3	64.9	57
Composting food waste	22.0	15.3	62.7	59
Healthy eating and/or wellness education using local foods	61.0	10.1	28.8	59

^a Totals do not equal 100% due to rounding.

But other programs are not being adopted as frequently.

Both FSDs who used local food and those who did not also responded to inquiries that measured their attitudes about *potential* benefits of and problems with using local foods. Table 6 provides detail on specific aspects of FSDs' attitudes. The top-ranked item showed FSDs felt that hospitals could support their local economy and help create jobs by using local foods, with 85.1% agreeing or strongly agreeing.

Table 7 provides detail on the responses of hospital FSDs' attitudes as measured by inquiring about *potential problems* of using local foods. Seasonal availability garnered the highest level of agreement or strong agreement. However, the remaining six items had between 32% and 45% "neutral" responses. These could be an indication of neither agreement nor disagreement; or they

could indicate that FSDs were unsure or undecided. On the cost issue, 49% felt local foods cost too much; however, 40% checked "neutral." Data from other studies may provide clues. That is, some foods may be more expensive, but perhaps not all the time (depending on the seasonal availability). These questions would benefit from further inquiry. Language in foodservice contracts that limited purchasing of local foods, and the possibility that local foods have little or no support from hospital administration, were rated lowest in agreement.

Non-Users of Local Food

As noted, approximately 42% ($n=44$) of respondents were not currently using local foods in their hospital foodservice operation. These FSDs provided input (via a skip-logic sequence that moved them to a separate questioning series) that

Table 6. Attitudes as Measured by Inquiring About Potential Benefits

Variable	# of Responses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Hospitals can support their local economy and help create jobs.	$n=101$	2.0%	1.0%	11.9%	36.6%	48.5%
Patients and employees can have healthier diets.	$n=101$	4.0%	4.0%	18.8%	37.6%	35.6%
The hospital's public relations are enhanced.	$n=99$	1.0%	4.0%	23.2%	40.4%	31.3%
Rates of overweight and obesity can be reduced via heightened interest in healthy food.	$n=101$	4.0%	8.9%	19.8%	32.7%	34.7%
Hospitals know more about the source and production of their foods.	$n=101$	2.0%	11.9%	21.8%	40.6%	23.8%
Patients and employees more likely to choose healthy options when they know it's local.	$n=100$	4.0%	16.0%	36.0%	22.0%	22.0%

Note: Total possible $n=105$.

Table 7. Attitudes as Measured by Inquiring About Potential Problems

Variable	# of Responses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The seasonal availability issues.	n=100	3.0%	11.0%	23.0%	35.0%	28.0%
Local foods cost too much.	n=100	3.0%	8.0%	40.0%	37.0%	12.0%
There is an inadequate supply or volume.	n=100	5.0%	11.0%	38.0%	32.0%	14.0%
Delivery issues: timing; crate, pallet, or box size.	n=99	8.1%	14.1%	39.4%	24.2%	14.1%
Ordering procedures are complicated.	n=98	8.2%	14.3%	44.9%	18.4%	14.3%
Local foods have little or no support from hospital administration.	n=99	19.2%	20.2%	37.4%	18.2%	5.1%
Language in my foodservice contract limits purchasing of local foods.	n=99	24.2%	21.2%	32.3%	13.1%	9.1%

Note: Total possible n=105.

explained the extent of their *potential* interest in local food use as well as a ranking of the factors that would be most important to adopting the practice of using local food. They also provided information as to what might increase their likelihood to purchase local foods.

The non-users of local food ranked quality as the most important factor, with price, delivery, availability, and liability insurance all receiving rankings at or near “very important” as well. The attributes of preprocessing and/or organic did not rate as important. Details are in Table 8.

Current non-users also provided information on what might increase their *likeliness to purchase* local foods. Table 9 shows that 75% of FSDs indicated agreement that they would be more likely to purchase and serve local foods if their broadline food distributor offered more local items, and they

would buy more if they had a guidebook on how to source and purchase local foods. Only 17% agreed that having different food preparation facilities and/or equipment would increase their likelihood of using local foods; however, 41.5% of those marked “neutral,” which could mean they are unsure about those implications. That said, 41.4% disagreed, perhaps indicating that facilities are not an issue.

3. The issues that advanced or impeded FSDs’ use of local foods, and what challenges were seen as the greatest barriers.

FSDs who currently used local foods (n=60) said they considered quality to be the most important item, with 100% giving it a “4” or “5” ranking. This was followed closely by availability and

Table 8. Factors Non-users Rank as Most Important When Considering Local Foods

Variable	# of Responses	1 = Not Important	2	3 = Neutral	4	5 = Very Important
Quality	n=42	0.0%	0.0%	4.8%	11.9%	83.3%
Price	n=42	0.0%	0.0%	7.1%	26.2%	66.7%
Availability	n=42	0.0%	0.0%	9.5%	28.6%	61.9%
Delivery	n=42	0.0%	0.0%	11.9%	21.4%	66.7%
Grower/producer liability insurance	n=42	0.0%	0.0%	16.7%	14.3%	69.0%
Quantity and/or volume	n=41	0.0%	0.0%	22.0%	31.7%	46.3%
Attributes such as organic, natural, or antibiotic-free	n=42	4.8%	19.0%	28.6%	28.6%	19.0%
Preprocessing: chopped (size) or portion (weight)	n=42	16.7%	7.1%	35.7%	23.8%	16.7%

Note: Total possible n=44.

Table 9. Likelihood Factors Non-users Rank as Most Important When Considering Buying Local Foods

Variable <i>I would be more likely to purchase and use local foods if...</i>	# of Responses	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
...my broadband/GPO offered more local foods.	n=40	0.0%	7.5%	17.5%	37.5%	37.5%
...I had a guidebook on how to source and purchase local foods.	n=40	0.0%	10.0%	15.0%	37.5%	37.5%
...I had better food safety information about local foods.	n=41	0.0%	12.2%	22.0%	31.7%	34.1%
...I had more info about purchasing experience of other hospitals.	n=41	0.0%	17.1%	24.4%	26.8%	31.7%
...there were more interest from administration.	n=42	2.4%	11.9%	28.6%	26.2%	31.0%
...there were more interest from employees.	n=41	4.9%	14.6%	24.4%	36.6%	19.5%
...there were more interest from patients.	n=41	7.3%	22.0%	19.5%	26.8%	24.4%
...I had additional or different food preparation facilities.	n=41	14.6%	26.8%	41.5%	7.3%	9.8%

Note: Total possible n=44.

delivery. Table 10 provides additional details. As with the non-local food using FSDs, attributes such as organic or pre-processing did not rank as highly, but “quality” was ranked as most important by non-users as well.

Hospital FSDs who currently used local foods were also asked in an open-ended question about challenges they had encountered with buying local foods. A total of 58 persons responded with 31 (53.4%) saying “yes,” they had had issues. Challenges included:

- Obtaining the quality that customers expect;
- Obtaining the quantity we need at the time we need the product;
- Space for a garden or composting;
- Grower/producer liability insurance;
- Concern with food safety;

Table 10. Factors Current Users Find Most Important to Consider When Buying Local Foods (n=60)

Variable	1 = Not Important	2	3 = Neutral	4	5 = Very Important
Quality	0.0%	0.0%	0.0%	18.6%	81.4%
Availability	0.0%	0.0%	6.8%	39.0%	54.2%
Delivery	0.0%	1.7%	8.5%	35.6%	54.2%
Grower/producer liability insurance	3.4%	1.7%	8.5%	18.6%	67.8%
Price	0.0%	1.7%	13.6%	37.3%	47.5%
Quantity and/or volume	0.0%	1.7%	13.6%	30.5%	54.2%
Attributes such as organic, natural, or antibiotic-free	5.1%	10.2%	35.6%	22.0%	27.1%
Preprocessing: chopped (size) or portion (weight)	8.5%	8.5%	33.9%	22.0%	27.1%

- Delivery and shipment sizes; and
- Locked into contract with a broadband supplier.

For example, concerning the liability issue, one respondent wrote that, “To take advantage of truly local and/or small farms means potential liability re: sanitation. Have tried to keep majority of produce w/ my local produce company as a compromise.” Another added, “Our health inspector recommended no farmers market food

unless proof of insurance was obtainable.”

On the other hand, liability insurance, quality, and other attributes may not be the only issues with purchasing locally grown foods. One respondent said that buying local is not always clear. He or she provided a counterexample, noting:

“There is a large grey area that isn't being considered when buying local. For example, should I purchase Ohio tomatoes that need constant irrigation and fertilization to keep growing, and end up getting a final yield of 1000#/acre at \$25/case because they mainly sell to retail markets first. Or should I buy California tomatoes, where the farm is collecting rain water, and recycling irrigation, turning their greenhouse gas emissions into fuel for the harvesting/processing and the final yield is 2500#/acre which I can get for \$15/case, as they are specifically grown for food service?”

Another respondent was hopeful that this hospital FSD survey might provide a means to increase his or her purchases, saying:

“There are a number of challenges to buying local. Traceability and liability insurance, the amount of the items available, price of the items....We are committed to buying local, and increasing the amount of items used, hopefully this process will help us drive those amounts.”

Another respondent mentioned the proliferation of field corn and soybeans, but the lack of crop diversity, noting that “[There is] not a good source of fruits and vegetables. I can get apples in the fall and we feature those. We need more growers and coop organization so we have better access to the volume we need.”

It is noteworthy that some of the concerns expressed in these findings have been addressed already by a few hospital operations in other parts of the country. For example, the Healthy Food in Health Care program provides guidance and expertise to help hospitals develop more sustainable food purchasing systems, including local foods

(HCWH, 2013). Other initiatives, including the Healthier Hospitals Initiative (HHI), Balanced Menus, Local & Sustainable Purchasing, and Healthy Beverages (Bellows et al., 2013) are also working to remove barriers to participation. More recently, broadline distributors or GPOs (group purchasing organizations) that procure, aggregate, warehouse, and often process foods for hospitals (Sanger & Zenz, 2004; Stevenson & Pirog, n.d.) are beginning to offer hospitals some local food options.

In addition, some hospital administrations have begun to increase local food purchasing by writing policies into their food service department's plans (Worley & Strobbe, 2012). Lee (2013) notes that when Hospital Sisters Health System (a 13-hospital system based in Springfield, Illinois) renewed its broadline contract in 2011, it specified that a quarter of the system's food must come from local sources.

Again, the major reasons identified in this study for *not* incorporating any (or additional) local foods into operations were based on supply availability (lacking significant quantity that could be delivered when needed), and potential safety concerns (lacking liability insurance, washing, refrigerated delivery). But overall, findings suggest that many of these barriers may be quite surmountable in Ohio as they have been in other parts of the nation.

4. The relationships between demographic variables and the use of local foods.

The Ohio hospital FSDs provided information on their personal characteristics and hospital demographics. We used statistical tests based on the number and type of variables to determine potential relationships or associations with the use of local food. Overall, the data analysis indicated that demographic variables did not appear to have any significant impact on local food use. The demographic variables most related to local food use were hospital size (number of full-time-equivalent staff) and average patient meals (number served per day). Hospitals with more employees and serving more patient meals were slightly more likely to use local foods. There were very slight indications that suburban and urban hospitals may

be more likely to use local foods, and that younger (age) and less tenured (number of years in the profession) FSDs may be slightly more inclined toward local food use as well. There were no indications of variation by sex. No conclusions could be drawn on race because nearly all respondents were white. Studies in the literature and stories from industry newsletters did not provide any insight or data on these demographic characteristics (relating to local food use) either.

Conclusions

The purpose of this study was to understand, measure, catalogue, and evaluate what factors contributed to hospital foodservice directors (FSDs) purchasing or not purchasing local food for use in their operations. Overall, Ohio hospital FSDs expressed a definite interest in adopting or increasing the use of local foods in their operations; however, as noted above, there are several areas of concern that need to be addressed before widescale increases will be seen. Additionally, the topics with high levels of “neutral” responses may benefit from further investigation, particularly in the form of personal interviews to better understand what was meant. Overall, the data clearly indicate that there are opportunities for food systems workers to engage in local food programming with hospitals, and perhaps within the industrial sector that includes other health-care operations as well.

The Institute of Food Technologists (IFT), a 75-year old organization that serves the food science community, recently published a summary of trends and innovation around healthy hospital initiatives that posited similar findings as this study (IFT, 2012), although it lacked attitudinal and interest measures. In brief, the IFT study found that hospitals have the opportunity to increase offerings of fresh fruits and vegetables, increase restaurant-style, cooked-to-order items for patients and cafeteria visitors, and offer pricing strategies to incentivize healthier selections. They also state that hospitals can serve as role models in worksite wellness, noting that the more than 5,750 hospitals registered in the United States see nearly 37 million patients and employ over 5 million workers. Local foods programming may be an entry point for many of these wellness strategies. This study

confirmed that the interest was there.

The results from this study may be immediately helpful in launching some of the future research or programming efforts outlined above. If the results are shared with hospital wellness coordinators, nutrition educators, and administrators, they could prompt further use of local foods in hospital operations. It is hoped that these efforts might also lead to long-term partnerships that increase the number of connections between hospitals and farmers, ultimately leading to increased local food production and consumption, which would increase the number of jobs in agriculture. These connections can help reduce questions about local food safety (e.g., by providing education regarding good agricultural practice [GAP] initiatives that improve food safety handling practices).

New outreach, partnerships, and farm-to-hospital (FTH) programming could be conceived and implemented around findings from this project. Food system workers, researchers, and educators within the Extension departments of land-grant universities may use these findings as a baseline upon which to begin new or expand existing (e.g., GAP) programming in the local food system arena. Dunning et al. (2012) suggested this as well, pointing to the potential for tapping Extension’s structural and relationship networks to encourage change in institutional food systems. Specifically, these findings provide insight into areas in which one might approach a hospital or health-care operation—essentially identifying intersections at which connections and new programming can begin.

This project addressed a relatively narrow slice of the topic of using local foods within the health-care (specifically, Ohio hospitals) industry. Additional research is needed to determine if the idea of using local food offerings might be able to have further-reaching implications. Some potential questions for future investigation could ask if local foods might:

- *Stimulate* interest and sales in hospital cafeterias;
- *Increase* interest and participation in employee wellness programs (through local foods education, farm tours, CSA memberships, or on-site farmers markets);

- *Provide* a hot topic for hospitals to develop programming and training on where, how, and why employees should access healthy, local foods;
- *Educate* employees on the potential positive economic impact that may be achieved through local foods shopping; and/or
- *Increase* healthier food consumption at both work and home.

The answers to these questions could additionally inform food system workers across the state and nation, providing insight into the *hows and whys* of farm to hospital purchasing, thus allowing them to develop new approaches to inform or encourage the process and increase local food use by hospitals and health-care organizations. Again, this could lead to positive contributions to local economies, public health, and the community as a whole.

As noted previously, Smith, Kaiser, and Gómez (2013) found that research on the adoption of farm to hospital programs was “extremely limited” and “nearly nonexistent” (p. 38). Further, they noted that independent factors that might influence a hospital’s decision to adopt local food programs have not been explored. This study has taken one step toward addressing these gaps in the research literature.

An underlying purpose of this study was to encourage additional research on related topics and with the hope that it would initiate conversations that will build knowledge, expand the literature, and put into practice effective programming to promote and expand the use of local foods in the hospital and health-care industry across Ohio and nationwide. Farm-to-hospital initiatives can positively affect our nation’s health and local economies. They can enhance a hospital’s public relations. In addition, they can provide opportunities for food system workers to create new partnerships benefiting hospitals, health-care institutions, local farmers, and food production and distribution operations, coalescing in triple-bottom-line results that deliver positive social, environmental, and economic outcomes.



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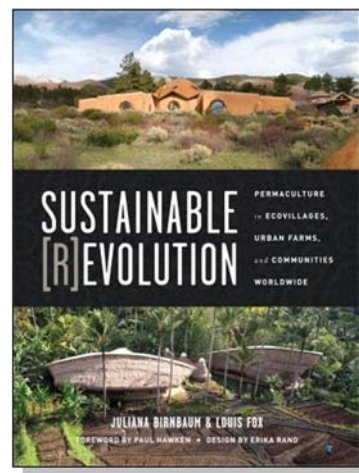
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A worldwide tour of (almost) permaculture

Book review by Angela Gordon Glore*
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Review of *Sustainable [R]Evolution: Permaculture in Ecovillages, Urban Farms, and Communities Worldwide*, edited by Juliana Birnbaum and Louis Fox. (2014). Berkeley, California: North Atlantic Books. Available in paperback and Kindle eBook; 368 pages. Publisher's website: <http://nabcommunities.com/shop/sustainable-revolution/>



Published online May 27, 2015

Citation: Glore, A. G. (2015). A worldwide tour of (almost) permaculture [Book review]. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 149–151. <http://dx.doi.org/10.5304/jafscd.2015.053.007>

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Sustainable [R]Evolution, edited by Juliana Birnbaum and Louis Fox, is a survey of permaculture (and permaculture-like) projects and

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communities throughout the world. Multiple authors have contributed short profiles of ecovillages, urban agriculture projects, farms, and teaching centers, interspersed with writings on permaculture design principles.

Permaculture was coined—as a word and a design system—by Australians Bill Mollison and David Holmgren in the 1970s as a type of ecologically based permanent agriculture. Mollison's *Permaculture: A Designer's Manual* stands as the seminal work describing the elements of and values embedded in permaculture. It is an inherently personal form of gardening, tailored to a property's specific microclimates, topography, and use patterns.

Sustainable [R]Evolution starts with a brief overview of permaculture principles, followed by

five sections of site profiles that are grouped by climate in order to “call attention to specific techniques appropriate to their particular ecosystem...and encourage the sharing of ideas and resources between sites with corresponding environments” (p. 20). The sections are Equatorial/Tropical: Forest and Savanna; Arid: Desert and Steppe; Subtropical/Temperate: Humid and Highland; Subtropical/Temperate: Mediterranean and Maritime; and Snow: Continental and Taiga.

The articles within each section range in length from a single page to six or seven pages, so the depth of information varies considerably. Longer profiles highlight particular “domains of action,” a concept developed by Holmgren. These include Land and Nature Stewardship, Tools and Technology, and Land Tenure and Community Governance, among others (pp. 24–25). The editors include descriptions of the domains of action as sidebars throughout the book, often excerpted from other, longer works.

Several of the communities featured are inspiring: indigenous groups taking control of ancestral lands; modern Italians renovating centuries-old structures and giving them new life; urban farmers creating havens of inner-city food production in red-lined minority neighborhoods; a children’s village in Tanzania providing new hope for orphans of the HIV/AIDS crisis. These stories afford a glimpse of how much we can learn about community, healing, re-use, and sustainable change.

There are also surprises. I was aware of the Russian tradition of *dachas*, or home gardens, before reading this book, but did not recognize their productivity. According to contributor Leonid Sharashkin, the production from Russia’s 30 million home gardens represents almost 2.5% of total GDP and 80% of the domestic fruit, berry, and vegetable supply (p. 315).

The most successful stories are those that discuss how projects started, the legal structures that underpin the communities, or that pull back the curtain for a look at the process of making resilient communities. These include the Chikukwa and CELUCT projects in Zimbabwe, Findhorn Ecovillage and Transition Norwich in the UK, the Antonio Núñez Jiménez Foundation in Cuba, and Growing Power and the Los Angeles Eco-Village

in the USA. Some of the larger permaculture teaching and resource centers around the world are also discussed in useful detail. Many other pieces, unfortunately, are short, superficial, and offer little substance. Few contributors mention enough detail to meet the goal of “sharing ideas and resources” referenced above. The single-page resource guide at the end of the book does not correct that defect.

In truth, it is difficult to identify the intended audience for this book. The editors and contributors do not provide enough data for it to act as a resource guide. They do not provide contact information, even for those sites clearly seeking interns, guests, and students, so it is not a travel guide. For readers completely new to the concept of permaculture, the introduction supplies an inadequate framework for the rest of the book. The book is perhaps most suitable for readers looking for good news in the midst of climate change, violent conflict, extreme drought, and the lack of governmental response to these crises. It offers up almost 60 antidotes to the nagging possibility that we humans are incapable of change for the better. Its contributors present a variety of hopeful views for the future of human communities. Experienced permaculture gardeners may also enjoy the book for the permacultural diversity it showcases.

That diversity ends up being a liability. In striving to be inclusive in their definition of permaculture, Birnbaum and Fox stray into territory they said they intended to avoid. In their introduction, they are explicit in their opposition to intellectual colonialism and the privileging of Western knowledge over traditional local knowledge. They approvingly quote one permaculture trainer’s desire to avoid turning permaculture into “just another kind of colonialism—an Australian concept taught by an Australian teacher” (p. 10).

Yet many of the permaculture projects they feature in developing nations were founded by Australians, Americans, or Europeans, and while some locally driven projects highlighted in the book specifically identify with permaculture, many others do not. These profiles either avoid using the word or include a disclaimer that participants do not call what they do “permaculture.” By embracing these projects as permaculture—including a few that predate the concept—Birnbaum and Fox

are in danger of laying claim to traditional and indigenous knowledge just as surely as if they'd planted a flag. For example, I was struck by their description of *hugelkultur* as “a permaculture technique that was traditional to Eastern Europe” (p. 303) rather than as a centuries-old European practice recently adopted and promoted by permaculturalists.

Despite this, *Sustainable [R]Evolution* does shine a welcome spotlight on a growing movement

toward more human-scaled, ecologically minded living. Readers wanting a substantive lesson in permaculture should look elsewhere, but those looking for signs of positive change will find it here, in an easy-to-digest format that will leave them hungry for more.



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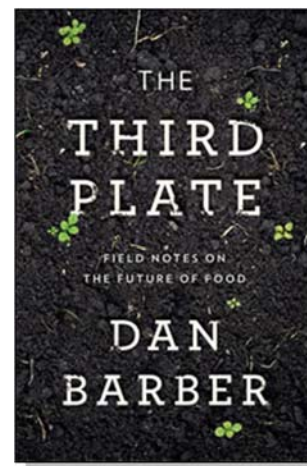
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Visions of a truly nourishing dinner

Book review by Matt Hess *

World Hunger Relief, Inc.

Review of *The Third Plate: Field Notes on The Future of Food*, by Dan Barber. (2014). New York: Penguin Press. Available in hardcover, paperback, ebook, and audiobook (for download or as CDs); 496 pages. Publisher's website: <http://www.penguin.com/book/the-third-plate-by-dan-barber/9780698163751>



Published online May 19, 2015

Citation: Hess, M. (2015). Visions of a truly nourishing dinner [Book review]. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 153–155. <http://dx.doi.org/10.5304/jafscd.2015.053.003>

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I first encountered Dan Barber's *The Third Plate: Field Notes on The Future of Food* while doing research for a session I was asked to lead for the Texas Chefs Association annual convention. In a quick Google search looking for inspiration I found Barber's book. In this work the author provides a handy tool to describe the evolution of food over the last 20 years and the hope of a meal

that could nourish and sustain a better world. I feel it is worthwhile to let Barber describe the three meals that reflect this evolution:

The first plate was a seven-ounce corn-fed steak with a small side of vegetables (I chose steamed baby carrots)—in other words, the American expectation of dinner for much of the past half-century. It was never an enlightened or particularly appetizing construction, and at this point it's thankfully passé.

The second plate represented where we are now, infused with all the ideals of the farm-to-table movement. The steak was grass-fed, the carrots were now a local heirloom variety grown in organic soil. Inasmuch as it reflected all of the progress American food has experienced in the past decade, the striking thing about the second plate was that it looked nearly identical to the first.

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Matt Hess grew up in Boulder, Colorado, and then moved to Waco, Texas, to attend Baylor University, where he received a bachelor of science in education in history. Afterward he stayed in Waco and taught at a school for troubled youth. As a teacher, he saw the difference that working with animals and gardens made on his students, and he began volunteering at WHRI partially with the intention of developing more skills in agriculture and community development. Matt joined World Hunger Relief, Inc., as the education director in 2006 years and six years later transitioned to his current role as executive director.

Finally, the third plate kept with the steak-dinner analogy—only this time, the proportions were reversed. In place of a hulking piece of protein, I imagined a carrot steak dominating the plate, with a sauce of braised second cuts of beef.

The point wasn't to suggest that we'll be reduced to eating meat only in sauces, or that vegetable steaks are the future of food. It was to predict that the future of cuisine will represent a paradigm shift, a new way of thinking about cooking and eating that defies Americans' ingrained expectations. I was looking toward a new cuisine, one that goes beyond raising awareness about the provenance of ingredients and—like all great cuisines—begins to reflect what the landscape can provide. (p. 17)

I include this longer quotation to allow Barber to share his thesis and also to allow his expressive, natural writing style to come through. The reader is entertained through storytelling that is in turn autobiographical, biographical, and historical, but not in a rigid pattern. Barber shares the agricultural principals related to soil fertility, weed management, and botany necessary for the consumer to be a true participant in the farm-to-table dialog. He also draws the reader into the lives and passions of some of the most interesting characters in that movement.

The chefs at the conference, especially those with East Coast ties, were more aware of Barber and his impact on eating than I, so this framework of three plates gave me a handy point of access to a notoriously exclusionary community. The first plate still dominates in Texas; in fact, a 7 oz. (198 g) steak is normally listed on the menu with a feminine reference of some kind. Especially in larger cities, however, restaurants and eaters are moving toward the second plate in the analogy. Many Southern chefs may skip over the second plate to the third in their attempts to be avant-garde, environmentally responsible, or nostalgic, as we have the advantage down in the South to have a culinary heritage that looks similar to the third plate.

Collard greens, black-eyed peas garnished with

bacon, and corn bread, when grown and served with heart and skill, are an embodiment of the values Barber and his band of farmers, writers, and cooks share in this work. It would be easy to look back on this meal with nostalgia, ignoring the oppression of land and people that led to this diet. Thankfully, Barber recognizes this temptation and early in the work reminds us that our nation's agricultural heritage is one of exploitation, made easy by the land's fertility and bounty and a replaceable labor force. So instead of looking backward we are encouraged to look to those farmers and activists who nourish their soil so that it can nourish its people while redeeming the best parts of our culinary history.

This was my call to the chefs, and I believe it is Barber's call to us: that we should love food more, and place more value upon it. Barber calls us to resist the pull to either produce food as inexpensively as possible or limit what we consume as a means of rationing the limited supply of resources this planet has to offer. We have the chance for a cuisine that provides health and healing for people, place, and planet when we value it more.

This book is also a handy primer on the names and texts of the movement away from extractive agriculture and toward an agriculture that brings health in all its meanings. Barber makes quick summaries of the contributions of the usual suspects of authors, giving a handy guide to the sources one needs to know about in order to participate in the dialogue. (A fairly exhaustive list of books including some lesser known and more specialized texts is included in the back.)

Barber refers to the technological and cultural changes brought on by wars and conflict, especially World War II, which marks a significant change in the trajectory of any line graph representing the way food is grown and eaten, especially in North America. He also directly addresses the fact that the same nations that waged these wars also create policy and behave in ways that radically influence the way food is produced, delivered, and consumed. What Barber fails to bring up is the critical point that agriculture has always had two motivations: the first motivation is the feeding of people, while the second—which has dictated the way a majority of our calories are harvested—is the

advancement of empires.

The cuisines of cultures are heavily influenced by the political will of governments. The Green Revolution may have been started with the intention of improving the lives of millions, but it quickly became apparent to both the first world (capitalist countries led by the U.S.) and the second world (communist countries led by the Soviet Union) that these technologies could be used to put food on the plates of the third world and keep them from shifting to the other side. The protection and expansion of empire has influenced agriculture from its beginnings and will play an important role in shaping the diets of tomorrow.

The chef certainly holds a position of power from which he or she can influence the trends of

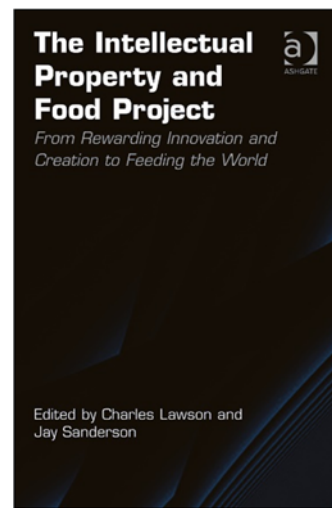
food consumption. There is precedence to show that trends that start at the priciest eateries trickle down to the rest of us eaters, but if we ignore the way public policy has shaped the history of agriculture then we risk ignoring the ways in which these same forces are shaping what we will be eating 30 years from now. Despite the omission of political forces that have shaped our diet, many who have read all of Michael Pollan's and Wendell Berry's work will be grateful for a source of new knowledge and inspiration. The volume is not brief, at nearly 450 pages, and gets into more detail than someone who is casually interested may be willing to dig through, but *The Third Plate* is accessible enough that someone who is new to the movement should be able to digest it.



Helping or hurting the harvest?

Book review by Rachel K. Pilloff, Esq.*
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Review of *The Intellectual Property and Food Project: From Rewarding Innovation and Creation to Feeding the World*, edited by Charles Lawson and Jay Sanderson. (2013). Farnham, Surrey, UK, and Burlington, Vermont: Ashgate. Available as hardcover and ebook; 256 pages. Publisher's website: <http://www.ashgate.com/isbn/9781409469568>



Published online May 4, 2015

Citation: Pilloff, R. K. (2015). Helping or hurting the harvest? [Book review]. *Journal of Agriculture, Food Systems, and Community Development*, 5(3), 157–158. <http://dx.doi.org/10.5304/jafscd.2015.053.004>

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While many books address the role of intellectual property and goods, they generally address consumer goods such as small electronics, including telephones, computers, and the like. Despite the fundamental role of food and agriculture in our daily lives, very little scholarship evaluates the dynamics between food and intellectual property. *The Intellectual Property and Food Project* sows the first seeds for discussions on this topic, which I hope will cross-pollinate across the academic, legal, and business sectors so that much benefit can be harvested around the globe.

As its title suggests, *The Intellectual Property and*

Food Project developed from an academic workshop hosted by Griffith University's Australian Centre for Intellectual Property in Agriculture (ACIPA). The workshop was a conversation starter: academics interested in food and intellectual property began discussing the many ways food and intellectual property interact. Realizing that many more discussions could advance our understanding of this dynamic relationship, the workshop participants agreed that a book would provide the foundation for further discussions. Hence they planted the seeds and germinated *The Intellectual Property and Food Project*.

Before launching too far into the language of intellectual property and treaties, the book provides an overarching definition of food. In its simplest form, the book defines food as “any substance ingested by humans, is of plant or animal origin, and provides nutrients to the human body in the form of carbohydrates, proteins, fats, vitamins, and minerals” (p. 3). And yet despite its simplicity, food

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is anything but simple: food has inspired wars and slave trade, motivated the discovery of new lands, and continues to affect business, science, technology, and health.

Because the book stemmed from a workshop with diverse academics and somewhat divergent fields of study, the editors divide the book into four main parts: Observations from the Laboratory (Molecular Genetics and Food); Public Research and Plant Germplasm; Social, Economic, and Political Aspects of Food and Intellectual Property; and Access and Distribution (Intellectual Property, Food, and Practice). While the editors attempt to provide some cohesion between the sections, unfortunately the book reads much like an academic workshop, where one section does not necessarily bear immediate relation to the section preceding or following it.

Observations from the Laboratory: The book begins with the science and, notably, the role that advances in molecular biology play in crop and animal breeding. Genetic technologies such as gene identification and genome sequencing provide important information for trait development, which can be harnessed for improving and/or increasing food supply. While molecular genetics offers great opportunities for producing crops or feed with improved characteristics, intellectual property should promote rather than stifle innovation. While this section provides a comprehensive overview of the underlying science, it could benefit from a paring down of the science, as much of the cited scientific literature is from one named author and is also somewhat dated.

Public Research and Plant Germplasm: Harnessing the theme that intellectual property should encourage and not hinder innovation, the book next considers the changing role of publicly funded agriculture. Traditionally, publicly funded agriculture bore no relation to intellectual property, leaving patents and licenses to the for-profit, private sector. As the authors aptly note, intellectual property at best has done little to remedy poverty and hunger, and at worst has restricted access and increased prices. For example, high-yielding plant varieties or herbicide-resistant plants find little utility in subsistence agriculture due to lack of fertilizers or other needed inputs for these varieties to grow, and yet because

they are frequently covered by patent claims, their access and propagation is limited by license and high costs. Because publicly funded agriculture is essentially agriculture for and by the people, however, it continues to explore strategies for acting as a public trustee of agriculture. Some of these strategies involve intellectual property—not as a source of revenue, but as a source of public trust and availability.

Social, Economic, and Political Aspects of Food and Intellectual Property: The book outlines key international treaties and protocols, such as the Agreement on Trade-Related Aspects of Intellectual Property (TRIPS), Convention on Biological Diversity, Plant Treaty, Nagoya Protocol, and their sometimes conflicting roles in open access. The authors provide an in-depth review and analysis of this issue and emphasize that some form of an open-access regime(s) will help secure food sovereignty, security, and protection of plant and animal diversity. While lengthy, this section reads very well and provides a comprehensive and historical review of the relevant treaties and agreements.

Access and Distribution: The final section of the book considers the role that intellectual property plays in food security. Starting from the popular belief that robust intellectual property rights, such as patent and plant variety rights, catalyze technological development and incentivize innovation, the authors counter that developing new technology and producing more food is not the panacea for food insecurity. This is so because food insecurity involves complexities such as politics, economics, infrastructure, and a myriad of social problems.

Clearly, intellectual property can help but also hinder food security. There is no one-size-fits-all solution, and this text provides a good foundation for further discussion.

As a practicing intellectual property attorney in the fields of plant biology and agriculture, I think *The Intellectual Property and Food Project* provides a good introduction into patent law and would fit nicely into the academic classroom. While the book would be a conversation starter in the classroom, seasoned professionals may not glean much from the text, as the authors stop short of sharing new information or new ideas.

