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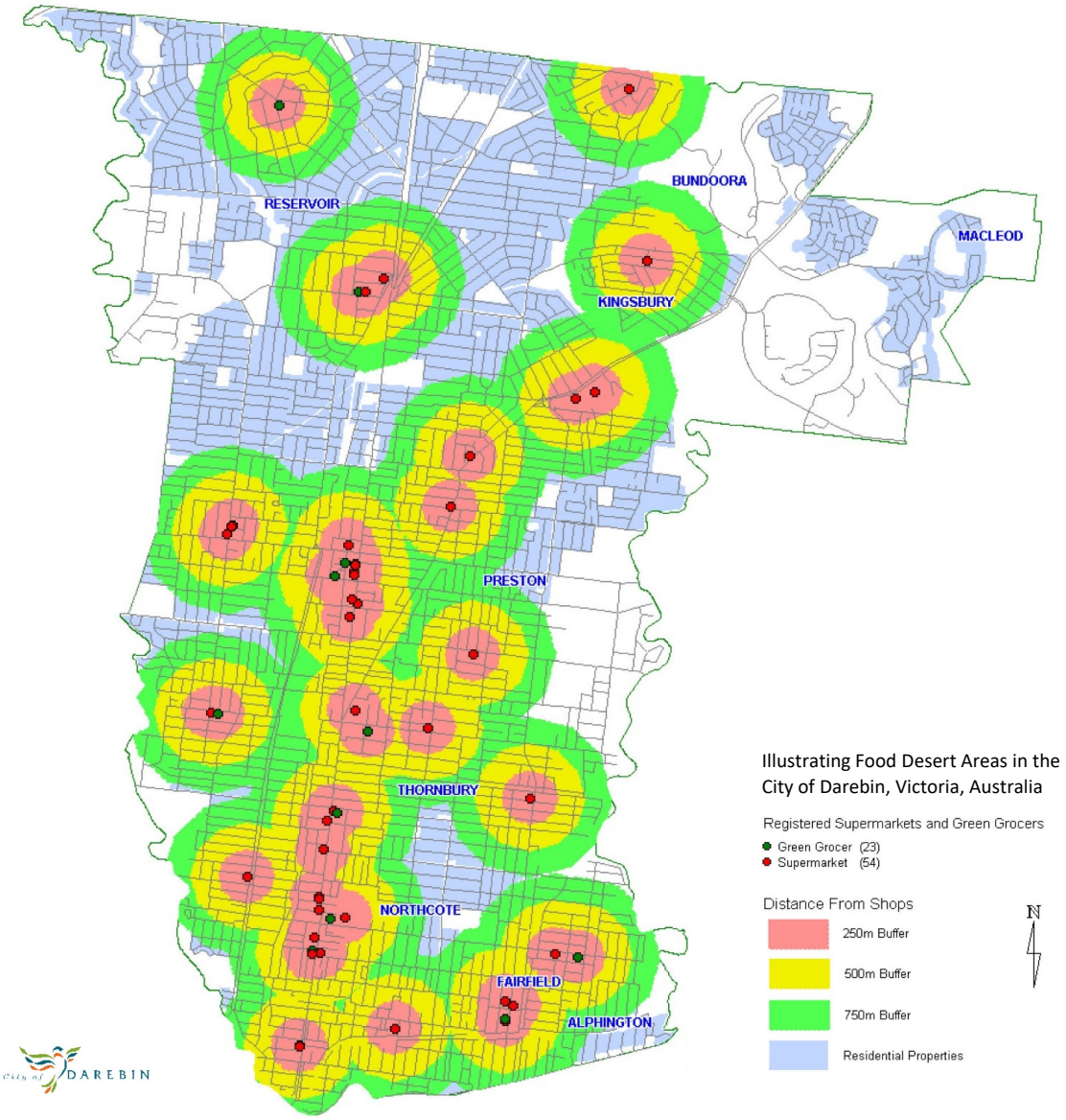

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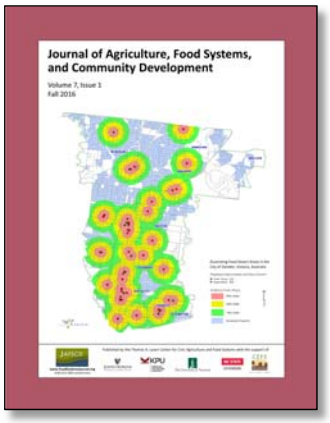

On our cover: A visual illustration of food desert areas in the City of Darebin with 250, 500, and 750 Meter (.16 mile, .31 mile, and .47 mile) buffers. From the paper in this issue, *Urban Planning Roles in Responding to Food Security Needs,* by Christine Slade and Claudia Baldwin (both at University of the Sunshine Coast) and Trevor Budge (La Trobe University).

(Map source: City of Darebin, 2008, Food Security in Darebin Part 3: Mapping Food Supply and Access. *Melbourne, Australia.)*

Editorial

Columns

Open Call Papers

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Reviews

The Thomas A. Lyson Center for Civic Agriculture and Food Systems, a project of the Center for Transformative Action (an affiliate of Cornell University), is grateful for the support of JAFSCD's partners.

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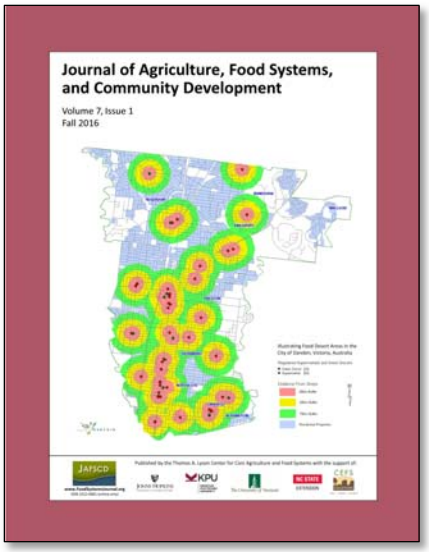
IN THIS ISSUE

DUNCAN HILCHEY

Building our airplane while flying it



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In this issue Catherine Sands and colleagues offer a detailed account of their eight-year effort to simultaneously launch and make adjustments to a food policy council in western Massachusetts while keeping its momentum going. They share the trials and tribulations and lessons learned—including many positive outcomes—in *Building an Airplane While Flying It: One Community's Experience with Community Food Transformation.*

The challenge of *building an airplane while flying it* applies to JAFSCD as well. Over the past year we have been working to maintain our quality and volume of published content while switching to a new review and publishing platform at www.FoodSystemsJournal.org. We, too, have had our share of challenges: Amy has been maintaining our old peer review and publishing websites while designing and migrating content, including subscriber records, to the new platform. I've been continuing to guide manuscripts through our old peer review system while learning the new system; we began taking submissions there in late September. It has taken many hours of work, but we are now reviewing and publishing new papers in the new system, and all JAFSCD content since our launch in 2010 are on the new site.

Over the last year we also have been exploring ways to transition to a community supported open access journal. Yes, we're borrowing from a familiar food systems model of community supported agriculture to look for broad support to underwrite JAFSCD so it can be open access—freely available worldwide. We will soon be launching a campaign to raise pledges from prospective organizational shareholders.

All this work has meant this issue is a bit smaller than a typical issue, but what we have to offer are gems. As always, we begin our issue with our columnists.

In *Enough Good Food for All: A Proposal,* **John Ikerd** outlines his new and innovative strategy for caring

On our cover: A visual illustration of food desert areas in the City of Darebin with 250, 500, and 750 Meter (.16 mile, .31 mile, and .47 mile) buffers. From the paper in this issue, *Urban Planning Roles in Responding to Food Security Needs,* by Christine Slade and Claudia Baldwin (both at University of the Sunshine Coast) and Trevor Budge (La Trobe University). *(Map source: City of Darebin, 2008,* Food Security in Darebin Part 3: Mapping Food Supply and Access. *Melbourne, Australia.)*

communities called the "Community Food Utility." This concept is covered in more detail and welcomes constructive comments at https://sites.google.com/site/communityfoodutility/. And in *Midcourse Corrections?* **Kate Clancy** continues to delve into systems concepts, suggesting that proponents of good food may need to rethink their assumptions about what messages regarding nutrition and good food American consumers really respond to.

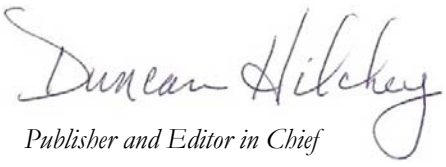
We are sorry to report that due to a family member's serious illness, Monica White has needed to delay her first column, *Freedom's Seeds: Reflections on Race, Food and Community,* so it is not included in this fall issue as hoped. We wish Monica and her family the best during this difficult time and will publish her inaugural column in the winter issue.

Next, **Mateja Savoie-Roskos, Heidi LeBlanc, Casey Coombs, Lea Palmer, Melanie Jewkes,** and **Teresa Hunsaker** measure the impact of various marketing strategies to promote local food to SNAP recipients, in *Effectiveness of a SNAP-Ed Nutrition Education Booth at Farmers Markets.* In their mixed methods study *Exploring the Connection Between Community Food Security Initiatives and Social-Cognitive Factors on Dietary Intake***, Diana Cuy Castellanos, Josh Keller,** and **Emma Majchrzak** find that community food security initiatives (CFSIs) may need to look beyond *access* as a barrier and consider other social factors, such as community empowerment and individual psychosocial factors relating to dietary behavior. Next, *Urban Planning Roles in Responding to Food Security Needs* by **Christine Slade, Claudia Baldwin,** and **Trevor Budge** explores the barriers urban planners experience in responding to food security issues in the state of Victoria, Australia. **Daryl Nelligan, Nairne Cameron,** and **Brandon Lee Mackinnon** adapt a framework by Porter (1985) for identifying and filling local food supply chain gaps and reveal the importance of information technology and coordinated distribution methods in *Bridging Gaps: A Framework for Developing Regional Food Systems.*

In their reflective essay, *Taking the Challenge for Real Food: Student Engagement in Procuring Sustainably Produced Food on Campus*, **David Burley, Emily Coker, Timothy McCarty, Bonnie May, Erica Dickerson, Benny Milligan, Danaty Moses, Sole Sanchez, Adam Shea,** and **Rick Hortman** describe the struggle to get local and sustainable food into their university cafeteria and establish a permanent farmers market on the university campus. Similarly, **Catherine Sands, Carol Stewart, Sarah Bankert, Alexandra Hillman,** and **Laura Fries** offer a detailed reflective case study of the eight-year life of a food policy council addressing the needs of a predominantly Latino/Latina community in *Building an Airplane While Flying It: One Community's Experience with Community Food Transformation.* Finally, in *Bringing Fresh Produce to Corner Stores in Declining Neighborhoods: Reflections from Detroit FRESH,* **Kameshwari Pothukuchi** explores the challenges of expanding fresh produce sales in corner stores located in depopulating neighborhoods of a large city and concludes they require ongoing subsidy to succeed.

In this issue we include five book reviews: **Matthew Mars'** review *of Street Farm: Growing Food, Jobs, and Hope on the Urban Frontier,* by Michael Abelman; **Robert Perry's** review of *Pig Tales: An Omnivore's Quest for Sustainable Meat*, by Barry Estabrook; **Elizabeth Morgan's** review of *Civic Engagement in Food System Governance: A Comparative Perspective of American and British Local Food* Movements, by Alan R. Hunt; **Kathleen Hunt's** review of *Gender, Nutrition, and the Human Right to Adequate Food,* by Anne Bellows, Flavio Valente, Stefanie Lemke, and Maria Deniela Núñez Burbano de Lara; and **Wende Marshall's** review of *Beyond the Kale: Urban Agriculture and Social Justice Activism in New York City*, by Kristen Reynolds and Nevin Cohen.

Whatever "airplane" you're working on, we wish you best of luck in taking off and flying in 2017.



Publisher and Editor in Chief

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THE ECONOMIC PAMPHLETEER
JOHN IKERD

Enough good food for all: A proposal

Published online November 1, 2016

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Note: This column is a follow-up to my previous Economic Pamphleteer column, "How Do We Ensure Good Food for All?," which appeared in the summer 2016 issue.

How do we provide good food for all 323 million Americans? I began my previous column with this question (Ikerd, 2016). In that column, I defined good food as safe, nutritious, and flavorful foods, produced by means that protect natural ecosystems, fairly reward farmers and farmworkers, and ensure that all have enough food to support healthy, active lifestyles. I explained why our current industrial food system is fundamentally incapable of providing good food for everyone. I concluded that replacing today's impersonal industrial food system with a personally connected food network would create at least the possibility of enough good food for all. In this column, I propose a logical means of capitalizing on this possibility.

First, we need to understand that hunger today is avoidable or discretionary, rather than unavoidable or inevitable (except under circumstances of

John Ikerd is professor emeritus of agricultural economics, University of Missouri, Columbia. He was raised on a small farm and received his BS, MS, and PhD degrees from the University of Missouri. He worked in the private industry prior to his 30-year academic career at North Carolina State University, Oklahoma State University, the University of Georgia, and the University of Missouri. Since retiring in 2000, he spends most of his time writing and speaking on issues of sustainability. Ikerd is author of six books and numerous professional papers, which are accessible at http://johnikerd.com and http://faculty.missouri.edu/ikerdj/

*Why an **Economic Pamphleteer?** Pamphlets historically were short, thoughtfully written opinion pieces and were at the center of every revolution in western history. I spent the first half of my academic career as a free-market, bottom-line agricultural economist. During the farm financial crisis of the 1980s, I became convinced that the economics I had been taught and was teaching wasn't working and wasn't going to work in the future—not for farmers, rural communities, consumers, or society in general. Hopefully my "pamphlets" will help spark the needed revolution in economic thinking.*

war, insurrection, or natural disaster). We produce more than enough food in the United States and globally to provide everyone with enough food. We could also provide more than enough good food, if we reduced food waste, stopped using food for fuel, and fed less grain to livestock. A recent meta-study by the International Panel of Experts on Sustainable Food Systems, entitled *From Uniformity to Diversity,* described the scientific evidence supporting a global shift from industrial to sustainable agriculture as "overwhelming" (International Panel of Experts on Sustainable Food Systems, 2016, p. 6).

Elimination of hunger cannot be left to the indifference of markets, the vagaries of charity, or impersonal government programs.

Second, elimination of hunger cannot be left to the indifference of markets, the vagaries of charity, or impersonal government programs. Markets provide food for those who are able to earn enough money to pay market prices, which inevitably excludes many who need food. Charity is discretionary and often discriminatory. Government programs dating back to the English Poor Laws of 1601 have failed to solve problems of persistent hunger. Hunger is a reflection of systemic problems imbedded deeply within our food system, economy, and society. Elimination of hunger will require a comprehensive approach that addresses the logistical, economic, demographic, social, and cultural challenges of hunger.

Admittedly, the challenge is formidable—but it is not unsurmountable. I am proposing a specific approach to addressing hunger in hopes of stimulating a dialogue as to how best meet the challenge. To solve large, systemic problems such as hunger, we have to find points of leverage where small, doable actions can lead to large, seemingly impossible effects—like the small "trim tab" that turns the rudder of a ship, which causes the whole ship to change direction.

We will not eliminate hunger until we accept the right to food as a basic human right. Accepting food as a basic right at the national level might seem impossible. However, progressive local communities might well accept this responsibility, much as some communities have accepted the challenge of global climate change. Discretionary hunger historically emerged from the depersonalization of local economies, when buying and selling replaced personal relationships. Thus hunger is a reflection of a lack of caring. The best hope for reestablishing the sense of personal connectedness essential to eliminate hunger is the reemergence of caring communities.

One means of meeting our collective responsibility to ensure good food for all would be through a "community food utility," or CFU. Public utilities are businesses established to provide specific public services. They are commonly used to provide water, sewer, electricity, natural gas, communication systems, and other essential services. Public utilities are granted special privileges and are subject to special governmental regulation. While our existing system of utilities ensure universal access to essential services, they do not ensure that everyone can afford enough of those services to meet their basic needs. As I envision them, CFUs would not only ensure universal access to food, but also would ensure that everyone has enough good food to meet their basic needs—as an essential public service.

The best hope for reestablishing the sense of personal connectedness essential to eliminate hunger is the reemergence of caring communities.

The CFU could fill in the persistent gaps left by markets, charities, and impersonal government programs to ensure that every household in a community could afford enough good food. In 2014, U.S. households at middle income levels spent approximately 15% of their disposable incomes on food (U.S.

Department of Agriculture, Economic Research Service [USDA ERS], n.d.-a). One approach to ensuring affordability would be to ensure that every household in the community has the equivalent of 15% of the community's median household income to spend for food. Those households falling below the income threshold could be provided with opportunities to make up their shortfall in income needed for food by contributing local public services.

Public services of both economic and non-economic values would be accepted. CFU payments for local public services would be based on hours of service rather than economic value, giving everyone an equal opportunity. An hour of approved childcare for a mother who needs but can't afford childcare would be valued the same as an hour of landscaping of the courthouse lawn for a county that could have afforded to pay it. An hour of approved entertainment on the town square by an unemployed musician would be valued the same as an hour of plumbing by an unemployed plumber at a local government building.

CFU payments for services would be made in Community Food Dollars (CF$s), which could be used only to buy food provided by the CFU. Priority in procuring food for the CFU would be given to local farmers willing to meet locally determined standards that ensure safe, nutritious, appetizing foods produced by sustainable means. The CFU would serve as a "food grid" by procuring foods from nonlocal producers when necessary to fill in gaps in local production. Priority for nonlocal procurement would be given to regional suppliers who are willing and able to meet local "good food" standards. Local farmers and providers would be ensured prices sufficient to cover their costs of production plus a reasonable profit, as is the case with existing public utilities. Prices would be negotiated between the CFU and farmer, much as public utility regulators now negotiate rates with public utilities.

Priority in procuring food for the CFU would be given to local farmers willing to meet locally determined standards that ensure safe, nutritious, appetizing foods produced by sustainable means.

Nutrition education would be integrated into all CFU programs to help participants learn to select nutritiously balanced diets for their families and to prepare appetizing meals from the raw and minimally processed foods provided by the CFU. More than 80% of the cost of foods purchased overall (U.S. Department of Agriculture, Economic Research Service [USDA ERS], n.d.), and nearly 90% of the cost of restaurant meals (USDA ERS, 2016), are associated with the costs of processing, packaging, transportation, energy, taxes, insurance, and services provided by food retailers. By spending CF$s on raw and minimally processed local foods provided by the CFU, even the lowest-income consumers would be able to afford more than enough good food.

CFU foods would be made available to participants by means that ensure physical access to food for everyone and minimize food wasted due to a lack of adequate refrigeration or food storage. The needs of children and the elderly and disabled would be given special consideration. The CFU would coordinate its functions with local charities and government programs, such as food stamps (SNAP) and school lunches to avoid duplication. The CFU might operate a "community food market" where those without special needs could go to buy CFU food using CF$s. For those lacking ready access to transportation or refrigeration, delivery options would include periodic deliveries of individually selected CSA-like "food boxes." Home delivery of foods for specific meals would be provided for those who could not be accommodated with other options. Meal preparation guidelines and basic refrigeration and storage would be provided to accommodate the various delivery options and specific needs of participants.

As local production expands beyond levels needed to address hunger, the CFU could offer good food to the general community at prices covering its full costs, with surplus revenue retained by the CFU. However, the CFU would

require continuing commitments of local tax dollars. The key difference between the CFU and existing government programs would be that government officials in caring communities feel a personal sense of connection with their community, and community members feel a personal sense of responsibility for each other. Local government officials could evaluate the effectiveness of their programs with respect to meeting specific needs of preferences of people in their communities—people who they know and care about. They would not be restrained by national or statewide programs that don't adequately address the specific needs of their communities. After all, rights and responsibilities are taken more seriously among those who know and care about each other personally.

Rights and responsibilities are taken more seriously among those who know and care about each other personally.

The CFU would operate as efficiently as possible, but would not compromise its commitment to ensuring that all in the community have enough good food to meet their basic needs. As trim tab communities eliminate hunger, the rudder of public policy will begin to shift, and the ship of state will turn toward global food sovereignty. Eventually there will be good food for all, not just the hungry. However, hunger cannot be eliminated as long as the quest for economic efficiency deprives the poor of their basic human right to enough good food.

I have put up a Google Site with a fairly detailed outline of my overall proposal at http://sites.google.com/site/communityfoodutility. It's a working document, not ready for publication yet. Comments are welcome; instructions are provided at the bottom of the Google Site page.

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DIGGING DEEPER

Bringing a systems approach to food systems

KATE CLANCY

Midcourse corrections?

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In the last chapter of her classic book, *Thinking in Systems* (2008), Donella Meadows laid out more than a dozen lessons and concepts that summarized what she had learned from her immersion in the systems world. In this column I want to focus on two of these systems lessons, and then describe findings from several recent publications in the sustainable food arena that illustrate why and how I think these lessons could be applied to much of what we are doing.

Kate Clancy is a food systems consultant, visiting scholar at the Center for a Livable Future, Bloomberg School of Public Health at Johns Hopkins University, senior fellow at the Minnesota Institute for Sustainable Agriculture, and adjunct professor at the Friedman School of Nutrition Science and Policy at Tufts University. She received her bachelor's and Ph.D. degrees in nutrition at the University of Washington and the University of California Berkeley, respectively. She has studied food systems for over 40 years and has held positions in several universities, the federal government and two nonprofit organizations. Her present interests are regional food systems, food security, agriculture of the middle, and policies at all levels to encourage the development of resilient food systems.

The first advice Meadows offers is to "expose your mental models to the light of day." We understand how important it is to know what the assumptions are behind a theory or research project—whether we're looking at a scientific or political argument. But often people don't share their assumptions (and sometimes don't even conceptualize them), so neither they nor their audiences know the basis for claims and the clarity (or lack thereof) of thinking that went into an argument. To identify the crux of a problem and make good decisions, we have to state assumptions and ask for feedback. Just as we know the benefits of having many voices at the table on food issues, we want to examine multiple options and remove as many of our biases as we can in order to implement valid programs.

Meadows' second lesson is "honor, respect, and distribute information." Systems work much better with timely, accurate, and complete information, although this situation is unfortunately much more an ideal than the reality. Meadows also underscores the point that information is power. But as I described in an earlier column (Clancy,

2015), we often let our biases keep us from accepting new information.

The two articles that have caught my attention ask us to look at what we're doing (1) to increase the adoption of agroecological principles and practices, and (2) to reduce meat consumption. They implicitly urge us to rethink assumptions in these two areas, and to change or adopt new approaches that might be more successful in instituting change.

In their paper on creating a web of legitimacy for agroecology, de Wit and Iles (2016) argue that the legitimacy (accepting something as credible and authoritative and expressing it widely) accorded to industrial agriculture is still quite strong. They argue that industrial agriculture's legitimacy needs to be offset by developing agroecology's own thick legitimacy, where "thick" means that it arises from multiple threads in scientific, policy, political, legal, practice, and civic arenas. Space is too short to synopsize this dense and highly referenced paper. The gist of their argument is that when consumers could purchase foods year-round (apparently overcoming biological constraints), when so many entities supported the notion that humans should control nature, and when industrial agriculture became embedded in market and government institutions, industrial agriculture gained quite strong legitimacy.

Industrial agriculture's legitimacy needs to be offset by developing agroecology's own thick legitimacy.

The authors proceed to argue that agroecology—which doesn't yet have credence among many different actors and institutions—must pull together many of the same threads, but employ quite different concepts. In the scientific realm, de Wit and Iles suggest that agroecology deepen its empirical foundation by conducting many more detailed and site-specific research projects that compare agroecological and conventional practices as to their ecological, social, and environmental consequences. This will often require transdisciplinary collaborations and systems approaches. Armed with the results of such research, public institutions (legislatures, government departments, and courts) can more easily lift up the findings and legitimate policy changes that will support agroecological practices.

But no matter how compelling scientific findings might appear, they are not adequate by themselves to engender legitimacy (de Wit & Iles, 2016). Agroecology needs to be incorporated into the cognitive and cultural concepts that people hold about food. This means working with others, such as psychologists and communication experts, to find new language to describe agroecology, as well as offering ways to engage new ethical underpinnings as the arguments for a new norm.

Two writings on another issue, meat consumption, provide examples of the need for transparent assumptions, clear thinking, and critical analysis. The first is a report from a Dutch bank, Rabobank (Sawyer, 2016), on a recent large rise in meat consumption in the U.S. The second is an article in Vox about the Rabobank report that describes the reasons why it is so hard to change meat-eating behaviors (Barclay, 2016). The report shows that, due in large part to falling prices, per capita meat consumption went up 5% in 2015, the largest increase in 40 years. Consumption had been lower between 2005 and 2014, due mainly to reduced supplies and higher prices. Rabobank's prediction for at least the next three years is that the 2015 growth rate in consumption will taper to a rise of about 1.5% per year, with beef leading the way as the cattle herd is rebuilt, along with the pork and chicken industries expanding their capacities.

Considering all the other factors that will encourage increased meat production, including trade, the changes in consumption put into relief the fact that the many efforts to decrease meat consumption are not succeeding—although it may be that consumption would be somewhat higher without those efforts (Barclay, 2016). The prevalence of vegetarianism also is rising (Barclay, 2016), but not at a fast enough rate to be significant.

The writings I've just described are two of many examples of challenges to the ideas and strategies that people in the sustainable food and

agricultural community have pursued for some years. There have been many successes, but so much more is required to reach a tipping point. These new analyses are also exemplars of the complexity of most of the problems we are trying to right. Their complexity makes them hard to grapple with—but that doesn't mean we shouldn't. We can bring new tools to bear, including the application of systems concepts. This entails bringing together diverse voices on issues, with subject matter expertise, time to explore options and reflect, and humility about what we know and don't know.

Barclay writes that the "activists who desperately want us to cut back [on meat consumption] may need to think harder about what messages American consumers really respond to" (para. 7). It may be that some of our assumptions about what drives behavior have been wrong, or that we have not adequately acknowledged all the strands that have to be brought together to build legitimacy for our ideas. Fortunately, compared to 30 years ago we have myriad new analyses, data sources, guides (such as the 2015 food systems assessment report from the Institute of Medicine and National Research Council), insights from fields like psychology, and methods for helping diverse and contradictory voices reach common ground. I hope we can use them to address the old and new challenges coming our way.

Applying systems concepts entails bringing together diverse voices on issues, with subject matter expertise, time to explore options and reflect, and humility about what we know and don't know.

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Effectiveness of a SNAP-Ed nutrition education booth at farmers markets

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Abstract

Many farmers markets are now accepting federal nutrition assistance benefits through programs such as the Supplemental Nutrition Assistance Program (SNAP), allowing program participants to use their benefits for purchasing locally grown fruits and vegetables. Select farmers markets that accept SNAP benefits offer nutrition education through recipe testing, cooking demonstrations, and recipe cards for market patrons. Minimal data, however, have been collected to determine the effectiveness of the educational materials used at

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farmers markets. The Supplemental Nutrition Assistance Program-Education (SNAP-Ed) program through Utah State University Extension collected initial and follow-up data from farmers market patrons through directly administered questionnaires. These questionnaires measured the impact of the food samples, recipe cards, and produce information posters shared with SNAP and non-SNAP participants at six Utah farmers markets in 2014 and 2015. Farmers market vendors were also surveyed to determine the influence of the SNAP-Ed booth on food sales and market value. Results of this study show that SNAP participants (n=140) are significantly more likely (p<0.05) than non-SNAP participants (n=917) to be influenced by the educational strategies utilized at the SNAP-Ed farmers market booth. Market vendors also reported increased produce sales as a result of having the SNAP-Ed booth at the market. Offering nutrition education at farmers markets that accept SNAP benefits is one way to educate low-income shoppers on how to select, store, and prepare local produce; it may also increase the overall amount of produce purchased at the market.

Keywords
Evaluation; Nutrition Education; Supplemental Nutrition Assistance Program-Education; SNAP-Ed; Farmers Markets; SNAP Benefits; EBT Card

Introduction and Literature Review

Over 4,000 farmers markets around the nation have electronic benefits transfer (EBT) machines, which allow participants in the Supplemental Nutrition Assistance Program (SNAP) to use their federal nutrition assistance benefits to purchase fruits and vegetables (F&V) and other eligible foods at local farmers markets (Quintana & O'Brien, 2014). SNAP-authorized farmers markets have grown considerably in recent years, increasing from 936 markets in 2009 to 4,057 in 2013 (Quintana & O'Brien, 2014). Despite efforts to make F&V more available to federal nutrition assistance users, F&V consumption among SNAP participants continues to remains well below the recommendations for daily intake as outlined in the United States Department of Agriculture (USDA) Dietary Guidelines. F&V intake remains low among individuals of all socioeconomic levels; however, the prevalence of adequate F&V intake has been found significantly lower among individuals living in the greatest poverty (Grimm, Foltz, Blanck, & Scanlon, 2012; Moore & Thompson, 2015). Just 32% of individuals living below the 130% poverty income level report consuming two or more servings of fruit per day, and 21% report consuming three or more servings of vegetables per day (Grimm et al., 2012).

This inadequate intake of F&V suggests that availability and accessibility are not the only barriers to eating more F&V. Other barriers such as knowledge, self-efficacy, awareness, and taste preferences also influence F&V intake in low-income individuals (Eikenberry & Smith, 2004). In an effort to further increase F&V consumption among low-income populations, programs such as the Supplemental Nutrition Assistance Program-Education (SNAP-Ed) are providing nutrition education at farmers markets with EBT machines (Dannefer, Abrami, Rapoport, Sriphanlop, Sacks, & Johns, 2015; Parsons & Morales, 2013; Wholesome Wave, n.d.). A goal of these efforts is to improve SNAP participants' knowledge, self-efficacy, and skills in purchasing and preparing F&V, ultimately leading to an increased intake of these nutrient-dense foods (Savoie-Roskos, Hall, Lambright, Norman, & LeBlanc, 2016).

Few studies have been conducted to investigate the effectiveness of nutrition education at farmers markets. One study conducted in New York City found a positive relationship between nutrition education received at farmers markets and the intake of F&V (Dannefer et al., 2015). The education classes provided at the farmers market comprised a nutrition lesson, cooking demonstration with samples, and distribution of recipe handouts (Dannefer et al., 2015). Participants were able to sit near the booth to take part in the nutrition education. Participants who attended two or more nutrition education classes provided at the farmers market reported increasing their consumption of F&V by nearly a half-cup each day (Dannefer et al., 2015). A study with a similar intervention strategy also found that nutrition education through F&V information posters, recipe cards,

and food samples was effective in assisting market patrons with purchasing F&V from the farmers markets (Savoie-Roskos, Hall, et al., 2016). The findings in these studies suggest that nutrition education at a market is an effective tool for influencing purchasing behaviors among farmers market shoppers.

In addition to helping SNAP participants overcome barriers to shopping at farmers markets, nutrition education booths support some of the more frequently mentioned benefits of shopping at such locations. In a study conducted in North Carolina among low-income women, participants reported freshness of produce, taste of produce, preference to buy locally, and ability to buy in larger quantities as benefits of shopping at local markets (McGuirt, Ward, Majette Elliot, Lawrence Bullock, & Jilcott Pitts, 2014). Recipe sampling and nutrition education may help all farmers market patrons identify additional and various benefits to purchasing F&V at local markets.

Nutrition education booths at farmers markets help SNAP participants overcome common barriers while simultaneously increasing perceived positive benefits to market shopping. They also have the potential to increase SNAP sales, which are necessary to justify the financial and time commitments required to provide EBT machines at markets (Baronberg, Dunn, Nonas, Dannefer, & Sacks, 2013; Krokowski, 2014). A study conducted in Wisconsin found that several market managers and vendors were concerned about the time-intensive nature of providing an EBT machine at the market (Krokowski, 2014). However, vendors reported willingness to continue the service if more people benefited from it, making it more profitable for their agri-businesses (Krowkowski, 2014). The cost of implementing and managing the EBT machines is also a concern for many market managers (Krokowski, 2014). In 2015 alone, the USDA allocated US$3.3 million to provide free EBT machines and related equipment to eligible farmers markets across the country in effort to reduce cost as a barrier to accepting SNAP benefits (USDA, 2015). Finding effective strategies for increasing SNAP participant use at farmers markets is vital for continued implementation of EBT machines at markets across the country.

Few studies to date have examined the impact of nutrition education at farmers markets specifically among SNAP participants. Furthermore, no study to date has compared the effectiveness of the SNAP-Ed booth among SNAP and non-SNAP participants. The objective of this study was to investigate the perception of the quality of educational strategies provided at the farmers market, such as the F&V information posters, recipe samples, and recipe cards among SNAP and non-SNAP participants. A secondary objective of this study was to assess the effectiveness of the nutrition education booth on changing behaviors related to purchasing and preparing F&V purchased at the farmers market. The final objective of this study was to determine how farmers market vendors are affected by having a nutrition education booth available at the market.

Applied Research Methods

The Institutional Review Board at Utah State University approved this study. This study included a farmers market patron survey and a vendor survey. We selected a convenience sample of farmers market patrons from six farmers markets across Utah that accept EBT cards. The sample of survey participants included farmers market patrons who visited the SNAP-Ed booth at a participating farmers market during the data collection period. Patrons received a letter of information prior to survey completion explaining the purpose and procedure of the study, risks and benefits of participation, compensation, and confidentiality. Patrons received a token valued at US$2 after completing the survey, which could be used only at the farmers market during the remaining market season for locally grown food items.

We directly administered paper surveys over an 8-week period during the 2014 and 2015 farmers market seasons. Researchers received detailed training prior to data collection to ensure the study protocol was followed identically among SNAP-Ed booths at all participating farmers market locations. Researchers learned how to administer the survey, answer potential questions from patrons, eliminate bias, and ensure accuracy of study protocol. The 20item survey included eight questions regarding the use and effectiveness of the posters, recipe

samples, and recipe cards; four questions on the quality of the SNAP-Ed booth; five demographic and shopping and/or purchasing questions; and one question about general awareness of the SNAP-Ed program. The survey also asked the patron's name and phone number for those willing to participate in a 2-week follow-up survey. A 5-point Likert scale was used to measure the level of agreement with statements about their perceptions of the recipe cards and posters and the quality of the SNAP-Ed booth (Savoie-Roskos, Hall, et al., 2016). Reliability of the measures of the perceptions related to recipe cards, poster, and effectiveness of the SNAP-Ed booth scales were previously demonstrated with Cronbach's alpha values that were higher than the commonly acceptable value of .70 (Savoie-Roskos, Hall, et al., 2016). Furthermore, face and content validity of this survey had been conducted in a previous study (Savoie-Roskos, Hall, et al., 2016).

Patrons who were willing to be contacted for a follow-up survey were called by an undergraduate researcher two weeks after completing the initial survey. Researchers attempted to contact each patron up to three times within a 7-day period. The 11-item follow-up survey included five yes/no questions on use of the SNAP-Ed recipes and the influence of the recipe cards, two questions on the influence of recipe sampling on recipe use and purchases made at the farmers market, three questions on shopping and purchasing behavior, and one open-ended question allowing for feedback or experiences related to the SNAP-Ed booth.

A convenience sample of vendors from one farmers market in Utah that accepts EBT cards was selected for the survey. Vendors were asked to participate in a 13-item survey via email. Researchers obtained email addresses from the market manager of all vendors who had booths at the farmers market at least once in the previous season. Vendors received a link to the survey and a letter of information describing the study procedures, risks, and benefits. Vendors were emailed three times over a three-week period requesting their participation. The survey tool included questions about familiarity with the SNAP-Ed booth, average SNAP sales, and financial impact of having the SNAP-Ed booth at the market; it also included demographic questions such as age, gender, type of food sold, and frequency of selling locally grown food at the market.

Data from the initial patron survey was entered into Microsoft Excel® by an undergraduate researcher and then imported into SPSS 22.0 for data analysis. Patron follow-up survey data and vendor survey data were collected in Qualtrics® and imported into SPSS 22.0. Mean, standard deviation, and sample size were calculated for data in each survey. Descriptive statistics in the initial patron survey were compared between SNAP and non-SNAP participants. Independent sample t-tests were used to compare mean scores of SNAP and non-SNAP participants for each question in the initial patron survey. Follow-up data was reported using sample size and percentages. Qualitative data collected in the patron follow-up survey and the vendor survey were analyzed by developing codes derived from participant quotes. Categories were developed based on emerging codes.

Results

A convenience sample of 1,057 farmers market patrons was recruited at farmers markets for this study. G*Power 3.1.9.2 (Heinrich Heine University Düsseldorf, 2014) was used to conduct a post hoc test for computing achieved power (Faul, Erdfelder, Lang, & Buchner, 2007). Based on actual sample sizes, means, and standard deviations of questions that were asked of SNAP and non-SNAP participants in this study, post hoc analysis shows actual power to be 0.96. Demographic characteristics of study participants are listed in Table 1. The majority were female (n=747, 71%). They ranged in age from 18 to 87 years old, with a mean age of 42 years old. Thirteen percent (n=140) of participants indicated they receive SNAP benefits, and 93% (n=130) of the SNAP participants reported using their EBT card at the farmers market to make food purchases.

The level of agreement among SNAP participants and non-SNAP participants in regard to perceptions of the recipe cards, posters, and overall booth quality is listed in Table 2. There was a significant difference when comparing means of SNAP participants and non-SNAP participants when asked how the recipe cards influenced how

much produce to purchase (p=0.001) and to plan for future purchases at farmers markets (p=0.004), with SNAP participants more likely to agree with these statements. There was a significant difference in the means of each group when asked the level of agreement with how the SNAP-Ed poster improved nutrition knowledge: SNAP participants were more likely to agree that nutrition knowledge increased as a result of reading the poster at the farmers market. Lastly, both SNAP and non-SNAP participants agreed or strongly agreed that the samples, recipes, service, and information provided by booth workers was high quality; the means of non-SNAP participants were slightly higher than SNAP participants, but the difference was not statistically significant (p>0.05).

A convenience sample of 206 patrons completed the follow-up survey two weeks after visiting the SNAP-Ed farmers market booth and completing the initial survey. The majority of patrons (n=189, 92%) indicated that they planned to use the SNAP-Ed recipe in the future, and 27% of participants (n=60) had already made the recipe provided at the SNAP-Ed booth. One woman stated, "I have never tried a sample I didn't like. I always want to make the samples when I get home." When asked why they hadn't already made the recipe at home, patrons most commonly responded that busy schedules or lack of time, traveling, forgetting about the recipe, and not having the recipe were the main influencing factors. Two patrons indicated they plan to use the recipes in the near future. One of them stated, "We are planning on making the recipe at a family get together in mid-August!"

Seventy percent of patrons (n=143) indicated that without the recipe sample provided at the booth, they were unlikely or extremely unlikely to make the recipe at home. One participant mentioned, "I have been [to the SNAP-Ed booth] three times and have enjoyed tasting new things. I probably wouldn't have wanted to make the recipes if I hadn't tasted it first." Furthermore, 65% of patrons (n=134) indicated that the recipe sample influenced their decision to buy the produce featured at the SNAP-Ed booth. One participant stated, "I really appreciate [that] you are out there giving samples. Sampling always influences my decision to buy produce because I don't want to buy something and end up not liking it." Of the patrons who completed the follow-up survey, 46% bought produce from the farmers market that had been featured at the SNAP-Ed booth the day they completed the initial survey, and 50% reported purchasing the produce at a later date.

When asked in the follow-up survey to provide details about their experiences at the SNAP-Ed booth, 105 patrons responded. Most commonly, patrons mentioned their appreciation for having the SNAP-Ed booth at the farmers markets as a way to try recipes, receive nutrition education, and learn how to eat healthy on a budget. For example, "I'm glad SNAP-Ed is at the farmers market. I hear a lot of people wanting to be healthy but things are expensive. It's a

Table 1. Demographic Characteristics of Farmers Market Patrons and Vendors

Demographics	Patrons (n=1,057)	Vendors (n=8)
Gender		
Female	71% (n=747)	50% (n=4)
Age		
25 years or younger	21% (n=221)	0%
26 to 50 years	44% (n=466)	50% (n=4)
51 years or older	35% (n=370)	50% (n=4)
Participant of SNAP		
Yes	13% (n=140)	---
Used EBT Card at Market		
Yes	12% (n=130)	---
Years as a Vendor		
1 year or less	---	0%
2 to 5 years	---	25% (n=2)
More than 5 years	---	75% (n=6)
Weeks at Market/Season		
Every week	---	75% (n=6)
Every other week	---	0%
Once a month	---	12.5% (n=1)
A few weeks each season	---	12.5% (n=1)
Once or twice a season		0%

great way to see how it can be healthy and affordable at the same time." Similarly, one participant mentioned, "I think it's an excellent way to teach people how to use their food stamps [SNAP benefits] on local foods. It's great education about incorporating vegetables into meals."

All patrons reported going to the SNAP-Ed booth frequently throughout the farmers market season, with most patrons indicating they stopped at the SNAP-Ed booth every week or every other week. One participant mentioned, "[The SNAP-Ed booth] is just great. I have a special needs daughter who just loves going over there. We are always excited to see what type of recipe they come up with each week." Another participant stated, "We just keep coming back week after week because we always have such a pleasant experience."

Many survey participants provided suggestions for improving the SNAP-Ed booth at the market. For example, one participant recommended the booth be set up in a better location and mentioned that, "the booth is kind of off the beaten path and not many people actually see it." Another participant recommended the staff at the booth draw people in by stepping outside the booth and welcoming people to try samples as they walk by. It was also recommended that recycling bins be available for market patrons to throw their serving cups and utensils into rather than a garbage can. The suggestions provided by participants will be provided to the participating markets to improve the SNAP-Ed booths at those markets in future seasons.

Other patrons mentioned how visiting the SNAP-Ed booth influenced their shopping and dietary habits. One participant stated, "I just love the [SNAP-Ed] booth. It helped me lose 10 pounds because I started eating healthy." Another mentioned, "I really appreciate the different recipes that you guys give; it's helped how our family eats at home." Lastly, a participant stated, "I didn't buy the featured produce because I already had it at home, but I did buy some of the other ingredients, like honey, that the recipe asked for."

Table 2. Assessment of the SNAP-Ed Farmers Market Booth Among SNAP and Non-SNAP Participants

	SNAP Participants		Non-SNAP Participants		
Levels of Agreement	*n*	*Mean (SD)*	*n*	*Mean (SD)*	***p* Value**
Recipe Card Questions [a]					
Recipe cards helped feel more comfortable buying produce	135	4.30 (0.66)	885	4.08 (0.74)	.051
Recipe cards helped decide how much produce to purchase	135	3.95 (0.74)	880	3.69 (0.80)	.001
Recipe cards helped plan future purchases at the farmers market	135	4.12 (0.75)	878	3.86 (0.80)	.004
Poster Questions [a]					
Posters helped gain information about featured produce	135	4.07 (0.69)	873	3.90 (0.71)	.116
Posters improved nutrition knowledge	135	3.94 (0.76)	868	3.70 (0.75)	<.001
Posters helped know what questions to ask vendors about their produce	136	4.18 (0.68)	878	4.05 (0.64)	.011
Booth Rating Questions [b]					
Presentation of samples	135	4.41(0.69)	907	4.44 (0.72)	.717
Recipe instructions	133	4.38 (0.72)	885	4.40 (0.73)	.735
Service by booth workers	135	4.59 (0.58)	904	4.69 (0.55)	.058
Information provided by booth workers	134	4.51 (0.65)	895	4.54 (0.68)	.694

Note. SNAP indicates the Supplemental Nutrition Assistance Program; SNAP-Ed indicates the Supplemental Nutrition Assistance Program-Education; *n* indicates the number of responses; SD indicates standard deviation.

[a] Values are mean ± sd points from a Likert scale (1=Strongly disagree, 2=Disagree, 3=Neither agree nor disagree, 4=Agree, 5=Strongly agree).

[b] Values are mean ± sd points from a Likert scale (1=Poor, 2=Fair, 3=Good, 4=Very good, 5=Excellent).

p values were calculated using Independent-sample t tests.

Of the 40 vendors asked to participate, eight completed the survey. Demographic characteristics of vendors are found in Table 1. Fifty percent of the vendors (n=4) were male, and ages ranged from 26 years of age to older. Seventy-five percent (n=6) of the vendors had sold locally grown food every week at the farmers market for more than 5 years. Eighty-eight percent (n=7) of the vendors indicated they sold produce; they also sold eggs and honey. SNAP sales ranged from US$0 to US$50 each week, with the majority of vendors indicating they make up to US$30 each week from SNAP benefits. Of the vendors surveyed, 88% (n=7) were aware of the SNAP-Ed booth at the farmers market. Sixty-three percent (n=5) of vendors who sold produce agreed that the SNAP-Ed booth helped increase the sale of produce when featured at the SNAP-Ed booth. One vendor stated, "We have noticed it has helped sales because it gives people different ideas of how to use fruit and vegetables." When asked how the SNAP-Ed booth has benefited them as vendors, all of the vendors familiar with the SNAP-Ed booth stated it provides an opportunity for patrons to try local produce and use it in easy-to-make recipes. One vendor stated, "It gives customers great ideas of healthy recipes they can make with my fresh produce." When asked what can be done to improve the SNAP-Ed booth, two vendors recommended the SNAP-Ed booth employees work closely with the farmers to know exactly what produce will be available each week to ensure that the SNAP-Ed featured produce is being sold at the market. One vendor stated, "I know it can be difficult coordinating with what is available at the market, but it definitely helps us as farmers make more sales."

Discussion

Nutrition education at farmers markets is an opportunity to educate families on how to select, prepare, and store fresh, locally grown produce. Nutrition education provided by SNAP-Ed is a valuable resource for SNAP eligible families who shop at farmers markets. Data from this study suggests that nutrition education tools such as posters, recipe samples, and recipe cards are effective strategies for increasing self-efficacy and knowledge of both SNAP and non-SNAP participants. Results conclude that SNAP participants are significantly more likely than non- SNAP participants to be influenced by the posters and recipe cards utilized at the SNAP-Ed farmers market booth. Furthermore, qualitative and quantitative data from this study show that farmers market patrons employ nutrition information and recipes for up to two weeks after receiving education at the SNAP-Ed booth. A similar study also found educational strategies such as posters, recipes, and food samples were effective at influencing purchasing behaviors among farmers market shoppers (Savoie-Roskos, Hall, et al., 2016). However, the majority of survey respondents were not SNAP participants, and therefore the results may not be generalizable to low-income shoppers.

Results of this study demonstrate the limited use of farmers markets among SNAP participants as compared to non-SNAP participants. Many SNAP participants are unaware that SNAP benefits are accepted at farmers markets throughout the country (Flamm, 2011; Wetherill & Gray, 2015). As a result, only 0.01% of SNAP benefits are being redeemed at farmers markets each year (Dimitri, Oberholtzer, & Nischan, 2013). Farmers markets can benefit from partnering with local food and nutrition–related organizations who work directly with SNAP participants to increase awareness of the opportunity to use SNAP benefits at local farmers markets (Hasin & Stieren, 2014). Increasing awareness within communities whose farmers markets accept SNAP benefits is vital for increasing SNAP sales at local markets. Most vendors surveyed in this study reported that a SNAP-Ed nutrition education booth at the farmers market helped increase overall sales of produce. Some markets around the country now offer farmers market incentive programs that provide SNAP participants with a dollar-for-dollar match for each SNAP dollar spent at the market (Oberholtzer, Dimitri, & Schumacher, 2012; Savoie-Roskos, Durward, Jewkes, & LeBlanc, 2016). These programs have been established in an effort to increase utilization of EBT at markets, expand consumption of locally grown fresh produce, and improve food security status among program participants (Dimitri et al., 2013; Oberholtzer et al., 2012; Savoie-Roskos, Durward, et al., 2016). Nutrition education at the

market combined with farmers market incentives may be an effective way to increase SNAP participants' purchases of locally grown foods at farmers markets.

There are limitations to this study that should be addressed. The surveys used in this study were self-reported instruments, which are subject to bias resulting in data that may be over- or underestimated (Pratt, McGuigan, & Katzev, 2000). Since only 19% of patrons completed both the initial and follow-up surveys, data from the follow-up survey may not represent accurately all farmers market shoppers. The sample size of SNAP participants was considerably smaller than non-SNAP participants surveyed in the patron survey; however, a post hoc analysis of achieved power was 0.96, which indicates the sample sizes were adequate to determine the effect size. The response rate for the vendor survey was only 20%, and therefore it is possible that vendors who did not complete the survey have had different experiences with the SNAP-Ed booth at the market.

Conclusion

Offering nutrition education at farmers markets is one way to educate low-income shoppers on how to select, store, and prepare local produce. Farmers markets across the country that accept EBT cards should consider collaborating with SNAP-Ed programs to offer nutrition education, cooking demonstrations, and recipe sampling to farmers market patrons. Nutrition education at farmers markets may also be an effective way to increase sales among local farmers and growers at the markets. Future studies should compare F&V intake among SNAP participants before and after receiving nutrition education at farmers markets. In addition, future studies should investigate produce revenue before and after implementation of a nutrition education booth. The findings from this study should help guide SNAP-Ed programs around the country in their efforts to provide effective nutrition education at farmers markets with EBT machines. SNAP-Ed nutrition education tools used in this study will be made available through the SNAP-Ed Connection website at http://snaped.fns.usda.gov/.

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Exploring the connection between community food security initiatives and social-cognitive factors on dietary intake

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Abstract

Food insecurity and poor dietary consumption continues to impact low-income populations in the U.S. However, communities are developing ways to address it at the local level. Community Food Security Initiatives (CFSI) focus on increasing a sustainable, healthy food supply and food system while simultaneously addressing food insecurity and dietary quality within a community. The purpose of this study was two-fold: (1) explore CFSIs in low-income areas in a metropolitan Midwest city and (2) examine the effects of the initiatives along with other social-cognitive factors on fruit and vegetable consumption in persons participating in local CFSIs. This was a mixed methods study. First, seven representatives from different CFSIs were interviewed and factors regarding initiative success were identified. Secondly, a group of 128 community members made up of both CFSI participants and non-CFSI participants completed questionnaires assessing

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fruit and vegetable intake, dietary-related social cognitive behavior, and socio-demographics. Several themes emerged from the interviews with the CFSI representatives including challenges, resources, and benefits in developing and sustaining an initiative. A multiple regression analysis was utilized to explain fruit and vegetable behavior across CFSI participation and dietary-related social-cognitive factors, controlling for education and income. The analysis showed that dietary-related social-cognitive factors, not CFSI participation, were an independent predictor of fruit and vegetable intake. In conclusion, CFSIs may increase food access within a local food system but may have a minimal impact on dietary behavior overall. CFSIs may need to reexamine their operations and identify ways to address not only food access but other social factors such as community empowerment and individual psychosocial factors relating to dietary behavior.

Keywords
Community Food Security Initiatives; Social-Cognitive; Dietary Quality; Fruit And Vegetable Intake

Introduction and Literature Review

Over the past 20 years, the alternative or local food movement has grown significantly (Low et al., 2015). The movement encourages people to consume foods produced within a "local" area and promotes sustainable growing practices, local economic growth, social equity, and healthy food consumption. Contrary to this purpose, however, the movement has been criticized for cultivating social inequality. For instance, Mares and Alkon (2011) commented that "critics have highlighted issues of inequality, examining the social, political, and cultural processes that determine who is drawn to and has the ability to produce and consume particular kinds of food" (p. 69). Participants of the movement within the U.S. have tended to be white and middle-to-upper class, not reaching the parts of society that confront low food access and poor dietary quality (Low et al., 2015). For instance, people of middle-to-upper classes have higher dietary quality and are less likely to be overweight or obese when compared to low-income populations (Colasanti, Conner, & Smalley, 2010;Ogden, Carroll, Kit, & Flegal, 2014; Racine, Mumford, Laditka, & Lowe, 2013). For example, low-income populations in the U.S. have lower intakes of fresh fruits and vegetables and higher intakes of processed foods compared to the daily requirements (Leung, Ding, Catalano, Willamor, Rimm, & Willet, 2012). Therefore, in order to promote not only food security but also dietary quality within low-income populations, it is crucial to ensure food access and address negative dietary behaviors.

Recently, to address this concern, community food security initiatives (CFSIs) emerged and have been attempting to close the gap between socio-economic status, food access, and dietary quality by increasing access to a sustainable and healthy food supply through the use of multiple local sectors (Low et al., 2015). Over the past two decades, CFSIs have been utilized to combine aspects of the local food movement with an anti-food-insecurity approach. (Kaiser, 2011; United States Department of Agriculture [USDA], 2015). They do so by "arguing that all communities should have access to safe, culturally acceptable, nutritionally adequate, and sustainably produced diets" (Mares & Alkon, 2011, p. 69). The initiatives are attractive to community coordinators and leaders not just because of their potential to improve the diet and health of local citizens, but also because of their potential to improve the social and economic state of the community as a whole (Kaiser, 2011).

However, though many of the programs and initiatives are attempting to address food security and dietary quality primarily by targeting food access, they may be falling short. The factors that influence dietary intake are vast and include a complex interplay between environmental and social factors (Caswell & Yaktine, 2013). Many CFSIs may be too simplistic in their efforts by targeting only food access. For example, recent research suggests that distance to the supermarket, residing in a food desert, or increasing supermarket access may not impact dietary intake in low-income populations as much as previously thought (Budzynska et al., 2013; Cummins, Flint, & Matthews, 2014; Dubowitz, Zenk, et al., 2015; Hackett et al., 2012; Pearson, Russell, Campbell, & Barker, 2005). Caspi,

Kawachi, Subramanian, Adamkiewicz, and Sorenson (2012) found that perception of access to a supermarket influenced dietary intake more than actual access.

Furthermore, many social factors contribute to dietary behavior beyond having certain foods available. For instance, psychosocial constructs such as perceived barriers, nutrition knowledge, cooking skill, attitudes, motivation, behaviors, social support, and self-efficacy have all been shown to affect dietary intake (Aggarwal, Monsivais, Cook, & Drewnowski, 2014; Dubowitz, Cohen, Huang, Beckman, & Collins, 2015; Flórez, Dubowitz, Ghost-Dastidar, Beckman, & Collins, 2015). For example, Pearson et al. (2005) found food access did not correlate with intake, but socio-cultural attitudes did.

Moreover, researchers have argued CFSIs fail to encourage and promote ownership within the community as well as address cultural and social factors related to dietary intake, therefore limiting their effect on dietary behavior (Mares & Alkon, 2011; Pearson et al., 2005; Ver Ploeg, & Rahkovsky, 2016). They suggest that often, CFSIs do not cultivate community empowerment because they lack the voice of the community within the initiative's leadership. As a result, decision-making does not occur at the community level.

In this study, two questions were examined in terms of CFSIs and their effectiveness in promoting a healthy diet within the community where they work and serve. First, did an increase in access to healthy foods lead to an increase in dietary quality within the population? Secondly, how important was it to target social factors related to dietary intake in low-income communities?

In this study, we explored the interplay between local CFSIs and social-cognitive factors in relation to fruit and vegetable consumption in a sample of people residing in low-income areas within the metropolitan city of Dayton, Ohio. First, we interviewed key informants from seven different local initiatives to gain insight regarding their mission and purpose. Then, we administered questionnaires to people residing in low-income areas of Dayton where the identified CSFIs were located in order to examine fruit and vegetable intake, participation in a CFSI, dietary-related social-cognitive factors, and their relation to each other. The dietary-related social-cognitive factors included the following constructs: intention, self-efficacy, social support, outcome expectancies, outcome expectations, behavioral strategies, and situational setting. We wanted to examine if promoting access to healthy food in a low-income population was sufficient to address dietary quality or if other influencing factors needed to be considered. We did not measure food security although we did target low-income populations in the area.

This research took place in Dayton, Ohio, a metropolitan city. In 2015, there were 140,599 residents within the city limits with 35.3% living below the poverty line (US Census Bureau, 2016). In terms of race, of all residents in Dayton, Ohio, 51.1% were White and 42.9% Black. In 2015, Dayton was ranked eleventh in the country by the Food Action and Research Center for experiencing food hardship (Rosso, 2016).

Applied Research Methods

There were two phases of this study. In phase 1, semistructured interviews were administered to representatives from CFSIs. In phase 2, dietary behavior, fruit and vegetable intake, and CFSI participation were examined. The study was approved by the University of Dayton Institutional Review Board.

Phase 1: Key Informant Interviews from CFSIs

In phase 1, the research team (consisting of the lead researcher and two research assistants) identified the ten zip codes in Dayton with the lowest household income. CFSIs were identified through an internet search and through conversations with local key informants (Table 1). The research team contacted a representative from each initiative requesting a semistructured interview. The purpose of the interviews was to explore the aims of each initiative and the ways that they tried to achieve their respective aims.

Grounded theory qualitative methodology guided data collection and analysis. The lead researcher administered and audio-recorded each semistructured interview. The research team developed a semistructured interview guide that

included questions regarding to the development and implementation procedures of the CFSI, current proceedings, and initiative goals, objectives, resources, weaknesses, strengths, and future plans. The interviews were transcribed verbatim and analyzed using open, axial, and selective coding (Hoepfl, 1997). The coding process began simultaneously with data collection.

The coding process occurred through the following procedures. All coders analyzed the same three transcriptions using line-by-line coding. The coders discussed the identified and defined codes, leading to the development of a codebook. The codebook included core codes identified by the coders. Codes that were not agreed upon were discussed until an agreement was reached. Axial coding proceeded the line-by-line coding. During this process, the team began to identify where codes converged, thus revealing core themes; constant comparison was employed to examine the data across transcriptions and coders. Finally, during selective coding and based on the themes identified previously, the research team identified main categories, leading to the development of a conceptual framework of community food security initiatives in low-income areas.

Phase 2: Community Member Participation in CFSIs and Effect on Fruit and Vegetable Intake

In the second phase, the research team examined and compared factors effecting fruit and vegetable consumption in two different participant groups: (1) community members who were part of and/or purchased or obtained food from an identified CFSI in a low-income area (farmers market, CSA, community garden, local food stand, or food bank distributing fresh produce), and (2) community members who lived in areas where the identified CFSIs were located but who did not participate. For example, a CSA member from the urban farm identified in phase 1 was considered a CFSI participant, but their neighbor who was not a CSA member and did not participate in any CFSI (purchase foods at the local farmers market, participate in a community garden, etc.…) was considered a non-CFSI participant for this study. Participants were recruited from the local community food security initiatives and at local community events. Community events included a health fair, an after school program, and a parenting program. These events were chosen because each took place within one of the ten targeted low-income areas identified in phase 1.

Table 1. The Type of Community Security Food Initiative Represented in the Key Informant Interviews

Key Informant No.	Community Security Food Initiative type	Activities
1	Urban farm in East Dayton in a low-income area. The farm has a farm stand and a CSA and accepts Electronic Benefit Transfers (EBT).	Farm three urban plots and have 40 families in their CSA.
2	Healthcare community garden serving a diverse population in a low-income suburb of Dayton, Ohio.	15 plots gardened by local families.
3	Community garden in downtown Dayton	10 plots gardened by local residents.
4	The local food bank. The food bank accepts donations from public and private entities and has a garden.	Serves more than 80 food pantries in the area and runs a mobile distribution pantry. The food bank was beginning a garden to produce food where distribution research was conducted.
5	Community healthcare clinic for low-income clients. The clinic includes medical, dental, and dietary services as well as a food bank and garden.	Serves approximately 2500 people each year.
6	Farmers market accepting EBT.	Saturday-only market. This was the only farmers market in Dayton that accepted EBT during time of this research.
7	A local elementary school starting a school garden.	The school serves approximately 500 students and has a high Turkish and Hispanic immigrant population.

Each participant was over eighteen years of age. The purpose of this phase was to examine how participation in CFSIs as well as other dietary-related social-cognitive factors (defined in Table 2) affected fruit and vegetable intake. The researcher team's intention was to use the findings of phase 1 and phase 2 to draw conclusions and identify gaps in how we, as a collaborative society, are addressing healthy dietary intake in low-income populations within metropolitan settings. In this study, healthy dietary intake is measured by fruit and vegetable intake.

Instruments

Participants of the study completed Eating at America's Table Quick Food Scan (QFS) developed by the National Institutes of Health (Thompson et al., 2002), a social-cognitive dietary questionnaire (SCDQ) (Dewar, Lubans, Morgan, & Plotnikoff, 2013), and a socio-demographic questionnaire. The QFS is a nine food-item screener and can be used to estimate daily fruit and vegetable serving consumption. The screener was scored using the outlined protocol for the instrument (National Cancer Institute, 2013). The SCDQ was originally developed to examine seven constructs (see Table 2) relating to adolescent healthy eating behavior: self-efficacy, intentions, situation, behavioral strategies, social support, outcome expectations, and outcome expectancies. The questionnaire was tested on, and deemed reliable and valid for, the adolescent population (Dewar et al., 2013). For the present study, Cronbach alpha correlation coefficients were employed to assess internal consistency within the study population. Each subscale showed adequate internal consistency (>.70). For scoring, each scale was scored on a continuum and contained four to seven items with four to six response choices. Some of the items were reverse coded. For each scale, a higher score insinuated a greater psychosocial level for the construct. For example, the higher a person's self-efficacy score, the more self-efficacy the person possessed in terms of healthy eating. All subscales were then totaled for a combined social-cognitive score. The socio-demographic questionnaire consisted of questions related to participation in a CFSI, and sought information on participant income level, age, gender, educational level, and civil status.

Statistical analysis

All statistical analysis was completed in IBM SPSS Statistics 19.0. Participants were separated into one of three groups based on participation in a CFSI (nonparticipant, 1 initiative and >1 initiative). Initiatives identified in this study included community or urban gardens, farmers markets, community-supported agriculture, and food stands. We used Spearman's rho correlations to examine bivariate associations between dietary-related social cognitive constructs, age, fruit and vegetable intake, income level, and educational attainment. Additionally, a multiple regression model was run to predict fruit and vegetable intake, community food

Table 2. Dietary-related Social-Cognitive Factor Definitions

Measurements	Definition
Self-Efficacy	Ability to choose health foods when the opportunity was presented.
Intention	Intention to adopt healthy eating behavior.
Situation	The participant's recollection of food available within the home.
Behavioral Strategies	How often the participant incorporates strategies to encourage healthy eating.
Social Support	Support from family and friends to eat healthy.
Outcome Expectations	Beliefs regarding the physical and cognitive benefits of healthy eating.
Outcome Expectancies	Importance of the outcome expectations for the participant.
Social-Cognitive	Sum of subscales (self-efficacy, intention, situation, behavioral strategies, social support, outcome expectations, and outcome expectancies.)

Source: Dewar, Lubans, Morgan, and Plotnikoff (2012).

security participation, and dietary-related social-cognitive score, controlling for education, income, and age.

Results

Phase 1

Our research team interviewed a total of seven representatives of local food initiatives that were active in low-income areas (refer to Table 1). The core categories identified were purpose, challenges, resources, and benefits. Main themes associated with the two core categories, challenges and resources, were government, financial, land access, and education (Figure 1). In this research, challenges were not necessarily the contrary of resources, but each was a mediator between the purpose of the CSFI and its outcomes or benefits. Different challenges had to be overcome and certain resources were needed for successful functioning and attainment of the ultimate purpose.

Purpose

The main purpose of the CFSIs reported by CFSI representatives was to increase the access and availability of fresh produce in areas where fresh produce was limited. Access in this study included making produce affordable to the target population and having fresh produce within the community so people could physically obtain it, even with limited transportation.

Challenges and Resources

The CFSI representatives identified different challenges and resources associated with reaching their purpose. Subthemes under each category included government, land, education, and financial considerations. Table 3 provides an overview of each of the categories and subthemes.

Benefits

The representatives of the initiatives identified several benefits of CFSIs. These benefits included: creating a sense of community, promoting overall wellbeing, and increasing access and availability to fresh foods. Coordinators indicated that the projects require contributions from every individual concerned, which unifies the community under one common goal and consequently leads to new and/or stronger relationships between community members. Representatives also reported that initiatives promoted the wellbeing of each participant. Specifically, when someone participated in the

Figure 1. Community Food Security Initiatives

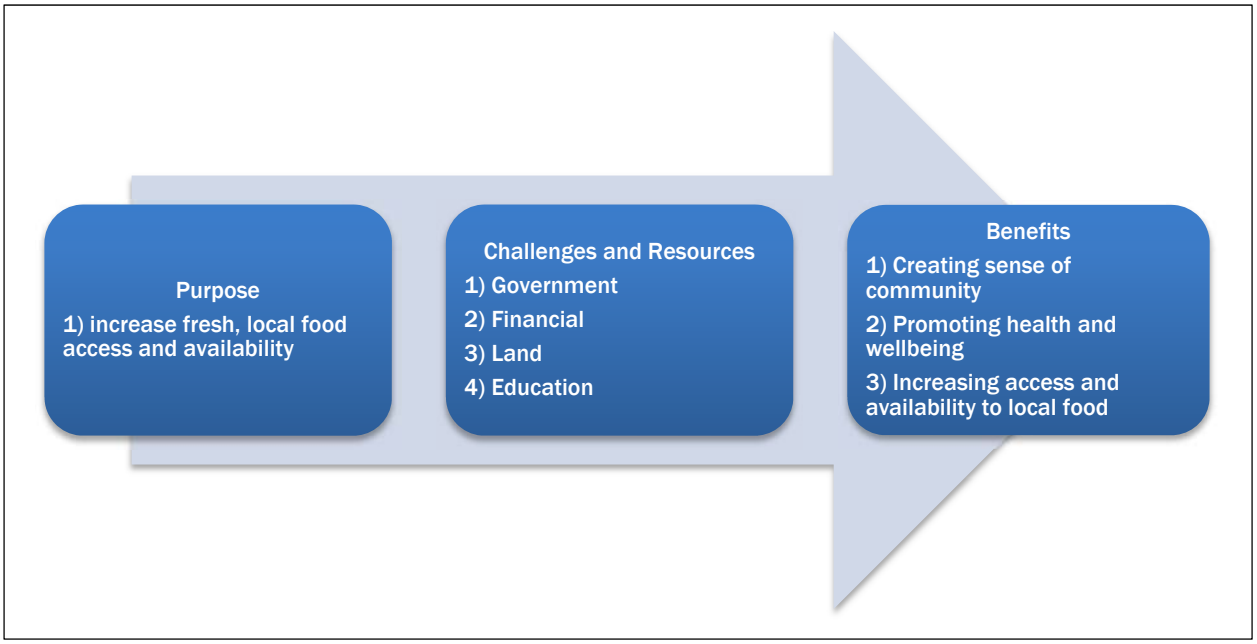

Table 3. Challenges and Resources Identified with a Community Food Security Initiative

	Challenges	Resources
Financial	External funding such as grants, donations, and governmental programs provide start-up financial support, but are rarely enough for long-term success. An initiative must have adequate customer sales to be sustainable.	Consumer payment convenience has increased due to technological advancements, such as acceptance of EBT. Accepting this type of payment has opened up new markets and opportunities for greater revenue to initiatives.
Land	Depending upon how the city taxes and allocates the land, its quality can vary. At times, initiatives are burdened with land that has not been traditionally used for agriculture. This type of land usually lacks water and viable soil.	City and government entities can increase quality by providing water access and compost sources. When borrowing land from a community member, squatting, or obtaining it via donation, land can be cost-effective. Land centralized for consumer convenience at churches or community centers increases availability so it can be used for fresh food production within neighborhoods.
Government	Local governments have policies and regulations regarding compost use, vacant land utilization, and land taxation.	Local, state, and federal governments provide training for EBT and options for land use. The government has also created programs to increase the available points of purchase of local foods such as the Senior Citizens and Women, Infants, and Children Farmers Market voucher programs and EBT acceptance at farmers markets and through CSAs.
Education	The lack of food knowledge relating to production and preparation can make produce undesirable to consumers. Knowledge of how to grow food sustainably is often learned through trial and error within the programs. There can be a lack of motivation among the community members to participate long-term.	Workshops, demonstrations, and nutrition classes can increase consumer knowledge and cooking skill. Producers communicate with each other to help educate on successful growing techniques.

Table 4. Socio-Demographics of Residents Among CFSI Participation

Variables	All	Membership in a CFSI	No Membership
Education			
High school diploma or less	29 (23%)	20 (69%)	9 (31%)
Greater than high school diploma	99 (77%)	59 (60%)	40 (40%)
Household Income			
< US$25,000	55 (43%)	28 (51%)	27 (49%)
> US$25,000	73 (57%)	51 (70%)	22 (30%)
Gender			
Male	36 (30%)	25 (69%)	11 (31%)
Female	86 (70%)	48 (56%)	38 (44%)

initiative, that person was active and social; therefore, a second benefit of the initiatives was that they promoted both the mental and physical health of their members. Finally, the initiatives provided an alternative avenue for accessing fresh produce and for encouraging healthy dietary intake.

Phase 2

A total of 128 residents from the targeted zip codes completed the socio-demographic survey, the SCDQ, and the QFS (Tables 4 and 5).

Bivariate correlations were examined for educational attainment, education, age, fruit and vegetable intake, and for each of the dietary-related social-cognitive factors. Total fruit and vegetable intake was positively associated with self-efficacy (r=.24, p<.01), outcome expectancies (r=.24, p<.01), and social-cognitive total (r=.30, p<.01). Food initiative participation was positively correlated with intention (r=.41, p<.01), situation (r=.35, p<.01), expectations (r=.45, p<.01), education level (r=.41, p<.01), and household income

Table 5. Social-Cognitive Dietary Questionnaire Scores and Fruit and Vegetable Intake Among Participation in CFSIs

Measurements	Involved in >1 Food Initiatives (41)	Only Farmers Markets/Stands (44)	No Involvement (33)
Total Fruit & Vegetable Intake	3.56 ± 1.9	3.31 ± 2.0	2.70 ± 2.0
Self- Efficacy	3.11 ± 0.66	3.10 ± 0.84	3.00 ± 0.86
Intention	2.79 ± 0.78	2.37 ± 0.52	1.94 ± 0.71
Situation	4.27 ± 0.72	4.11 ± 0.70	3.38 ± 1.0
Behavioral Strategies	2.39 ± 0.58	2.43 ± 0.71	2.21 ± 0.75
Social Support	2.70 ± 0.62	2.43 ± 0.65	2.51 ± 0.95
Outcome Expectations	4.63 ± 0.50	3.91 ± 0.60	3.61 ± 0.88
Outcome Expectancies	2.70 ± 0.50	3.27 ± 0.62	3.27 ± 0.71
Social-Cognitive Total	3.25 ± 0.38	3.09 ± 0.42	2.83 ± 0.60

(r=.32, p<.01), but negatively associated with expectancies (r=.23, p<.01). Food initiative participation was not significantly related to fruit and vegetable intake.

The regression model was significant (R^2=.09, $F(5,115)$=2.23; p=.05). Social cognitive total was an independent positive predictor of fruit and vegetable intake controlling for all other factors (Table 6). Participation in a CFSI was not a significant independent predictor.

Table 6. Predictors of Fruit and Vegetable Intake

Predictors	*B*	*SE B*	β
Two or More Food Initiatives	–0.04	0.43	0.01
Social-Cognitive Total	0.96	0.37	0.24*
Household Income	–0.04	0.12	–0.04
No Food Initiatives	–0.43	0.45	–0.10

* Significant at $p \leq .05$

Discussion

The metropolitan city used in this research is classified as a food desert, and in 2015 it was ranked the eleventh city in the U.S. for experiencing food hardship (Rosso, 2016). Alternative methods that go beyond public food assistance and address the local food system overall—such as CFSIs—are beginning to form in different areas of the city to address the issue of low food access. As previously mentioned, a main difference between a CFSI and the local food movement is the focus on addressing food insecurity in low-income communities. The present study identified the challenges that confront local CFSIs, the resources needed to support such initiatives, and the benefits of their implementation. As new initiatives in low-income areas develop, it is important to be aware of the challenges that they will face and find appropriate ways to address them. Here, the CFSI representatives indicated the challenge at the structural and social levels. For example, different governmental policies hindered certain agricultural practices and land usage while financial resources to encourage initiatives' growth and expansion were minimal at both the public and private levels. Another challenge centered on the lack of nutrition education and motivation to participate long-term within the target communities.

Critics of CFSIs argue that the initiatives need to create both community empowerment to address their own local food issues and the ways to address them (Mares & Alkon, 2011). In the present study, the key informant interviewees were not of the target community but were coming from the outside into the community. During the interviews, they mentioned the lack of target community involvement and motivation within the initiatives. The lack of community representation in the decision-making process and leadership of the CFSIs may be a reason for this. Therefore, the

CFSIs in this study may need to explore ways to provide control and empowerment to the local community in addition to bringing people from different sectors (public, civic, religious, and private) together to examine and address local food-system issues. Internationally, Via Campesina, a food sovereignty movement, gives the right and power to the local people to define and determine their food systems. CFSIs could adopt aspects of such movements to promote community empowerment by changing the local food system, addressing food insecurity, and promoting a healthy diet.

Along these lines, this study further explored the complexity of dietary habits. Much research has focused on food deserts and the lack of fruit and vegetable availability leading to a decrease in their consumption. However, when promoting fruit and vegetable consumption in low-income populations, other factors beyond food access need to be targeted. Although CFSIs may be increasing the accessibility of local, fresh foods in low-income populations, other factors must be addressed and cannot be ignored when increasing actual intake of these foods. Dietary-related social-cognitive factors predicted fruit and vegetable consumption but not CFSI participation. This coincides with past research mentioned previously. Ver Ploeg and Rahkovsky (2016) reviewed current literature targeting food store access and dietary quality and concluded, "Access alone is not enough. Product prices, income available to spend on food, consumer knowledge about nutrition, and food preferences are perhaps more important determinants of what foods consumers choose to purchase" (p. 23). Therefore, there may be limitations to focusing only on food access in promoting dietary change. The challenge for CFSIs whose purpose is to promote healthy dietary intake, and therefore health, in community members is to examine the ways in which they are functioning and determine where changes need to be made to ultimately achieve their mission. Based on this study and prior studies, the following are reflection questions for CFSIs:

1. Does the community have decision-making power within the CFSI? If so, how much and to what degree? If not, how can this be facilitated?
2. Is the leadership team constructed of local community members who have trust within the community?
3. Does the initiative go beyond providing food access to encourage healthy dietary intake and decrease food insecurity?
4. Does the CFSI include culturally appropriate nutrition interventions that encourage healthy dietary habits. Did community members have a central voice in the development and implementation of the interventions? ?
5. Are different sectors (e.g., political, civil, religious, and private) from the community working together to empower and strengthen the CFSI?

There are several limitations to the present study. First, in qualitative research, data saturation is commonly utilized to determine sample. However, due to the limited scope of this study and the geographical area, data saturation was not employed. The recruited sample was made up of residents of the target zip codes who agreed to participate. Further, the results of this study are not generalizable onto a larger population, as convenient sampling methods were utilized to recruit community participants. Therefore, the results cannot conclude causation, but instead point toward the presence of additional factors such as social-cognitive factors that are important to address within CFSIs when their objectives go beyond food access and target healthy dietary intake.

In conclusion, addressing healthy food intake in low-income populations is complex. Although increasing healthy food access is crucial, the psychosocial aspects that influence intake cannot be overlooked. Therefore, as CFSIs continue to develop in low-income areas, it is necessary to include and empower community members to have a voice within the initiatives' processes. Also, interventions addressing the psychosocial factors around food consumption should be tailored to the target population. On the local level, community members, policymakers, healthcare professionals,

financial investors, and community organizations need to work collaboratively to provide initiatives that are multifaceted and empower the local community as decision makers. Future research examining power structures within the CFSIs and their effect on community wellbeing can provide further insight into their effectiveness beyond food access. 

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Urban planning roles in responding to food security needs

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Abstract

Food security is a daily problem for vulnerable groups of urban citizens in developed countries, who face physical and mental stress and poor health outcomes from limited food choices. They are often unable to change their circumstances through the marginalizing impacts of urban planning policy, regulation, and infrastructure barriers. Local government is often confronted with these impacts and absorbs the responsibility to act "on the ground" in the absence of a coordinated, multilevel institutional response. Health professionals and local government urban planners increasingly collaborate to examine the design of cities and towns to improve food security. Despite increased awareness and the inclusion of food security in some planning strategies, regulation, and decision-making, results are limited in many jurisdictions. This research uses a case study methodology to gain insights into the systemic barriers facing local government planners in the state of Victoria, Australia, in responding to municipal food security challenges. Four food-related themes drawn from the data show that both internal systemic barriers and an external lack of fit with federal and state governments blur the understanding of food security challenges and limit planning solutions. Local government planners need consistent legislative and planning scheme priorities, combined with strengthened regulatory tools, to address food security more effectively. Increased feedback opportunities for local government staff to share their valuable experience and knowledge with higher levels of government would allow for a more coordinated approach to addressing this multijurisdictional problem.

Keywords

Food Access; Food Desert; Food Policy; Food Security; Land Use Planning; Local Government; Planning and Infrastructure Barriers; Urban Agriculture

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Introduction

Food security, defined at its simplest as having enough to eat, is a recurrent challenge for most of the world's population. Even in developed countries with rising affluence, robust public transport, and sophisticated refrigeration and distribution systems, consistent and affordable access to nutritious food is a daily problem for vulnerable urban populations (Rosin, Stock & Campbell, 2012). At-risk groups include the unemployed and underemployed; low-income earners; single parents; the elderly; the homeless; people with disabilities, mental illnesses, and/or addictions; indigenous Australians; and people from non-English speaking backgrounds (Booth & Smith, 2001; VicHealth, 2005, 2011). Lack of food security can affect an individual's health status, both physically and mentally, due to stress, anxiety, social disruptions, reduced nutrition intake, and potential eating irregularities (Booth & Smith, 2001). In Australia, diet-related illness, such as diabetes linked to obesity and low levels of exercise, is a significant contributor to disability and death, and is on the rise (Australian Institute of Health and Welfare [AIHW], 2012). Rates of obesity are higher among those with lower incomes (Cummins & Macintyre, 2005; Levine, 2011), yet people with limited incomes tend to buy bulky, poor quality foods that have little nutritional value but have an oversupply of energy, fats, and sugars, in order to curb their hunger (Burns, 2004). Vulnerable people face physical and mental stress and poor health outcomes from limited food choices, yet are often unable to change their circumstances.

As early as 1995 a single-item question in the Australian National Nutrition Survey revealed that over the previous 12 months, 5.2% of persons over the age of 19 were unable to replenish food supplies when they ran out. In 2011, a smaller survey, with results weighted to a national representation, found 8% of respondents ran out of food and could not afford to buy any more (Lockie & Pietsch, 2012). A comparison survey using both a single-item measure and the comprehensive U.S. Household Food Security Survey Module in three Australian disadvantaged municipalities found significantly higher numbers of people unable to access healthy, affordable food on a regular basis, with results of 15.8% and 21.9%, respectively (Nolan, Rikard-Bell, Mohsin & Williams, 2006). Data from the Victorian Population Survey and Community Indicators highlight that residents in 59 out of 73 local government areas in the state were facing food security challenges (VicHealth, 2008). The results of these surveys demonstrate that food security challenges are significant for increasing numbers of at-risk individuals across many municipalities.

With excessive reliance on personal transport in cities and towns, those reliant on low-cost public transport to access outlets for fresh, nutritious food can find themselves marginalized (Parham, 2007). Communities are often confronted with the stark consequences of the situation, evidenced by inequitable access in "food desert" neighborhoods in the United Kingdom and the United States (Beer, 2013), as well as in Australia. While this should be of concern to all levels of government, in the absence of a coordinated multilevel institutional approach among the state and federal levels of Australian government,[1] responsibility and leadership often default to local governments, which feel direct pressure from their communities (Slade, 2013; Yeatman, 2009). As a result, some Australian councils try to absorb food security aspects into their planning, policy, and practice.

While local governments' initial efforts focused on ensuring food availability and distribution, increasing focus has been turned to underlying systemic issues, such as inadequate public transport and infrastructure, regulatory inhibitors for land use, and deficient policy development (Desjardins, Lubczynski, & Xuereb, 2011; Slade, 2013; Sonnino, 2009). Health professionals and urban planners are increasingly collaborating to tackle food security challenges. Moving beyond the health agenda of nutrition, healthy food choices, and education programs, they examine ways to improve the rigor in

[1] In order to understand capacity, it is important to know that local government is not recognized in the Australian federal constitution but is given power through Local Government Acts in each state (including Victoria, in this research) and territory. Therefore, expectations and roles of local government shift through legislative changes, causing it to be in a continuous state of change and only able to practice with limited power devolved by the states (Aulich, 2005).

food outlet decision-making influenced by planners and look at whether legislation, statutory planning provisions, and urban design policies and guidelines can be used effectively to improve food security. To date, integrating health outcomes, and the larger issue of food security, into the Australian planning and local government mainstream is uneven (Budge & Slade, 2009). Despite greater general awareness and the inclusion of these issues in some planning strategies, regulation, and decision-making, positive outcomes in many jurisdictions are still limited.

Urban planning is "inherently a governance activity, situated in a complex landscape" of government, community and private organizations (Healey, 2005, p. 304). Methods for achieving food security are complex and cross-jurisdictional, with limited guidelines and regulatory mechanisms for incorporation and implementation (MacRae, 2011; Mendes, 2008). This article focuses on local government's strategic and statutory planning roles in responding to food security challenges, but we recognize that in federal systems such as in North America and Australia, these roles are inextricably linked to federal and state government policy and planning legislation and regulations to varying degrees.

We argue that systemic urban planning barriers that limit food security are overlooked in daily local government practice, and even when understood are difficult to address at the local level, due to the complexity of jurisdictional relationships involved. We present case studies from two state-level health promotion programs that partnered with 12 local governments to explore the following research questions:

1. How can urban planning roles and responsibilities respond to food security challenges?
2. What enablers and barriers do local government urban planners face in seeking to improve food security in their municipalities?

We begin by briefly discussing the roles of urban planning in relation to food security at a local government level, then introduce our research context, methodology, methods of data collection and analysis, followed by the results, barriers, and enablers of urban planning in responding to food security challenges. Finally, we summarize the main points, limitations, and future research possibilities.

Potential for Urban Planning to Address Food Security

Urban planning links health outcomes and place at a local level. Links between health and place are not new but have shifted over time from solely a medical model of individual health outcomes to include social, economic, and environmental features that may pose higher health risks and inequality for people in certain locations (Smith & Easterlow, 2005). This emphasis on a social model of health shifts responsibility for response from individuals to government institutions, organizations, and systems (Smith & Easterlow, 2005). Urban planning is a key activity in the development of healthy places because ideally it can provide sustainable and equitable access to healthy food across the built environment (Morgan, 2009).

According to Pothukuchi and Kaufman (2000, p. 113), urban planners are involved in "land use, housing, transportation, the environment, and the economy . . . [and] more recently, the health, education and energy systems," yet interest in food security has been slower. These authors surveyed planning departments in 22 areas of the U.S. in 1997 and found that interest in local food system issues was limited for various reasons. These included lack of linkage with the built environment; it being seen as a rural issue; the view that the food system belongs to the private sector; no knowledge of funding programs; the food system is fine as it is; there are limited opportunities for collaboration; and lack of understanding of the issues. More recently, Cassidy and Patterson (2008) added that there is a perception that food security is not part of a planner's expertise; food choices are a private matter; and planners think there is nothing they can do. Within the context of urban agriculture as a planning responsibility, Thibert (2012) points out that local government urban planners are ill-equipped, both in practice and a policy context, to implement initiatives. While Clancy (2004) suggests that food advocates need to convince planners of

the benefits of such involvement, the challenges for urban planners in Australian local government are more systemic and considered beyond their control to change. An Australian study by Allender et al. (2009) found that local governments can feel powerless to make a change, with hesitation on their part to increase regulation in what is seen as an already heavily regulated system. There is evidence of multiple barriers to urban planning to address complex challenges such as food security.

Three key interfaces between urban planning and improving food security outcomes are strategic planning and policy development, land use regulation, and infrastructure development. For example, urban planning can influence the location and establishment of urban agriculture (UA) activities, such as community gardens and fresh food stalls. These activities provide economic and social benefits, such as productive use of vacant spaces, livability in neighborhoods, poverty alleviation, and improved health outcomes (Mougeot, 2006; Thompson, Corkery, & Judd, 2007; Wheeler, 2004). UA requires appropriate zoning and design guidelines in local government planning schemes in order to be successful (Castillo, Winkle, Krauss, Turkewitz, Silva, & Heinemann, 2013; Wheeler, 2004). Yet there is little support in Australian planning policy for UA introduction (Pires & Burton, 2013). This differs from other locations such as the City of Waterloo, Canada, which clearly outlines UA guidelines in its local Official Plan (Port & Moos, 2014) and in Dar es Salaam, Tanzania, where UA has a specific land zoning category as a valued source of food security (Halloran & Magid, 2013). In Australia, statutory mechanisms such as planning schemes that substantially influence decision-making are based on state legislation. As a result, government support of UA through appropriate institutional frameworks from national to local levels is needed (Girardet, 2004).

Places with limited healthy food outlets and insufficient transport or walking options are called "food deserts" because of their limited access to healthy foods and easy access to fast food, convenience shops, and liquor outlets (Parham, 2007). Empirical studies across countries, such as the United Kingdom and Australia, differ in their findings about the existence of food deserts (see Ball, Timperio & Crawford, 2009; Cummins & Macintyre 1999; Donkin, Dowler, Stevenson, & Turner, 1999; Guy, Clarke & Eyre, 2004; Turrell, Blakely, Patterson, & Oldenburg, 2004; Winkler, Turrell, & Patterson, 2006). Of note is that the link between access to food and neighborhood disadvantage varies according to indicators used. Recent literature recognizes these differences and discusses ways of improving the rigor and scope of measurement tools used in the future (see Caspi, Sorensen, Subramanian, & Kawachi, 2012; Ding & Gebel, 2012; Kelly, Flood, & Yeatman, 2011). Nevertheless, the differing study results highlight the complexity and variability of inequitable food access determinants and the potential challenges for local government urban planners to respond effectively.

Urban planners can also contribute to and benefit from geographic information system (GIS) mapping undertaken by local government to visually display the relationship between the location of food outlets and public transport, cycling, and/or walking access. The purpose of highlighting the GIS food desert mapping undertaken by local governments in this research is to provide insights into the systemic planning and infrastructure problems that limit food access, rather than to suggest opening new supermarkets within such locations, as has been a common practice in the U.S. (Shannon, 2014). The local governments involved here also investigated other factors involved in inequitable access, in line with recent research into pricing (see Alkon, Block, Moore, Gillis, DiNuccio & Chavez, 2013), and marketing and consumer behavior (Ghosh-Dastidar et al., 2014).

As food security is linked with sustainability and health concerns, interest is growing across local government to address this challenge through policy development. Policies should be concerned not only about what people eat (Lang, Barling, & Caraher, 2001), but also how food is produced and how equitable distribution and consumption are. Local government has an influential role in food policy development to increase the longevity of positive food security outcomes. For example, the development of the London Food Strategy (see Reynolds, 2009) was based on a holistic view of urban food systems that can embrace the diverse and numerous stakeholder groups in food issues

(Mansfield & Mendes, 2013). However, to be most effective, federal, state, and local government need to have consistent food-related policies in place (Slade & Wardell-Johnson, 2016) that account for current externalities in the food system, develop a broader understanding of food beyond commodification, and increase support for health promotion (MacRae, 2011). Land use policies are particularly important in facilitating healthy built environments that include food supply and equitable access. A fragmented, silo approach to food policy development often leads to inconsistencies, overlap, and gaps (Department of Agriculture, Fisheries and Forestry [DAFF], 2011). As a result, food problems are not addressed in an integrated and coordinated way by government, resulting in policy decisions made at one level or in one area having significant ramifications in other food security areas (Prime Minister's Science, Engineering and Innovation Council [PMSEIC], 2010).

Thus previous research suggests that urban planning at a local government level plays an important role in advancing municipal food security, particularly in identifying patterns of inequitable access, facilitating urban food supply, and embedding food security principles into policies and plans. This role would be enhanced significantly through integrated, consistent, and enabling food security related policies, regulations, and practices at federal and state government levels.

Research Context and Methodology

This research uses a case study approach to understand the lessons learned from two health promotion programs that aimed to improve food security in municipalities with high levels of socioeconomic disadvantage in the state of Victoria, Australia. The two state-government-initiated programs were, firstly, the Victorian Health Promotion Foundation's (VicHealth) Food For All program (2005–2010), working with nine local government councils (referred to as CS1); and secondly, the Victorian Department of Health's Food Security and Access Policy Development project (2009–2011), working with three local government councils (referred to as CS2). The goals of the pioneering Food For All program were to "reduce local government systemic and infrastructure barriers to food security" and "increase regular access to and consumption of a variety of foods in particular fruit and vegetables by people living in disadvantaged communities" (VicHealth, 2011, p. 5). The main aims of the Food Access and Food Security Policy Development project were to strengthen local government leadership and develop individualized local government food policies and/or strategies in the participating councils (Department of Human Services, North & West Metropolitan Region, 2008).

A case study methodology enables the capture of in-depth detail of the in-situ reality of everyday life (Sarantakos, 2005) and provides opportunity to explore why particular outcomes may occur (Walter, 2006). This approach is particularly useful when the boundaries of the research and the broader contextual societal influences are blurred (Sarantakos, 2005; Stake, 2008; Yin, 2003). While we anticipate the lessons from this research will inform other jurisdictions, the intention of using a case study methodology is not chiefly to generalize findings (Stake, 2008) but rather to shed light on the depth and breadth of urban planning implications for the improvement of municipal food security within the chosen cases.

This research used three qualitative data collection methods in order to capture the complexity of the case examples and provide rigor through triangulation: in-depth interviews, primary document analysis, and secondary data analysis. We obtained human ethics approval. Interview participants were chosen through purposeful sampling due to their contextual knowledge and expertise of the topic at hand (Sarantakos, 2005). The researcher conducted semistructured, in-depth interviews using a set of questions as a guide. A total of 27 interviews were conducted with 25 participants (two participants were interviewed twice at different points in the project): six project managers (CS1=2, CS2=4), coded as (PM); 14 local government officers (LGO) (CS1=11, CS2=3); and five associated project members (APM) (CS1=4, CS2=1). All participants except one were female. This number of participants was considered adequate to reach saturation. Interviews were audio-recorded and later transcribed. We analyzed the interview data using themes derived through iterative review,

coding, and analysis with NVivo 8 software.

A thorough search of pertinent primary documents provided 41 key council plans and policies (CS1=33, CS2=8), six state-based partner documents (CS1=5, CS2=1), and three associated documents (CS1=3, CS2=0) for thematic analysis. Secondary data analysis included 22 key evaluation documents composed of nine council evaluations (CS1=3, CS2=6), eight lead partner reports (CS1 =6, CS2=2), and five other evaluations (CS1=5, CS2=0). The analysis of these primary and secondary data documents through thematic coding was based on five categories, namely preservation of high quality agricultural land (AG); food access (FA); food security (FS); food supply and/or a sustainable food system (FSU); and justice and equitable access (SJ). This analysis provided empirical evidence to support interviewees' perceptions and to contextualize the case studies.

Results

Here we focus on four themes in which urban planning plays an important role: place-based inequitable food access; infrastructure barriers to food access; regulatory barriers to urban agriculture activities; and embedding food security principles in land use policies. They demonstrate the enablers and barriers that influence urban planning advances in improving municipal food security.

1. Place-based Inequitable Food Access

Local government used community consultation and food access GIS mapping to identify vulnerable localities and build understanding of the implications of food security challenges. While many neighborhoods had a plentiful supply of healthy food, some experienced an absence of healthy food retail outlets, a situation sometimes referred to as "food deserts." Food access mapping by the cities of Hobsons Bay and Darebin illustrate these difficulties. Hobsons Bay chose to represent healthy food by mapping bakery, butcher, or fruit and vegetable outlets within two radii of 500 meters (.31 mile) and one kilometer (.62 mile).

Figure 1 shows that the Hobsons Bay suburbs of Laverton, Altona North, Brooklyn, and parts of Altona Meadows experience a dearth of fresh food outlets.[2] According to one of the project officers, the visualization of this problem can be an excellent tool for planners to understand systemic food security barriers.

> With the maps it's really quite stark when you see big chunks of the municipality where there's nothing there….It's a really good visual tool for the planners to get a sense of pictorially where the gaps are and the lack of fresh food outlets. (2LGO2)

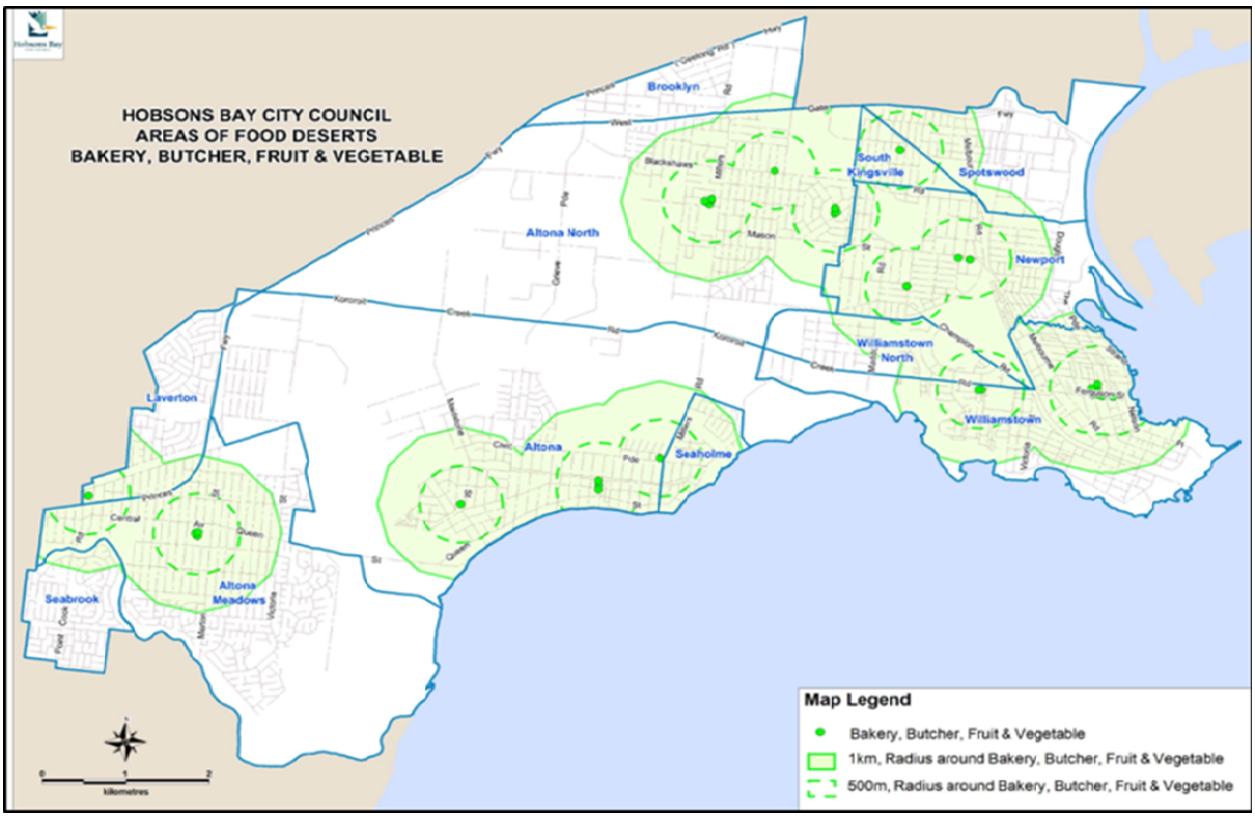
The City of Darebin, which chose to represent healthy food by mapping green grocers and supermarkets, is another municipality with food desert areas. Comparing acceptable walking radii of 250 meters (.16 mile), 500 meters (.31 mile), and 750 meters (.47 mile), Figure 2 illustrates that significant areas in the north of the municipality have inequitable food access compared to the southern half, even within the furthest walking distance.

Zoning within a planning scheme affects the location of food outlets; however, planning cannot limit the placement or number of fast food outlets if they are within a suitably designated zone. This contributes to an oversupply of unhealthy food outlets in some neighborhoods, at the expense of healthy outlets. Several participants expressed concern with "as-of-right use," which allows developers or other businesses broad discretionary scope in choosing the type of business combinations in their projects. The power to change this situation is not within the planners' control, as explained by one project officer after discussions with land use planners:

> There's so much by-right, so that they [planners] can't respond to fast food, excessive fast food, nor packaged alcohol nor gambling. As long as they are within the right sort of zoning they've by-right permits. So

[2] It should be noted that Seabrook in the left bottom corner of the map looks like a food desert if this map is taken in isolation, but regional mapping in the western suburbs of Melbourne has shown that there is a nearby shopping center in the adjacent municipality.

Figure 1. Depiction of Food Desert Areas in City of Hobsons Bay



Source: Hobsons Bay City Council (2011b, p. 2).

> they [planners] are saying that's where the changes need to take place. (1LGO7)

Further to the granting of as-of-right use, the definition of "retail activity" in planning schemes means "anything that sells retail" (ILGO7). Such an ambiguous definition can lead to unintended consequences that impinge on food security, as explained by one interviewee.

> They [local government] have got very limited powers to dictate, to mandate or control business mix. If there is a shopping strip and five fast food outlets open they can't say "No, we want one fruit and veggie shop, one health food shop and one fast food shop." They can't do that. It's actually not allowable. So the extent to which local government can influence large scale planning initiatives is surprisingly limited. (1APM2a)

This lack of control over mix constrains the capacity to deliver on new initiatives that require a strategic land use change. Food outlets generally (and healthy food outlets particularly) do not have special considerations within the retail zone. Additionally, 14 interviewees highlighted the lack of state government policy direction and regulatory mechanisms to enable local government food security responses. Local government land use planning is dependent on overarching state government legislation and planning provisions (1LGO2a). Planners are limited in their capacity to address the systemic land use problems associated with food security. In their opinion, planning schemes need to change in order to reverse the trend of facilitating easy access between residential areas and take-away food outlets.

> I think the biggest change needs to be made...

further up the ladder, in terms of state and federal government, where the changes around transport connections, and having residential estates that are close to food outlets, and not allowing the planning scheme...to put in rows after rows of MacDonalds and KFCs. There are lot of things that could be done to improve it but won't come from local government level because we don't have support we need from that level. (1LGO1)

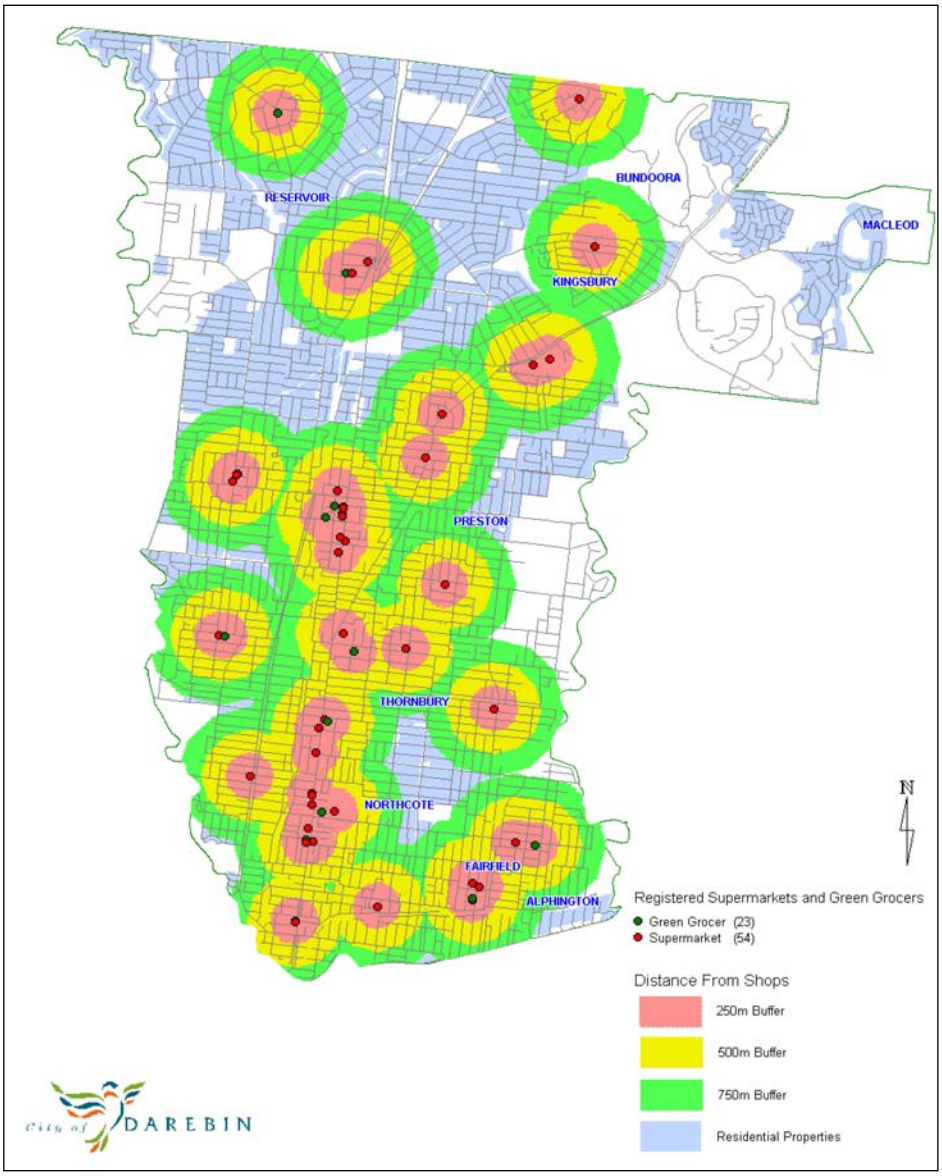
This concern for limited local government authority in land use planning, regulation, decision-making was also reflected by 16 of the 27 interview participants, as exemplified by the following interviewee.

> Much of the planning legislation regrettably is still running on an economic use of land model and local government really are just administrators...of the state legislation in that area, so we have very little discretion and incredibly rule bound. (1M2)

2. Infrastructure Barriers to Food Access

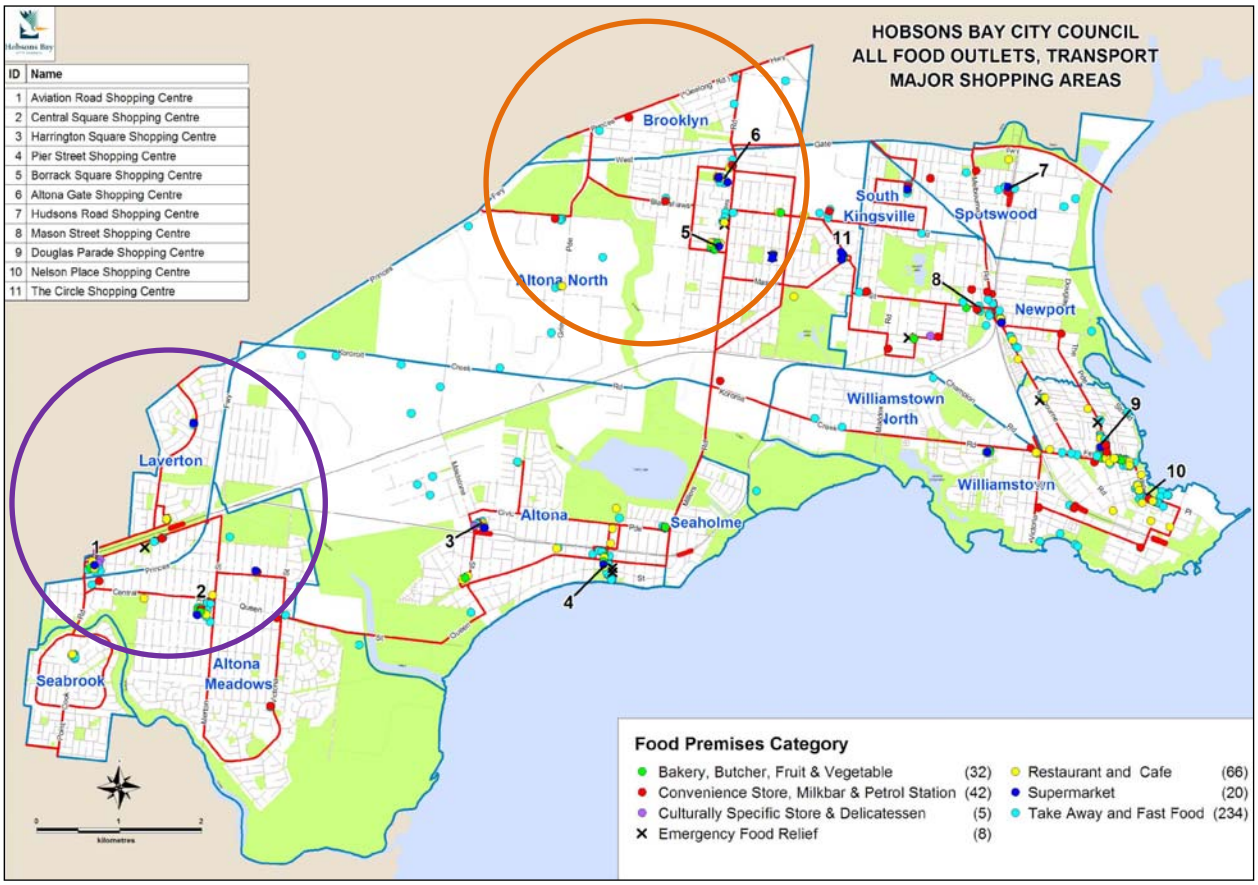
Further GIS mapping from the city of Hobsons Bay exemplifies the relationship between infrastructure barriers and food access. In the first example, residents with mobility problems found it very difficult physically to access Altona Gate Shopping Centre, a large retail precinct with two supermarkets and other speciality shops. The orange circle in Figure 3 illustrates that the Westgate Freeway (the thin solid blue line running horizontally through the orange circle) separates the northern residential areas and the shopping center. A project officer discovered this problem when talking with residents.

Figure 2. Visual Illustration of Food Desert Areas in the City of Darebin with 250, 500, and 750 Meter (.16 mile, .31 mile, and .47 mile) Buffers



Source: City of Darebin (2008, p. 13).

Figure 3. Two Food Access Trouble Spots in Hobsons Bay for Vulnerable Residents



Source: Hobsons Bay City Council (2011a).

> It actually looks on paper that it is quite well catered for…but however in speaking particularly to senior residents of this area, there is a Westgate freeway between a chunk of these residents and the shopping centre. So for those who don't drive and particularly these elderly residents, some of whom are on wheelie frames [walkers], actually access to that shopping centre is really very, very difficult. So even though it is only 500 metres [.31 mile] away there's a huge physical barrier and it's also really poorly designed in terms of pedestrian access. Great for cars, of course! (2LGO2)

The suburb of Laverton provides a second example where a four track (and in the future six track) railway line blocks access between the northern end of the suburb and the Aviation Road Shopping Centre on the other side of the tracks (see the purple circle in Figure 3). Parents with prams, or small children, or people with limited mobility need to negotiate the railway lines in order to access food, as explained by one interview participant:

> It's the same in Laverton as well: you have the physical barrier of the railway line and most of the residents are at the northern end of Laverton, but most of the retail is on the other side of the railway line. It's not just one, it's like a four track, soon to be six track, rail line, so if you have a pram and a couple of kids you need to walk that distance and then you have to go over the railway line; it's a bit of a nightmare. (2LGO2)

Because state governments provide railways and major freeways, these examples highlight the need for coordinated urban planning approaches between all government levels when addressing complex and multijurisdictional challenges, such as food security.

3. Regulatory Barriers to Urban Agriculture Activities

Complex internal regulatory barriers can also slow new food security initiatives, such as increasing urban agricultural activities for community gardens, fruit trees in public spaces, home gardening, farmers markets, and food swaps. Uses of urban land, such as community gardens and orchards, require a review of "land use, open space and building regulations and practice" (VicHealth, 2010, p. 1) to adjust existing structures and procedures to accommodate new options. Three participants expressed frustration about the regulatory processes involved in developing community gardens, either as part of a council project or in response to community requests, as illustrated by one local government project officer:

> They [community gardens]…sound so simple but they are not. It is hard work. They are not as simple as "Here's a piece of ground, go for it." There are so many regulations it's amazing. (1LGO10)

In one municipality the council initiated a community garden with several stakeholders from state and local government jurisdictions. Bureaucratic processes held up the progress of the project, which required a memorandum of understanding, a lease agreement, public liability insurance, allocating maintenance responsibilities, and a grant application. The project officer shared some of the frustration about the time taken to open the community facility:

> We are chomping at the bit but we can't until we get the permission, the lease agreement from the Department of Human Services. We can't put a fence up and I think defining the area with a fence, even though it is not going to be a big, high fence [is important]…Then we can really say "Here's the garden." So until then we're kind of dabbling around the edges…So we are getting there but these things take time. (1LGO3)

Consequently, systemic regulatory bureaucratic processes hinder local government capacity to deliver food security options in a timely way.

Establishing community gardens was not the only initiative that found the regulatory process inhibiting. In another council, a local municipal law thwarted a food security initiative by preventing the setting up of a mobile fruit and vegetable stall on council land unless a permit was granted for each site. The cost of the permit and the limitations on locations were obstacles to potential small-scale fruit and vegetable vendors, as an interviewee explained:

> It [the permit] was $500 per site and they can't set up within 500 metres of a school or an established community centre as well. I don't know whether that was from a traffic point of view but you want to be based at a community centre, you want to be based at a school…so I am trying to work with the person involved in reviewing these other local laws. (1LGO2a)

It can take considerable time and be a lengthy process to review and possibly change these local laws. In the meantime, local government capacity to respond effectively to food security challenges is limited.

4. Embedding Food Security Principles in Land Use Policies

Both partnership projects envisaged the inclusion of food security principles in the most influential council policies and plans as an essential way to ensure local government's capacity to address municipal food security problems. Councils achieved the most policy development success in the mandated Council Plans and Municipal Health and Wellbeing Plans required in the state of Victoria. The majority of interview participants who were directly involved with their municipal planning departments stated, however, that the local government's key land use policy document,

the Municipal Strategic Statement (MSS),[3] proved the most difficult because of its regulatory nature. Food security rhetoric presented in the MSS does not always follow through with action unless it can be translated into land use planning instruments. Local government's capacity to address systemic food security barriers through the MSS continues to be limited until state government makes changes to existing planning legislation and associated regulations, as explained by one project officer:

> Most MSSs have some motherhood statement but then the actual tools that they have to enact that is the question. So it usually comes through "liveability" or things like that, you know, that they manage to have walkable neighbourhoods and easy accessibility but they can't do anything about what is a retail area. (1LGO7)

As mentioned above, one forward option is to link food security to the accepted concept of "liveability," with its associated "accessibility" and "walkability" features, which is an important aspect of the built environment and healthy outcomes planning discourse (1APM2a). Wodonga City Council uses these concepts throughout its planning policies, including its MSS, and sees the principles of food security fit nicely into this "livable neighborhood" concept.

> This is where the principles of food security, planning for food security in the physical environment, such as connected neighbourhoods, and small neighbourhood shops, and public open space and community hubs, and all those kinds of things, are included in the MSS. I think that's why people who are really focused on a single agenda, like food security, want to see the words "food security" in the MSS and…I think it is probably more strategic to have the principles of food security in there. (1LGO3)

This point of view is easily understood: food access is a basic need that can be facilitated by the built environment. Yet there is a difference of opinion among urban planners and other interested parties in councils as to whether food security can be included legitimately in the planning framework. The most common view holds that there is no provision in the Victorian Planning and Environment Act[4] to take food security problems (or other health considerations) into account, while "walkability" and "accessibility" are linked to planning codes that could be changed. This situation is further explained by an interview participant:

> Accessibility has always actually been there. How can you interpret accessibility? It could mean that everybody can drive to the supermarket. In some people's heads that is what it does mean, but accessibility means something different to the people who are conscious of the needs of people who don't have cars, who can't drive, or who are disabled. So accessibility has a hook within the planning framework in Victoria on which to hang things like walkability. In the major planning documents it is not about physical activity and health; it is about walking and cycling and accessibility, which is code for physical activity. We don't have the codes for healthy eating. And there is nothing in the planning framework, and by that I mean the legislation and the planning principles, that actually enshrine that and drive it. (1APM2a)

Councils that make decisions based on food security's inclusion in land use planning schemes risk the possibility of expensive appeals by interested parties before the Victorian Civil Authority Tribunal (VCAT). Most councils are not prepared to take the issue this far because of lack of supportive state legislation, as one interviewee explains:

[3] The state's Planning and Environment Act requires all councils to prepare a Municipal Strategic Statement (MSS), aligned with Victorian state planning objectives. These outline local strategic land use and development objectives and their relationship to statutory planning scheme controls.

[4] This act is the key piece of state legislation that shapes local government's land use planning activities.

> We will just go to VCAT and get toppled because there is nothing in the Planning and Environment Act to support any of these actions you might want to put in. (1LGO7)

These examples demonstrate the limitations of planning to address food security challenges because of systemic planning, infrastructure and regulatory barriers, and the difficulty of embedding food security principles in the major land use policy documents. The lack of consistency between federal, state, and local government approaches to food security compound the impact of these limitations at the municipal level.

Implications for Local Government Urban Planning

The need for improved food security in municipalities remains a challenge; however, it has no jurisdictional home or previous regulatory exemplar to follow (Mendes, 2008). Local government, as the government level closest to the community, can play a vital role in responding to food security concerns. Links between hunger, obesity, and place are drawing increased attention to food security issues. Urban planning at a local government level can influence outcomes in creating healthy and food secure places (Morgan, 2009), and yet this influence can be limited due to legislative, regulatory, and policy barriers. This contemporary and complex challenge necessitates a whole-of-government response with "joined up" (MacRae, 2011) policies and planning between federal, state, and local government to enable effective food security outcomes.

The four food security themes explored in this research draw attention to internal and external enablers and barriers facing urban planning at a local government level. The first theme provides evidence of systemic factors related to zoning that result in the inequitable access to healthy food in food desert locations. The inability of local government to control business mix together with a weak definition of "retail activity" dilute its ability to promote healthy food retail choices through planning, and points to policy deficiencies at a state government level. Similarly, the second theme of physical infrastructure barriers, such as freeways, railway tracks (often provided by other levels of government), and lack of pedestrian access provides new insights into how uncoordinated planning across federal, state, and local governments limits vulnerable individuals' access to food sources.

The introduction of urban agriculture (UA) provides economic and social benefits to a municipality (Thompson et al., 2007) through activities such as community gardens, mobile food stalls, and markets. This third theme demonstrates that lengthy and complex bureaucratic processes and restrictive municipal bylaws can inhibit these activities. Local government can address many of these restrictions through targeted policy development and planning and the refinement of local bylaws and procedures. Other barriers to increased UA activities, such as infill UA on vacant land, are more challenging for local government to address and often require cooperative responses with the landowner. Wheeler (2004) suggests that local governments should use zoning to permit urban agriculture (UA) in existing open space, but in Victoria (as in other Australian states) the scope of planning schemes is derived from state government, with scheme approval at the state level. Currently, no zones specifically enable UA in Victoria.

The fourth theme is even more complex. Municipal planners in Victoria lack regulatory planning tools to effectively address food security challenges in land use decisions (Budge & Slade, 2009). There is no provision in the State's Planning & Environment Act 1987 to trigger concern about food security issues. While some pioneering councils may consider using a VCAT challenge to obtain precedents for further food security initiatives, the risks are high that such an action will be unsuccessful, leaving a council with the expense of defeat. The major limitations here occur at the state government level and the lack of consistency between state and local planning regulation.

Food security challenges cross departmental and organizational boundaries and require a holistic and multipartnered approach between all levels of government. Current feedback loops for advocating changes to federal and state government policy remain ineffective, with the result that higher government levels miss the opportunity to align their

responses based on informed community practice. This research suggests that better interchanges between multiple levels of government and feedback from local experience and knowledge could contribute to a more coordinated approach to food security.

Conclusion

This article contributes to the understanding of barriers faced by local government urban planners in addressing contemporary food security challenges in Victoria, Australia. This in-depth research, based on two state-local government partnership projects, highlights inadequacies in current legislative, policy, and regulatory systems and processes, and points to ways that urban planning can contribute to solving municipal food security problems. Residents need access to healthy food within walking distance from their homes, particularly in low socio-economic areas where car ownership and public transport is limited. Existing planning schemes enable walkability and cycling but seldom address issues related to food supply or food access. Local governments can only encourage the development or establishment of healthy food outlets in particular locations, as planning regulation does not enable influence on business mix. Case study participants found that local government planners were hesitant to push the boundaries of current planning schemes because they do not have the regulatory authority to insist that retail outlets include healthy food options.

Such a complex governance problem needs as many perspectives as possible to improve food system sustainability. While some barriers are internal to local government, such as in the UA regulatory environment, the systemic planning barriers shown in this research also demonstrate the problems of external fit with federal, and more significantly, state government policy and legislation, both of which limit local government planning capacity to respond. In a federal governance system, a complex problem such as food security requires attention at each level of government. Local government urban planners need increased legislative, policy, and regulatory tools to enable food security principles in land use decisions to facilitate municipal food security planning.

While this research identified roles for planning in addressing food security in the state of Victoria in Australia, future research could document and evaluate successful examples as well as barriers from other Australian states and around the world. Applied research could pilot and monitor new applications.

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Bridging gaps: A framework for developing regional food systems

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Abstract

Local food research has been generally focused on strengthening the alternative food system by scaling up local agriculture, rather than advancing strategies to bridge gaps between local farmers and conventional food retail businesses. Competitive advantage theory forms the foundation of a framework based on Porter's (1985) firm (business unit) value chain for investigating food system gaps, and a logic model for promoting development by adding value throughout the alternative food supply chain. In the present study, a survey created jointly by local stakeholders investigated factors that food retail businesses consider when sourcing local food. Among the top rated factors, supporting the local economy (opportunity) and regular delivery (barrier) were seen as significant to the regional food system of the Algoma District in central Canada. Mapping these factors through the firm value chain framework revealed a high degree of interconnectedness to other factors in the survey, including importance of obtaining fresh food, consistency of supply throughout the year, and reducing overall costs of supplying affordable products. Analysis of the survey results from the perspective of a food retail business pointed to information technology and coordinated distribution methods as playing important roles in adding value to the regional food system. In addition to these results, the downtown of the study site has emerged as an aggregation point for local food, and local food may be playing a role in revitalizing the downtown. The value chain framework analysis can be applied to other localities to bridge gaps between local farmers and conventional supply chain actors.

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Keywords
Alternative Supply Chain; Competitive Advantage Theory; Conventional Supply Chain; Downtown; Framework; Food Delivery; Food Retail; Local Food; Regional Food System; Regional Economy; Porter's Value Chain

Introduction

Local food is of increasing interest among consumers, governments, nongovernmental organizations, and businesses in Europe and North America, including Canada's Northern Ontario (Knezevic & Nelson, 2013; Martinez et al., 2010; Nelson & Stroink, 2013). There is evidence that consumers prefer local production and in some instances will pay more for local products (Carpio & Isengildina-Massa, 2009; Chinnakonda & Telford, 2007; Grebitus, Lusk, & Nayga, 2013) for a variety of reasons, including perceived freshness (Grebitus et al., 2013; Wolf, Spittler & Ahern, 2005), better taste and/or quality (Chinnakonda & Telford, 2007; Onozaka, Nurse, & McFadden, 2010; Wolf et al., 2005), to support the local economy and family farmers (Chinnakonda & Telford, 2007), perceived environmental sustainability (Kloppenberg, Lezberg, Master, Stevenson, & Hendrickson 2000), knowledge of the food's supply chain (Marsden, Banks, & Bristow, 2000; Rikkonen, Kotro, Koistinen, Penttilä & Kauriinoja, 2013), and perceptions of food safety (Onozaka et al., 2010). Yet local food is not yet routinely and consistently included in the conventional, or "mainstream," food system (Starr et al., 2003).

Direct marketing is common in alternative supply chains. However, there are opportunities and barriers to operating within this model. Some typical direct marketing initiatives include gate sales, u-pick, roadside stands, farmers markets, and community supported agriculture (CSA) (Low et al., 2015). These initiatives present opportunities for farmers to increase their profit margins by selling directly to consumers, avoiding the costs associated with moving product through distribution, processing, and wholesaling firms. However, farmers also face barriers moving in this direction (Mount, 2012). In Southern Australia, Kupke and Page (2015) concluded that farmers are "time poor and spending precious weekends behind a stall does not hold much attraction" (p. 73). Kupke and Page (2015) also comment on the lack of management and staff, and issues around transport and transport costs associated with accessing the market. Moving forward, Guptill and Wilkins (2002) and Abatekassa and Peterson (2011) suggest that more attention needs to be focused at the retail end of the conventional food supply chain. Guptill and Wilkins (2002) state that "researchers and activists must explore the new dynamic retailing landscape in order to formulate strategies for change" (p. 49). Thus bridging gaps between alternative and conventional supply chain actors may expand the market for regional agriculture.

In 2011, the manager of the Johnson Township Farmers' Market, who represented a rural community outside the city of Sault Ste. Marie, Ontario, and who was a member of the Algoma Food Network (AFN), expressed interest in studying the flow of local food into the Sault Ste. Marie marketplace. The AFN is a group of key stakeholders including university faculty, research institutes, citizen groups, farmers market managers, and farmers in the Algoma District of Northern Ontario, Canada. AFN members made up the steering committee for a survey to assess opportunities and barriers in connecting with food retail businesses in Sault Ste. Marie (Algoma Food Network, n.d.). There was informal evidence of local food supply chain activity, and this initial survey was designed to document the extent of local food trade beyond the traditional farmers market, exploring including distribution locations, quality and range of goods, and consistency of availability. The results provided insights for stakeholders and, when considered in the broader context, prompted the conceptualization of a holistic strategy to develop regional food systems. To address failing farmers markets, Sneed and Fairhurst (2010) offered a strategy using competitive advantage theory and applied activity system mapping to strategically position a farmers market within the food retail sector to ensure long-term viability. They propose that "outside advisors are in a position to provide training and assistance to markets in understanding and completing the process of activity system mapping, and using the results to inform future management decisions"

(Sneed & Fairhurst, 2010, p. 157). Their application of competitive advantage theory may have broader implications when applied to regional food systems. Porter's (1985) firm value chain, "a collection of activities that are performed to design, produce, market, deliver, and support its product" (p. 36), provides a logical framework to strategically focus regional food systems development. A value chain in this context is not to be confused with popular uses of the term within local food literature, which are typically defined as a common set of values promoting trust and transparency that are practiced among partnering organizations and businesses (Campbell & MacRae, 2013; Ikerd, 2011; Stevenson & Pirog, 2008). With Porter's firm value chain framework in place, stakeholder queries were positioned as value activities in Porter's firm value chain based on two assumptions: (1) local food is seen as having a competitive advantage, and (2) local food is differentiated within the market. The stakeholders' survey provided further insights into broader implications for developing regional food systems. Porter's competitive advantage theory, and in particular the value chain framework, can inform survey design that investigates the buying and sourcing practices of food-retail businesses (FRBs), identify areas of the FRB business unit where added value can be created, and provide strategies for a wide range of actors (e.g., food proponents, research centers and institutes, community development corporations [CDCs], business incubators, and business associations). Value activities could be used to bridge gaps between the alternative and conventional supply chain (e.g., including but not limited to farmers, distributors, processors, wholesalers, and retailers only active within the mainstream supply chain). Therefore, Porter's (1985) value chain represents a framework where value activities are actions and interventions that interact and influence desired outcomes that are based on value-added criteria.

Algoma District at a Glance

Local, when defined as being of provincial provenance, can be a vast distance, particularly within the north of Ontario. The Canadian Food Inspection Agency (CFIA) is adopting an interim policy that defines local food as originating from the province or territory where it is sold, and within a 50-km (31-mile) radius of provincial or territorial borders (Canada Food Inspection Agency, 2014). The province of Ontario's definition for local is consistent with the CFIA version, but it refines the definition as "produced or harvested in Ontario, including forest and freshwater food," or "if they include ingredients produced or harvested in Ontario" (Legislative Assembly of Ontario, 2013, Definitions, sections a and b). For the purposes of this study, local food was defined as being "grown or harvested" in the Algoma District (Figure 1). This limited the scope of local to a smaller unit of study within northern Ontario, and matched the unit with the geographic reach of stakeholders involved. The geographic parameters for the study help to refine the foodshed for Sault Ste. Marie, provide a regional identity, and inform geographic underpinnings of future research in food studies within Northern Ontario.

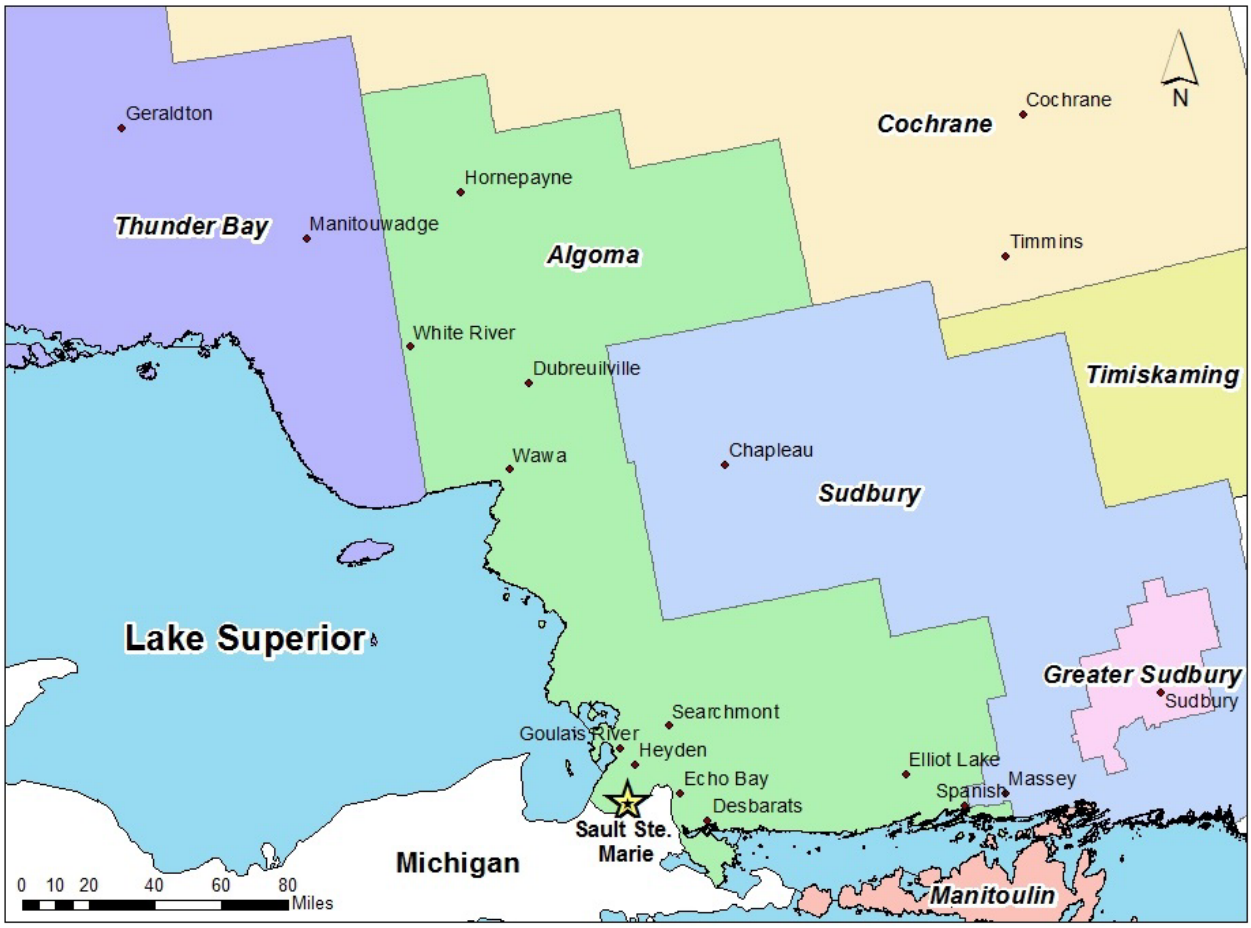
The Algoma District is a vast area of 48,811 km^2 or 18,846 mile^2 (Statistics Canada, 2012) stretching both north and south of Lake Superior. The city of Sault Ste. Marie, with a population of 75,141 (Statistics Canada, 2012), is located on the border with the U.S. state of Michigan. The city makes up approximately 65% of the population base of the Algoma District, and thus is its main market (Statistics Canada, 2012). Interest in the regional food system is expanding within the district (Hopper, 2015; Rain Media Release, 2014). The increasing support for a local food economy suggests that there is potential to scale up small to midsized farms, enhance the emerging market, and contribute to a local/regional economy.

Actors in the Algoma District

Producers

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA, n.d.) reported a total of 317 farms in the Algoma District, according to the 2011 census. Most food production occurs in a smaller zone between just north of Sault Ste. Marie and to the southeast, including Blind River and St. Joseph Island (Harry Cummings and Associates, 2009). Products grown in the region include apples, barley, blueberries, broccoli, canola, corn,

Figure 1. Map of Algoma District



Map prepared using data from:

Statistics Canada. (2011). Boundary Files, 2011 Census. Statistics Canada Catalogue no. 92-160-X [Data set]. Retrieved September 16, 2015, from https://www12.statcan.gc.ca/census-recensement/2011/geo/bound-limit/bound-limit-2011-eng.cfm

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cucumbers, flax, hay, hemp, mixed grains, oats, root vegetables, soybeans, strawberries, tomatoes, and wheat. Maple syrup is a specialty product of the area. There are also greenhouse, nursery, and floricultural activities, and animal-based farming, including beef and dairy, alpacas, bees, bison, deer and elk, goats, horses, and sheep (Harry Cummings and Associates, 2009; Possibilities Group Inc., 2011; Sault Ste. Marie Innovation Centre, 2012).

The statistics for the district between 2001 and 2011 show that the agricultural community is aging, but there are stable younger generations in the under-35 category (S. Duff, personal communication, March 30, 2015). However, the period between 2001 and 2011 saw a 5.9% decrease in the number of farms in the district, which is consistent with provincial and national trends (OMAFRA, n.d.). The province showed an increase in gross farm sales of 17%, while the district showed a decrease of 20.2% over the 2001–2011 period (S. Duff, personal communication, March 30, 2015). Although Sault Ste. Marie is an isolated city, the distance to other markets may actually be an advantage to developing a local market (Nelson & Stroink, 2013). Following a fact-finding mission in 2002, Mennonites migrated

from Southern Ontario and established themselves on formerly vacant farms in the Desbarats area in 2003–2004. They were attracted by low land prices and greater land availability, which could lead to opportunities to expand their agricultural base as compared to remaining in Southern Ontario (Farmers' Markets Ontario, 2011; Harris, n.d.). Besides the Mennonites, there does not appear to be an influx of new entrants into the agricultural sector within the district, but the agricultural community appears stable for the time being.

Processors, Wholesalers, and Distributors

There are few processors, wholesalers, and distributors who deal in local food products within the Algoma District. Two processing facilities are located in the district: one is a meat processing plant that moves meat products in low volumes through meat stores and farmers markets, and the other is an oilseed crushing and processing plant that processes canola into industrial bio-products. One local distribution company transports local dairy products (though not exclusively local) from central collection points in Sudbury (305 km or 190 miles from Sault Ste. Marie) and Manitoulin Island (293 km or 182 miles from Sault Ste. Marie).[1] There is a significant gap among intermediaries in the alternative food supply chain, which is consistent with local food systems literature.

Stakeholders

Among the stakeholders working toward regional food systems development are the Algoma Food Network (AFN) and the Rural Agri-Innovation Network (RAIN), formed in response to increased interest in local food "dedicated to the needs of agricultural organizations, producers, suppliers and agri-entrepreneurs in Northern Ontario; to enhance the industry by providing a collaborative infrastructure and network that enhances stakeholder capabilities and business growth" (RAIN, n.d., para. 2). These stakeholder groups have contributed widely to local food initiatives that include fallen fruit projects (also known as gleaning), campus community gardens, food festivals, community supported agriculture, and farmers markets. In November 2014, the two organizations held the first Sault and Area Food Summit. The event shone a light on a group of "organizations, farmers and every day regular folks who want to 'create action and change in the local food system'" (Petroni, 2014, para. 2): the shaping of a community of food practice (Friedmann, 2007).

Retailers

The food sector in Sault Ste. Marie consists of food retail and food service businesses, such as catering, restaurants, and pre-prepared food services.[2] Supermarket chains are dominant in the city, and they include two major chains consisting of seven large stores as well as one large independent supermarket. In addition, there are a few small to medium-sized businesses, predominantly located in the downtown, operating as grocery retail stores.[3] Other store formats include hypermarkets (large stores combining a supermarket with a department store and offering a wide range of goods and services) and drugstores, both of which also offer a limited food selection. Food services also make up a large portion of the food retail sector in the city. Restaurants are dominant within this category and often offer catering services as an additional revenue stream. Specialty food retailers such as bakers, butchers, and health food stores are also present.

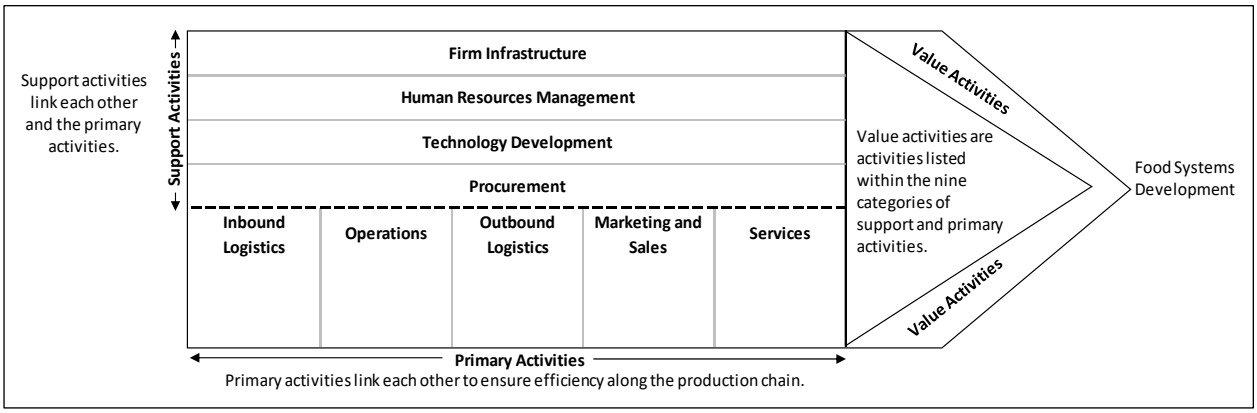
Four farmers markets are located in the Algoma District (Algoma Marketing Alliance, n.d.). Two markets that serve Sault Ste. Marie are the

[1] Distances between communities, villages, towns, and cities in this paper were calculated using the Ministry of Transportation Ontario's Distance Triangle in combination with Northern Ontario Road Map 12, found on the government website: http://www.mto.gov.on.ca/english/traveller/map/northindexpdf.shtml

[2] The definition of food service is taken from Canada Industry Statistics (CIS), which is also the North American Industry Classification System (NAICS) definition. It can be found under the industry Accommodation and Food Services, subsector Food Services and Drinking Places. The definition breaks down further into industry groups. The complete definition can be found at https://strategis.ic.gc.ca/app/scr/sbms/sbb/cis/definition.html?code=722&lang=eng

[3] Definition of downtown for the city of Sault Ste. Marie comes from the city's official plan found on the city website: http://www.saultstemarie.ca/City-Hall/City-Departments/Engineering-and-Planning/Planning/Municipal-Land-use/Official-Plan.aspx

Figure 2. Generic Value Chain Framework, Adapted from Porter's Firm Value Chain



Algoma Farmers' Market and the Mill Market. The former has been operating and offering local food options since 1901 (Taylor, 2014), and in 2001 became affiliated with Farmers' Markets Ontario (Farmers' Market Ontario, 2014). The Mill Market is the newest market, opening in summer 2014. It is a part of the Riversedge Development project in the Historic Canal District of the city. It is not affiliated with Farmers' Market Ontario. These two markets are ways for farmers to engage in direct sales with their customer base in Sault Ste. Marie.

Methodology

Survey: Design, Sampling Frame, Field Work, and Quality

Prior to conducting research with human subjects, the Algoma University Ethics Committee approved an ethics application to conduct the research. A questionnaire was developed by the Algoma Food Network consisting of 20 questions that would take approximately five minutes to complete. The FRB population was generated using a sampling frame consisting of telephone directories[4] and online searches, and through discoveries made in the field. FRBs included in this project were retail outlets, butcher shops, bakeries, health food stores, restaurants, and catering services. Businesses excluded from the sample frame were banquet halls, establishments with a private membership, and convenience stores. The reason for these exclusions are their limited access to the greater public and the requirement for user fees, in the case of banquet halls and establishments with a private membership, as well as the low reliance on convenience stores as a major source of food. Eckert & Shetty (2011) used a similar participant selection method, which this survey attempted to replicate. While the population identified may not encompass the entire population of FRBs in Sault Ste. Marie, it was the most comprehensive and reliable population estimate. A total of 99 FRBs were identified through the sample framing.

The stakeholders' survey, titled "Locally Grown Food for the Northern Urban Marketplace," was developed by community partners and distributed to FRBs in Sault Ste. Marie. The results of the study are focused on the interests of the stakeholders. Results include types of businesses engaged in local food, purchasing frequency, collection methods, products purchased, important factors to from the point of view of a business owner, and the demand for local food.

Each FRB was contacted by phone and given an incentive to participate. The survey was administered face-to-face due to benefits that included ease in addressing ethical considerations and clarifying survey questions, such as the ability to check for mutual understanding of questions. In many instances, surveys were left with managers to complete at their convenience and retrieved at a later date. Convenience for the participant was an important factor in acquiring completed surveys; restaurants required the most flexibility in terms of survey retrieval.

[4] The directories used to generate the population of FRBs were the Bell Yellow Pages Telephone Directory (2012) and 411.ca (2012).

Value Chain Framework Analysis: Analytic Methods

Porter's theoretical concepts in *Competitive Advantage: Creating and Sustaining Superior Performance* (1985) were a primary resource for the value chain framework methodology. The framework highlights opportunities and inadequacies in the local/alternative food system. In Figure 2, there are nine categories of value activities, with each category representing basic functions of a business. Five categories make up the primary activities, including inbound logistics, operations, outbound logistics, marketing and sales, and services. These primary activities are responsible for "the physical creation of the product and its sale and transfer to the buyer as well as after-sale assistance" (Porter, 1985, p. 38).

Support activities include the following four categories: firm infrastructure, human resources management, technology development, and procurement (Figure 2). Support activities "support the primary activities and each other" (Porter 1985, p. 38). Each of the nine primary and support activity categories ideally includes a process or activity that creates value, or added value. Therefore, they are referred to as value activities. Each category is linked through its value activities. When a value activity is identified within a category, it may require sub-activities that may be assigned to the same category, or to other primary or support activities. For example, if a value activity such as transportation of goods and services is assigned to the primary category outbound logistics, then this activity may require sub-activities. A sub-activity is an action that begins or completes a process, such as driver training and licensing, which could be assigned to the support category human resource management, in addition to falling under the primary category outbound logistics. Therefore, a single value activity is often made up of a complex network of sub-activities, each of which contributes to a complete process.

The survey questions were constructed based on stakeholders' existing knowledge about the complexity and informal nature of the local food system. These questions were assigned to primary and support activity categories. When the questions were organized into the framework, the outcome suggested which categories of the value chain framework needed to be developed or strengthened based on gaps observed by comparing the categories in Porter's framework with the categories represented in the questions from the stakeholder survey. Priorities were set by the results of the survey, which strengthened existing knowledge. Since data was compiled from a large number of FRBs in Sault Ste. Marie, the framework differs from Porter's firm value chain (based on a single business unit), as it represents an aggregate of multiple businesses. The stakeholder input and survey results highlight strengths and weaknesses along the conventional and alternative supply chain and displays opportunities to enhance or eliminate gaps in the regional food system.

Results

A short growing season, relatively small market size, regional economic focus on resource industries, domination by grocery chains, and minimal local food infrastructure are challenges to local food production and distribution in Algoma District (Harry Cummings and Associates, 2009; Nelson and Stroink, 2013; Possibilities Group Inc., 2011).

FRBs Sourcing Local in the Algoma District

We approached a total of 99 FRBs to participate in the study, with 51 return surveys, for a response rate of 52%. Fifty-seven percent of FRBs indicated they source locally grown products from the district and 39% did not; two businesses did not respond. FRBs were split into two categories: food service and food retail. Approximately 75% of respondents were food service businesses, including restaurants and caterers, and 25% were food retail businesses, including bakeries, retail outlets, butcher shops, and health food stores. A few FRBs listed a wide range of revenue streams; in most cases they were categorized as food service because their store format fit a food service model. In the food service category, 41% of total participants source locally, and in the food retail category, 17% of businesses source locally. Of the total businesses that source locally, 62% are located in the downtown. The survey also asked if FRB customers were requesting local food; the response rate for

this question was low, with only 18% of FRBs responding. The low response rate may indicate a lack of awareness among the consumer base of local food, or lack of concern or awareness by the FRBs in this respect.

The survey also found that FRBs were purchasing local products in the following categories: vegetables (76%), meat (66%), fruit (52%), and maple syrup (48%). Further inquiry asked FRBs to indicate what specifically they were purchasing in terms of food items within each category except maple syrup, and the majority of business indicated similar products. Purchasing seems to be focused on a few selected food items within each category.

Seasonality of Purchases, and Products Purchased

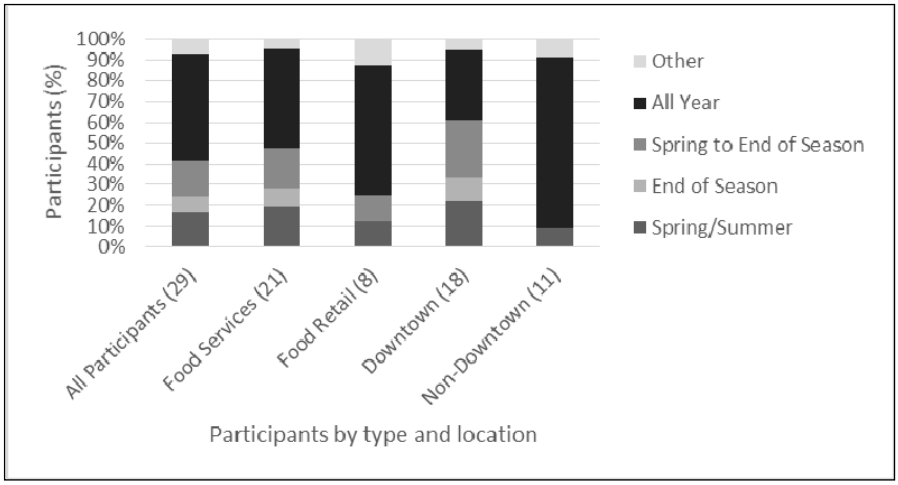
The climate of Northern Ontario plays an important role in food production. A longer winter and shorter growing season influence consistency and availability of agricultural products, challenging vegetable growers to provide a consistent supply of produce all year round. Perhaps surprisingly, 52% of participants indicated sourcing from local farmers all year round (Figure 3). Year-round sourcing of local products could be attributed to the high percentage of participants sourcing meat (66%) and just under half the participants sourcing maple syrup. Nearly half of food services (48%) and the majority of food retailers (63%) source local products all year round (Figure 3). However, a large proportion of food services (47%) are sourcing locally on a seasonal basis, from spring to harvest season, while only 13% of food retailers source locally during the same seasonal time frame (Figure 3). The food retail category appears less active in sourcing local food during the growing and harvest seasons. Just over half the participants sourcing local (62%) were located in the downtown: businesses located in the downtown appear to be more active sourcing local food during the growing and harvest seasons. The food service category represents 83% of the businesses in the downtown, while food services makes up 55% of business outside the downtown that source local.

In comments regarding the seasonality of purchases in the survey, many participants remarked that they purchase local: when available and needed; whenever available; and as often as available throughout year, as according to the survey response categories. These comments suggest that participants are opportunistic when it comes to sourcing local food. This trend could be a result of local food activity located in the downtown. Generally FRBs source local whenever it is available, but their purchases are focused on specific food items. The larger number of food services captured in the survey may be indicative of focused purchasing. Food services typically offer specialized products as part of a menu or prepared foods; for example, Italian cuisine may require tomatoes, peppers, and beef as base ingredients for most menu items.

Aggregation, Collection, and Distribution

Figure 4 shows venues (identified by stakeholders) at which collection and aggregation of local food occurs. Based on the responses from participants, the results show that farm gate, fish vendors, and the farmers market are among the most frequented venues by participants sourcing local food. Fifty-two per cent of participants source local food directly from the farm gate, and 34% of partici-

Figure 3. Seasonality of Purchases by Participant Type and Location



pants source food from a fish vendor and the farmers market. The bulk of participants (90%) source from three or fewer different venues, and that 48% of respondents source from only one of the venues. Among the 48% sourcing local food from one venue, farm gate still holds as the top venue for sourcing local food. Within the category "other" in Figure 4, collection and aggregation points not included in the list were distribution companies and farmers markets located in adjacent townships.

Stakeholders were interested in how FRBs were sourcing local food from within the district. Figure 5 presents responses on two collection methods commonly used or commonly offered by suppliers in the alternative food supply chain. These methods are delivery, self pick-up, or both. The data were broken down into categories that include all participants, food service vs. food retail, and downtown vs. nondowntown. Approximately 45% of participants choose delivery as their only method for sourcing local food, despite participants indicating farm gate as the most popular collection point. Second to delivery, 31% of participants do both pick-up and delivery. When the data were broken down between food services and food retailers, food services are the majority of businesses using self pick-up (48% including those that do both). Delivery is the predominant method for collection among food retail participants (88%). When compared between downtown and nondowntown participants, results show that delivery is less common among downtown businesses and more common for businesses located outside the downtown. Collection methods commonly used among participants in the downtown are pick-up (24%), or both (24%); the majority of participants in the downtown are food services. Outside the downtown, only food services indicated that they do both pick-up and delivery, but 31% of participants (food services and food retail combined) indicate that delivery is the most common method for sourcing local. The results show that delivery is the general practice among FRBs; however, food services seem to have some degree of mobility, allowing them to use self-pick up as a means of sourcing local products. This is less common among food retail. Evidence supports that the further a business is from the downtown, the less likely it will be to use pick-up as a means of sourcing local products.

Approximately 65% of 49 FRBs would be interested in picking up local food in a designated location of their choice. Food services represented 70% of the FRBs interested in picking up local food from a designated area. FRBs commented that pick-up was too much hassle, or they

Figure 4. Collection Centers for Locally Sourced Food

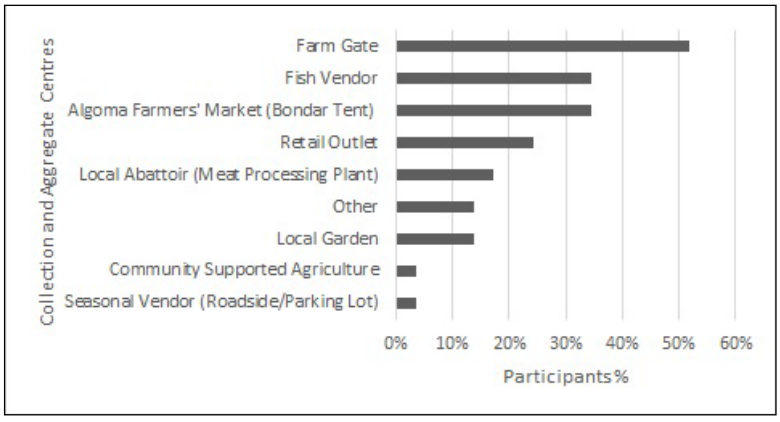
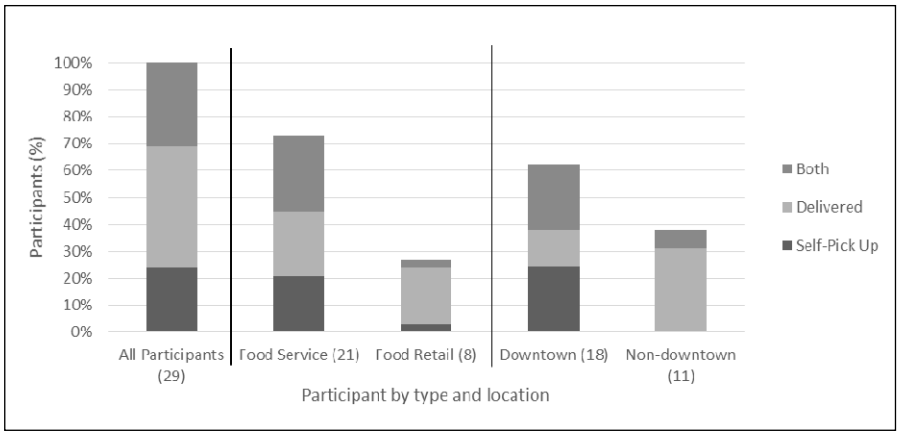


Figure 5. Participants' Collection Methods by Type and Location



would rather have delivery, and they lacked time to pick up local food at a designated area. This reinforces our hypothesis that the greater mobility of food services better allows them to use pick-up as a means to source local products.

Specific locations were given as centers for distribution, aggregation, and collection based on designated areas within the city, taking into consideration existing local food infrastructure and commercial retail centers, as well as potential sites that indicated an absence of local food collection. The following were listed as potential centers for local food collection: Downtown, East End, McNabb/Great Northern Road Area, New Hospital Area, Steelton, and the Far West End. There were 46 responses, 50% of which indicated that the Downtown would be a preferred location for distribution, aggregation, or collection of local food. The McNabb/Great Northern Road Area (a retail district within the city) was the second choice among FRBs, making up 20% of the total responses.

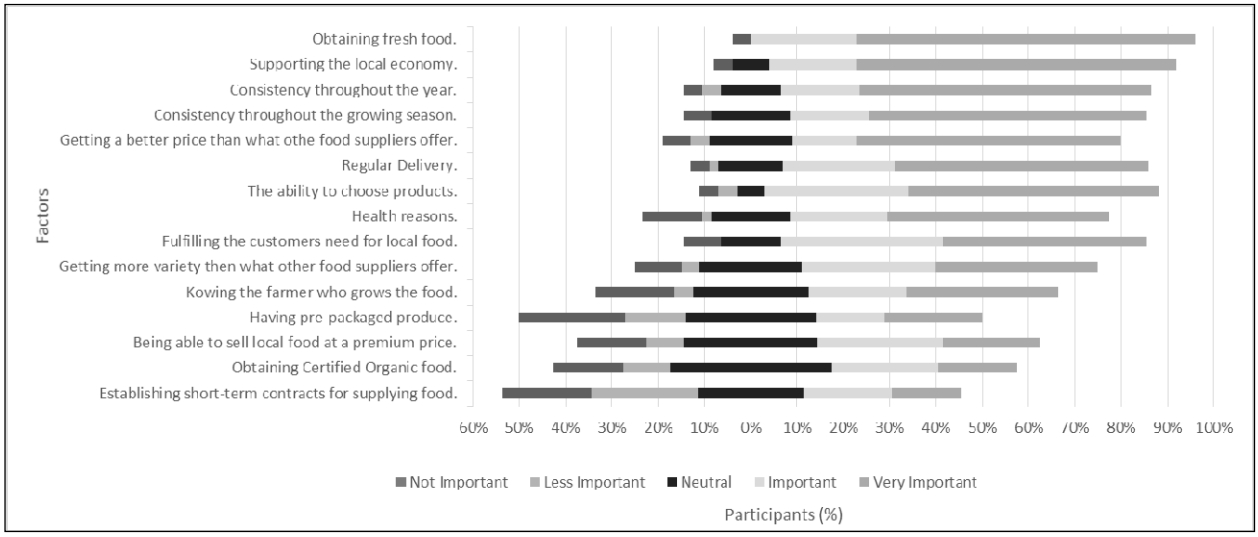
Important Factors in Buying Local Food

Stakeholders were interested in factors that FRBs consider when purchasing local food. Figure 6 shows a list of factors that were rated on a five-point Likert scale, where 1 is not important and 5 is very important. The graph represents the percentage of participants indicating how important specific factors were to them as businesses owners. The following were identified as very important factors: obtaining fresh food (73% of the business chose very important), supporting the local economy (69%), consistency throughout the year (63%), getting a better price than what other food suppliers offer (57%), and regular delivery (55%). Factors considered to be of lesser importance were being able to sell local food at a premium price (10% of businesses felt it was very important), establishing short-term contacts for supplying food (15%), and obtaining certified organic food (17%).

Discussion

The results from the stakeholders' survey provided insights into the nature of the conventional and alternative food systems of a Northern Ontario city. Despite marketing initiatives and the attention that local food has received in Sault Ste. Marie over the last five years, local food was not reported to be in high demand by FRB customers. However, over half the participants stated that they source local food. Food services like restaurants and caterers appear to represent the majority of FRBs and are predominantly located in the downtown area. Coincidently, local food activity and infrastructure seem to be focused in the downtown area, as it is now home to two local food markets, a local food festival, and a number of local food initiatives. It is very likely that the close proximity

Figure 6. Importance of Factors When Sourcing Local Food

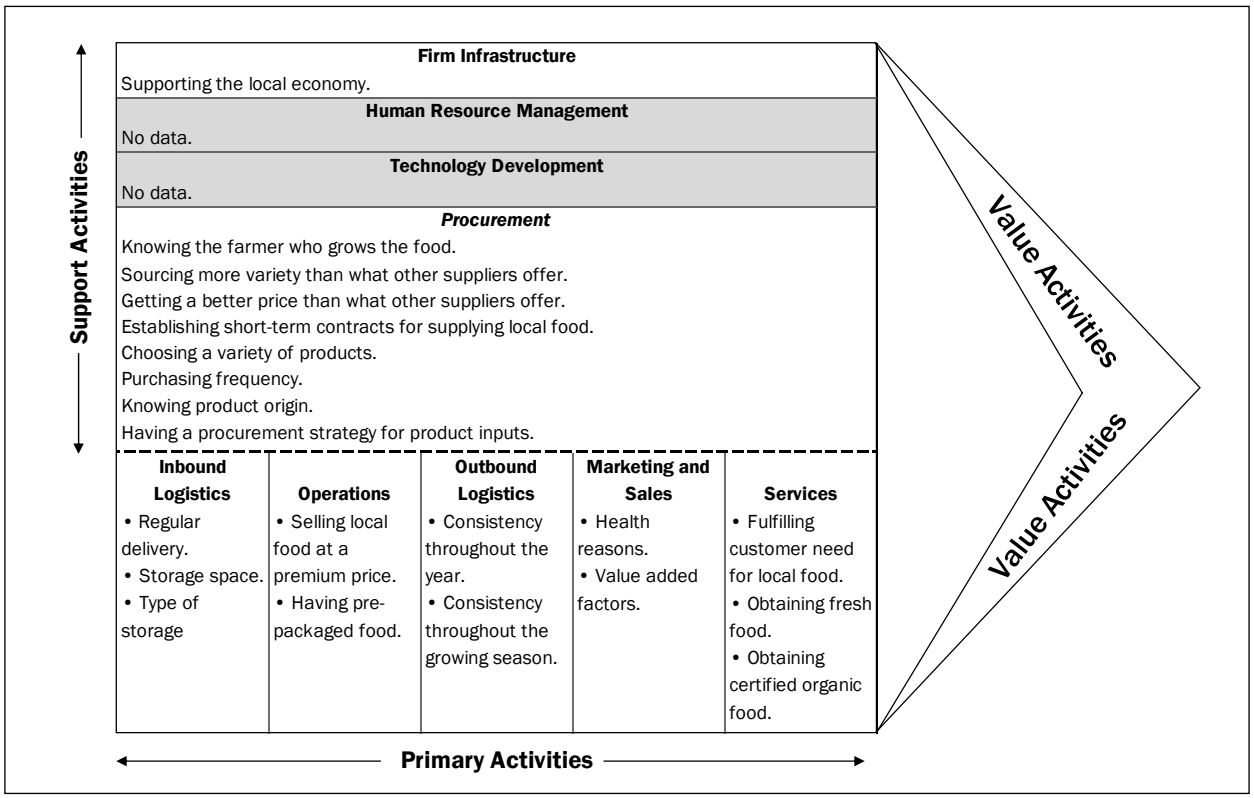


of FRBs to local food aggregation has an influence over their propensity to purchase products throughout the growing season. It is also possible that this particular influence has created opportunities for FRBs to work with specific farmers through informal trust relationships to meet FRB needs.

As mentioned, feedback from the survey detailed specific information for the stakeholders involved in its design. However, the opportunities presented by the survey were only relevant to individual stakeholders. For example, delivery may be a competitive advantage, and farmers already offering delivery know that this is a value-added service. Farmers who do not offer delivery are now privy to knowledge that can expand their market. Porter's (1985) value chain helped to generalize findings and work through a framework to focus local food development. Survey questions were entered into the value chain framework (Figure 7). They were analyzed and assigned to the categories listed under primary and support activities within the framework. The categories of human resources management and technology development in the support activities portion of the diagram in Figure 7 show no data. There was very little input or interest in understanding the human resources management and technological capacity of FRBs. However, when mapping sub-activities, human resources management and technology development became very important in the development of food systems.

Among the value activities listed in Figure 7, obtaining fresh food and consistency in supplying local products and the challenges thereof are well documented in the literature. Two value activities seemed to stand out with local and regional significance. While FRB customers are not requesting local food, FRBs seem to be sourcing local for other reasons. The majority of FRBs indicated that supporting the local economy was very important. Also, due to the geographic expanse of the district, there are logistical issues with collecting, aggregating, and distributing locally raised and grown products. Conventional food supply chains offer the convenience of products being delivered to

Figure 7. Value Chain Framework Using Data from the Stakeholders' Survey



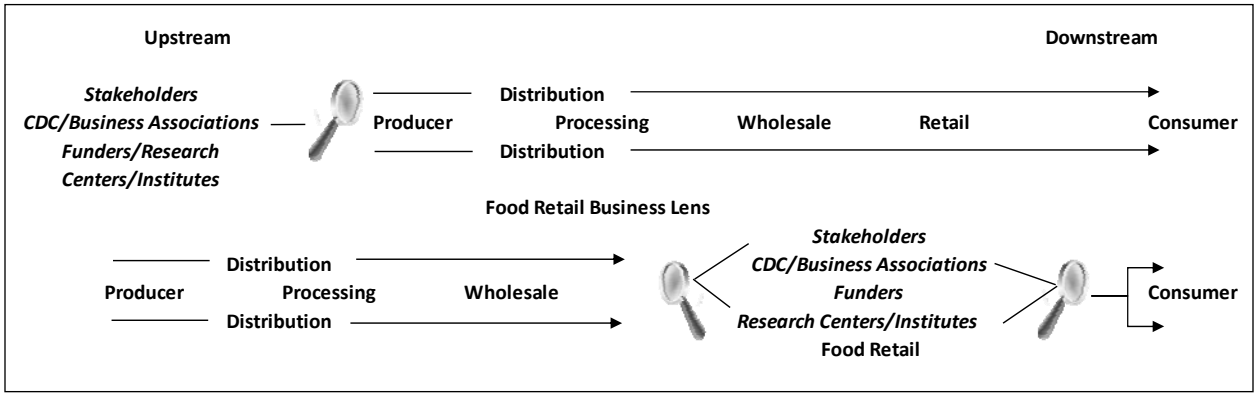
FRBs. This is something that is not as consistent in the alternative food system as seen in Figures 4 and 5. FRBs (55%) indicated that regular delivery was very important. An investigation into the local food system revealed that there was very little organized or coordinated aggregation or distribution of local product to the market. Therefore, supporting the local economy and regular delivery are value-added activities for FRBs, but also present challenges for the agricultural community.

These barriers, however, are multifaceted and require a broader scope to overcome. Two prominent themes arise from examining gaps in Figure 7. Gaps in survey coverage of Porter's primary activities indicate less awareness or attention of stakeholders to key processes within a business unit. Referring to Figure 7, there was a lack of questions on the survey related to human resource management and technology development. Many of the businesses surveyed were small to medium-sized businesses with limited staff, therefore some type of subsidized employment (such as one-year internships) would help their operations in key areas. The survey itself did not inquire specifically into the information technology (IT) gap outlined in Figure 7, but there was no evidence of FRBs using IT to create added value to their businesses. The gap in technology development highlights an opportunity for stakeholders to increase their capacity. Using the value chain framework, value activities can be mapped even further to understand how FRBs can create added value by sourcing local foods. This may be through innovation on the part of the FRBs, or it may be an action required by the agricultural community, or both. Either innovation or action becomes a solution and a step toward overcoming barriers to sourcing local food. The following discussion examines the value activities supporting the local economy and regular delivery through the value chain framework from the perspective of an FRB.

Agri-centric vs. Food Retail Business

Here it is important to understand what is meant by examining barriers to sourcing local food from an FRB's perspective. Local agriculture is reported as contributing significantly to local economies through direct marketing. An overview both within the literature and across a number of local organizations suggests that much of the support for local food economies is focused on the scaling up of local agriculture (upstream) and creating value at the consumer end (downstream). Therefore, development focuses on the agricultural community or through an agri-centric lens (Figure 8). When the stakeholders are positioned so they are taking the perspective of an FRB, as opposed to the perspective of a producer, they are better able to understand consumer preferences as well as barriers to sourcing local food. Bloom and Hinrichs (2011) find similar themes in the United States; they state that "much of this funding is aimed at the traditional thematic areas of rural development and agricultural marketing" (p. 13). Alternatively, an FRB lens (Figure 8) offers a different perspective to understanding barriers that FRBs and the agricultural community face when bridging gaps in the regional food system. To support the local econ-

Figure 8. Food Systems Development Through Agricultural and Food Retailer Lens



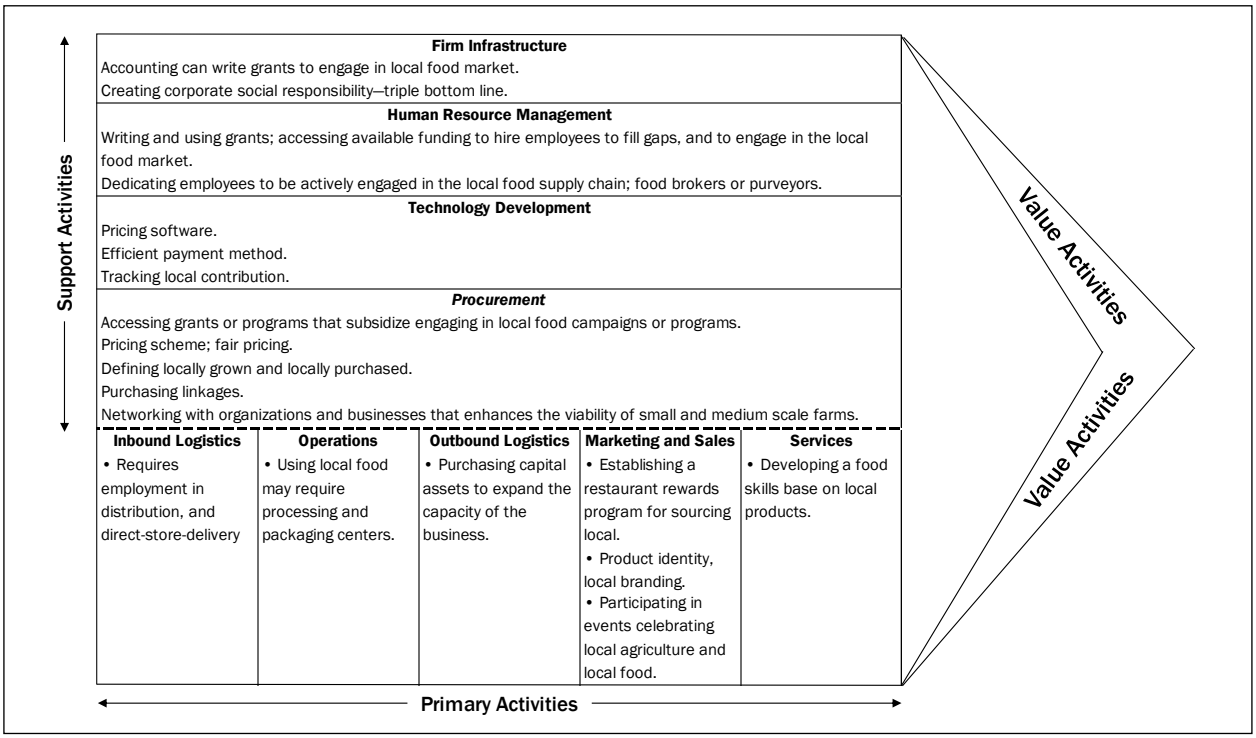
omy and achieve some of the sub-activities mapped in the value chain framework, stakeholders, CDCs, business associations, funders, and research centers and institutes need to divert some attention away from scaling up local agriculture upstream, and focus on the downstream, developing infrastructure for FRBs to source food locally. It should be cautioned, however, that if not properly managed, this may reduce financial returns to farmers by creating additional layers in the value chain.

Example 1: Analysis of a single value activity using Porter's value chain framework: Supporting the local economy

Only 44% of FRBs felt that fulfilling customer needs was an important factor to consider as a business owner as it related to local food. FRBs placed greater importance on supporting the local economy. Dunne, Chambers, Giombolini, and Schlegel (2010) asked food retailers why they sourced local foods, and they reported that "the most common response was to support the local economy" (p. 50). Dunne et al. (2010) provide a list of motives for food retailers to carry local food, which is consistent with the literature and supports it as a value activity. FRBs feel strongly about supporting the local economy, which creates a positive business image. However, in order for the agricultural community to reciprocate, there needs to be a greater buy-in among FRBs to source local. In other words, there needs to be scaling up through increased sourcing and purchasing of local food. The agricultural community (represented by the stakeholders involved in the survey design) is committed to supplying FRBs with an affordable, high-quality product. However, local agriculture needs significant investment and infrastructure to produce consistent volume year-round at a relatively cheap rate. Figure 9 provides a framework for supporting the local economy.

The principal agents for developing the FRB sector are community development corporations (CDCs); they are the drivers in business development and innovation. Whether it is entrepreneurial support, employment subsidies (interns), or business consulting, CDCs can provide supports and resources for small and medium-sized businesses. Research centers and institutes can also play a role

Figure 9. Mapping Sub-activities Commonly Found in the Literature for the Value Activity "Supporting the Local Economy"



and can partner with FRBs in providing interns, expertise, and resources for developing retail businesses in the local food sector. Government entities can also increase efforts to educate the business community on funding available for local food development. The framework establishes the view of a downstream actor sourcing local food. By building capacity downstream, and by being positioned downstream, barriers can be alleviated and greater opportunities can be created for upstream actors.

Figure 9 draws on academic literature to show what is being done and how development can be focused to overcome barriers by strengthening links between local agriculture and conventional FRBs. It presents solutions on how FRBs can minimize risks by taking the necessary steps to overcome barriers, and it indicates what the agricultural community needs to do in order to add value to FRBs, which overshadows the risks. Figure 9 is based on a literature review that includes Perry, 2011; Rikkonen et al., 2013; Stevenson, Clancy, King, Lev, Ostrom, & Smith, 2011; Conner et al., 2011; Louden and MacRae, 2010; and Che, Veeck, and Veeck, 2005. A technology gap was identified previously in Figure 7, and furthermore it presents a prominent area for development in the regional food system. Through the development of the value chain framework and cross analysis with the literature, technology plays an important role in creating links between actors in the local food system. Through our engagement with many small and medium-sized FRBs and farmers it was quite clear that, in addition to technology development, the time needed to execute certain functions of a business was lacking. For example, the value activity of engaging in the local food supply chain is a function for which larger chains have entire departments. Therefore, the small and medium-sized FRBs need assistance for this activity, which could be offered through consultation or subsidized employment, such as an internship program.

Many of the respondents are both owners and operators of their FRBs and thus are responsible for a number of functions of their operations. This creates very little room for the self-employed to develop their business beyond its current model because so much time is focused on carrying out day-to-day operations. Figure 9 suggests that hiring grant writers, food brokers or purveyors, and information technologists could assist them in becoming actively engaged in the local food sector. FRBs need funding to employ business innovators in the local food sector. Funding agencies need to tailor funding criteria toward the retail end of the food supply chain.

The value chain framework (Figure 9) identifies a list of activities that would increase FRBs' capacity to source locally. While there are certain challenges in aggregating local food products, aggregating information on local food suppliers is an even greater challenge. Compounding the challenge of aggregating this data is the lack of information on which local food products are offered by various agricultural operations. Creating an organizational body that creates and maintains an online database that houses information like local food suppliers, product availability, price indices, and seed-to-harvest schedules would benefit FRBs, allowing for fair and open competition in the local food sector. Perry (2011) discusses a pricing scheme and schedule for supplying produce and beef to Kentucky State Park system commercial restaurants. The challenges identified by Perry (2011) include prices for goods and payment concerning producers, which were addressed by creating a pricing structure for the produce and the beef sector, and a "feed-to-slaughter schedule" for efficiently supplying beef to food retailers. Abatekassa and Peterson (2011) also suggest that "local product purchasing specifications and guidelines" (p. 57) would benefit the local food system in southeast Michigan. Furthermore, the datahouse would lead to the formation of a network of suppliers, providing greater access to local food.

Purchasing linkages are identified as a support activity as seen in Figure 9. As the data in the stakeholder's survey suggests, local purchases are focused and opportunistic, meaning that FRBs purchase products when they are in season. However, FRBs may require a specific volume or a variety of products not offered by specific farmers. Purchase linkages offer a solution to supplier shortfalls and unavailable products. Purchase

linkages either could be identified by the FRBs, or referrals could be made by the farmers. For example, if a particular farmer can only supply 80% of the product volume an FRB requires, that farmer can make a referral to make up the remaining 20% of the required volume. However, creating purchase linkages between farmers presents the risk of losing sales to a competitor.

One way to reduce this risk is to establish a local food identity or brand, which is also identified in Figure 9. A local food identity means that farmers promote the local brand rather than compete with each other, empowering them to make referrals to other farmers who can fill supply gaps. Under the umbrella of a local identity, informal trust relationships between FRBs and multiple suppliers are deepened. strengthening the local food economy. A local food identity and/or branding strategies can alleviate some of the socio-economic and environmental issues within the communities they serve through adoption of a corporate social responsibility model. Tregear and Gorton (2009) discuss the theory behind shared brands, or as they refer to it within their limited context, club goods. Tregear & Gorton (2009) suggest that "shared brands are likely to become more common" (p. 827) because they create stronger brand presence, enhance the credibility of brand claim, and are commonplace among public sector bodies. Balancing stakeholders' interests in brand creation is a challenge, but when brand creation is united through a values-based supply chain with a regional emphasis, cooperation becomes grounded. Local Food Plus, a certifying body that brands local goods, is an example of how to create effective branding strategies (Campbell & MacRae, 2013; Friedmann, 2007; Louden & MacRae, 2010).

Analysis of the value activity supporting the local economy becomes clearer from the framework. Working through the framework, stakeholders (e.g., FRBs, CDCs, farmers, and research institutes) can identify key areas to develop within their business model or along the supply chain. Each key area can be linked to more than one subactivity, and all subactivities can be focused toward adding value to the FRBs and extending that value to the consumer. For this value activity, funding employment opportunities for local food innovation and developing IT in this sector will strengthen informal trust relationships along the food supply chain, strengthening the local economy.

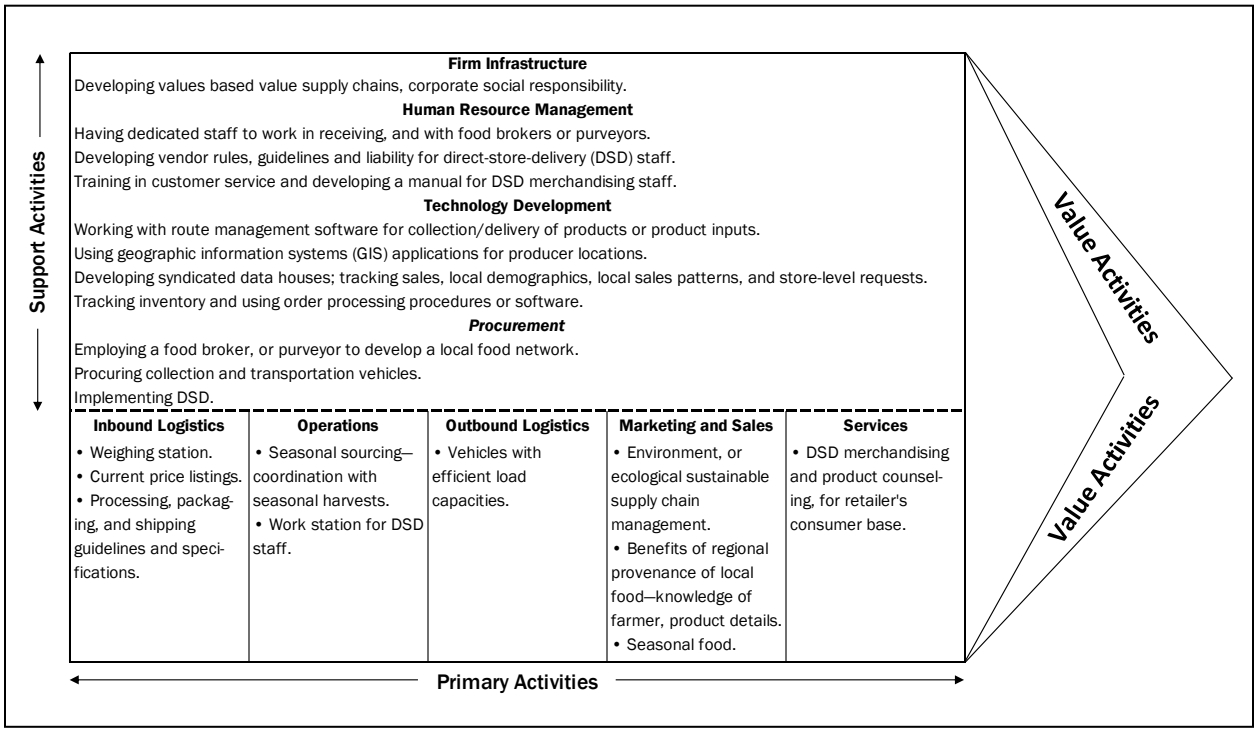
Example 2: Analysis of a single value activity using Porter's value chain framework: Regular delivery

Regional food procurement within the Algoma District presents geographic challenges related to time, distance, efficiency, and cost. The interest groups designed the survey questions to create some depth in understanding challenges FRBs face when procuring local food. Results from the survey indicated that FRBs felt that regular delivery was a very important factor to their businesses. Offering regular delivery is challenging in the district, and the distances farmers may need to travel within the Algoma District to reach markets is a considerable time-cost to them. Farmers located around Sault Ste. Marie's city limits can travel up to 8 km (5 miles) to reach an FRB, and clusters of farmers from Echo Bay (26 km or 16 miles), Desbarats (46 km or 29 miles) and as far east as Spanish (160 km or 99 miles) have to travel long distances to reach an urban market. North of the city, a producer may travel from Heyden (13 km or 8 miles), Goulais River (25 km or 16 miles), and Wawa (229 km or 142 miles), as well as from greater distances (given the northern expanse of the district) to distribute goods to an urban market (refer to Figure 1).

After analyzing the results and the literature, the distribution and collection of local food would benefit from some organization and coordination. Figure 10 is a value chain framework for mapping the sub-activities of regular delivery, and is based on a literature review, including Bloom and Hinrichs, 2011; Bosona and Gebresenbet, 2011; Green and Dougherty, 2008; and Guptill and Wilkins, 2002. Three key areas of focus become evident from working through the value chain framework: Geographic information system (GIS) software; distribution; and receiving and inventory management.

Considering the geographic expanse of the district, GIS mapping for the purpose of aggregating local food for collection or distribution

Figure 10. Mapping Sub-activities Commonly Found in the Literature for the Value Activity "Regular Delivery"



or both would benefit FRBs and farmers. When thinking of a central collection point, the downtown seems to be an ideal location. Approximately 62% of FRBs that source local food are located in the downtown, so local food infrastructure may already be in place to support a central node. Bosona and Gebresenbet (2011) used route management software and GIS to cluster local producers and map efficient routes to central collections centers in Sweden. The authors concluded that the "clustering and logistics network integration approach…indicated positive improvements in logistics efficiency, environmental impacts, traceability of food quality, and the potential market for local food producers" (p. 301). There are quite a few benefits that come from improving the overall collection methods of local food. By identifying strategic collection centers (since 50% of FRBs indicated they would pick up local product from a location in the downtown) and analyzing efficient routes, transport costs may be significantly reduced, which may have an effect on the price of local food. Cutting down the food kilometers traveled by each farmer by aggregating local food collection centers along various routes and maximizing distribution loads may also reduce carbon emissions significantly. This would have a positive effect on the environment and would add additional value to a local food product or local food identity or brand.

Continuing with the technological theme, synchronized data warehouses could also benefit both FRBs and the agricultural community. The seasonality of products offered in the district requires a degree of sales forecasting and production intensification. Generating information for the data warehouses may be as simple as FRBs or farmers reporting their sales (both volume and price) to a regulatory agency. If FRBs were equipped with weighing stations and inventory tracking systems, data could be uploaded to a network housed by a regulating agency. This type of data would allow for accurate sales forecasting based on previous years, which benchmarks production inputs and outputs for the agricultural community. Store-level requests and local sales patterns

combined with information on market segmentation would create increased accuracy in sales forecasting, providing an indication of supply needs.

Conclusion

Data for the value chain framework analysis tool can come from a variety of sources: surveys, existing research, and academic literature. However, a comprehensive methodology may require setting up an advisory committee of stakeholders from both the conventional and alternative supply chains; developing investigative techniques to understand FRB functions; data analysis; framework development; and strategic planning. The stakeholders' survey in this study required a great deal of resources, including labor, transportation, and time. Shorter paths to acquiring data for the framework may include forming an advisory committee of FRBs that are willing to source local, or conducting key-informant interviews with FRB owners and/or managers. The framework has a wide range of applications: it can be applied as a regionwide local food development strategy, as a business development tool for FRBs and local farmers, and it can be used by research centers and institutes to inform policy and funding criteria for local food initiatives.

The local food movement is creating opportunities for small to midsized farmers to expand their market and increase production through capital investment of on-farm infrastructure. Alternative food systems typically establish direct links between farmers and their consumers, where gaps in distribution and wholesaling are commonplace. As such, development in the local food sector is often focused on initiatives that assist local agriculture in adding value for the end consumer. This type of development is largely agri-centric, focusing on the marketability of the production processes of small to midsized farms. Marketing initiatives rely heavily on branding strategies that label products as healthy or environmentally sustainable, which can switch consumer purchasing habits, but farmers incur costs by having to adapt their business model to fit the criteria of various branding strategies. These costs may include additional inputs, fees, time costs, and labor. A food retail lens offers a perspective to local food system development that adds value throughout the alternative supply chain.

Addressing divergent interests in local food systems development is a challenging task. The value chain framework allows stakeholders in food systems development to develop a comprehensive knowledge of the functions of food retail businesses within their localities. By understanding the different functions of food retail businesses and their relative importance to the business, stakeholders can execute value activities that add value to the businesses they supply. The examples of two value activities outlined in this paper suggest that within the context of the study site, funding employment opportunities for local food business innovation, and developing information technology in this sector will strengthen informal trust relationships between conventional supply chain actors and local farmers. A coordinated distribution system that centralizes the aggregation of local food products also can add considerable value along the alternative supply chain. Overall improvement in the category of IT would enhance the supply chain, making it more attractive to FRBs and thus adding value to their businesses.

When considering a development strategy based on the assessment of value activities in the framework, an asset-based community development approach (Mathie & Cunningham, 2003) should be considered. Within the study site, the downtown is a center for local food activity, and existing infrastructure becomes a community asset. Clearly, the two local food markets located in the downtown are influential in channeling local food to FRBs, and stakeholders should consider the downtown the focus of future food systems development. Many mature downtown areas of cities across North America, including in Sault Ste. Marie, are experiencing an out-migration of investment to the suburbs (Corporation of the City of Sault Ste. Marie, 2015). Sault Ste. Marie's downtown is emerging as an aggregation center for local agriculture. This has implications for the role of local food as part of a revitalization strategy for drawing community members into the city's downtown, and also implications for stimulating a downtown economy utilizing a multi-use development strategy where local food is the driving force.

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Taking the challenge for real food: Student engagement in procuring sustainably produced food on campus

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Abstract

In the fall of 2011, a graduate seminar in applied environmental sociology at a southern university in the U.S. took on a project to help an undergraduate student environmental organization obtain local and sustainably produced food for the university cafeteria. The aim was for our seminar to use community-based research (CBR) to help Reconnect, the student club, drive social change. An important objective was for the seminar students to apply their academic skills to helping the student club while acquiring the new skills developed through engaging in social change. In this reflective essay, we share our experience as a team of practitioners utilizing a community-based research approach in working with an undergraduate student group to launch a campaign to get local and sustainably produced food into the university cafeteria. During the project, we encountered many challenges yet had many accomplishments. For instance, there was resistance from the university's corporate food vendor, which ultimately prevented Reconnect from realizing local and sustainable food in the university cafeteria. However, we helped Reconnect build capacity for the initiative and catalyzed other institutional successes including laying the groundwork for a permanent farmers market on campus.

Keywords

Community-Based Research; Local Food Systems; Sustainability; Student Engagement; Transnational Corporations; Farmers Markets; Social Change

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Introduction

Could we get locally and sustainably produced food into our university cafeteria? Our graduate seminar in Applied Environmental Sociology took on this question in order to assist an undergraduate student environmental organization at Southeastern Louisiana University that was working toward this goal in partnership with two small, local minority farmer cooperatives. Our aim was to use community-based research (CBR) to help the student club achieve its goals and produce social change (Strand, Marullo, Cutforth, Stoecker, & Donohue, 2003). Our project with Reconnect took place during the fall of 2011, but the student club had been involved in this endeavor since the previous spring and was loosely collaborating with the Real Food Challenge (RFC). RFC is a national student-run campaign to shift 20% (approximately US$1 billion) of university food budget money away from industrial food and toward local, fair, sustainable, and humane food by 2020 (Real Food Challenge [RFC], n.d.). This proved not to be easy at a university where most students are commuters, where the corporate vendor for food operations is resistant to change, and where food issues, especially the social and environmental issues that surround them, are not well understood.

Yet, the students of Reconnect believed that there was opportunity for change. They thought that if they could educate students on campus about the issues (such as promoting local, sustainably produced food), then their campaign would get widespread support and their goals could be reached. Reconnect, being a small student group, needed our help. In order to assist the student club, we sought to increase campus-wide support for the program while the graduate students in our seminar put the skills they were learning in class into practice. In collaboration with Reconnect, we developed an educational campaign with a campus farmers market as the signature event, to build capacity for Reconnect's initiative. Thus, the aim of our reflective essay is to assess how we shared information about the campaign with the campus community, helped create a constituency for Reconnect and its goals, and what we learned through this process of assisting in social change.

Literature Review

Transnational Corporations and the Food System

The theoretical perspective we chose for this project analysis is the "treadmill of production" (Schnaiberg, 1980). This view, common in environmental sociology, sees environmental decline and the marginalization of labor as the result of increased competitive pressure for production. According to this theory, companies try to produce goods more cheaply than others. "Merely making a profit isn't good enough. A firm continually needs to maximize profits or investors will withdraw their support and put their resources in a firm that does" (Bell, 2012, p. 69). The treadmill is driven by ever-increasing competition and production from which returns to capital—profit—decline over time (Bell, 2012). For those who take this view, the primary barrier to local food procurement for institutions of any kind is the transnational corporation (TNC) (Martin & Andrée, 2012). TNCs build capital by centralizing management structures and supply chains. The larger they grow, the further they reach with their mandate for an economically efficient model of "ready to eat" food (Martin & Andrée, 2012). Due to the interaction between competition among TNCs and their directive to continually build capital, the sourcing and preparation of local foods is considered economically inefficient. Small-scale food processing that targets local markets would increase labor and procurement costs, creating an economic disadvantage compared to centralized TNCs. The power that TNCs exert globally contributes to the industrialization of food production by promoting monoculture farming and the extensive use of synthetic fertilizers and pesticides, which, at least in some instances, diminishes nutritional value (see Estabrook, 2012, for the example of tomatoes). Industrialization also tends to homogenize culinary traditions while degrading rural infrastructure because of centralized production and processing (Hendrickson & Heffernan, 2002).

However, TNCs do not operate independently or in a totally autocratic manner. Changing political and economic structures contribute to (and sometimes inhibit) their ability to hold the majority of

institutional foodservice contracts. Their historical rise during and after World War II is well documented by Martin and Andrée (2012). Today, three TNCs control the majority of global food services: Aramark, Sodexo, and Compass Group (Martin & Andrée, 2012). This consolidation "has produced a highly concentrated institutional food sector" where any "new entrants to the sector are at a disadvantage because of the established economies of scale and supply chains, and most importantly, capital" (Martin & Andrée, 2012, p. 168). One of the ways TNCs maintain their domination is that food manufacturers (large food sector corporations in their own right) must pay TNCs in order to access the institutions the TNCs serve (Foodservice director, 2001 as cited in Martin & Andrée, 2012). Although many consider TNCs a barrier to creating a more sustainable and equitable food system, others see opportunities that drive change within the system.

The University of Toronto's call for proposals to supply a certain amount of locally sourced and sustainably produced food illustrates that it is the very competition between firms that can push TNCs in the direction of supporting local economies and environmental sustainability. As Martin and Andrée (2012) state, "extremely tight competition and profit-seeking strategies in this field mean that all three players are willing to change their purchasing practices when required by a call for tenders" (p. 169). However, although TNCs' corporate culture of lower costs and mass scale makes them very resistant to change, the cultures of the institutions they serve, such as universities, can push them toward more equitable and environmentally sustainable purchasing (Martin & Andrée, 2012). But even though universities may be under pressure from their students or other groups to change their contracts with TNC food providers, implementing this change puts the TNC in the difficult position of increasing expenses while diminishing revenue. Nonetheless, Martin and Andrée (2012) point out that there is space for social movement practitioners and organizations to work with institutions to bend contracts toward their goals. The problem with "extremely tight competition and profit seeking" among these firms is that, at some point, these TNCs will look to curtail their costs, which will put pressure to move back toward low-skilled mass production. To counteract such a reversal, Martin and Andrée (2012) propose "third-party certifiers" as a "way forward to initiate institutional contracts and to protect local farmers from the pressures exacted by these companies" (p. 171).

Ecological modernization is a competing theoretical perspective used to understand how more sustainable food systems could be promoted. Ecological modernization theorists see a steady positive change being created by governmental policy that steers industry and individuals in a positive direction instead of heavy-handed, top-down regulation (Obach, 2015). For example, "the USDA does not mandate that all food is grown organically, but policy does create a framework in which organic production can spread" (Obach, 2015, p. 9). From this, the free market and, in this case, TNCs can be "central actors in advancing ecological sustainability" (Obach, 2015, p. 8). According to ecological modernization theory, it is due to consumer demand that firms like TNCs are bringing more ecologically sound food to market. Its proponents also suggest that smaller entrepreneurs, who are successful in their ecologically and socially just food products, help to enlighten and steer business leaders toward these types of goods. In this framework, the role of TNCs and their leaders is to "use their vast resources and advanced technologies to develop new ways" (Obach, 2015, p. 8) to bring these products to consumers. Ecological modernization theorists also imply that TNCs play a role in educating the public through advertising their more sustainable food. The framework also assumes that large firms, like TNCs, help to build the organic and sustainable market and make these goods more accessible to more consumers through competition and consumer demand (Obach, 2015). In other words, corporate players can be seen as "helpful allies in the shift toward a more sustainable social order" (Obach, 2015, p. 8).

Grassroots Reform and Education

While social change can certainly occur within the industrial food system (Anderson, 2008), grassroots action and ongoing education is necessary to

advance and sustain change. In fact, engaging in grassroots education appears to be a necessary precursor to making change and, as Hendrickson and Heffernan (2002) suggest, it builds community and social bonds that the industrial system finds hard to replicate. Where TNCs must act to compress time and space (e.g., in a matter of days, salmon is caught in Alaska, shipped to Southeast Asia for processing, and then shipped to New York City for consumption), those who are having success in building alternatives do the opposite. They engage in localizing time and space, in informal education that is time-intensive and context-specific. As Travaline and Hunold (2010) note, participation in environmental civic associations "reproduce(s) and reconstitute(s) relationships" (p. 587) while building effective social and political skills. Similarly, the education that occurs takes place within the context of building relationships and is bound by the social and ecological elements of place (Hendrickson & Heffernan, 2002). In other words, Hendrickson and Heffernan (2002) claim that, in order to be successful, those seeking to make long-lasting change must play an entirely different game than the players in the industrial system.

Change makers can draw on the fact that knowledge is being gained in the context of community building. According to Hendrickson and Heffernan (2002), as well as many others writing on the topic over the past several decades (Pollan, 2008), knowledge and its corollary skills have been lost to the industrial food system (Hendrickson & Heffernan, 2002). This includes the loss of knowledge about how to grow food (from large farms who now might rely on chemical inputs to small kitchen gardens) to basic cooking skills (due to processed and pre-prepared foods). This loss of knowledge and skills has occurred all along the food chain. The consequences of this loss, according to its proponents, are dependency on entities such as TNCs and the loss of local culture to a homogenized and ultimately alienating culture. On the other hand, since food is such a defining feature of culture, the movement toward sustainable, local food can empower and revitalize communities because it requires situated knowledge and practicing the skills from that knowledge (Travaline & Hunold, 2010). Fonte (2008) points out that whenever attempts are made to rebuild local food systems, there is "a strong history of involvement in community development" (p. 206).

Local food networks offer a way to reintroduce knowledge, gain new knowledge that improves the old, and to build social trust, thus combating the problems (like loss of community and self-sufficiency) that many associate with the global food system. For example, the global food system influences the disconnection between generations. Economic pressures, in which the global food system plays a part, contribute to families eating together less frequently. Proponents claim that where communal and family meals occur are often locations where culture is shared, where knowledge, ideas, and community are replicated, negotiated, and made anew (Pollan, 2008).

A powerful place for this transference of knowledge is the family farm. Peterat and Mayer-Smith's 2006 study illustrates how farms can be places of community rebuilding across generational boundaries by reintroducing lost knowledge. In their study, issues about "land, food, community, society, and environment" were discussed between female seventh grade students and retired farmers (Peterat & Mayer-Smith, 2006, pp. 108–109). The female students here might not just be a novel element of this particular study; the majority of new farmers are female and a majority of these new female farmers are engaging in small-scale, sustainable, and organic methods (Masterson, 2011; Obach, 2015).

Within the food localization movement, local and traditional knowledge becomes an indispensable resource for the management of agricultural and natural ecosystems (Fonte, 2008). Farmers markets are one of the venues for informal social learning where producers come together to explore, rekindle, debate, and sometimes argue over knowledge and skills. Here, producers also interact with chefs, value-adding producers (e.g., small-scale food-processing enterprises), and consumers. This varied interaction can spur innovation for new products and/or new ways of marketing them. Additionally, farmers markets (i.e., grower and/or producer-only markets) offer communities a way to localize time and space and grow local food

systems (Hinrichs, Gillespie, & Feenstra, 2004). Since farmers markets are predicated on face-to-face interaction, they provide an ideal space for local actors from a variety of backgrounds to strengthen and build community (Tiemann, 2008; Travaline & Hunold, 2010). In these ways, local food movements facilitate social capital at the same time it is resourced (Pietrykowski, 2004).

Obviously, the structural inequalities that exist in the industrial food system cannot be solved by working at the local level alone. For one, power differentials are embedded within small communities too (Allen, 2004). Thus, many in this nascent agri-food generation are building community through melding education, social justice, and economic development into their ecologically sustainable agricultural methods (Gottlieb & Joshi, 2010). While there are many rural initiatives, the much more visible urban efforts receive most of the attention. For example, the work of Will Allen and daughter Erika's Growing Power in Milwaukee and Chicago stands out as iconic among the many initiatives growing rapidly around the U.S. (Gottlieb & Joshi, 2010). Critical environmental education (CEE) is a key component of many programs, although it is also contentious because of its value-laden goals. One such program, Our School at Blair Grocery (OSBG) in the lower Ninth Ward of New Orleans, uses CEE in combination with action research to empower low-income African American youth. Empowerment occurs through egalitarian teaching and learning and by questioning the current social order through a praxis of continual critique, reflection, and action (Ceaser, 2012). While working on creating a successful urban farm, OSBG students make connections between poor neighborhoods, food insecurity, and environmental destruction. In Ceaser's 2012 study, students reported gaining a stronger sense of their own agency and a consequential commitment to social and environmental justice (Ceaser, 2012; Travaline & Hunold, 2010, had similar results in a similar study).[1]

[1] OSBG continues to unofficially host youth from the neighborhood in various informal ways, most notably through an ad hoc after school program (conversation with founder Nat Turner, March 28, 2014).

Institutional Education and Agency

From hospital purchasing to the "farm-to-school" movement in elementary and high schools, institutional sustainable food projects have expanded rapidly over the past decade. Local buying initiatives at colleges and universities have also contributed to the movement. Bartlett (2011) reviews the purchasing goals, academic programs, direct marketing and experiential learning of these projects. She finds that these components coalesce to "legitimize environmental, economic, social justice, and health concerns about conventional food" (Bartlett, 2011, p. 101). She argues that these campus projects may serve as "incubators, pioneering new nodes in an alternative food chain for local regions" (Bartlett, 2011, p. 102). Students usually initiate projects, but faculty and administrative support appear necessary for viability and independent oversight. Just as with higher education's pivotal role in other social movements, many students see food as a central point where the interdependent issues of ecological degradation, health problems, and lopsided federal subsidies lead to economic, social, and ecological ills.

Many of the student-led initiatives have produced institutional purchasing policies, but universities vary in which issues draw their attention. Some purchasing documents focus on global environmental health, such as reducing greenhouse gas emissions. Others wish to address social issues, like making fair trade purchasing a priority. For instance, the University of California, Santa Barbara (n.d.), focuses on health rationales to purchase "foods without additives, pesticides, or preservatives" (cited in Bartlett, 2011, p. 105). Emory University, on the other hand, emphasizes environmental issues by committing to purchasing food that is "75% locally or sustainably grown" (as cited in Bartlett, 2011, p. 104). While universities and colleges each choose to address these rationales through different purchasing decisions, sustaining these commitments and tracking purchasing can be a more difficult task (Bartlett, 2011). For example, "expansion in fair trade purchases in one year has been noted on some campuses to quietly

disappear in subsequent years" (Bartlett, 2011, p. 106). Furthermore, local purchasing may not address anything more than food miles if environmental and social issues are not also included in the criteria. Bartlett (2011) finds that third-party certifications and purchasing audits using clear metrics and consistent monitoring can provide accountability and transparency while maintaining progress toward goals (see also Gottlieb & Joshi, 2010). While institutional purchasing presents certain challenges, cost increases are consumers' primary concern. However, results vary at this point. Porter (2015) found that students at the University of Vermont were willing to pay a higher price for local and sustainable food, but not much higher. This willingness to pay a premium and how much of a premium varied by indicators such as gender, major, residency, and attitudes about food and price. In order to keep costs down, Bartlett's (2011) research suggests "reducing menu choice or reducing the frequency of expensive menu items" (p. 106).

Perhaps the most significant organization helping to make colleges and universities leaders in the sustainable food movement is the student-run Real Food Challenge (RFC) network where students at over 330 schools are committed to shifting 20% of school food budget money to "ecologically sustainable, fair, humane, and local food by 2020" (RFC, n.d, para. 2). As a result of the work of RFC students at University of California (UC) schools, the entire UC system has committed to the 20% purchasing goal by 2020 with a potential US$25 million dollar impact to the local and sustainable food system (Bartlett, 2011; RFC, n.d.).

To reach these goals, achieving and maintaining campus-wide support is essential (Bartlett, 2011; Gottlieb & Joshi, 2010; Porter, 2015). Campus farmers markets and community gardens are ways of institutionalizing a communal awareness about food issues. In addition to the experiential learning that campus community gardens and farms offer, food-system courses, especially in the liberal arts, raise awareness and garner interest in careers in sustainable food (Bartlett, 2011). Courses often can be personally transformational and contribute to more critical perspectives on conventional food systems. Debate expands and the groundwork is laid for political action and possible regulatory reform (Bartlett, 2011, p. 111; Gottlieb, 2001; Porter, 2015).

Finally, much like the sustainable food movement in general, campus food projects are no longer novel but have reached a stage of commonality on campuses across the country. The current stage will reveal if these projects can succeed and evolve with the pressures that continue to assert themselves. What is known is that projects that have sustained their accomplishments are "built on broad partnerships across academic, operations, and community groups, suggesting that collaborations are the most effective strategy" (Bartlett, 2011, p. 111; see also Joshi & Gottlieb, 2010).

Student Engagement

Much like the food projects at many universities, the literature on student engagement reveals the benefit that participation in a community-based food project can hold for students. However, projects must be well planned. Otherwise, students may "individualize social issues" (Gallini & Moely, 2003, p. 5), not realizing the structural conditions that underlie personal problems, and therefore resulting in a victim-blaming mentality; (Grossman, Sherard, Prohn, Bradley, Goodell & Andrew, 2012). In the same way, poorly planned projects may give students an inflated sense of their importance while ignoring community resources (Gallini & Moely, 2003).

Nonetheless, well-planned experiential learning can have a lasting impact on both students and community. Studies have found that service-learning courses promote a sense of civic responsibility and academic, community, and interpersonal involvement (Gallini & Moely, 2003; Greenwood, 2015; Grossman et al., 2012; Knapp, Fisher, & Levesque-Bristol, 2010; Silmonet, 2008). For example, Gallini and Moely (2003) reported that service-learning courses improved retention and were more academically challenging than similar courses that were not service-learning oriented. In fact, much like the findings in other studies (Grossman et al., 2012), Gallini and Moely (2003) found that academic course content was most important in influencing how engaged students were with the service-learning component of the

course and its perceived benefit to them. On the other hand, Knapp et al. (2010) found that while the academic component of the course was vital, maximizing the amount of time spent with the group or community was most important to students' perceived benefits.

In addition to increasing awareness about social inequality, service-learning courses, especially those in the environmental sciences, are used to develop values and skills among students, build student competence, and address actual problems within communities (Grossman et al., 2012). In a study that partnered agricultural students with an underserved community in an urban agriculture project, Grossman et al. (2012) found that students felt they "gained valuable academic and experiential knowledge," and that their academic learning was helpful to their community work (p. 179). Overall, service learning appears to be at its best when "students and community members learn to co-create knowledge and skills" (Grossman et al., 2012, p. 194).

Methodological Approach

Although this is a reflective essay, we wish to give a broad outline of the methodological perspective we took on this project. To accomplish our goals, we incorporated principles of community-based research (CBR) to assist Reconnect in accomplishing the goal of creating a more local and sustainable food system at our university (Strand et al., 2003). CBR involves the intersection of three principles. First, extensive collaboration between academics and/or practitioners and community members is established. Second, knowledge is validated and promoted, especially that of community members. And third, projects are carried out to create social change for the purpose of social justice. All of our actions for this project were conducted in order to align with the principles of CBR (Strand et al., 2003).

In fulfillment of the first principle, we served at the pleasure of Reconnect. We continually sought their expertise on a number of issues including the history and goal of the project, the relationships that had been built, and challenges they had encountered. In fact, we sought collaboration from them on all ideas and decisions. This collaborative process was made all the easier by the fact that one of the students in our graduate seminar, Bonnie May, was president of Reconnect at the time. After Reconnect lost some active members to graduation the previous spring, May proposed the project idea to the course professor, David Burley, who is also the faculty advisor to Reconnect. The course seminar had a built-in community-based action component and this project was conceived and confirmed between May and Burley before the semester began.

Reconnect's ultimate goal was to procure direct contracts between their farmer cooperative partners and the university foodservice provider, Aramark. Indian Springs Cooperative and Point Coupee Cooperative, the farmer cooperative partners, are predominately African American producers who have historically faced discrimination (Green, Green, & Kleiner, 2011). They provided insight on technical aspects of agriculture and contracts along with logistical feedback on farmers markets, the signature event of our campaign. Our goal was to build campus support for acquiring sustainable, local food into the university cafeteria, the ultimate goal of Reconnect.

Second, we designed our project to validate and promote the knowledge of our community stakeholders (Reconnect and the farmer cooperatives). In that manner, we sought to have Reconnect, and to a slightly lesser extent, the farmer cooperatives, shape the direction of our actions. For instance, Reconnect offered expertise from their experiences trying to create student-driven change at the university level. They told us their story of attempting to establish a relationship with Aramark and their inability to get the foodservice supplier to meet with representatives from the farmer cooperatives.[2] During the first two weeks of the semester, as this process progressed, Burley

[2] Reconnect said that they went to great lengths to build a positive relationship with Aramark. However, after some initial positive feedback from the vendor's head chef and marketing director, Aramark ceased responding to requests from Reconnect. They eventually argued that their corporate office does not allow them to contract directly with producers and that the farmers should contract with their distributor. This is given some further explanation in the Conclusion section.

and May sought consultation from Darlene Wolnik, an independent market consultant and long-time activist in New Orleans who had served as the deputy director of the New Orleans market organization for a decade. Wolnik recommended hosting a campus farmers market as a way to build student awareness and constituency for Reconnect's project and shared information from her research into market typology. The idea was immediately brought to the student club, the farmer co-ops, and the class, where it was decided we would build an educational campaign culminating in a farmers market to be held in coordination with the first National Food Day on October 24, 2011.

The third CBR principle, social action for the purpose of achieving social change and justice, was addressed in two key areas: (1) providing options to the industrial food system and the social, economic, and ecological problems that can result and (2) creating a space for African American farmers who are dedicated to sustainable practices and who have, historically, struggled against discrimination. Our project helped to create an environment where members of the university community could actively critique the current industrial food system, all while being given the choice for a more sustainable, socially and economically just food system. Porter (2015) found that such campus-wide education was necessary for success. In addition, partnering with Reconnect to host a farmers market would not only build awareness and constituency on campus, but would also become an act of social justice. By creating this space, it would allow these African American farmer cooperatives, whose formation in the 1960s evolved out of the institutional racism they had faced for so long, to generate more visibility and economic opportunity for themselves.

Methodological Approach in Practice

Again, our goal was to assist Reconnect in achieving their goal to secure direct contracts between the farmer cooperatives and Aramark. Through discussions with both Reconnect and the farmer co-ops, we settled on an educational campaign culminating with hosting a farmers market on October 24, 2011. We would attempt to raise awareness and educate university students, faculty, and staff about the industrial food system versus a local, sustainable food system. In addition, the farmers market would allow us to gauge, somewhat, the effects of our consciousness-raising efforts while creating a space to opt out of the industrial food system. While to some this approach may seem biased, many students had never before thought about the food system. The food that exists on campus and within the wider community was taken by many to be a matter of fact. To question where that food came from, who it benefited, who might not benefit, how it was grown and produced, or that there might be other options was something many of our students had never considered. Many encountered these ideas for the first time with our project.

Our primary method to educate the student body about Reconnect's efforts and the farmers market was by developing a short (eight to ten minutes) presentation to give in different undergraduate classes. Informational tabling was discussed as another option for education. However, a lack of time by the graduate students and Reconnect members minimized this option. It was also thought to be inefficient. Attracting the attention of students when tabling is difficult especially when competing with other groups, like fraternity and sorority organizations, who might be fundraising or raising money for charity. As a result, we thought we could reach many more students through class presentations. Tim McCarty and Erica Dickerson contacted instructors of a variety of courses by subject and size to ask if they could make a presentation in their classes. From late September to October 24 (the date of the market), presentations were given in 24 undergraduate classes and to two student organizations. McCarty and Dickerson were responsible for contacting instructors, scheduling, and presenting. They also developed the preliminary content of the presentations and the class as a whole gave feedback for final development. Then, Reconnect gave feedback and final approval of the content.

Based as we were in CBR principles, we did not want to lecture students about changing their eating habits. Conversely, we attempted to engage students in an empowering way so that they were encouraged to think critically about where their

food comes from, to consider opportunities for change, and how they might get involved (Freire, 1993; Strand et al., 2003). Thus, we framed the presentations around a local economic argument that was buttressed by the social and ecological benefits of Reconnect's project. The presentations' development and implementation is explained further in the "Implementation and Discussion" section. At the end of the presentations, a petition advocating for direct contracts with the farmer co-ops was passed around and students could sign up to get added to a contact list and/or volunteer.

The presentations set the stage for the farmers market, the signature event of our project. To prepare for the farmers market, graduate students in the course divided into groups and took on different tasks, which included doing research on the successful practices of other schools, composing a letter with Reconnect to send to university administration, contacting local news media, emailing students who signed up for the contact list, recording data, and coordinating with Reconnect, farmers, and the university for the market. The graduate students also developed educational and marketing materials and implemented the educational program, in addition to other communication and logistical tasks.

Furthermore, on the day of the market, we held a visual petition where we photographed students who wrote on a small, white dry-erase board why they wanted "real food."[3] We also conducted an informal convenience survey (a bean survey popular at farmers markets) to get some empirical feedback to include in materials like the letter to university administration. Farmers market customers were asked if they (1) would attend a campus farmers market regularly, (2) would pay a slightly higher cost for local food if it were offered in the campus cafeteria, and (3) if they attend any other farmers markets.

Finally, we needed an efficient way to document all of our tasks. We used an online blog (Imagination Envirostation, 2011) as a journal for our observations, to collect data, keep track of our tasks and activities, and provide a general forum to share ideas and progress of the project with one another (Burley et al., 2012). Everyone posted updates, the status of tasks, observations, ideas, and concerns to the blog once per week and we discussed posts at our weekly class meetings. This allowed for continual reflection on our goals.

[3] Visual petitions are common to Real Food Challenge campaigns at campuses across North America and this project was also loosely affiliated with the RFC.

Implementation and Discussion

To briefly reiterate, Reconnect had been working to obtain a direct contract for the farmer cooperatives to supply produce to the salad bar at the university's cafeteria. A direct contract would give these small producers another market opportunity and, consequently, more income to grow their small operations. This would then support the local and regional economy. Reconnect wished to support local farmers who farmed sustainably, using little to no synthetic pesticides, herbicides, or fertilizers. In essence, the Reconnect students believed these were the practices their money should be encouraging. We agreed with them.

After deciding on the educational campaign and farmers market, we began planning and development. We considered the content of the class presentations and educational materials (informational postcards, fliers, pamphlets, etc.) to be of primary importance and saw them as a place where our sociological skills could be of great use. If the information, or even the design, alienated the person who interacted with the materials, then we would lose potential support. Southeastern Louisiana University is in a politically and culturally conservative area. Due to the politicization of environmental and/or food issues, we decided that to introduce Reconnect's campaign as one of environmental sustainability would not garner nearly as much support as one framed around benefiting our local economy and culture. That is not to say that we downplayed the environmental impact, only that we first made the economic and cultural argument. In preparation, McCarty and Dickerson presented their draft of the presentation to the class and, through a dialogic process, we came up with a narrative about local culture and economy. Agriculture is a part of many students' heritage—many have grandparents or other rela-

tives who were farmers or had their own kitchen gardens. Consequently, at the beginning of presentations, McCarty, who did most of the presentations due to his ease with public speaking, would ask students about any relatives that farmed and the loss of this way of life in recent decades. This strategy was made more effective because it resonates with the traditional, agricultural-American narrative. However, we were also aware of the exclusionary elements of this narrative. In the popular consciousness, this narrative is almost exclusively white. Although we did not mention race in the presentations, we highlighted the positive impacts of communal knowledge and self-sufficiency that have been historically shared by many African Americans, even in the agricultural South. The presentation then moved into an explanation of how the food on campus was from "mega-farms" in other areas of the country, and we then spoke about Reconnect's efforts to get locally and sustainably produced food into the cafeteria's salad bar. This food was sustainably produced, thus not polluting local air, soil, rivers, or streams. Additionally, many people would rather consume food produced without synthetic chemicals. The issue became about supporting small, local producers who were tied to place and were using ethical practices as opposed to supporting a system that diverted resources away from the regional culture and economy.

At the culmination of each presentation, the date of the farmers market was announced and a sign-up sheet was passed around where students could sign the petition advocating for direct contracts with the farmers and to offer local and sustainable produce at the cafeteria salad bar. Signees could also be added to a contact list and/or volunteer at the market. After speaking to twenty-four classes and two student organizations, 1,079 signatures were gathered for the petition. Six hundred and twenty-eight of signees (58%) provided their email to add to the contact list and 115 (over 10%) offered to volunteer.[4]

We also put together educational materials such as postcards (Figure 1) and pamphlets (Figures 2 and 3). We printed 1,000 postcards and 500 pamphlets with funds from an applied teaching grant from the university. Sole Sanchez and Erica Dickerson researched and designed these materials which were edited and finalized in class discussions. While we had no training in marketing or design, we felt our sociological skills could be applied to these tasks equally, if not better (in the case of marketing), than those trained in those fields. While we thought about what would appeal to the student body, our goal was to educate in an empowering way, not to get people to consume a commodity. For example, one of the proposed facts on the postcards stated that local food travels far fewer miles than industrial food and thus cuts down on carbon dioxide emissions and thus global warming. In class discussions this was changed to, "Locally grown food reduces fossil fuel consumption which decreases dependence on foreign oil" (Figure 1). Again, we are located in an area where the facts of global warming are greatly politicized. The cards still made the point of reducing the consumption of polluting sources of energy while not alienating people based on political ideology. Furthermore, we framed information in the pamphlets around questions about the industrial food system, encouraging readers to think critically about this system and providing ways for them to get involved (Figures 2 and 3). Postcards and pamphlets were distributed at the market to customers and passersby.

The Farmers Market

The Reconnect Farmers Market took place on October 24, 2011, the first National Food Day. Before the event, there was much work to be done, like registering the event, securing supplies, and getting outside vendor fees waived. Reconnect and Bonnie May took on much of this responsibility.

The market took place from 10:00 am to 2:00 pm in the outdoor Student Union, a high-traffic area of campus where many groups hold tabling events, making it somewhat difficult to garner the attention of busily passing students. Nonetheless, class participants and Reconnect members noted a certain "buzz" on campus leading up to market day. For example, students recognized McCarty from

[4] We do not have a total of students who heard the presentations.

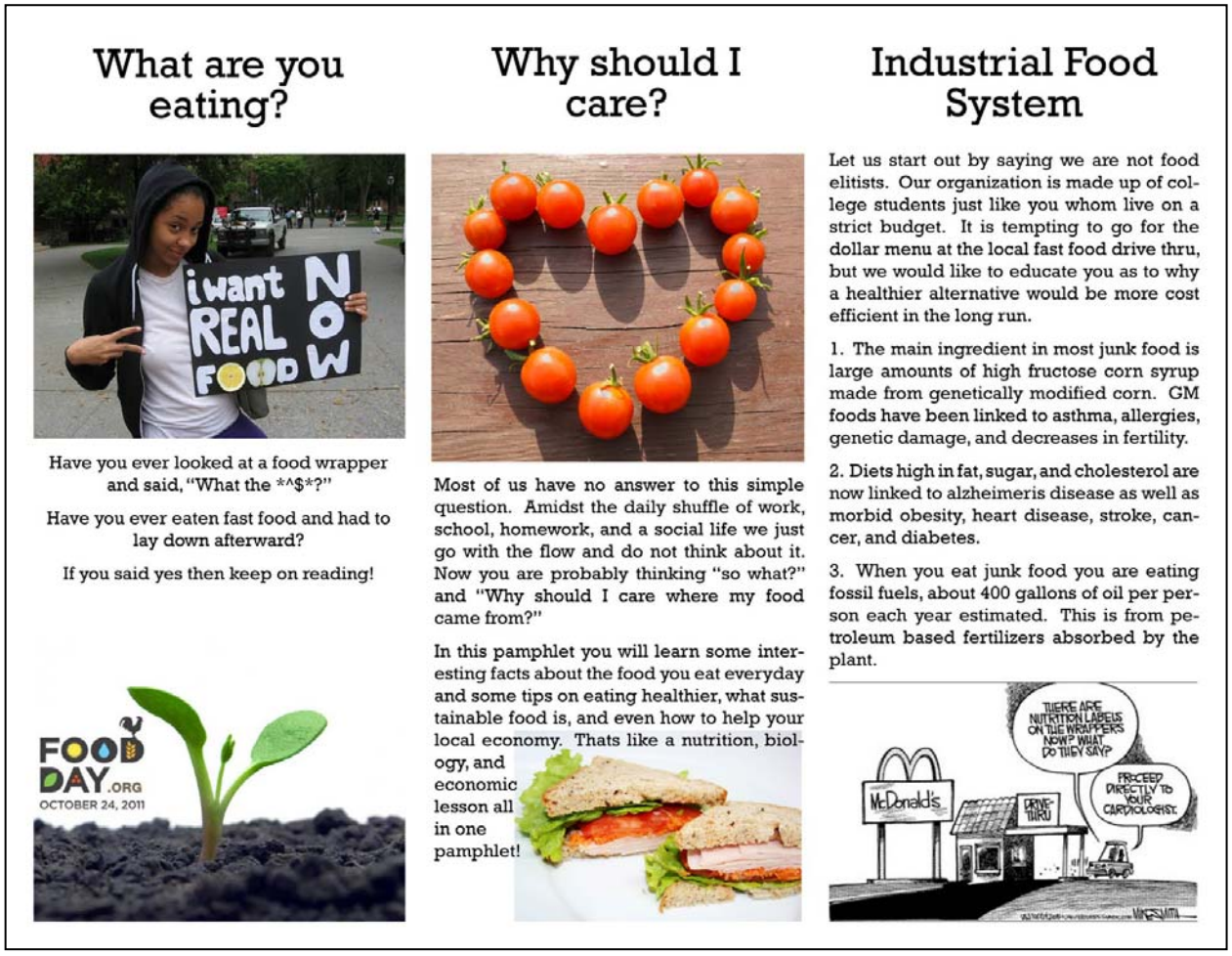
Figure 1. Back of the Information Postcard

presentations and gave him positive feedback. In addition to our two co-op vendors, we also had a local chef who prepared free samples from the produce. For the photo petition (Figure 4), we collected 37 images of mostly students, but also faculty and community members, who portrayed their reasons for supporting "real food." Reasons included health, taste, our environment, local economy, and community. Photos were uploaded to Reconnect's Facebook page.

Our bean survey of market day customers reflected the positive air surrounding the event. Of the 274 students and staff surveyed, 230 of them said they would be willing to pay slightly more (up to US$1 more per meal) for more local produce in the cafeteria. Two hundred and twenty-six said they would attend a regularly held campus farmers market. Our co-op partners were also happy with the success of the market. At our post-market meeting, they expressed their lack of optimism before the market, believing that college students would not be interested. Yet, they were pleasantly surprised by the student reaction. They made a healthy profit and reported that many students had questions about the preparation of the produce or how it was grown, reflecting a desire to regain culturally lost knowledge. One of the farmers from the Point Coupee Cooperative, who had never sold at a public market before, expressed that seeing students smile from interacting with him and the food he grew was one of the more enjoyable experiences of his life. Additionally, students had suggestions for us, the farmers, and Reconnect members about how to make it more convenient for students to purchase fresh produce at future markets.

Again, our farmer co-op vendors were all African American. While we did not collect any data about race, one African American student remarked to one of us that he did not know that "black people farmed." This reflects the popular American narrative of agriculture in the U.S. being

Figure 2. Side One of the Fold-up Pamphlet



a noble, white-only profession. This socially constructed, historical view of agriculture is a reminder of an oppressive social system for African Americans. It also obscures a more resilient and empowered black history. Post-emancipation, and buoyed by land ownership, farming sustained a black middle class that was engrossed in the social and political issues of the day (Merem, 2006). The presence of these farmers at the market helped to dislodge and reconstruct the traditional narrative while empowering African American students to reconsider their collective story.

After the farmers market, Reconnect submitted a short letter to the university president. The purpose of the letter was to show the economic, social, and ecological impacts of procuring direct contracts with farmers. The letter briefly described Reconnect's project, the widespread student support the initiative received, and the success had by similar schools in their implementation of these goals. Reconnect never received a reply; however, the Office of Auxiliary Services, who oversees foodservice contracts, contacted Reconnect the following semester and opened a dialogue between the office, Reconnect, and Aramark. To date, nothing noteworthy has come from this dialogue.

The instances we have recounted here are indicative of the success of our educational objectives. Although we did not formally measure the impact of our actions, we believe that the success of the market and the experiences therein reflect certain desires on the part of customers and vendors alike. The educational campaign before and at the market charged interactions and

Figure 3. Side 2 of the Fold-up Pamphlet

Locally Grown Produce

The reasons to shop for local, sustainable food are numerous. Here are just a few:

1. Smaller, local farms are less likely to use toxic chemical pesticides and fertilizers.
2. When you purchase local food the money stays in your local economy which benefits your entire community.
3. Fresher produce tastes better and gives your body more energy.
4. Local food contains more nutrients, fuller calories, and no preservatives since it arrives to you fresh and has not been ripened on a truck.
5. Locally grown food reduces fossil fuel consumption which decreases dependence on foreign oil and saves you the travel cost built into the price.
6. Food with less distance to travel is less likely to become contaminated with biological agents such as salmonella or E.coli.

Real Food Challenge

Reconnect is the student group working to inform other Southeastern students and staff about environmental and sustainability issues. Their goal this year is to persuade Aramark to contract directly with local farmers to stock the salad bar in the Cayman Cafe'.

Aramark currently recieves some local food through their distributor, we want them to contract directly with the local farmers to cut out any middle man.

When farms are forced to sell their produce through distributors they make barely enough money to cover costs of growing the food and it takes longer for the food to find its way to your plate since it is now routed through another party.

The mission of Southeastern Louisiana University is to lead the educational, economic and cultural development of southeast Louisiana. One easy way to fulfill this mission is to support the local economy by buying local produce and keeping local farmers in business. When produce is consumed locally up to 80 cents of each dollar stays in the local economy.

Get Involved & Make a Difference

1. Tell your friends about real food.
2. Write a letter to the editor of the Lion's Roar newspaper.
3. Attend Reconnect meetings every other Tuesday.
4. Sign the petition to get real food on SELU's campus and get others to sign up.
5. Volunteer at the food day farmers market.
6. Join Reconnect on facebook for more news and activities!

For more information go to:
realfoodchallenge.org
foodday.org
facebook.com search for SELU Reconnect

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purchases with what Dolan (2009) argues is a "spirit of relationality," where the sort of fair trade that takes place is the subject, rather than the object, of exchange. In fact, the farmers market served to displace the dominant ideology of the neoliberal economy. Market transactions took on different meanings from that of global capitalism, meanings that were integral to place and that produced a "conceptual shift" from alienated exchange (think shopping at Wal-Mart or Target) to exchange that was relationship-oriented and more meaningful (Gagné, 2011). This involved slowing down time and place, something, as noted above, the industrial system finds hard to replicate (Hendrickson & Heffernan, 2002). The enthusiasm by customers (students and staff) reflected the consciousness of the participants, reinforced by the market experience, which very likely arose out of a desire for a more meaningful form of exchange (Gagné, 2011).

What We Learned

As with any type of participatory practice, our actions not only had external impacts, but they changed us as well. By being engaged in the process of helping to create social change, we got to put what we had been learning in our masters' program into practice. We had to work with each other, Reconnect, and a diverse group of stakeholders while continually reflecting on our own actions to make sure we were keeping with project goals. We had to learn about others before offering our advice. All stakeholders had different areas of expertise. Thus, we had to appreciate others'

expertise first. In academia, it is tempting to take the normative role of expert without engaging in dialogue. However, in our case, it may have been a bit easier to sidestep this temptation because, except for Burley, we had no extensive expertise in these areas and were researching and learning as we went.

Particularly, for May, it was her dual role that made it difficult for her to determinate where her responsibilities as Reconnect president ended and where her responsibilities as a graduate student began. While these roles helped her hone her organizing skills, the blurred boundaries of her dual roles were an issue that was never fully rectified.

Nevertheless, we learned the power of organizing. Community was one outcome of this organizing. We developed a sense of community with Reconnect, the farmers, and other students on campus while our class cohered as we became invested in the process. A sense of community also evolved between us and students and staff at other schools engaged in similar projects, who gladly shared their experiences.

Conclusion

Were we able to get local, sustainable food into our university's cafeteria? No, but we did accomplish a great deal. We used CBR to help a student group achieve its goals; we lent our sociological skills to Reconnect while its members educated us about the "how" and "why" of their campaign; and we used our expertise to make a case for social change to our university community.

Nonetheless, there were some limitations to our project. CBR is process-driven where community members must be intimately involved in "every stage of the research process" (Strand et al., 2003, p. 8). Even though this could be said of Reconnect President Bonnie May, sometimes Reconnect members let us carry out our ideas with little of their own participation. This was mostly due to club members' busy school and work schedules. However, they were not involved in such a way that would have educated them to the research process, including writing final reports (such as this paper), as CBR calls for. Also, during the education campaign, more focus needed to be put on amassing support from other student organizations. We did not put forth enough effort in this regard and there are plenty of organizations that could have provided their backing and brought more publicity to the project. Methodologically, we needed more emphasis on the creation of a way to accurately measure community building. Lastly, we did not adequately use the many people who offered to volunteer for the market. Not only would they have provided more help and reduced the workload on us, but it was also a missed opportunity for them to build community and become invested in the project.

Even though there were missed opportunities to reflect upon and learn from (as there always are in CBR), we achieved a great deal. Although much of the time Reconnect members let us implement our ideas without their direct input, they were deeply involved in executing the farmers market. This involvement gave them real experience in creating social change and, as they conveyed to us, a tremendous sense of fulfillment (as it did us). Because of this excitement and success, Reconnect and the farmer vendors established a campus farmers market to run twice a semester. The Reconnect Farmers Market continues to be entirely student-run and, for a time, was the only farmers market on a college campus in Louisiana. In fact, other area universities called us to ask about starting their own markets. In addition, the sociology department created an internship, under Burley's direction, for an undergraduate student to act as market manager each semester (Farmers Market Manager Internship, n.d.). This has been a successful, hands-on training and educational tool that, according to feedback from interns, inspires students and gives them direction for their careers and lives.

This project also highlights the role that social scientists can play in creating social change. From the outset, our training allowed us to plan the project from a position where our community partner was in control and where each party had their own expertise from which the other could learn from. Using our sociological training, we continually reflected upon the project to ensure we maintained the egalitarian and participatory principles of CBR. Our sociological skills also allowed us to develop an educational campaign that was, as

noted earlier, inclusive and appealing to diverse students at our particular university. As Grossman et al. (2012) recommend in their study about student engagement in urban agriculture, there is a "critical need for individuals who understand how best to conduct outreach and educational activities" (Grossman et al., 2012, p. 193). Sociology students with service-learning experience are well equipped to fill this need.

Additionally, there seems to be a welcoming nature to this and most campus food projects that offer students involvement in positive social and environmental change (Bartlett, 2011; Porter, 2015). Many campus or environmental activist activities implore students to cease some activity. However, food projects like the one on our campus offers students the opportunity to create something that is beneficial across multiple spheres and is predicated on relationships and community building. Also, the confidence and skill base that seminar and club students developed can lead to a sense of competence to shape their own future as part of a community (Travaline & Hunold, 2010).

Regarding the progress of this project, the market continues to run each semester, though Aramark still refuses to contract directly with producers. They argue that, as a matter of corporate policy, they do not contract directly with producers. Aramark has said that the farmers should contract with their distributor to reach our university. Yet the farmers argue that this would nullify any economic gain that might come from getting their food into the university. Projects like this one would benefit from future research into the particularities of why it is difficult for corporate food vendors to contract directly with small, local producers.

In spite of this lack of progress, an opportunity has come from a small café in the university recreation center. The Pride Cafe is the only food facility on campus not operated by Aramark. After recognizing the success of the market, the café manager approached Reconnect and its advisor, Burley, about creating a partnership with a local farm. Reconnect has been working with the cafe and a local, sustainable farm to offer their products at the cafe. While we didn't help Reconnect achieve their ultimate goal, we have created social change that has produced yields beyond our class project. And this change is helping to create a more equitable food system economically, socially, and ecologically.

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Building an airplane while flying it: One community's experience with community food transformation

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Abstract

Across the country, local and regional food policy councils are collaborating to make healthy, affordable food more available to everyone. What ingredients are needed for a true collaboration that changes social and racial equity dynamics? How can these collaborations influence systems, policy, and awareness in school food environments, specifically? This reflective case study describes some of the accomplishments and challenges faced by the multistakeholder Holyoke Food and Fitness

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Policy Council (HFFPC) for nearly a decade. Using a mixed-method participatory evaluation approach to lift up diverse partners' insights, we conducted key informant interviews with people who were engaged with the project during its eight operating years; focus groups and participatory asset mapping with stakeholders; and reviewed meeting notes from the eight years of the HFFPC. We identify several crucial ingredients that sustain equitable community-based collaboration: changing the dominant narrative, community and youth leadership and advocacy, and aligned multistakeholder partnerships. We also discuss critical structural and values-based challenges to multistakeholder organizing, including issues of trust, transparency, resources, leadership development, and differences in perceptions of racial equity in an underresourced, predominantly Latino community. As such, this case study investigates community engagement and effectiveness. It provides insights for those food policy councils and local coalitions endeavoring to build from within the community while accomplishing policy goals, and will help to further the practice of equity, community food policy and systems change, and governance.

Keywords
Food Policy Council; Coalition; Farm to School; School Food; Community Engagement; Food Justice; Youth Engagement; Community Based Participatory Evaluation

Introduction and Literature Review

A group of diverse dedicated people came together to improve the local food system of Holyoke, Massachusetts. This group became the Holyoke Food and Fitness Policy Council (HFFPC), and together they worked to upend traditional power structures in order to make policy changes that would improve access to healthy, affordable, culturally relevant, and locally grown food. Despite numerous challenges and a lack of long-term, visible systems and policy change, they made inroads and built on tangible accomplishments to influence attitudes and practices in the food and fitness environments. In this case study, we describe the successes and challenges of engaging community and youth together with nonprofit and agency partners in an urban initiative to make changes to the food system while providing opportunities for all to participate. We describe power-shifting among members and tactics for dealing with racial and economic disparities while sustaining the work with limited resources.

Many factors influence the health and wellbeing of an individual. The Kirwan Institute's report, "The Geography of Opportunity," (Reece, Gambhir, powell,[1] & Grant-Thomas, 2009) highlights a healthy and safe environment and political empowerment as two elements necessary for quality health. Meanwhile, racial segregation, mediocre schools, inadequate transportation, absence of affordable food markets, and high poverty rates contribute to a lack of opportunity in economic, social, geographical, and educational systems (Bell, Mora, Hagan, Rubin, & Karpyn, 2013; Insight Center for Community Economic Development, 2013; Reece et al., 2009). Those living in neighborhoods that contain these negative elements struggle to access the opportunities (such as home ownership, good schools, adequate healthcare, clean and safe parks, affordable healthy markets, and decent jobs) afforded to the more privileged. Some solutions seek to "fix" the individual, but until the system is shifted to empower those in need, the opportunity dynamic does not change. It is not enough for public health professionals and partnering agencies from outside of these communities and neighborhoods to provide healthier choices: research suggests that when residents take an active role in improving neighborhood conditions, and in actually changing the systems and policies that preclude opportunities to build health and wellbeing, the result is a more positive impact on health and human potential (Ammons, 2014; Insight Center for Community Economic Development, 2013, Kang, 2015; Wolff, 2016).

Ammons (2014) discusses the need to construct new food-systems narratives that encompass the struggles and realities of people of color working to change the system and those who are directly impacted by its inequities. The old narrative

[1] This is the author's preferred capitalization.

often omits the economic gaps that force families to make hard decisions about diet. In other words, shifting opportunity structures requires shifting assumptions: are the causes of diet-related illness simply due to poor diet? Or are they a result of the stresses of poverty, low minimum wage, lack of access to healthy affordable food and the time and resources to prepare it? (Ammons, 2014; Insight Center for Community Economic Development, 2013; Reece et al., 2009). While encouraging a healthy diet is an important step, the problem cannot be tackled until we examine its roots more deeply.

Fortunately, in the last two decades, food policy councils, local coalitions, and networks have assembled broad partnerships to incite food-systems change. Community coalitions often form as a response to community problems. Community coalitions are designed with bottom-up organizing and decision-making, bringing together multiple organizations and stakeholders to align their actions through networking, cooperation, and collaboration (Foster-Fishman, Berkowitz, Lounsbury, Jacobson, & Allen, 2001; Himmelman, 2001; Kadushin, Lindholm, Ryan, Brodsky, & Saxe, 2005). Food policy councils are coalitions usually consisting of representatives and stakeholders from many parts of the food system, often including anti-hunger and food justice advocates, educators, farmers, food markets, nonprofit organizations, and citizens to address policy change with projects and advocacy (Burgan & Winne, 2012; Harper, Shattuck, Holt-Giménez, Alkon, & Lambrick, 2009; Scherb, Palmer, Frattaroli, & Pollack, 2012). Some food policy councils form as coalitions, some by executive order, and others through legislation. Many at the local and regional level are independent nonprofits. The HFFPC was a community coalition convened by three nonprofit organizations, with a wide range of resident, agency, university, and city partners that embodied many of the characteristics of a local food policy council.

Over the past two decades, food policy councils have emerged as influential entities, often adopting a coalition model to bring communities together to target various aspects of the food system (the growing, harvesting, production, packaging, transporting, marketing, consuming, and disposing of food). Many food policy councils address community food insecurity, defined as a lack of adequate access to affordable healthy, fresh, culturally appropriate food (Burgan & Winne, 2012; Coplen & Cuneo, 2015; Harper et al., 2009). Most citizens do not play a role in shaping our food systems, despite the fact that the food policies in our communities and nation impact us on many levels, from environmental concerns to public health to justice and equity. Food policy councils can operate at the state, municipal, and local levels. Regardless of scope of operation, they generally provide a locus to discuss food-system issues, foster collaboration between sectors of the food system, evaluate and influence policy, and launch programs that address local needs (Harper et al., 2009). Most importantly, food policy councils also provide the potential for community engagement in all components of the organizing process and, therefore, can address inequities of opportunity and create long-term systems change.

Food policy councils often combine on-the-ground programs with policy targets as a comprehensive systems strategy to shift the way people obtain healthy, fresh, affordable food in their communities. While food policy councils are an effective way to make change, they can also be rife with conflict. When people who are marginalized with fewer opportunities define change-making as redistribution of opportunities or power, broader coalition consensus often erupts along the line of racial, cultural, ideological, and political opposition (Arnstein, 1969; Kadushin et al., 2005). This sort of division mirrors the very same systems the food policy council was designed to dismantle (Coplen & Cuneo, 2015; Kadushin et al., 2005). There is a clear difference between going through the motions of community collaborative organizing and developing the power to actually shift the structures and systems that frame lack of opportunity (Arnstein, 1969; Reece et al., 2009). Because these systems have historically marginalized and excluded community residents, community organizing without redistribution of power is a frustrating and all-too-familiar experience for community members. To achieve equity in community food

change organizing, people of color, youth, and other traditionally disenfranchised groups must participate in governance and decision-making as the leaders, initiators, advocates, directors, and steering committee members (Bell & Lee, 2011; Lee & Navarro, 2016).

With their Collective Impact model, Kania and Kramer describe five essential factors that contribute to coalition success: establishing a common agenda, participating in mutually reinforcing activities, communicating continuously, having support from a strong backbone organization, and securing long-term funders (Hanleybrown, Kania, & Kramer, 2011, 2012). This design has helped frame over a decade of effective community-wide coalition work, and served to shape the evolution of the HFFPC. However, it falls short of describing the inherent messiness of actual on-the-ground community change partnerships and authentic and equitable community engagement, while also missing the social justice change work that community-based organizations do to address root causes of their community issues (Wolff, 2016).

In order to avoid replicating power structures that disempower groups already struggling with diminished opportunities, those involved in coalition building must intentionally and carefully consider how to address leadership and racial and economic equity within their coalitions (Ammons, 2014; Giancatarino, & Noor, 2014; Kadushin et al., 2005). It is only with clearly articulated and continuously embedded understanding of structural racism and the resulting lack of opportunities for specific racialized groups that collaborative organizing can be successful. When community members are truly a part of all aspects of decision- and change-making within the food system, coalitions and food policy councils can work together across race and class to make positive changes (Ammons, 2014; Arnstein, 1969; Giancatarino & Noor, 2014; Kadushin et al., 2005; Kang, 2015; Lee & Navarro, 2016).

In addition to clearing the enormous hurdle of creating equitable participation within a food policy council, the literature points to a number of other challenges as well. For example, when municipal entities (schools, health departments, and universities) and large influential agencies join with smaller, less powerful entities (nonprofit agencies, neighborhood organizations, and community residents), many different agendas are at the table. These varying agendas can be heightened by the different gradients of power and influence that each entity has in the city (Coplen & Cuneo, 2014; Harper et al., 2009; Wolff, 2016). Moving towards a core purpose while reaching the needs of the many groups involved (and not just the most powerful groups) takes careful organizing, communication, and collaboration. Perhaps also unsurprisingly, the literature points to common hurdles of budgets, resources, time, and strong personalities who dominate consensus or agreement processes (Coplen & Cuneo, 2014; Harper et al., 2009).

These challenges notwithstanding, we have observed through the example of our Food and Fitness peer coalitions throughout the country that when coalitions establish equitable governance structures and collaborative processes, they begin to "change the narrative" of traditional power structures by providing ladders for community residents to voice, take action upon, and participate in change making and policy processes. From our experience, coalitions and food policy councils that collaborate across race and class generate the possibility for broad systems change. When successful, they are able to align across stakeholder sectors (community, agency, municipality) and systems (food production, distribution, institutions, hunger) and can address the underlying causes of health disparities.

The Holyoke Food and Fitness Policy Council (HFFPC) strove to improve the local food system by achieving and developing diverse stakeholders; working from the ground up and developing leadership; aligning partners; building trust by not replicating traditional opportunity structures; and organizing to change systems and policies. This case study delineates successful strategies and acknowledges some pitfalls to broad-based multi-stakeholder organizing for food change. We contribute to the literature by directly addressing the power imbalances and inequities witnessed in the process. We illuminate how to seek power sharing amongst communities and agencies, and the importance of involving young people in this process,

while accomplishing policy goals. And, by design as a participatory evaluation, this case study affirms a collaborative process, thereby shifting the typical top down opportunity dynamics seen in cities like Holyoke. The examples we use are from HFFPC's farm-to-school work, one component of its overall community food initiative, because they represent some of the clearest successes and struggles of the collaborative.

The Holyoke Food and Fitness Policy Council

Holyoke is a small city located in the Massachusetts Pioneer Valley that was built on paper mills, drawing immigrant workers in succession from Germany, Ireland, Canada, and Poland. As these immigrants prospered enough to move up the hill and out of downtown tenement housing, they established a strong and vibrant middle class, running the schools, city government, and businesses. In the 1960s and 1970s, Puerto Ricans began traveling to Holyoke to work the mills but soon after, the paper industry began to relocate to the Global South, and jobs in Holyoke waned. A distinct ethnic and income divide emerged between neighborhoods, with the middle-class neighborhoods up the hill and the poor neighborhoods downhill (the "Flats") facing food insecurity, health disparities, crime, high drop-out rates, drugs, and violence (Gottlieb & Joshi, 2010; Graham & Cornwell, 2009). Holyoke is currently the poorest city in the Commonwealth, with 29.6% poverty (U.S. Census Bureau, 2016). Its schools, which serve approximately 6,000 students, face the double challenge of providing nourishment to many food-insecure children and increasing academic achievement (Massachusetts Department of Elementary and Secondary Education, 2015).

In 2007, Nuestras Raíces, an urban agriculture and community development organization, together with the Holyoke Health Center and the Greater Holyoke YMCA, received a multiyear Food and Fitness grant from the W. K. Kellogg Foundation to improve the health of vulnerable children and families. The group wanted to increase access to healthy food and safe places to exercise through The Holyoke Food and Fitness Policy Council (HFFPC). They joined eight other communities around the nation in this endeavor. The nine communities supported each other in developing local strategies through intensive local organizing, sharing these at grantee convenings, and taking advantage of technical assistance provided by the foundation.

The new Holyoke Food and Fitness Policy Council became the backbone of strategic efforts to shift Holyoke's food environment and health outcomes. Three working groups—youth residents, community residents, and agency members—were represented in equal number on the governing steering committee. Together they led a planning process that resulted in a community action plan (CAP) targeting improvements in community food access, school food, youth opportunities, and the built environment and active living.

The HFFPC had significant initial results from its organizing for school wellness, community food, and healthy living, not the least of which was creating new ways to bring together people from many backgrounds and perspectives to collaboratively create change. Holyoke is located in the Pioneer Valley, which has some of the most fertile soils in the state, and is home to several vibrant community engagement efforts. The nationally recognized Nuestras Raíces, a nonprofit economic and agricultural development organization, has over 180 families gardening throughout the city, a 30-acre (12-hectare) urban incubator farm, and a youth leadership program. Holyoke's resilience is reflected in the abandoned lots now being repurposed by grandparents and young children to grow vegetables together. The Greater Holyoke YMCA sponsored a small group of youth activists who initiated a teen rebuild-and-earn-a-bike program (Holyoke Urban Bike Shop). The youth convinced the city to paint bike lanes and install bike racks in the Holyoke streets, and later became members of a city-sanctioned biking and walking committee, which introduced the city's first Complete Streets legislation.[2] The Holyoke

[2] "Complete Streets" refers to policies requiring streets to accommodate all users (to include marked lanes for biking and walking, and safe sidewalks and road crossings).

Health Center developed citywide wellness initiatives in schools and health centers.

This mix of organizations and community that made up the very heart of the HFFPC is illustrated with its organizing around school food. Farm-to-school programming "enriches the connection communities have with fresh, healthy food and local food producers by changing food purchasing and education practices at schools" (National Farm to School Network, 2016, para. 1). Farm-to-school organizing can empower young people and their families to create their own food environment—to grow their food, cook it, gain skills, and affect public policy (Weaver-Hightower, 2011). In Holyoke, a city with limited opportunities, the HFFPC brought the needed resources, strategy, funding, and structure to align and empower many stakeholders in the school community to organize for more delicious and healthy meals. Before the HFFPC organizing efforts, the schools lacked the resources, partnerships, and administrative will to shift school food procurement and preparation practices. Due to challenges in resources and student performance, the district prioritized achievement above all else, and this meant that improving the school food environment was a lesser priority. Holyoke Public Schools (HPS) contracts with large foodservice purveyors to serve meals. Two separate contracts with vendors sequentially spanned the time frame of this article. The fact that farm-to-school was a new concept for each purveyor created an opportunity for the HFFPC to support them in improving school meals and navigating purchasing from local farms when possible. The diverse HFFPC coalition partners designated improving school food as one of several strategies to address the food insecurity, overall health, and critical thinking skills among Holyoke's most vulnerable children. With its resources and ability to bring together foodservice staff, school administrators, parents, youth, and nonprofit leaders, HFFPC became the backbone for a farm-to-school strategy, implementation, and evaluation in Holyoke for nearly eight years.

Methods

This evaluation followed the collaborative approach of the HFFPC: we adopted participatory methods, in which the multiple stakeholders created and analyzed knowledge together (Coombe, 2005; Kang, 2015; Zukoski & Luluquisen, 2002). In participatory evaluation, stakeholders (partners, funders, key decision-makers, community residents) actively engage in developing the evaluation and the phases of its implementation (Zukoski & Luluquisen, 2002). In this case study, we followed the participatory evaluation structure in order to provide an opportunity for key stakeholders to analyze successes and challenges together, feel empowered by the work they had done, and use these findings to create action and change.

In 2009, Partnership in Practice (which consists of Sands and Stewart, the two lead authors of this paper) contracted with the HFFPC to conduct the annual Cross Site Evaluation developed by the W. K. Kellogg Foundation. With the HFFPC, Partnership in Practice tracked systems and policy change outcomes resulting from the HFFPC's community action plan efforts to improve community food, school wellness, youth development, and active living. We adopted a participatory evaluation approach both because the HFFPC valued and the foundation called for processes generated collaboratively with the community. Our evaluation of the HFFPC includes six years of field engagement to understand the processes involved in implementing the initiative. We regularly attended and took field notes of steering committee meetings, issue-based subcommittee meetings, whole community listening sessions, and community events. We also conducted interviews with staff and key partners throughout the life of the grant (2009 to 2015). During those six years, we developed participatory methods with community members, youth leaders, and agency partners to track outcomes, and collaborated with researchers at the University of Massachusetts Amherst on a PhotoVoice and a plate waste evaluation. We view evaluation as a way to identify shared values, understand systems change and the root causes of community challenges, build advocacy and planning skills, and foster strong partnerships. Participatory methods can include identifying relevant questions, designing appropriate evaluation methods, gathering and analyzing data, reaching consensus about findings, and creating a plan of action (Zukoski & Luluquisen,

2002). Previous evaluations that are relevant to this evaluation include a 1,000-person food access survey, a school plate waste evaluation, a youth PhotoVoice assessment of the school food environment, a mixed-methods evaluation of the Kindergarten Initiative, and youth-driven evaluations of the Call for Partnerships mini-grant program.

The W. K. Kellogg Foundation invited and funded us to construct and write this case study evaluation. We adopted a mixed methods participatory approach with four segments:

1. **Review of HFFPC Documents:** We began by reviewing results from the previously mentioned cross-site evaluations from 2007 to 2014, notes from steering committee and subcommittee meetings, and early interviews. We used NVivo qualitative coding software to code many of the key documents. We discussed recurring themes and identified misunderstandings or conflicts that arose during the previous years of meeting, community work, and funding. We came up with theme categories: School Food, Youth, Leadership, Power, Listening, Voice, and At The Table (Governance). While the HFFPC had many examples of successful strategies to improve community food, wellness, and the built environment, we decided to highlight the school food organizing examples in this case study, as the school food work illustrates community successes and challenges within the broader institutional and political landscape of Holyoke.

2. **Key Informant Interviews:** We conducted 22 key informant interviews between July and September 2015 with former staff, community and youth leaders, and agency partners who represent the broad demographics of what had been the HFFPC Community Leadership Committee, Youth Leaders, and Agency Alliance. We recruited interviewees who were present during the various stages and lifetime of the HFFPC, including planning, implementation, dissolution, and emergence as a new program. Interviewees were offered gift cards. To maintain confidentiality, we refrain from using names, but we identify council affiliation to provide context. Key to the participatory evaluation process, the interviews offered the partners an opportunity to reflect on successes and challenges of their project. We recorded and transcribed these interviews and coded them with NVivo software (see Appendix for interview questions).

3. **Community Dialogue:** We identified three themes concerning emergent challenges from the interviews. The themes are leadership development and mentoring, trust and transparency, and project resources. We brought forward these themes for reflection and discussion among the group of HFFPC partners, youth and community leaders, and former staff at a Community Dialogue. We invited 40 people who had been involved with the HFFPC as staff, youth or community leaders, and agency partners to this evening of focus groups and interactive activities. We used a combination of email, text, and phone calls to reach out to partners, and tried several times to reach people we had not heard from. In attendance were 19 people (eight had also been interviewed), including former youth, community members, former staff, agency partners, and three evaluator-facilitators. We chose the format of face-to-face engagement with a meal catered by a nearby Puerto Rican restaurant, because in-person gatherings are personable, authentic, build relationships, and are the preferred means of communication and dialogue in the Holyoke Latino community. Process, in this instance, is as equally important as outcomes (Kang, 2015; Zukoski & Luluquisen, 2002). Over the years the HFFPC learned that meeting over a healthy, culturally relevant meal, offering childcare, and holding meetings at convenient times for community parents and youth

leaders (evenings) make these meetings more possible and attractive for a vibrant mix of people to attend. The total number of participants in interviews and community dialogue was 30, including four youth leaders, five community leaders, and 21 agency members, seven of whom are Latino community leaders working for community-based organizations. Therefore, half of the representatives were community members.

4. **Asset Mapping:** We then asked those in attendance to identify and write HFFPC's school food organizing milestones on a timeline posted on the wall (see Figure 1). The timeline, or asset map, provided partners with the experience of compiling and seeing the range over time of the collaborative's farm-to-school accomplishments, and of appreciating the varied and long-term nature of success. Thus, together partners clarified the community organizing and partnership alignment strategy successes. As we reviewed focus group and interview notes, a theme of difference in language and perceptions of equity also emerged, which we discuss alongside the other three. Finally, we circulated the manuscript to all interviewed, and received comments (incorporated in the final text) from four partners.

Limitations and Potential Conflict of Interest

This reflective case study has some limitations as a participatory evaluation. Due to time and resource constraints, we could call this more of a "collaborative approach," in which the evaluators led a process with considerable partner input, rather than a participatory approach, in which the participants and evaluators would be jointly involved in all stages of the process, including data collection, analysis, and writing (Zukoski & Luluquisen, 2002). Partners representing all stakeholders were involved in identifying potential interviewees, were interviewed, and contributed to analyzing findings in the community dialogue. However, we analyzed the data further, wrote drafts, and then invited the partners to review and make comments on the manuscript.

Authors Sands and Stewart, under the name Partnership in Practice, have worked collaboratively as third-party evaluators with HFFPC since 2009; author Bankert has been part of Partnership in Practice since 2011, and author Fries since 2013. They work for Mt. Holyoke College (Stewart), University of Massachusetts Amherst (Sands and Fries; Hillman is a graduate student there), and as a freelance community food project evaluator (Sands). Some of these food projects are also HFFPC partners. The HFFPC members had differing points of view about governance, resource allocation, and community engagement. To avoid possible bias, we invited HFFPC stakeholders of multiple perspectives to be interviewed and to attend the community dialogue focus groups. We also invited an outside facilitator, funded by the W. K. Kellogg Foundation, to lead these sessions in the early participatory analysis process. Our data collection was for the purposes of evaluation. The New England Independent Review Board certified our research protocol. All authors have participated in human subjects trainings; we informed participants of their rights, obtained their signed consent to participate, and have protected their confidentiality.

Results and Discussion: Emergent Themes from Interviews and Dialogue

The interviews, community-generated school food asset mapping, and community dialogue focus groups (as well as HFFPC documents) revealed successful strategies that the community members, youth leaders, and aligned partners employed to begin to change the school food system. A partner notes:

> The school food work had a huge amount of integrity because it worked on many levels at once. Getting the young people involved, changing the food culture, continuously trying to engage the food service and not shrinking back from that, even when the foodservice providers changed, knowing that they had to be a critical partner. (Partner, Interview, 2015)

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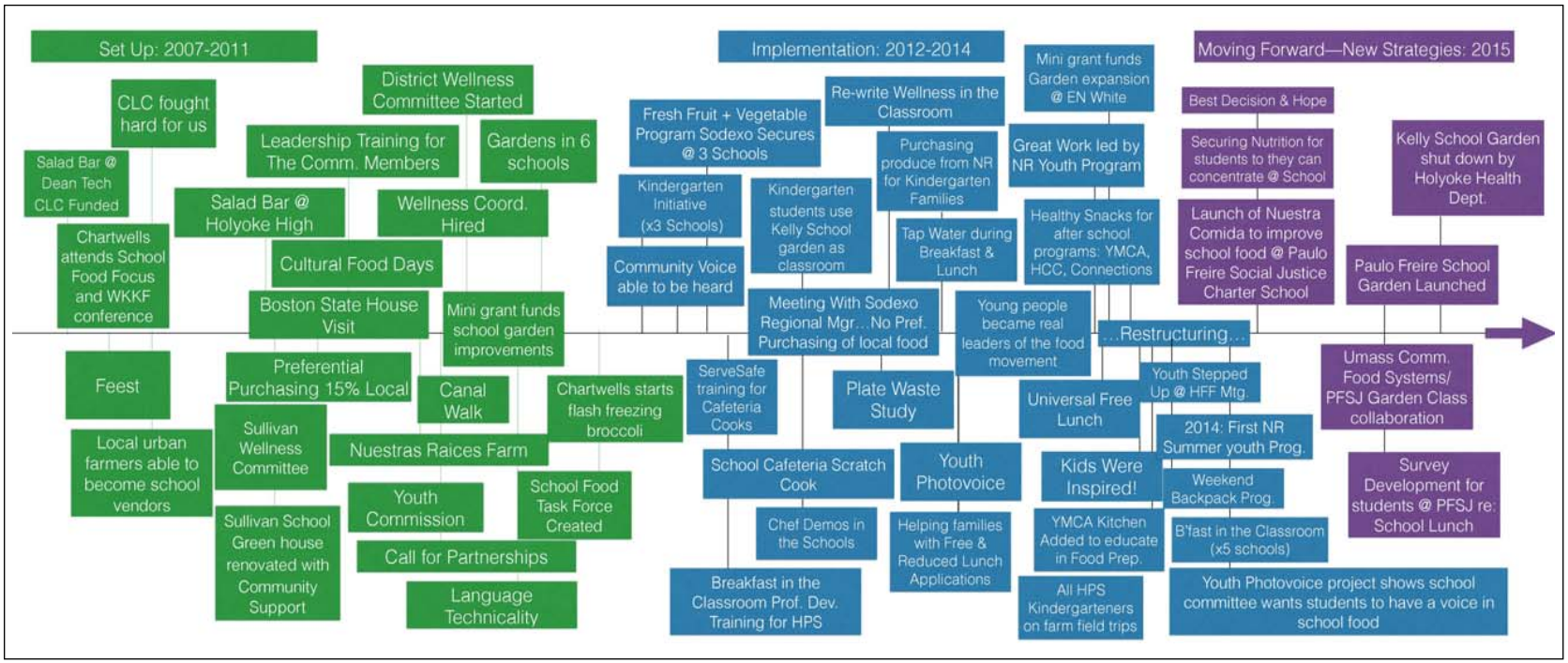
Figure 1. HFFPC Timeline Asset Map



Those interviewed also discussed the challenges they experienced as part of a coalition working on multiple aspects of the health and fitness environment, such as barriers experienced regarding leadership development and mentoring, trust and transparency over project resources, and perceptions of equity. Below we highlight three stories that demonstrate successes in bottom-up community engagement, and then discuss three primary challenges to sustaining the HFFPC.

Examples of Early Successful Strategies Led by Holyoke Community Members and Youth

Community Members Change the School Food Environment

In the challenged Holyoke school environment, as administrators and teachers struggle to improve student achievement, top-down decision-making is the norm. The HFFPC attempted to turn this upside down by organizing a broad coalition. The aim was to shift the "narrative" about young people's perceived disinvestment in the school food environment to demonstrate that the community (parents) and students like to eat healthy food. What followed changed the power structures associated with decision-making about school food.

In the first years of HFFPC, the Community Leaders Council (composed of community residents who were also school parents) chose to designate W.K. Kellogg Foundation grant funds to launch a prototype salad bar, stocked with healthy options and fresh produce from Nuestras Raíces urban farm, through a partnership with Dean

Technical High School's Culinary Arts Program. This was the first time that Puerto Rican students (over two thirds of school students) were eating vegetables grown by Puerto Rican urban farmers in their school lunch program.

By installing the school system's first salad bar (Figure 2), parents, youth leaders, and agency partners set out to "change the predominant narrative" about low-income students of color and their families (Ammons, 2014). The existing school food narrative, argued by the school food service and generalized more broadly in our culture, could be summed up as children and teens do not like to eat fresh fruits and vegetables, prefer processed foods such as chicken nuggets, and that fresh produce is expensive (HFFPC, 2009). This narrative that children do not like fresh food often omits the economic gaps that force families to make hard choices about meals because fresh vegetables are either too expensive or are not readily available (Ammons, 2014). Indicating the narrative change resulting from the salad bar, a former student notes: "I'm on the football team and I eat from the salad bar to drop weight and it's healthier. Our coach recommends it to us" (HFFPC, 2009). The broad-reaching resulting scope of this change included improved school meals, new income to the Nuestras Raíces farmers, and new connections between a food service director and executive chef and the broader national farm-to-school organizing community. Equally important, community residents of color changed the predominant HPS narrative that parents of color were not typically involved with school food change by both designing and funding a salad bar with produce sourced from an urban farm. As one resident noted, community residents "…[had] access to [grant] money to do what they believe is good for them" (Interview, 2015). This marked a dramatic shift: while a nurse had organized a small wellness committee in one school to address critical hunger and diet issues, parent participation was not widespread and not representative of the Latino population (HFFPC, 2009).

Parents and students demonstrated their enthusiasm for healthy meals and fresh salads and their eagerness to be part of structural change by designating funding, participating in the salad bar tracking committee, and therefore identifying best practices. Holyoke High School subsequently renovated its salad bars as well. A former youth leader describes the impact on participation:

> It took a while to see but [it] made a huge change. The younger people at Holyoke High go to the salad bar now. More and more people go to the salad bar [rather] than eat pizza and hamburgers. They built it and remodeled just when we were in school. Not a lot of people grabbed it at first. I started grabbing it and many people saw and then everyone wanted it. (Former youth leader, Interview, 2015)

The students at the school initiated a committee to track the pilot salad bar participation with the executive chef, evaluator, and farm manager,

Figure 2. Salad Bar

laying the foundation for the first multistakeholder School Food Task Force.

Following the salad bar pilot, The HFFPC created leadership and advocacy opportunities, training, outreach, awareness-building, and a funding structure for community-identified food projects. As a leadership example, a parent joined the search committee for a food vendor and advocated for a provision requiring preferential purchasing of 15% local produce. Kindergarten Initiative family cooking demonstrations engaged parents in healthy food curriculum. Parents joined the selection committee for A Call for Partnerships, a small grant program that provided funding and technical assistance to community-identified and -led projects that included a school garden expansion, a school wellness curriculum, a walking school bus, and the first foodservice provider weekend backpack program to combat family hunger (Sands, Bankert, Rataj, Maitin, & Sostre, 2014). And finally, youth and adult community members (as well as staff) remarked on the value of feeling part of a broader movement, a sense that they gained from attending and presenting at local, regional, and national food security and farm-to-school conferences.

Youth as School Food Policy Change-Makers

All those interviewed for this reflective case study identified youth empowerment as a major success of the farm-to-school organizing. The PhotoVoice collaboration with the University of Massachusetts Amherst illustrates how youth came to see themselves as part of the school food solution (see Figure 3). In 2012, a group of Nuestras Raíces youth leaders picked up cameras and took pictures of a moment in time when the school food vendor had agreed to purchase lettuce, peppers, and tomatoes from the Nuestras Raíces urban farm. They interviewed the farmers and the executive chef to learn how the vegetables were grown, packaged, transported, and served in the schools. When the food vendor's contract came up for renewal, the students presented their findings to the school committee (board), saying, "We care about healthy food. When kids have a chance to eat healthy food we start liking it. Students want a say in the decisions made about what we eat in school" (HFFPC, 2012; Interview, 2015). They later invited city policy-makers, parents, and the broader community to an exhibit of their PhotoVoice project, and took it to national food and youth conferences. A former partner described the significance:

> The youth presented to the School Committee. It's not like there's great food in the schools yet, but the idea of seeds planted was huge for those kids. We don't know when and where these will bear fruit. But the idea of activism in the youth, that they can speak out. Some piece of this has yet to be seen. (Partner, Interview, 2015)

Figure 3. Image from the PhotoVoice Project

At the same time, the youth leaders studied food sovereignty and food justice, marched with the Coalition for Immokalee Workers, and studied the history of Puerto Rico. These opportunities helped the youth become recognized leaders in their community and nationally, to

see themselves as agents of change and part of a larger movement to change food systems and racial justice. A parent and community partner notes:

> One of the great nuggets was the youth learning about their Puerto Rican history and connection to land. When I think of my daughter feeling her empowerment, learning her connections to Puerto Rican history. Watching her blossom from that. When [the youth director]…could do that and in that position to be a mentor. Training students to be advocates in the school was critical. Talking to the school department. Training them to have the conversation in front of the school committee. These are things that youth in Holyoke don't know how to navigate. In Puerto Rico, there are no school committees. When people come here, it's a new concept. (Community partner and agency leader, Interview, 2015)

The youth were able to step up and take advantage of what John Kingdon calls a "policy window," an opportunity to advocate to the school committee the need for a foodservice provider that would work collaboratively and creatively within a broken national school lunch program (Kingdon, 2010). A school parent noted: "Kids or parents get blamed for unhealthy eating, but schools are contributing to the fact too. The PhotoVoice project showed them [the city and schools] the value of what healthy food could do for kids" (Community resident, Interview, 2015). When youth are seen as the catalysts of change, as the experts, their world view and confidence has the potential to shift. This new self-confidence and sense of belonging can be a determinant in the trajectory of life opportunities (Insight Center for Community Economic Development, 2013; London, 2007; Weaver-Hightower, 2011). A partner noted "With the PhotoVoice project an amazing space was created. We actually created a new kind of structure in the community. john powell talks about opportunity structures. This is first time I have seen it play out" (Interview, 2015). One youth leader noted a new sense of his role in a broader movement:

> I had a sense of different schools changing, like we were impacting change. Not just here, all over the place, all over the country. They saw us doing it. When we went to [the W. K. Kellogg Foundation Food Community conference in] Detroit, people said that they admired what we were doing, wanted to try using similar examples to what we were doing. (Interview, 2015)

Aligning Multistakeholder Relationships

In order to create broad traction within the school food system, the HFFPC gathered the different stakeholders in the school food environment to collaboratively design a change process specific to the school food environment. For the first time, students were given an opportunity to go beyond the common complaint of "the food is nasty" by joining with school administrators through the newly formed School Food Task Force, one of two working groups of the HFFPC. The School Food Task Force followed the coalition model and included foodservice staff, students, parents, and nonprofit partners to voice challenges and strategize—across potential different points of view—about school food-systems change. By meeting regularly to explain school lunch program regulations, share strategies and plan menus, the relationships formed between the executive chef, HFFPC partners, and youth led to a more responsive environment for collaboration. These collaborations resulted in groundbreaking moments, including the purchase of local produce for the salad bar, a regional effort to flash freeze broccoli, youth-led cultural meals, cooking classes for cafeteria workers, and a Kindergarten Initiative with taste tests and farm field trips (HFFPC, 2009–2014). The relationships were tracked over time in the Cross Site Reports and through in-depth interviews with food service staff partners.

To support the early work of the School Food Task Force, and to incorporate health more broadly into the school environment, the HFFPC partners designated funds to hire a wellness coordinator (a chef formerly on the staff of the Culinary Arts program), to build a broad wellness strategy from within the school district. She cultivated strategic partnerships within and outside the district

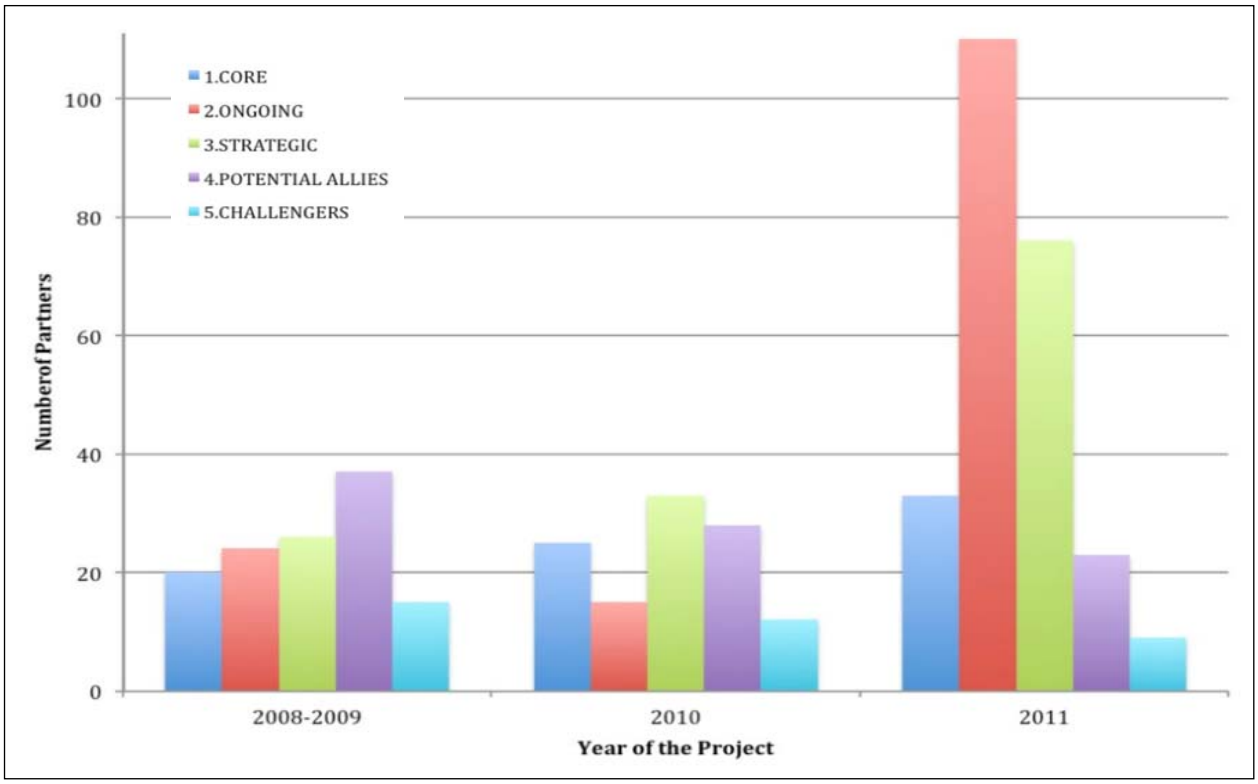
and leveraged those partnerships for further grants and resources (Interview, 2015). "One of the reasons school food change happened was because she [the school wellness coordinator] never stopped walking down the hall and talking to people" (Staff member, Interview, 2015). She understood the value of building relationships with all groups that had a stake in the school food environment, and helped each group recognize its shared interests in improving that food. Evaluation data shows a 46% increase in HFFPC ongoing partners and a 30% increase in strategic partners between 2008 and 2011 (Figure 4) (HFFPC, 2012). This strategy of building relationships and a culture of wellness through the work of the wellness coordinator and the School Food Task Force created significant inroads with the administration, food service providers, teachers, students, and families.

As a former staff person noted, "this was the first time the Holyoke Public Schools opened up to work with partners, write grants with them, allow them to visit the schools, [and] collaborate with food service and the teachers" (Staff member, Interview, 2015). HFFPC became the "go-to" entity for school food change. She continues:

> One of our greatest accomplishments with school food was that we created a movement. We moved people to talk about issues they had never talked about before: equity, justice, racism, wellness, school food. We were the ears for the community needs. We were the channel that people looked to partner with to look for grants. (Staff member, Interview, 2015)

Spurred on by the efforts of the HFFPC, the schools have undergone several structural changes to prevent food insecurity. A broad institutional effort to improve participation in school meals has taken the form of universal free breakfast and lunch, breakfast in the classroom in some test schools, fresh fruit and vegetable snacks, a weekend backpack program for food-insecure children, some scratch cooking in school meals, and cultural food celebrations. While not directly spearheaded

Figure 4. Number and Type of HFFPC Partners, 2008 to 2011



by HFFPC, the groundwork was laid for these significant shifts in school food policy and practice by the efforts of the school wellness coordinator and the School Food Taskforce. By building relationships, aligning partners, knocking on doors, writing grant proposals, and making visible the community priority of ensuring healthy and delicious meals for all children in the schools, HFFPC contributed to these outcomes. Less progress was made in consistently procuring and serving fresh, locally grown produce, or in embedding healthy food programs into the curriculum.

Challenges in Sustaining Successes

The school food efforts bubbled up, took hold, and then dissolved, perhaps due to the dire financial and achievement challenges of the school district, the relative immobility of a new food service contractor's corporate policies, and a stalled HFFPC that was experiencing staffing and structural changes that narrowed its reach and efficacy. Community engagement waned, and the core HFFPC partners became divided about leadership and governance. As the backbone HFFPC support came apart, farm-to-school programs did not have the consistent attention, resources, and leadership needed to sustain them in a struggling district. As a result, the broader integration of local produce in school meals with institutional support for building critical thinking curriculum about food has not been sustained. At a coalition level, the collaborative experienced inertia due to this lack of a sustainable model for permanent change. Below we categorize the stakeholders' observations of why these coalition breakdowns occurred.

Community Resident Engagement in Policy Change and Leadership Development

The HFFPC wrestled with designing and sustaining a structure that would effectively engage school parents and community members as a whole. A partner noted, "building the airplane while you are trying to fly it is a tough dynamic" (Interview, 2015). The HFFPC had planned to build a cadre of parent organizers through school wellness committees, but these never fully materialized. Perhaps this correlates to the HFFPC's larger struggle to build and sustain the community leaders' capacity and presence over time. A former director notes, "We fell short of getting new faces to the table. There was a lack of new recruitment from the community" (Interview, 2015). The HFFPC partners failed to reach a central goal (stated in the Community Action Plan) of supporting community leaders to attain permanent positions of leadership—to be on boards and committees and, ultimately, to have relevant and respected leadership roles that could grow into paid positions within the project.

The early steering committee was structured so that community residents would be part of all decision-making for the HFFPC. A resident noted, "I thought the [early] steering committee was a great opportunity to mentor people, to give voice to youth. Not one sole organization to dictate what the grant should or shouldn't be doing. [Community residents had] access to [grant] money to do what they believe is good for them" (Community resident, Interview, 2015). During the implementation phase, the HFFPC redesigned its governing structure and never adequately cultivated a new strategy and structure through which community residents could participate in decision-making within HFFPC. While many strategies were discussed about how HFFPC could achieve the central goal of the action plan to support community leaders to attain permanent positions of leadership, no structured and sustainable strategy was implemented to achieve this goal.

Additionally, a long-mentioned concern from residents involved in the HFFPC about the need for the project to support job creation both within HFFPC as well as in the greater community never became a concrete goal within the Community Action Plan. The emphasis that Latino community residents placed on the importance of creating new job opportunities illustrates the extent to which poverty and economic oppression functioned within their lives. The need for skills and training was a motivating factor for some residents to become involved in HFFPC, but many expressed disappointment and confusion as to why "outsiders" were most often hired for coalition jobs. Those Latino residents that were hired for coalition jobs—two out of a total of nine—at times struggled to manage the hefty workload, competing demands of organizational partners and community

groups, complex project management duties, and training on content knowledge regarding effective policies and practices. Many staff members coming into the project lacked adequate scaffolding to support their orientation and growth into their role, and Latino community residents coming in without commensurate formal education and experience in leading coalitions were especially in need of strong mentorship and support through their host organizations (Interview, 2015).

This challenge in galvanizing community engagement, as well as the lack of focus on creating and supporting Latino residents in nonprofit careers, reflects ideological differences between the core partners. Many agencies in Holyoke, including the majority of HFFPC's lead partners, follow a predominantly "service" model of providing critical health, education, and housing services to its low-income community of color. Additionally, traditional structures of power remained with regard to race, as whites tended to staff executive positions in more powerful service-based organizations, while Latinos led the more grassroots organizations (Kadushin et al., 2005). The service approach adopted by some of the major institutions clashed with community organizations' empowerment model, which has been described by Wallerstein as "a social action process that promotes participation of people, organizations, and communities toward the goal of increased individual and community control, political efficacy, improved quality of community life, and social justice" (Wallerstein, 1992, p. 198). One partner described dissatisfaction with the larger service agencies approach of,

> …giving handouts versus a hand up. People say Holyoke is apathetic. Once jobs left Holyoke the nonprofit industry became the new economy and the new industry. It's worse off than when I first came. All the organizations fight for the same money. It's a turf issue. They see the community as a deficit, not an asset. I don't think the community is apathetic. It has no voice. It's a system that sustains but does not empower. (Interview, 2015)

The different approaches employed by these partners resulted in stalled community involvement. One staff member noted, "the community piece—to think through how to put together the pieces around genuine and authentic communication, building in structures, sustaining that engagement and impacting data, policy. I don't think we did it well. We really struggled" (Interview, 2015). Core partners became divided between those serving and those representing the community.

Trust and Transparency and Differing Impressions of Project Resources

Many of those interviewed for this paper noted that lack of trust and transparency between partners became a growing challenge to program implementation.

> No one really knew how to do this work. There was a vision, but collaboration was a word. It takes a lot of practice to do it, especially in Holyoke, where there is a lot of competition for funding and resources. (Staff member, Interview, 2015)

While differing points of view were initially viewed as a strength in the HFFPC, as disagreements emerged between convening organizations around financial management and how to disburse funds, the decision-making processes began to resemble more traditional business practice and less a community-centered model. This lead to a tension between community members and agency members; it appeared that the differing points of view between stakeholders of this community-based change process were not an asset in this case, but impassable. The apparent replication of a top-down decision-making model was one that community members recognized and distrusted.

Conflict arose over which organization would serve as fiscal agent, how to prioritize spending the money, how to allocate it between organizations, and whether and how to pay community members for their participation (through stipends, hourly, or part-time jobs). A former staff member notes, "If we're really going to change—if food work has the ability to change things, we have to create jobs, not

just give stipends. We were stuck arguing over stipends" (Staff member, Interview, 2015). Another posited, "In Holyoke, people just need money" (Partner, Interview, 2015). The discord about which organization held the grant funds and about how to build a community leadership ladder with appropriate remuneration resulted in distrust between the partnering organizations and the community.

As the steering committee underwent restructuring, it reached out to other Latino-led, community-based organizations to be part of the governance structure. The process of rebuilding collaborative governance was long and burdensome to small, underfunded organizations, and several chose to step back, leaving the original core partners. The director of a smaller, grassroots, original partnering organization—the only Latina steering committee participant who was also a community member—became disenchanted with the decision-making process and ceased attending steering committee meetings. This resulted in a lack of community representation and racial and cultural diversity on the steering committee (Interview, 2015). Sustaining multiple points of view and representation on food policy councils seems to be a common challenge (Coplen & Cuneo, 2015; Kadushin et al., 2005; Packer, 2014). One partner notes, "I don't think anybody from the organizational side wanted to seem like they had the power but that's how the community saw it. How would we have set that up differently?" (Interview, 2015). This illustrates different perceptions about power: while some agency representatives thought they were sharing power, the community and some grassroots organizational partners did not see it that way.

Some interviewed participants noted that these different perceptions manifested in the unequal distribution of funds between core partnering organizations. Small, underfunded organizations, larger organizations, and community members needing work all struggled together to allocate funds. "When you give a group of organizations in a struggling city the promise of a lot of money and tell them to work it out together it's a recipe for disaster" (Partner, Interview, 2015). Conflict arose over how to prioritize spending the money, how to allocate it between organizations, and whether to pay community members for their participation.

Differences in Language and Perceptions of Racial Equity

Lack of trust and differing perceptions of transparency were rooted in the deeper opportunity structures prevalent in Holyoke. Research on "implicit bias," or less overt forms of prejudice, shows that predominantly White, middle-class–led organizations tend to default to a particular set of assumptions and practices rooted in the familiar way things get done. This includes practices like top-down decision-making or avoiding the messy challenge of shifting power dynamics and norms (Packer, 2014). Several people noted in their interviews that the HFFPC needed to do more regular facilitated work together on examining racial inequities and understanding structural racialization if they wanted to begin to effectively dialogue, share stories, and be able to continue working together to build trust. As the HFFPC moved through implementation, it shifted its core steering committee membership structure, to include organizations and representatives from the city, while residents and youth joined agency partners in working groups. The steering committee thus became dominated by White, middle-class organization professionals, who were no longer challenged by a collective community voice, now lacking critical mass. One partner noted:

> No one was honest about the clash of culture. If you're honest about that culture clash you can approach it with love and compassion to look at how stupid Whites can be about this stuff. [Everyone]…shared an inherent need to grasp power, fundamentally. The people who are at fault most here are the people who had the most power going in. (Interview, 2015)

The deeper question of equity is fundamental to partnerships among racially and socioeconomically diverse groups. Because these issues were not fully explored, it became a constant underlying tension between community members, staff, and agencies which often manifested in ongoing ques-

tions of decision-making and of fund allocation.

The challenges of genuine citizen participation cannot be understated (Arnstein, 1969; Ogden, 2016; Packer, 2014). Implicit bias studies suggest that simply acknowledging that subconscious prejudices exist and that we all are guilty of them can help to diffuse their destructive influence. Packer (2014) notes that food policy councils are promising because they create the spaces where people arrive with shared values and together can challenge diverse points of view. HFFPC set out with an equitable plan that shifted the Holyoke opportunity dynamics by engaging a diverse cohort in all levels of governance. While the HFFPC participated in local gatherings to discuss racial inequity and co-sponsored a regional training on dismantling racism in later years, regular dismantling racism trainings were not structured into the HFFPC's early community action plan, and some key partner executives did not attend (Interview, 2015). One former partner argued, "We are not seeing results fast enough. It's because we were not talking about root causes" (Former partner, Interview, 2015). jon powell of the Haas Institute for a Fair and Inclusive Society notes, "In the United States…we promote the idea of race blindness…we also tend to be structurally blind. So we don't see structures…. But structures are never neutral and they affect people differently" (Insight Center for Community Economic Development, 2013, min. 2:33). While partners worked across social boundaries, the groups were not aligned in reflecting on internal organizational race dynamics and their broader implications in Holyoke (Lee & Navarro, 2016; Packer, 2014; Sbicca, 2015). In a bravely imperfect way, the HFFPC succeeded in building moments that shifted these normative dynamics, especially in schools. But without continuous internal work on racial disparities, HFFPC alignment between partners broke down, and valued community members and nonprofit community groups stopped coming to be part of the process. Decision-making defaulted to a familiar top-down process, with little community input. The resulting impact on the organizing around school food was a lack of focus and traction.

Language usage is different for each person, due to context and life experience. This may be the key to all the challenges the HFFPC faced: that despite many hours of work together, everyone had different understandings of language (subtler than between Spanish and English translations); words like justice, race, and equity all resonated differently across the race and class spectrum of urban teens and adult project partner staff members. The HFFPC succeeded in creating new structures to bring together people from many backgrounds and perspectives to create change collaboratively, but deeper and continuous facilitated work on understanding root causes to opportunity barriers needed to occur.

The HFFPC hired a local facilitator during the planning stages, who became a mentor and trusted ally for many partners (community, youth, and agency). The facilitator acted as a translator and guide who could recognize and articulate ways to address differences and challenges over trust issues. Over the course of the grant, the HFFPC was able to engage with other technical assistance providers to help think and shape this new coalition. Perhaps because racial equity work is so complex, facilitation alone was not sufficient to build the needed trust and skills in dialogue across race and class. In hindsight, some partners noted that this might be solved by an intentional first year of skill-building to build trust and prepare partners for the foreseeable challenges building within coalition work. Another partner noted that continuous engagement with a facilitator might have also helped (Interview, 2015).

Conclusion and Recommendations

Is the food any better in the schools? Institutional barriers to serving delicious school meals remain. For instance, the new food vendor did not adopt a policy to include local produce in meals. But in a sense this was not the most pressing problem: in 2015, the Holyoke Public Schools went into state receivership for underperformance, and thus district farm-to-school discussions took a hiatus.

We conclude from our interviews and discussions that, while the quality of school food has *not* significantly improved, the *perceptions* and *desires* of the students, staff, and parents have changed. Stu-

dents can articulate what they would like to see in school meals and why. The youth involved learned how to advocate for themselves through the structure of the School Food Committee. They learned about the complex global food systems (how our food gets to us from farm to fork): "I learned about Monsanto, about industrial agriculture, commodity crops…" (Youth leader, Interview, 2015); how schools procure food, and how to articulate what they need. While they did not see immediate success—"I didn't know how difficult it is to change a school system"—they learned how to articulate what they wanted to the School Committee with their PhotoVoice project. They mention the value of "being part of social change," and of learning "the importance of community" and being in a "safe, fun environment." One explains all these things are "so important in our city where youth can fall into unsafe behavior really fast." Another former youth leader notes that families need critical knowledge in order to become effective advocates: "If students and parents aren't aware of these issues, it will take a long time to change" (Youth leaders, Interview, 2015).

A former school administrator suggests that awareness that increased among teachers and administrators over that time has influenced broader discussions about systems change in city council. He notes that teachers talk about healthy choices more often and some began to sympathize with families as they saw the root causes of struggle. He continues:

> For people who have lived here all their lives, I see an awareness. People over 55. It's very easy for teachers to criticize minority kids [for] being overweight. This was new for them. Food and Fitness did that for people. Getting people to talk about food deserts. City Council candidates are putting that out as a big piece...a big idea. A School Committee person living in Ward One talked about how there's nowhere to go shopping. City official awareness is one of their [HFFPC's] biggest accomplishments. Persistence created one step before the tipping point. We are one step away with our political leaders. (Partner, Interview, 2015)

Progress in coalition-building has emerged from HFFPC's imperfect but earnest efforts. The relevant literature recommends that food policy councils start small, with quick wins balancing efforts at policy changes (Burgan & Winne, 2012; Harper et al., 2009). After eight years, the central HFFPC disbanded, and pieces of the work were continued by the core partners: one group continued wellness efforts, and another developed new cultural crops and school food initiatives. Housed at Nuestras Raíces, which provides the backbone support, a core group of partners and school parents have designed a new project, Nuestra Comida, with funding from the W. K. Kellogg Foundation. Nuestra Comida strives to increase markets and production of cultural crops, to continue the work of leveraging school district food change "from the outside in" beginning with a charter high school, and to build pathways to jobs and higher education for youth. Together partners designed a participatory approach to youth and community leadership development, with youth and community cooking classes, student input to a new school cafeteria design, and design sharing for a high school garden at Holyoke High School. They sought technical assistance and secured a FoodCorps position to staff farm-to-school work, and began mobilizing parents. While food in the schools has not become the desired fresh, delicious, cultural meals we hear the students want, the essential systems changes have occurred to ensure that every child has the meals he or she needs and that the school community is more aware that it is possible to change the school food environment. The new program builds from the HFFPC foundation of eight years of collaborative organizing, fostering community leadership, resilience, and collective effectiveness to shift existing impeding systems and long-accepted narratives.

From these experiences, several recommendations emerge that are applicable to coalitions, food policy councils, and farm-to-school endeavors:

1. Design for engagement:
    a. Gather diverse stakeholders and build capacity of new leaders; engage community leaders in all aspects of setting inclusive goals, evaluation methods, and governance structures, in order to change

the predominant narrative.
   b. Adopt and articulate anti-oppression and/or dismantling racism as central to the initiative; organize regular facilitated dismantling-racism trainings for all stakeholders and partners together, in order to build dialogue, trust, and shared understanding. Engage a highly skilled facilitator who does not have a stake in the outcome to offer facilitation and guidance to the group.
   c. Design a community engagement ladder or pathway for building community leadership into all processes, with clear compensation and paid positions that reflect the value of a community member's contribution.
2. Build diverse local and regional partnerships to fuel effective systems change. HFFPC aligned multiple organizations, youth, and community members spanning health advocacy, youth advocacy, academia, urban farming, fitness and active living groups, city planners, schools, and food-service providers.
3. Change opportunity structures: Establish clear systems and policy change targets (such as contracted agreements to source an established percentage of local produce, establishment of multistakeholder task forces, and prototypes like the salad bar).
4. Mass mobilization: Cultivate advocacy opportunities and occasions to share knowledge in regional and national policy change efforts (for example, the youth PhotoVoice project).
5. Identify a mentor or facilitator whom partners consider a coach and ally to shadow and support the leadership, build trust, help staff navigate partnerships, and build advocacy and policy strategy. Organizations hosting staff should develop a training and mentorship program to support community leaders coming into positions within the coalition so that they may be successful in their role.
6. Design participatory research and evaluation projects with residents (together with agency partners), identifying salient challenges, gathering data, and analyzing outcomes. Build in meeting time for residents to develop conclusions, contribute to, and review reports.

Community coalition organizing can be divisive. Even with a common agenda, mutually reinforcing activities, and a long-term, dedicated funder, communication can break down. One partner noted:

> There is a human cost to people. There is no way to do this [work] without it. You do have to account for that human thing. If somehow we had acknowledged it from the outset that it's going to be the human stuff that will drive you nuts through all this, not the programs. We've seen that people have a real hard time with different agendas, money. People need training, a project buddy, and it will still hurt. (Partner, Interview, 2015)

And yet, despite real frustrations and pain, all those we interviewed share the values of improving health outcomes for Holyoke's vulnerable children and can see the long-term benefits of the work. A former staff member notes,

> When I left HFFPC, I was a different person. I was wiser, I felt smarter. I really wish I had gone into that project knowing the things I knew when I had left. There were a lot of beautiful moments. Great moments. It was difficult, hard; people cried, screamed. But at the same time, there was a lot of passion and love in that group. They wanted to get a lot accomplished. A lot of good things happened. (Staff member, Interview, 2015)

The HFFPC struggled with many of the process challenges outlined in the literature about collaborative organizing, and yet there emerged lessons about community leadership and ownership, aligning partnerships, and designing racial

equity foundation into coalitions. These findings are also significant for farm-to-school organizing, in which there is need of a common agenda across constituents, a backbone support organization, communication feedback loops, and mutually reinforcing activities (Hanleybrown, Kania, & Kramer, 2012; Kania & Kramer, 2011, 2013). The HFFPC sowed the seeds for Nuestra Comida, a new initiative built from these lessons learned about diverse and racially equitable engagement, and about building resilience by making the space and time to innovate collaboratively.

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Appendix. Interview Questions

1. When did you become involved in the HFFPC?
2. What do you believe was the chief task(s) of the HFFPC?
3. What was your role?
4. What did you expect from the project for your personal development?
5. Were your needs met? Why/Why not?
6. Name some of the HFFPC's accomplishments that impressed you the most.
7. Discuss some of the key shortfalls.
8. What might another community learn from HFFPC's experience?
9. In thinking about HFFPC's collaborative work to improve school food and increase children's knowledge of healthy eating, to what extent was the collaborative work successful? What changes did you see?
10. What challenges did HFFPC encounter in supporting Holyoke Public Schools to serve more fresh food to children?
11. Has the work with HFFPC changed you (if any)?
12. Any other thoughts that you would like to add?

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Bringing fresh produce to corner stores in declining neighborhoods: Reflections from Detroit FRESH

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Abstract

The paper reports and reflects on an action research project to increase availability and sales of fresh produce in 26 neighborhood corner stores in Detroit, Michigan. Through analysis of neighborhood, store-related, and supply-chain characteristics, I identify factors in successful operations as well as challenges confronted by stores between 2009 and 2012, when many Detroit neighborhoods lost population due to tax foreclosure and abandonment. Neighborhood distress was reflected in challenges experienced by a majority of stores, including those that dropped out of the project prematurely (five out of seven), or participated only inconsistently (seven out of 10). Nine stores supplied fresh produce consistently. Operators with high levels of performance tended to be in zip codes experiencing population losses at a lower rate than the citywide average, be more committed to their store-neighborhood, have more experience with fresh produce sales, and be more willing to test alternatives. This paper reflects on the challenges of implementing corner store strategies in rapidly depopulating neighborhoods without ongoing subsidy. It also demonstrates the lessons in implementing them as action research projects including with students and community partners.

Keywords

Healthy Corner Stores; Food Access; Neighborhood Decline; Detroit

Acronyms

CSK	Capuchin Soup Kitchen
DUFB	Double Up Food Bucks

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EWUF	Earthworks Urban Farm
F&V	Fruits and vegetables
NAICS	North American Industrial Classification System
SIC	Standard Industrial Classification
SNAP	Supplemental Nutrition Assistance Program, also known as food stamps
USDA	U.S. Department of Agriculture
WIC	Special Supplemental Nutrition Assistance Program for Women, Infants, and Children
WSU	Wayne State University

Introduction

Detroit, Michigan, is the locus of many collaborative food-system activities to increase access to fresh and healthy food through urban agriculture, neighborhood farmers markets, farm-to-school and/or -cafeteria initiatives, and community nutrition education. Efforts also exist to develop supportive policy frameworks and financing initiatives (Pothukuchi, 2011, 2015). Led mostly by community-based organizations, these efforts collectively seek to satisfy the food and economic needs of residents, while repairing gaps in the conventional food supply and building a more just alternative to it. Over the last decade, corner stores have emerged as possible resources for healthy foods in impoverished urban neighborhoods.

This paper elaborates on the experiences of and lessons from one such pilot initiative, Detroit FRESH, developed within a broader set of community food-system collaborations led by its parent organization, SEED Wayne.[1] Between 2008 and 2011, Detroit FRESH assessed and attempted to recruit 214 stores in some of Detroit's poorest neighborhoods on the east side and near west side. I describe and reflect on the initiative's successes and limitations in a context of extreme and ongoing neighborhood decline. The analysis highlights the relationship of the typical corner store to its supply chain and to neighborhood residents' food acquisition patterns. It traces the possibilities for, and limits to, increasing the supply of fresh produce in neighborhoods through partnerships with corner stores, and discusses the implications of doing so in a collaborative action research project involving students and community partners.

As this paper shows, corner store initiatives in neighborhoods experiencing significant decline cannot be sustained without ongoing subsidy. Initiatives also require businesspeople with specific commitments atypical to their category. The paper documents—albeit through a small sample of participating stores—the store, distribution, and community conditions needed for successful, sustainable corner store initiatives in such low income urban neighborhoods. A brief review of the literature is followed by a discussion of rationales for corner store strategies, and project methods and outcomes. A concluding section interprets findings and offers recommendations recognizing that conditions of such widespread and deep decline are relatively rare.

Corner Store Initiatives: Research and Rationales

Healthy food access in urban communities is a much researched topic. Low income, predominantly African American urban neighborhoods tend to have a paucity of grocery supermarkets relative both to the demand that exists there as well as to their white counterparts (Alwitt & Donley, 1997; Galvez et al., 2008; Hendrickson, Smith, & Eikenberry, 2006; Morland & Filomena, 2007; Pothukuchi, 2005; Social Compact, 2010; Zenk, Schulz, Israel et al., 2005). Such neighborhoods also have an overabundance of convenience and liquor stores and fast food outlets (Block et al., 2004; Moore & Diez Roux, 2006; Morland, Wing, Diez Roux, & Poole, 2002; Powell, Chaloupka, & Bao, 2007; Vallianatos, Azuma, Gilliland, & Gottlieb, 2010). Corner stores located here also

[1] SEED Wayne is a campus-community collaborative dedicated to building student leadership in sustainable food systems through activities in teaching, research, and engagement. On campus, student-led activities include three vegetable gardens, a 22-week farmers market, and hands-on workshops related to healthy eating. In the community, SEED Wayne supports entrepreneurial agriculture in a 4,000 sq. ft. (372 sq. m) passive solar greenhouse it helped build, neighborhood-based access to fresh produce, and healthy eating workshops. For more details, read Pothukuchi (2012) or browse http://clas.wayne.edu/seedwayne.

offer few choices in healthy and fresh foods (Algert, Agrawal, & Lewis, 2006; Cavanaugh, Mallya, Brensinger, Tierney, & Glanz, 2013; Gittelsohn et al., 2008; Horowitz, Colson, Hebert, & Lancaster, 2004; Lucan, Karpyn, & Sherman, 2010; Sharkey, Dean, & Nalty, 2012). Consequently, residents in these neighborhoods experience higher food prices, fewer nutritious choices, and lower quality of products that are available there (Andreyeva, Blumenthal, Schwarts, Long, & Brownell, 2008; Franco, Diez Roux, Glass, Caballero, & Brancati, 2008; Zenk, Schulz, Hollis-Neely et al., 2005). However, not all poor urban neighborhoods lack healthy food retail options (Block & Kouba, 2006; Eckert & Shetty, 2011; Raja, Ma, & Yadav, 2008; Short, Guthman, & Raskin, 2007). If, and to what extent, change in the neighborhood food environment can reverse obesity is also subject to debate (Bader et al., 2013; Ford & Dzewaltowski, 2010; Guthman, 2013; Osypuk & Acevedo-Garcia, 2010).

In this paper, I take as a starting point the normative urban planning argument that neighborhoods ought to provide the basics of daily life (Wekerle, 1985). As discussed previously, this is far from the reality in many urban neighborhoods whose residents shop at more distant supermarkets, a pattern confirmed for Detroit by Ledoux and Vojnovic (2013). Because members of dominant groups have both greater mobility and more resources, the idea of neighborhoods as service centers in low-income communities of color is therefore a matter of social and environmental justice (Agyeman & Evans, 2004; Wilson, Hutson, & Mujahid, 2008). Corner stores are a fixture in low-income, urban neighborhoods; they therefore offer a potential starting point for initiatives to increase year-round supply of fresh and healthy foods.

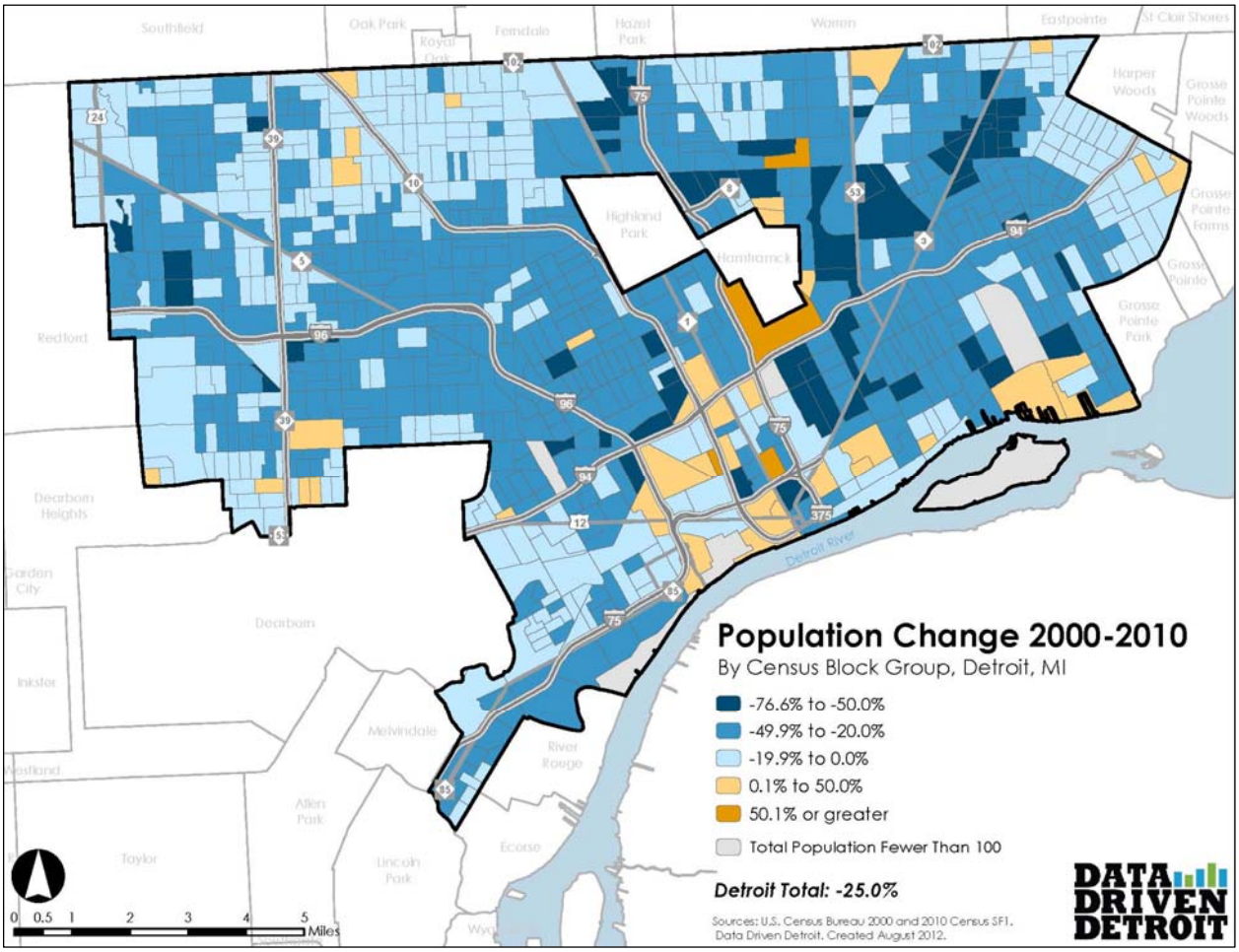
Corner stores are shown to be a viable strategy for increasing supply and sales of healthy food products in several cities, including Baltimore, Maryland; New York; New Orleans, Louisiana; and San Francisco (Dannefer, Williams, Baronberg, & Silver, 2012; Gittelsohn et al., 2010, 2012; Martin et al., 2012; Song et al., 2009). They show promising results from the perspective of availability and sales of healthy products, especially when combined with nutrition education (Gittelsohn et al., 2012). Although identified as an important factor (for example, by O'Malley, Gustat, Rice, & Johnson, 2013), less is known about distribution networks to help stores become self-sustaining. We also know little about the effects of neighborhood abandonment on corner stores' inclination or ability to offer healthy foods or the factors that separate effective performers from others. This study seeks to close this gap; it also illuminates the coordination needed to link corner stores to distributors as well as to facilitate neighborhood demand so as to create a self-sustaining cycle of supply.

Corner store strategies make sense for several reasons in Detroit. First, the stores represent a preexisting retail infrastructure within impoverished neighborhoods that larger retailers shun. They have existing relationships with food and beverage distributors. Many also have the capacity to accept government nutrition programs such as SNAP (Supplemental Nutrition Assistance Program) and WIC (Special Supplemental Nutrition Assistance for Women, Infants, and Children). Second, store owners may get to know their customers and may develop long-term relationships with local residents and organizations, especially when cultural congruence exists between the operator and shoppers such as might be the case in Mexican Town or Bangla Town neighborhoods (see, for example, Kaufman & Hernandez, 1991). Finally, they may hire residents, offer credit, or carry specific products requested by shoppers (Kaufman & Hernandez, 1991; McLean & Bates, 2003). Relations between corner stores and the community in many cities are also characterized by tensions due to differences in ethnic and racial—not to mention, class—backgrounds of store owners and operators and neighborhood residents (Berry, 1998; Cho, 1993; Fisher, 2012; Gold, 2010; Meredith, 1999).

Detroit's Retail Grocery Context

Detroit's retail grocery needs to be understood in the context of steady decline over the past 60 years. Detroit's population peaked in 1950 at 1.86 million but shrank to 951,307 in 2000 and to a mere 713,777 by 2010 (U.S. Census Bureau, n.d.-a; 1998) (see Map 1). More than four out of five city residents are African American, compared with

Map 1. City of Detroit, Population Change, 2000–2010



Source: Data Driven Detroit, 2012.

only 14% of the state's population (U.S. Census Bureau, n.d.-b). The city's unemployment rate is 40 percent and its poverty rate 36% (U.S. Census Bureau, n.d.-c). Basic needs for urban and social services increasingly go unmet (Bomey & Gallagher, 2013; Boyle, 2001; Farley, Danziger, & Holzer, 2000; Galster, 2012; Sugrue, 2005). The 2008 recession exacerbated losses for Detroit's families due to persistent unemployment and housing foreclosures (Kurth, Wilkinson, & Aguilar, 2013).

Since the 1970s and '80s, the national food sector also became more suburban, global, and consolidated, and supermarket redlining contributed to disinvestment, all with the result that many poor urban neighborhoods became systematically disadvantaged (Guptill & Wilkins, 2002; Hendrickson & Heffernan, 2007; Morales, 2011; Pothukuchi, 2005; Pothukuchi et al., 2008). Detroit was not immune to these trends. Wholesale trade in grocery and related products in Detroit went from 629 establishments in 1967 doing more than US$12.4 billion in sales to 350 establishments in 2012 with sales of US$8.3 billion (both in 2015 dollars)[2] (U.S. Census Bureau, 1967, 2012). Smaller

[2] Note that SIC codes were replaced by NAICS codes in 1997 with wholesale trade in grocery and related products represented by SIC# 504 (1967) and NAICS# 4244 (2012). The 1967 data covered the Detroit SMSA (Standard Metropolitan Statistical Area), which included Macomb, Oakland, and Wayne Counties. I derived sales for a

grocery and specialty stores that relied on wholesalers also were hurt. Many, though not all, of the city's neighborhoods lack decent, full-service grocery stores nearby. As a consequence, low-income households without cars often rely on complex, expensive, and informal transportation arrangements for the one or two big monthly stocking trips with their SNAP benefits, and on corner stores that offer few healthy, affordable options (Mari Gallagher Research & Consulting Group, 2007; Pothukuchi, 2008).

The majority of food, convenience, and liquor stores in Detroit are owned by people of Chaldean ancestry—a Christian community that traces its origins to Iraq. Chaldean immigration to the area expanded significantly in the 1980s (Sengstock, n.d.). Here, as elsewhere, such businesses offer new immigrants a chance to gain a cultural and economic foothold in the new country (Aldrich & Waldinger, 1990; Sanders & Nee, 1996). Reports of tensions with the city's mostly African American residents, however, are not uncommon (Brooks, 2012; Darden, Hill, Thomas, & Thomas, 1987; Darden & Thomas, 2013; Gold, 2010; Meredith, 1999; Min, 2011; Peterson, 1983). Commonly expressed grievances include disrespectful treatment of residents, sales of prohibited goods to minors, and exploitation of residents and the community for profit through the disproportionate sale of unhealthy products (Yakini, 2013).

Previous studies suggest that residents shop for food in neighborhood-based stores, including small convenience stores, liquor stores, and gas stations (Mari Gallagher Research & Consulting Group, 2007; Pothukuchi, 2005). Except for gas stations, such stores are often called "party stores" because they offer varieties of alcohol even if not all are not self-styled liquor stores. These may carry a variety of packaged foods, beverages including milk, and prepared foods such as pizza, hot dogs, and sandwiches. Many carry vegetables such as potatoes and onions, and fruits such as bananas or apples; gas stations may carry fruits though seldom vegetables. Such stores range in size from a couple of hundred square feet in the sales area to several thousand square feet with a wider range of food and non-food selections. Most such stores, including gas stations, are independently operated, even if they are franchises of brand name corporations. These are all considered in this study if an assessment of a particular store documented that residents shop there for food. All are called "corner stores" because they occur at the end of blocks and are within walking distance of their food shoppers, and because the term is commonly used locally.

The typical corner store is partitioned by bullet proof glass into a larger public area and smaller private cabin. Shoppers move about in the public area where packaged foods, beverages such as soda and beer, and other products are arrayed on shelves and in coolers. Store keepers typically stay behind the barrier. This is also where cigarettes, spirits, lottery machines, and higher-value products are stocked. Payment transactions typically happen through a metal tray under the glass; a revolving window facilitates the transfer of products across the barrier. Stores are typically emblazoned on the outside with large letters announcing "liquor," "Lotto," and acceptance of nutrition programs, SNAP (Bridge Card) and WIC (see Image 1).

Research Questions and Methods

The project used a participatory action research (PAR) methodology to determine if interventions could be developed to sustainably increase the availability and sales of fresh produce in corner stores in impoverished Detroit neighborhoods. PAR is an approach to creating knowledge in a context of practice in which researchers work intentionally and in partnership with practitioners and intended beneficiaries. Unlike traditional social science research, its purpose is not primarily or solely intended to understand social arrangements, but rather to effect desired change as a path to generating knowledge, empowering stakeholders, and enriching democratic possibilities (Bradbury-Huang, 2010; Gergen, 2003; Mies, 1983; Reason &

comparable geography for 2012 by aggregating individual statistics for the three counties, and used the Bureau of Labor Statistics inflation calculator to derive figures for 2015 at http://data.bls.gov/cgi-bin/cpicalc.pl?

Bradbury, 2001). In short, it seeks to understand the world by trying to change it, emphasizing principles of collective action, experimentation, and reflection. Such an approach that integrates issues related to implementation with evaluation is atypical in corner store research in which separation of the stages and actors is more common (Karpyn & Burton-Laurison, 2013).

Image 1. Corners Party Store on Detroit's East Side

PAR scholars eschew viewing the practice simply as a specialized set of methods, rather seeing it as emerging in the act of doing it (Reason & Bradbury, 2001). In keeping with this approach, project decisions were made in three main phases, with each phase developed to obtain change in the desired direction while building on knowledge acquired in the previous one. Decisions and outcomes were carefully documented in each phase. This also meant that what was more of a PAR methodology in Phase I became less participatory in Phase II as project geography expanded incrementally and returned to becoming more participatory in Phase III as new community partners joined depending on the nature of activities and their location. See Appendix for a summary discussion of the three phases, the main questions, methods, findings, and participants and/or partners in each phase.

Detroit FRESH[3]: Phases of the Action Research

Phase I (summer 2008–summer 2009): Community dialogues, assessment, initial actions

Phase I of the project started with informal conversations with one of SEED Wayne's main community partner Capuchin Soup Kitchen's (CSK) staff and guests.[4] These conversations, which occurred over five sessions each with six to 13 participants in fall 2008, explored participants' experiences with obtaining groceries and healthy food and with the history of food access in the neighborhood. They also elicited notions of effective neighborhood food environments, and concrete changes required to enable neighborhoods to foster greater access to healthy food. The conversations culminated in a community meeting

[3] When the project received an external grant in 2009, we decided to create a brand that would be recognizable for residents and activists as a moniker for healthy corner stores. After brainstorming possible names with partners and reviewing existing programs to avoid brand confusion, we settled on Detroit FRESH, with FRESH in caps to denote the emphasis on fresh produce.

[4] Guests are individuals who come in for a free meal at the soup kitchen. CSK welcomes all to eat at the soup kitchen, no questions asked. Many guests are neighborhood residents, most are single adults, men and women, who visit for food and socializing. Most are unemployed or retired, and some also experience substance addiction issues and/or forms of chronic disability.

later that fall, organized to share and get information and build support for proposed actions. Participants—guests of the soup kitchen, residents from the surrounding neighborhood, and staff of the Earthworks Urban Farm, a project of CSK—recalled the neighborhoods of their youth and food stores that offered a variety of foods, including fresh produce. One participant summed the conversation up thus,

> I've been here all my life—I'm 64—and it ain't nothing like it used to be. This neighborhood was full of people and houses. Neighbors looked out for each other and there was a lot of sharing of food. Mom and pop stores were run by folks from the neighborhood. We used to have trucks come by, shouting strawberries, pumpkins and watermelons. Then the families left and grocery stores closed one by one—Thrifty Scot, Farmer Jack, the rest.…The party stores here are all about liquor and cigarettes. The [store owners] don't live in the community.…They just want to make a quick buck from us.

These reminiscences were steeped with both nostalgia for neighborhood assets that were lost as well as bitterness for the seeming prevalence of addictions among residents that are fed by the stores. Participants discussed interactions with store owners, and recounted both general disrespect—such as having to transact through a bulletproof partition—and specifically in personal interactions.

> [Store operators] won't say hello or good morning or nothing. They take our money from [behind] the [bulletproof] glass. What we gonna do—shoot them or something? They want our money, but they [are] also afraid of us.

A handful of participants were sufficiently motivated to propose actions they themselves could initiate. One such proposal sought to explore if the corner stores in the neighborhood could be persuaded to offer more fresh produce; another was for a group of residents to organize a mobile farm stand. This project is a report on actions related to the former proposal.

Based on emerging agreements about next steps, in winter 2009, a group of CSK guests and staff, along with a team of students in the Cities and Food class, developed an instrument and undertook a systematic assessment of all stores mapped within a one-mile (1.6-km) radius of the soup kitchen, to explore the availability of fresh produce, and stores' past experiences, if any, with produce. Store operators were also asked if they would be willing to offer fruits and vegetables (F&V) with the project's assistance.[5] Together, they visited 30 corner stores as defined in this paper, and collected data about store size, products, refrigeration infrastructure, and participation in government nutrition programs such as SNAP and WIC. We connected three stores that agreed to participate to a wholesale produce distributor located about a mile (1.6 km) away, and equipped them with baskets and other basic supplies. Findings from this phase and others are reported in a following section. Three stores, it turned out, was too small a number to develop a network needed for efficient wholesale distribution. However, it offered some initial lessons and formed the basis for a grant proposal to support continuing work.

Phase II (summer 2009–summer 2012): Project implementation and review

With the help of a grant obtained in partnership with CSK, in summer 2009, Detroit FRESH expanded incrementally, block by block, to assess and recruit all corner stores on the east side as well as a few in the near west side. Stores within one quarter mile (.40 km) of a larger grocery store were

[5] University students were involved in a variety of ways in the project. Four led specific tasks as part of two class projects in UP 5430, Cities and Food, winter 2009 and 2010. Projects related to store assessment in Phase I as well as neighborhood outreach in Phase II. Student assistants also were hired as project staff to implement specific tasks (store and distributor check-ins, neighborhood outreach, and Healthy Food Fairs); about a dozen other students volunteered in neighborhood outreach activities.

excluded. As of October 2011, 214 stores were assessed and recruited. Of these, only 26 agreed to participate in the project, highlighting the challenge of increasing fresh food access through corner stores.

The recruitment script, refined from Phase I, was one seeking partnership with stores, and contained a mix of moral and pragmatic arguments. Acknowledging their success and resilience in impoverished neighborhoods, we argued to operators that the majority of profits they were able to extract tended to be from products that were less than wholesome—cigarettes, soda, a variety of alcoholic beverages and spirits, and processed foods high in fat, sugar and salt. This dynamic should be balanced if only modestly, the argument went, by the supply of fresh and healthy foods. In other words, stores were making money from an impoverished neighborhood whose residents had few choices; why not provide a positive service in return? The project offered neither financial incentive nor compensation to stores, but rather, assistance related to produce supply and management, marketing, and community outreach. Our intent was that, at the very least, stores should not experience financial losses in supplying produce.

Operators who agreed to participate were supportive of the project's goals, took seriously their role in serving the neighborhood, welcomed the project's assistance in a challenging category that offered little profit, and also welcomed the positive publicity the effort promised. As stores came on board, they received detailed tips on produce selection, management, merchandising, and marketing. They were also connected to one of three wholesale distributors partnering with the project. Finally, they benefitted from regular neighborhood outreach on their behalf, including to community-based organizations operating in the neighborhood. Depending on assessment of store capacity and infrastructure, stores also received basic supplies such as baskets, shelves, scales, and one was given a small refrigerator in which to store produce. Social marketing materials included attractively designed project posters and in-store flyers, and those that were tailored to particular stores that were distributed by project staff in the neighborhood of those stores. Periodic mailings to organizations in the participating store's neighborhood contained project descriptions, updates, and requests for outreach to the organization's members.

The three distributors, which included a mobile (retail) market operating in a smaller part of the project area, agreed to offer wholesale prices for orders that were smaller than a typical wholesale transaction. The two wholesale distributors also agreed to deliver orders to the store without charge, for orders of US$75 or more, or a nominal fee for smaller amounts; the mobile market had no such restrictions and even went out of its route to service a project store. Delivery was key to minimizing operator effort; the project sought to mimic how other parts of the store inventory such as soda, beer, and packaged snacks, were replenished. Some corner stores chose to bypass our distributors to purchase caseloads or smaller amounts of produce on their own from suburban superstores; they were asked to share related receipts for our documentation and analysis. After some trial and error, store purchases, rather than customer purchases, formed the basis, along with documentation of wastes, for tracking trends in the movement of produce in the project. However, these were less than reliable for purchases made from sources outside of the three participating distributors. Harried operators found produce related transactions simply too insignificant to their bottom lines, for the demands the project seemed to be making on them.

Soon after a store was equipped with product and related in-store marketing (and periodically from then on) project representatives—student employees and volunteers—went door to door in the surrounding neighborhood, approximately a fifth or sixth of a mile (.32 or .27 km) around the store, to distribute flyers announcing the availability of produce in the store. They also engaged residents in conversations about experiences with the store and types of produce desired there. Documented in project journals, neighborhood canvassing provided valuable contextual information on store-resident relationships, residents' grocery shopping patterns, and also firsthand knowledge of neighborhoods, many of which were experiencing visible distress in 2009–2011, when

significant fieldwork occurred. Store check-in visits occurred monthly (or more or less frequently depending on the store's needs and status) to record produce quality and price, collect receipts, and troubleshoot. Check-in reports led to adjustments based on that and other stores' experiences. These are summarized in the next section.

Social marketing was not without its problems. Regular neighborhood outreach, which took some effort in coordinating volunteers and organizing rides and which was found to be effective in increasing sales, fell out of sync when stores delayed restocking. Outreach to churches and other neighborhood organizations revealed their leaders' ambivalence to stores selling primarily liquor and cigarettes and stores that were not otherwise considered good neighbors. Many organizations were shuttered during daytime hours of visit, or failed to respond to calls or materials mailed to them. As noted before, the project was implemented at the peak of the Great Recession; organizations also were feeling its brunt.

The factors that contributed to successes and challenges in the experiences of stores in this phase are reported in a following section. However, the challenges experienced by stores underscored the need to attend to broader neighborhood dynamics including residents' relationship to the stores. Given the relatively small inventories of produce and high prices in corner stores, it made little sense for any shopper to buy large amounts of groceries here even if stores were consistent in their supply. Thus, we had to review possibilities for fresh produce in corner stores in terms of what and how much residents realistically would buy, and possibilities for residents to increase their fruit and vegetable consumption without incurring higher costs themselves. Additionally, store owners were expressing urgency with falling overall sales. In conversations with store owners to discuss findings from Phase II, the idea of the Healthy Food Fairs (HFF) was born. Implemented first in summer 2011, HFFs served multiple purposes: to better link stores and residents around healthy diets with more fresh produce, better understand residents' grocery shopping patterns and the role of corner stores in these patterns, and offer nutrition resources to encourage F&V consumption.

Phase III (summer 2011–summer 2012): Broadening and intensifying; Healthy Food Fairs

The third phase continued activities started in the previous one, but ceased further store assessment and recruitment until we were better able to gauge why some were successful and what challenged others given several months of experience, and to outline future steps such as Healthy Food Fairs. Stores that were enthusiastic partners early on were also interested in partnering in HFFs. Because these stores also had a relatively longer term and positive relationship with their shoppers and carried a broader range of groceries, the project offered two fairs in 2011 as a test; HFFs were organized in stores' parking lots (see Image 2).

With the help of food image cutouts and posters, staff

Image 2. Healthy Food Fair Staff Use Motivational Interviews to Engage Residents in Conversations About Healthy Diets

In the background, youth chefs from Earthworks Urban Farm demonstrate a fresh salsa assembled and eaten with products available in the partnering corner store across the street.

used motivational interviews (Miller & Rose, 2009) to have participants—residents of store neighborhoods and passersby—reflect on their diets and how to make incremental low-cost improvements especially with fresh F&V. HFFs also included games and other interactive activities for youth, and food demos with healthy, conveniently assembled recipes featuring products available in partnering corner stores. Finally, we surveyed participants about their grocery shopping in general and nature of shopping at the corner store. Feedback regarding the HFFs from residents and store owners was extremely positive and insightful so much so that HFFs became a significant activity for SEED Wayne in the years that followed, quite separate from the corner store effort. Project staff members—mostly university students—and store owners were enthusiastic about HFFs given the immediate, positive responses and F&V (and other healthy food) sales the fairs generated. The following year saw six fairs, three of which were in partnership with stores and three others with neighborhood organizations in areas with several participating stores.

HFF surveys of 162 residents in the neighborhoods of five corner stores confirmed qualitative data obtained from informal conversations logged during neighborhood canvassing. During this phase, we added messaging related to healthy snacking in the stores—"Choose an apple instead of a bag of chips"—and intentionally engaged more young people in HFFs given their snack purchases at the stores. We also engaged youth "chefs" from Earthworks Urban Farm's Youth Farm Stand Project to offer a food demo at one HFF. Participants were not unreceptive to the message and received the youth chefs enthusiastically, but shifting over the long term from highly processed sugary and savory snacks to fresh fruits is no small challenge. It requires combining education, consistent messaging and sustained support (Waterlander, deBoer, Schuit, Seidell, & Steenhuis, 2013). Low-income households already spend less per capita per week on fruits and vegetables than their higher income counterparts (Blisard, Stewart, & Jolliffe, 2004). For the change to be supported by corner stores, it would require even more effort to ensure regular availability, higher quality, and more attractive pricing of fruit and vegetable snacks than is available in the typical corner store.

Findings

The vast majority of the 30 stores assessed in Phase I had little to no produce. Where produce was present, only a few choices such as potatoes, onions, and bananas were available, with just a couple of stores offering more items, such as tomatoes, yams, lettuce, and grapes. Quality nearly everywhere tended to be low and unit prices predictably much higher than in larger supermarkets. Almost all stores—27—refused to participate in the project, with the most common reason being that fresh produce was not part of their business model. Stores blamed diminishing sales for discontinuing produce from their inventory in the past. A few offered produce in warmer months when demand increased for corn, fresh greens, and such favorites as watermelon and cantaloupe. Many who declined to participate, nonetheless, expressed an interest in joining the project if conditions improved. Others asked if they would be reimbursed for wastes resulting from unsold product. These findings were echoed as the project's geography expanded, as described in Phase II.

Of the 26 stores that joined as of Phase II, nine were convenience grocery stores in that they carried more categories of groceries than just packaged snacks; three were gas stations, and the rest were mostly liquor or dollar stores. All were recruited for the project because they sold a variety of foods to surrounding residents. Three stores were owned by African-Americans; of the rest, all but one of the owners were of Chaldean ancestry. Ten stores were 2,000 ft^2 (185 m^2) or smaller, another 10 between 2,000 and 4,000 ft^2 (371 m^2), and six were 4,000 ft^2 or larger. Only one was larger than 6,000 ft^2 (557 m^2) at 12,000 ft^2 (1115 m^2). Eleven stores carried no fresh produce at all at the time of the initial assessment. Others carried only fruits (mostly bananas) or F&V in two or three varieties each, with the most common vegetables being potatoes and onions. Twenty-four accepted SNAP, or the Bridge Card, and 18 accepted WIC benefits.

Although store produce purchase receipts were

received less than consistently, from available data, average F&V orders across stores were US$88 per month, with a low of about US$27 for fruits at a gas station and high of nearly US$200 for a corner grocery store. For some perspective on wholesale prices, a standard case of Macintosh apples contained about 80 apples and cost US$40 during the time of the research. A 40 lb. (18.1 kg) carton of bananas cost US$20; a carton of 24 heads of lettuce, US$18; and a 25 lb. (11.3 kg) carton of tomatoes, about US$17. Those who worked with our wholesale distributors tended to order once a month to take advantage of free delivery; others, including those who purchased from the mobile market purchased smaller quantities as needed. These data underscore the relatively small scale of produce supply that corner stores in the study feasibly offered.

After joining the project, seven stores more than doubled their initial inventory both in terms of F&V varieties as well as quantities offered (two others—the liquor store and one gas station—started from zero). Nonetheless, even these stores were continually experimenting with inventory and timing of orders so as to minimize wastes while increasing or stabilizing sales. Six stores reported significant increases in sales—of an average of 22%[6]—in the three days immediately following the first round of neighborhood outreach; more noted acknowledgement and praise from community members and smaller sales increments.

According to one corner store owner, for example, a shopper who came by "only once in a great while" stopped by more often to shop at the store, "as if to support us deliberately, even though she was not always buying fresh produce. The first time she saw all these baskets [of produce], she said, 'Wow, you are starting to care about us.'" This, and similar initial reactions, generated such pride that operators often went out of their way to carry produce in subsequent months. This operator's fears about wastes also waned. "I just take the bananas and tomatoes that are going soft home with me. *I* am eating more fruits and vegetables," he said with a wink.

Only 19 stores remained with the program at the end of summer 2012 (see Map 2). Of these, only 9 supplied fresh produce consistently based on field logs, although supplies were meager in practically every store towards the end of the month and in the depth of winter (see table in the Appendix). Three stores that dropped out of the program were unable to overcome difficulties associated with fresh produce or were frustrated by project requirements, two sold the store to operators who were disinterested in the project, and two closed the store altogether. Inventory also suffered when illness or other priorities delayed orders or restocking visits to larger stores.

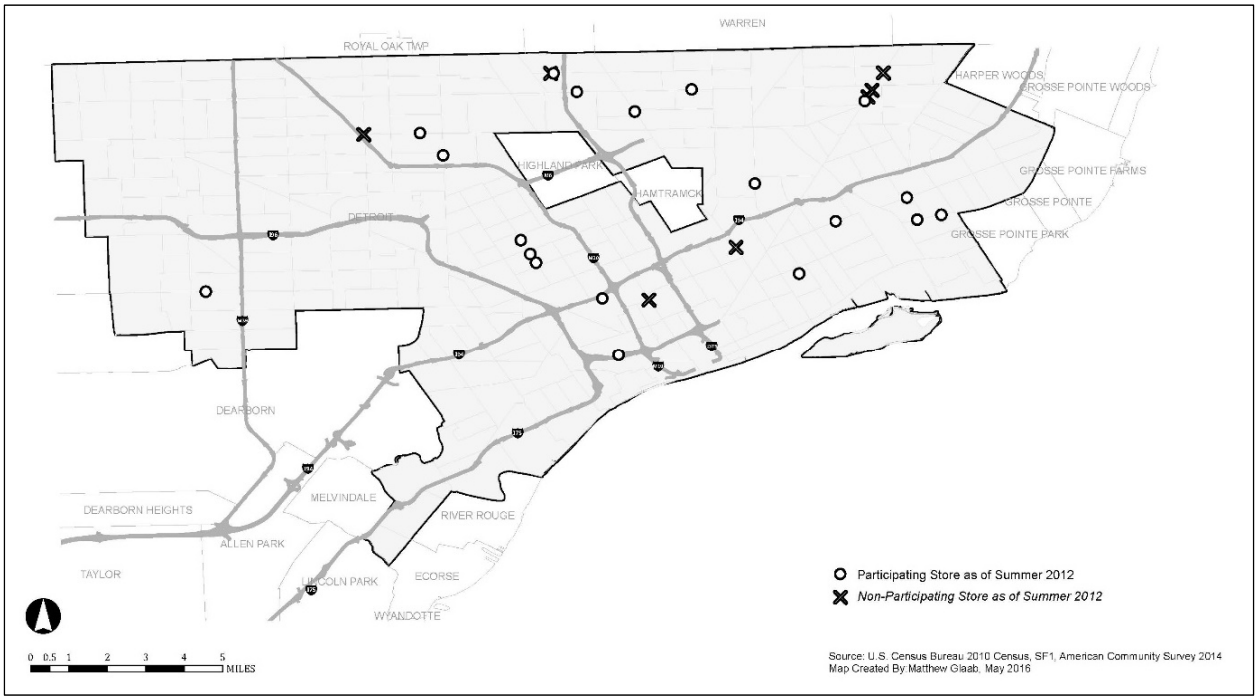
Despite increased sales initially, many stores wavered in their participation due to the effort—including availability of personnel, time, and knowledge—required to manage fresh produce, the scant difference it made to their bottom line, and the general decline in overall sales as the project progressed. This included four stores that had WIC agreements with the state, which required them to stock at least two types of fresh fruits and two of fresh vegetables, not including potatoes. Stores typically restocked after a prompt from us prior to a scheduled neighborhood canvassing trip or waited for the start of the month before ordering. Thus, despite initial successes, too many factors militated against the cycle becoming self-sustaining.

Factors in Effective Store Participation

In this small sample of participating stores, neighborhood and store factors are implicated in

[6] Stores were connected with produce dealers soon after they came on board, typically early in the month. Community canvassing followed a month or so after the store started stocking, and glitches were worked out. Thus, we commenced canvassing for a store at different points in a calendar year. Although no stocking and canvassing occurred between December and February, the difference in sales following canvassing in some stores partially might be explained by the season when data were gathered. For example, the post-canvassing increase in sales in early May might be partially explained by the warmer weather relative to the previous month's baseline sales. Similarly, canvassing may have had a differential impact depending on exactly when it fell relative to a weekend. Canvassing typically occurred only on weekdays and Saturdays. Because our interests were more programmatic rather than research-related we did not track these effects closely for the same store or between stores.

Map 2. Detroit FRESH Participating and Nonparticipating Stores by Census Tract, as of August 2012



store performance in the project (see Table 1). Shopper and distributor factors are also important. Unsurprisingly, a majority of stores that opted out of the program prematurely and those that were inconsistent in their supply were in zip codes that lost population at higher rates than the city as a whole between 2000 and 2010. Admittedly, zip codes are a much larger geography than the effective market area of most stores but they offer a view to which operators were also attending, as documented in check-in reports. On a finer level, as Map 3 shows, all project stores had at least one abutting census tract that lost population between 2000 and 2010. Because we did not document the exact market area for each store, it is impossible to know the exact effect census tract-level trends had on stores; we relied mostly on operator accounts of their business trends.

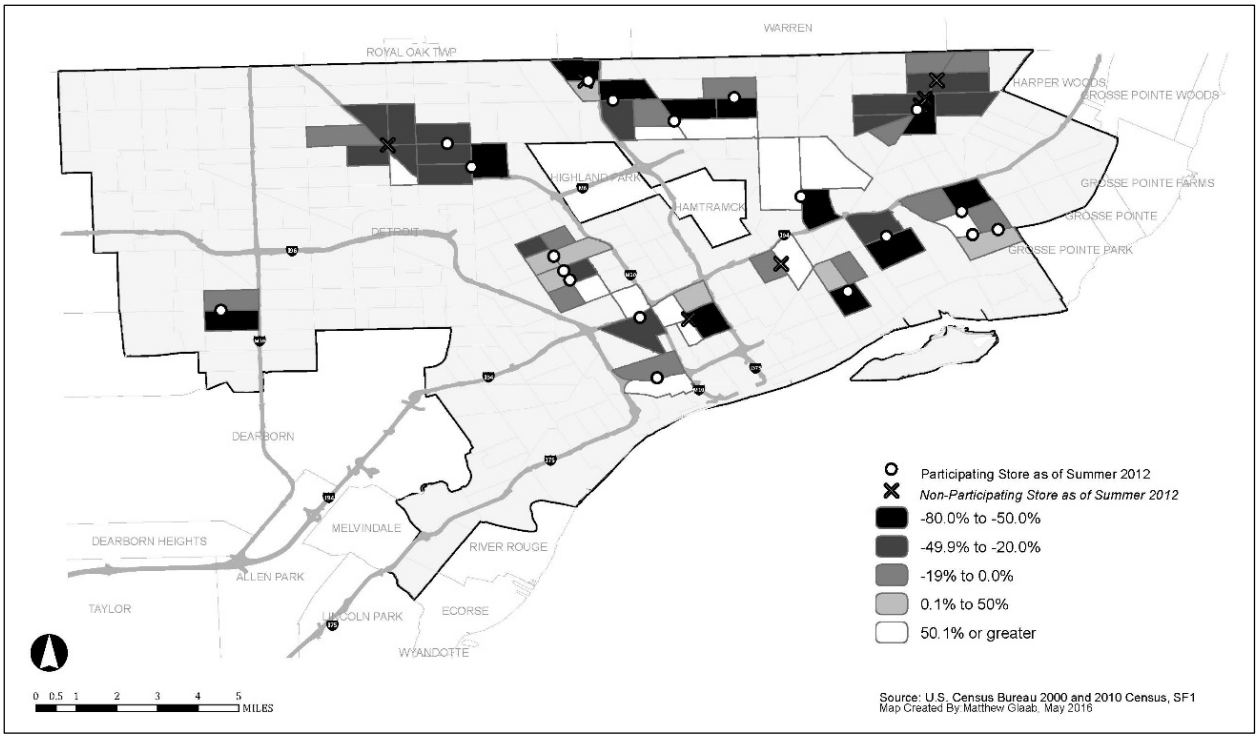
Also expectedly, a majority of the consistently high performing stores (five of nine) were in zip codes that lost population at lower rates than the city's average percent of loss. That four similarly high-performing stores existed in zip codes that lost more population than the city's average needs explanation. One such store saw a reduction in competition as three nearby stores closed down; two were gas stations that carried only fruit, which was popular with drivers and pedestrian residents alike. Thus while neighborhood decline factored in stores' reluctance to stay in the project or participate consistently, the actual effects for a particular store are more nuanced.

Table 1. Store Performance Relative to Population Loss Between 2000 and 2010 in Zip Codes Relative to the City as a Whole, *N*=26

Rate of population loss (2000–2010) in the zip code relative to the city as a whole	Stores leaving the program prematurely	Stores performing inconsistently	Stores performing consistently
Higher rate of loss	5 (19%)	7 (27%)	4 (15%)
Lower rate of loss	2 (8%)	3 (12%)	5 (19%)

Population data source: U.S. Census Bureau, n.d.-b.

Map 3. Population Change (2000–2010) in Detroit FRESH Member Neighborhoods, by Census Tract
Both participating and nonparticipating stores, as of August 2012, are shown.



Store operators with previous experience with fresh produce and commitment to their neighborhoods did better than others. These stores also tended to have larger footprints than purely liquor and/or party stores and carried a broader range of groceries including dry goods. Offering a deli was advantageous in three cases, as vegetables were incorporated in deli offerings (such as chili) before they went bad, thereby minimizing waste. Operator commitment to the project and their persistence during the time it took for community outreach to register in the form of higher sales was especially crucial. Such operators made more shelf and cooler space available for produce, merchandized it attractively, priced it competitively, and generally managed it better. They were also willing to experiment with ways to increase sales and were more responsive to related shopper requests. Such operators typically had a longer history in their neighborhoods and knew their customers well, and took pride in serving them. Unlike in other stores where the check-out transaction was strictly business, conversations with customers in these stores tended to be longer, more wide-ranging, and personal in nature, from our store-based observations.

Distribution issues worked out more smoothly for stores placing larger orders and those placing orders more consistently than others. The mobile market obtained inconsistent business, but some store owners complained that the mobile van itself was unreliable for schedule and inventory. All this underscores the tenuous nature of coordinating multiple moving parts to create the semblance of a system, each part of which, by itself, is quite fragile given its own experience of urban stressors. Risk-averse strategies such as sourcing from the outside resulted in quantities too small, frustrating some residents who came to the store following neighborhood outreach, only to find some products already sold out. Stores that were more or less liquor stores with mostly packaged foods were both less motivated and less capable, even if they participated out of a hope of boosting flagging overall sales. Because shoppers were less accustomed to buying fresh foods there, such stores may

not be worth the effort in future projects to develop supply mechanisms and conduct related neighborhood outreach. Gas stations' success with fruit was both surprising and gratifying, suggesting the need for further exploration of such outlets to benefit walk-in traffic of mostly nearby residents.

The produce supply and demand dynamic in the project made clear that quantities, variety, and pricing even in the highest performing corner stores simply could not support significant produce purchases by households. Phase III's efforts therefore sought to shift expenditures on snacks in these stores from mostly soda and packaged foods to fresh fruits, given the not insignificant portions of Bridge Card (SNAP) spending that occurred. This spending was confirmed by responses to 162 surveys conducted at five Healthy Food Fairs.

It is beyond the scope of this paper to detail the survey method, respondents, responses and limitations. To summarize, the vast majority of respondents (92%) reported doing the bulk of their monthly grocery shopping in larger chain and independently-owned supermarkets outside the neighborhood and even the city, including produce purchases at Eastern Market, the region's largest produce market, and produce stores such as Randazzo's. A majority also used SNAP benefits for their food shopping, including in corner stores. Trips to the corner store tended to be for top-up needs or perishables such as bread, milk, or F&V in relatively small quantities, and snacks such as cookies, chips, and soda. Most indicated willingness to buy more produce at their corner store if varieties and quantities were increased and prices lowered, echoing findings elsewhere (Bodor, Rose, Farley, Swalm, & Scott, 2008; Martin et al., 2012). Without much higher subsidy, this is infeasible given overall store business models and, in this context, shrinking overall sales. A smaller majority—58%—indicated visiting the corner store once a week or more often, although it is unclear how many of these visits were intended for, or included, purchases of food (as opposed to cigarettes, alcohol, or lottery).

Reflections and Recommendations

Our action research sought to explore questions raised by Karpyn and Burton-Laurison (2013) about corner store initiatives, as they relate to financing, distribution, marketing, and collaboration. The project's key objectives were to gain a deeper understanding of how elements of the food system worked (or did not work) in the present context, and if they could be re-assembled in new ways so as to sustainably offer fresh produce within Detroit's poorest neighborhoods. And if the effort succeeded, could specific factors be identified and replicated? Could challenges be overcome? By seeking to answer these specific questions through systematically developed actions in three phases, participants moved from assessing and recruiting corner stores, to inquiring into residents' relationship with corner stores for their grocery shopping, to emphasizing healthy snacking with fruits and vegetables.

As lessons were shared in each phase, participants gained significant knowledge about the needs, aspirations, and daily struggles of others: residents, store operators, wholesalers, students, and food activists. While some findings were depressing, inspiring stories and people also emerged. For example, given stories of disrespect experienced by residents in corner stores, participants were pleasantly surprised to find operators who were respectful and responsive to, and well-liked by, their customers. Such operators taught us about the everyday business, supply chain, and regulatory constraints that they confronted, and their often complicated relationships with the community. When asked why he decided against erecting the bullet-proof barrier common to corner stores, for example, one longtime operator sniffed:

> And what good will that do…? If someone comes in with a gun and wants something, they can point [the gun] at a shopper nearby and we will give them whatever they want, anything. We know all the neighbors here, they depend on us. If they get hurt, we get hurt. We are all in the same boat.

Students offered similar insights. One wrote about her neighborhood canvassing:

> When we talk about food access in Detroit, the picture is often drawn in black and

> white, sometimes literally, given the racial dynamic, and people are like stick figures. Residents are victims and the corner store owners are exploiters. I have no doubt that these are realities [more generally]. [However,] I now see the neighborhoods and stores as real places, with people working hard and struggling and hustling. I see storekeepers as human, some quite decent and thoughtful about their business relationships with neighbors. Not all, but enough to give me hope.

On the flip side, canvassing students also recorded disdain for the project's goals and resentment of its scrutiny of store practices. In one log, a student wrote

> We found a decent supply of various produce but which needed to be set out.…A bag of potatoes had a price tag of US$0.69 which, at first glance, I thought was cheap, cheaper even than in larger supermarkets. Then I realized that the price was for a single potato. When I mentioned to [name of operator] that US$0.69 per potato in a store seemed steep, he said, "You all are trying too hard."

Who were we to raise questions, the storekeeper seemed to ask, if residents were willing to pay such high prices.

Students were also deeply affected by the deteriorating conditions in some neighborhoods even in the short timeframe of the project. One log in summer 2012, for example, noted a pleasant conversation with an elderly couple sitting on the porch of a house with stained-glass windows. This house was found burned down when staff returned three months later. Furthermore, students encountered suspicion from residents in neighborhoods that typically received few outsiders; one even came out to yell at them to "get the hell out the neighborhood." Such experiences, though eye-opening, left students disheartened and were the subject of much debriefing in project meetings. Thus the study's lessons went far beyond corner store and food supply dynamics and offered insights into residents' perspectives and neighborhood dynamics.

Lacking economies of scale and due to other internal and external constraints, corner stores have only limited ability, in the best of times, to offer produce in desired quantities, varieties, and prices without subsidy or increased demand. These, however, are hardly the best of times for Detroit's poorest neighborhoods. As neighborhoods became even more depopulated, stores were less able to cope. Thus, our assumption of stores' resilience in the face of decline found its limits. Many project stores performed only lethargically as sales declined. Some quit the project altogether and a handful shut down operations soon afterwards. Surprisingly, however, even in depopulating neighborhoods, a few stores continued to offer produce more or less effectively. Perhaps it is only a matter of time before they, too, feel the pinch and cut back or shut down. With successful urban agriculture and farm stand initiatives in many Detroit neighborhoods, corner stores may be suboptimal targets for increasing access to fresh and healthy food.

Nonetheless, as year-round sources, many corner stores could serve their neighborhoods better than they do now. They could also be better supported than was possible in this test project. Following are a few specific recommendations: One, current agreements related to the WIC program's produce stocking requirements that corner stores sign should be enforced by the state. Such stores could also be supported to offer nutrition education materials through partnerships with health and food security organizations. Two, because fresh produce is seldom a profitable category, stores that are good neighbors according to this project's criteria preferentially could be awarded grants and other support by agencies such as the Detroit Economic Growth Corporation. Such stores could also be assisted with relocation if and when city restructuring plans are implemented.

Three, as a longer term strategy, licenses to sell liquor, tobacco products, and lottery, all of which constitute significant earnings for stores, could be linked to a minimal healthy and fresh food inventory, with associated training and neighborhood partnerships. Regular availability and greater

varieties of produce within neighborhoods would enable residents to adapt their shopping accordingly and create higher impacts when combined with other strategies. Four, a fresh and/or healthy food distribution system to service corner stores and gas stations is needed, such as by extending the food hub efforts undertaken by Eastern Market Corporation. Such an effort could start with more effective corner stores to test combinations of produce availability, price reductions or incentives,[7] and nutrition and food demos, all of which are offered by programs in Detroit. Finally, more research is needed. We need to know more about decisions to purchase fruits and vegetables and about food expenditures in corner stores made by low-income residents in *this* community. Accounting more closely for the differences in the performance of similar stores in neighborhoods facing similar dynamics of abandonment, also merits closer examination so that incentives could be targeted more precisely.

Conclusion

Detroit's current retail grocery environment—including corner stores—is a product of decades of economic and social abandonment and racial discrimination. Place-based efforts to craft an alternative food system have shown to be successful in urban agriculture and even neighborhood farmers markets. However, developing year-round produce supply in neighborhoods, with available neighborhood infrastructure, requires links to elements that are more deeply embedded in the conventional food system—corner stores and produce wholesalers—even if they themselves are marginal in that system. For such projects to effectively deliver produce year-round, bridging the gap between affordability for customers and profitability for the business will require greater subsidy than do other community food efforts. Thus, enabling corner stores to be better neighbors is scarcely an effort to be relegated to neighborhood collaborations, no matter how competent or resourceful they may be.

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[7] Redemption rates in Detroit's neighborhood farmers markets for the Double Up Food Bucks (DUFB), a farmers market incentive program, are reasonably high for neighborhood markets (about 88%), suggesting that low-income households will take up subsidies for fresh produce. DUFB tokens match SNAP spending at farmers markets (up to US$20/day) and may be used exclusively on Michigan-sourced fresh fruits and vegetables. Wayne State University Farmers Market, which also offers nutrition tabling and food demos, saw a DUFB redemption rate of 95%, suggesting the effectiveness of combining supply with demand-side incentives, educational materials and/or conversations, and healthy food demonstrations.

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Appendix. Summary of the Three Action Research Phases

Action Research Phase	Questions	Data Sources and Methods	Summary Findings	Partners and Participants
Phase I, fall 2008–winter 2009 *Initial exploration of problem*	1. What are experiences of CSK guests of the neighborhood food environment? 2. Why do neighborhood stores not carry or carry only minimal quantities and varieties of fresh F&V? 3. If fresh F&V supply and merchandising were made convenient, would stores consistently carry them?	1. Structured conversations with CSK guests. 2. Assessment of all corner stores within 1-mile (1.6-km) radius of CSK; interviews with operators/owners. 3. Interviews with produce wholesalers.	1. CSK guests, residents attest to steady decline in number and size of neighborhood grocery stores. Smaller convenience stores and gas stations with limited inventories come to dominate. 2. Most stores: "F&V not part of business model; not much success when tried F&V sales before." 3. Three of 30 stores agree to participate in project, later called Detroit FRESH. 4. Wholesalers interested in supplying F&V if enough stores participate.	1. Partners: CSK, EWUF staff. 2. Participants: CSK guests; other neighborhood residents; students of Cities and Food class, winter 2009; store owners; wholesalers.
Phase II, summer 2009–summer 2012 *Expansion: Recruitment of stores* (needed for viable supplier logistics, distribution)	1. In an expanded geography, will more stores in underserved neighborhoods agree to participate in Detroit FRESH? Why do they participate? 2. Are F&V wholesalers and nonprofit mobile F&V markets viable distributors? 3. With more stores, can produce distribution become more efficient? 4. Will stores be consistent in their supply of products? What is needed for this to happen? 5. Will residents purchase F&V from Detroit FRESH stores?	1. Assessment of all stores, expanding incrementally from Phase I, that are at least ¼ mile (.4 km) from a full-service supermarket; interviews with store operators. 2. Store produce purchase receipts; ongoing interviews with participating operators and wholesalers. 3. Notes from door-to-door outreach within 1/5 mile (.32 km) of store. 4. Notes from regular check-ins with store to verify F&V supply, troubleshoot.	1. Most stores decline to participate; our expectation of an incrementally expanding geography of participating stores to support convenient F&V distribution and/or delivery was challenged. 2. Twenty-three more stores agree to participate. 3. F&V wholesalers and mobile markets are viable distributors, within limits. 4. Stores need basic merchandising, display supplies (shelf, baskets, scale, social marketing materials, etc.), and technical assistance on F&V handling and storage. 5. Four stores accepting WIC are inconsistent participants. 6. Increased sales in 6 stores reported immediately	1. Partners: Community organizations in store neighborhoods; CSK, EWUF staff. 2. Participants: Store operators; produce wholesalers; WSU students as Detroit FRESH staff and volunteers (including students in the Cities and Food class, winter 2009 and winter 2010).

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Action Research Phase	Questions	Data Sources and Methods	Summary Findings	Partners and Participants
			following door-to-door canvassing. 7. Some stores in distressed neighborhoods report lower overall sales and reduce participation in or withdraw from project.	
Phase III, summer 2011–Summer 2013 *Expansion: Understanding residents' relationship to stores*	1. How do neighborhood residents engage with Detroit FRESH stores? 2. Can we help neighborhood residents increase F&V purchases in participating stores? 3. Can we increase F&V knowledge in neighborhoods with participating stores?	1. Door-to-door canvassing and resident interviews. 2. Addition of healthy snacking messaging in stores. 3. Healthy Food Fairs with participating stores; motivational interviews; survey of fair participants. 4. Store owner check-ins and interviews. 5. HFFs in partnership with nonprofit organizations in store neighborhoods; motivational interviews; survey of HFF participants.	1. Many residents in store neighborhoods purchase snacks, soda, and F&V in small quantities; most do not buy large quantities of F&V due to high cost and low supply and variety. 2. Residents increase F&V purchases in participating Detroit FRESH stores after canvassing and HFFs, but sales patterns are not sustained after a few weeks. 3. Most neighborhoods were in distress with foreclosures; overall sales declining in many participating stores. 4. Motivational interviews document increased desire to consume F&V; costs and/or value identified as challenges.	1. Partners: Community organizations in store neighborhoods; CSK, EWUF staff. 2. Participants: Store operators; produce wholesalers; WSU students as Detroit FRESH staff and volunteers.

Acronyms:
CSK Capuchin Soup Kitchen
EWUF Earthworks Urban Farm
F&V Fruits and vegetables
HFF Healthy Food Fairs
WIC Special Supplemental Nutrition Program for Women, Infants and Children
WSU Wayne State University

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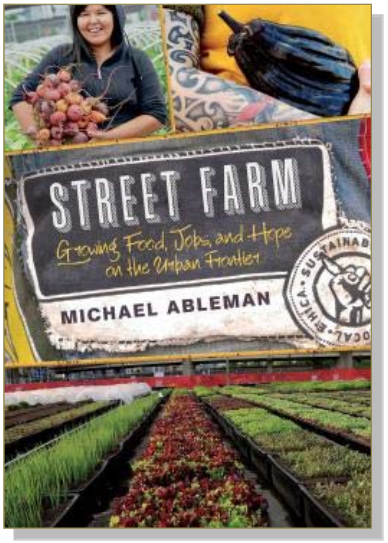
A story of urban farming and the cultivation of community and the human spirit



Matthew M. Mars*
The University of Arizona

Review of *Street Farm: Growing Food, Jobs, and Hope on the Urban Frontier,* by Michael Ableman. (2016). Published by Chelsea Green Publishing. 256 pages; available as paperback and ebook.
Publisher's website: http://www.chelseagreen.com/farm-garden/street-farm

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In the book *Street Farm: Growing Food, Jobs, and Hope on the Urban Frontier,* Michael Ableman tells the story of how an urban farm has transformed vacant lots in the Low Tracks neighborhood of Vancouver, British Columbia, into sites where food is produced, community is in part restored, and the human spirit is nurtured. Ableman's storytelling is raw and transparent. Through this transparency, he reveals a tenuous balance between the promises of urban farming and the harsh realities of the addiction, hunger, homelessness, and violence that often characterize inner-city conditions. This balance illustrates how urban agriculture can help produce the food a city needs in a sustainable way and, perhaps more importantly, feed the souls of disenfranchised individuals and communities.

The book is not developed around the technological aspects, economic opportunities, or socio-political underpinnings of urban farming or its promise to be an alternative to industrial agriculture, as one might expect. Instead, Ableman features urban farming first and foremost as an innovative approach to the nurturing of human dignity, hope, and talent within disenfranchised communities that are too often ignored and left in decay. Sole Food Street Farms, a network of four urban farms located throughout the impoverished fringe of the otherwise affluent Vancouver downtown district, is both the setting of the story and the vehicle for its plot. The farms introduce a cast

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of real-life characters who are attempting to overcome the ill effects of poverty and diseases such as drug and alcohol addiction, diabetes, and schizophrenia. As such, readers come to know these individuals not only through their real and constant pains and struggles, but also through the emotional and physical healing they achieve by working on the farms. The compelling examples of the farms and the pride that the farmers develop in their work converge to tell a story of the potential power of agriculture as a development tool in even the most unlikely of places. Community development practitioners and scholars alike will gain inspiration and new ideas for their own work through this compelling narrative.

The approach Ableman takes in structuring the book is both pragmatic and strategic. Pragmatically, each chapter builds upon the next in a way that clearly presents the evolution of Sole Foods Street Farms from an early-stage idea to a well established community asset. Along the way, challenges—ranging from shortages in funding and uncertain lease agreements to vandalism and to the unpredictability of the street farmers themselves—are described with rawness and honesty. In doing so, Ableman provides readers with a holistic understanding of both the rewards and hardships that come with starting and operating an urban farm that is not only in the business of producing food, but also in nurturing people and developing communities.

More strategically, each chapter reveals a new layer of the human complexities associated with urban farming in marginalized communities. Readers are continually exposed to the economic, political, and technological realities that confront a group of social entrepreneurs who are working to transform a community through the farming of some of the most unlikely urban spaces (e.g., vacant lots plagued by contaminated soils). Yet the focus rightfully remains mostly on (or reliably returns to) the individual farmers who find meaning and refuge on the farms. This spotlight on the human element of farming and the renewal it stands to bring to both individuals and communities is what makes Ableman's book a provocative and deeply engaging read.

Ableman also provides scientific and technological guidance throughout the book in a clever and effective way. Each chapter includes a sidebar featuring brief insights and practical tips on the craft of urban farming. Examples of these inserts include the estimated production capacity of a parking-space–sized plot, pest and plant disease management, and proper posture when cultivating and harvesting urban crops. This approach allows Ableman to avoid the tendency of many alternative agriculture texts to become overly complicated scientific and technological treatises rather than engaging, informative narratives. *Street Farm* is far from a "how to" manual for urban farming, but the inserts give those with urban farming aspirations a realistic idea of the many facets of the work they will need to consider should they act on their interests.

Ironically, Ableman never directly connects urban farming with the conditions of hunger and malnutrition, which readers are likely to expect given the mission and location of Sole Foods Street Farms. Instead, Ableman makes the odd choice to frame food security in the context of environmental and economic sustainability. This subnarrative is developed with a relatively reflective and objective tone that is likely to appeal to a broad audience of individuals with a range of economic, political, and socio-cultural views. Yet this reviewer was often left wondering how, if at all, the farms help feed the "street farmers" who are highly vulnerable to hunger and its many physiological and psychological effects. The discussion of the challenges and opportunities of selling urban-grown produce to high-end restaurants is somewhat off-putting given the book's lack of attention to feeding those suffering from hunger on the streets surrounding the farm, which are home to the farmers themselves.

Beyond the one preceding criticism, *Street Farm: Growing Food, Jobs, and Hope on the Urban Frontier* is an extremely well written account of the human and community dynamics of urban farming. The experiences and perspectives shared by Ableman are likely to catalyze new ideas and strategies for expanding urban farming in productive and fruitful ways. Most importantly, this piece will help remind practitioners and scholars of the importance of individual and community wellness to the urban farming movement.

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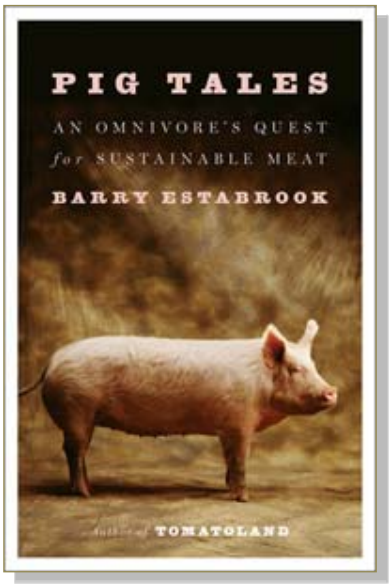
Pig wrestling: Chasing tales of modern swine production systems



Review by Robert Perry*
University of Kentucky

Review of *Pig Tales: An Omnivore's Quest for Sustainable Meat,* by Barry Estabrook. (2015). Published by W. W. Norton & Co.; 336 pages; available as hardcover, paperback, ebook, and audiobook. Publisher's website: http://books.wwnorton.com/books/Pig-Tales/

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No matter the subject, Barry Estabrook is a writer whose experiences in the world of food and agriculture are wide and deep. *Pig Tales: An Omnivore's Quest for Sustainable Meat* is no exception. The title gives his approach away: this is a collection of tales from his travels and interviews to understand pig nature and production. He continually engages the reader by supplying deep backstories for his most significant interviewees. It is obvious he connects personally with each one, is able to put them at ease and thus get at the truth of their situations.

Pig Tales begins with a scene of courtroom drama in which Estabrook almost gets arrested for being himself attending a trial in in which neighbors maintain that the concentrated animal feeding operation (CAFO) built nearby emits such foul odors they cannot be outside on their own property. The judge in the case is leery of his presence because of his previous book, *Tomatoland,* and so has him removed—an action that propels Barry on his journey.

His quest begins as he examines research into pig intelligence. Though he doesn't anthropomorphize them, he explores their innate intelligence through the lens of academic research, on-farm experiences, and their being kept as pets. For the remainder of the book he subdivides pigs into

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three major groups and examines each separately based on the lives they lead—feral, confined, and pastured—a strategy that works brilliantly.

First, through informative and amusing interviews, and aided by tales from his own travels, Estabrook endeavors to understand feral pigs and the havoc they can create. From humid southern swamps to a frozen Saskatchewan to the wide expanse of Texas, he explores how feral pigs have outsmarted all those who have tried to eradicate them. He learns that no matter the climate or terrain, feral pigs make their environment their own despite all human attempts to manage them.

Next, Estabrook explores confinement hog operations in a much longer section. His first tale makes the reader contemplate whether the operation he describes is actually viable. It is owned and operated strictly in accordance with the latest research by a veterinarian who has been witness and participant to the evolution of pig farming from outdoor to indoor. But, while the story starts brightly, it ends where all CAFO tales do: in the mire where manure is a problem rather than a resource. Estabrook's interviews with former employees of large confinement operations describe what has often been said before about such operations. Premium Standard in northern Missouri (now owned by the Chinese corporation that bought Smithfield) is one such example as a vertically integrated operation that both raises and processes pigs and whose tale mirrors the processing horrors portrayed in *Fast Food Nation* by Eric Schlosser.

Estabrook's account of Murphy Family Farms in North Carolina illustrates the extent to which scale matters. Going beyond human scale to an industrial corporate scale can be the downfall of some operations. Farmer Wendell Murphy wanted to help other farmers, and so he began to increase the scale of his operation and others' to be more profitable. He did this by organizing them and starting new businesses to provide both feeder pigs and feed. But, as Estabrook illustrates in the Murphy case, when one ignores environmental and human consequences for the sake of profit, the available political money and power become blind. Estabrook uses this example to compare the actions of Big Pork addressing challenges to its operations to those of Big Tobacco during its downfall.

The chapter titled "Drug Abuse" includes Estabrook's description of the pork industry in Denmark. While CAFOs are also utilized there, the conditions of Danish industrial pork operations stand in stark contrast with those he describes in the U.S. This was well illustrated by his account of being welcomed to a slaughterhouse outside Copenhagen, unlike slaughter operations in the U.S. that refused him tours or did not respond to his requests. He describes the Danish operation as immaculately clean with numerous robots performing work that would otherwise take many human hands. Another aspect of scale is well illustrated here in his description of where each part of the pig goes. It is only at a large scale that the viscera become an asset rather than waste; what parts go to which countries may give readers pause if they are world travelers.

In the last section of the book, "When Pigs Fly," Estabrook takes readers on a tour of pastured operations of varying sizes, but all with the same lofty and delicious goals. The names in this section —Kremer, Willis, Small, and Yezzi—are recognizable to those pursuing better pork, making it a satisfying end to the book. Both Kremer and Willis have lifelong experiences with pigs, from pastured to CAFO and back again. These were some of the first operations to turn their backs on the industrialization of pork and, in the cases of Small and Yezzi, to start from scratch without any prior experience—something with which many new farmers could identify.

Pig Tales is like a great lecture from a favorite professor; Estabrook weaves hard facts and his experiences together into compelling tales that both entertain and educate the reader and lets them draw their own conclusions about the different systems. This is not a scientific or political treatise, but reliable first-hand information on the state of pigs today.

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David versus Goliath in the food policy space

Review by Elizabeth Morgan*
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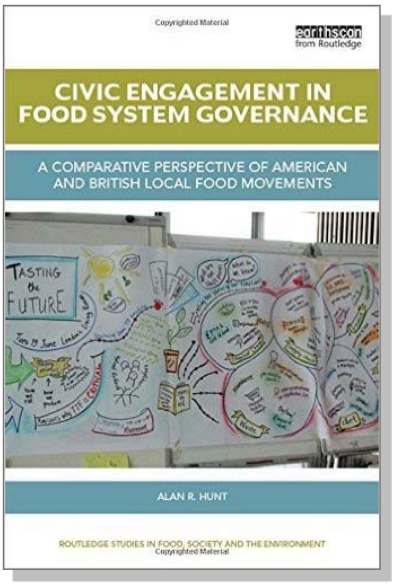

Review of *Civic Engagement in Food Systems Governance: A Comparative Perspective on American and British Local Food Movements,* by Alan R. Hunt. (2015). Published by Routledge. Available as hardcover, Kindle eBook, and iBook; 276 pages. Publisher's website: https://www.routledge.com/books/details/9781138888432

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In the food studies field, it is uncommon to encounter a local food/alternative food movement practitioner who is also an academic. Alan R. Hunt is one of these rare birds. He runs a consultancy business, Local Food Strategies, working from his parents' farm in Hampton, New Jersey, after completing a Ph.D. in rural development in northern England in 2013. Hunt's interest in how producers and consumers could breathe new life into local food systems was piqued by his experience of trying to preserve the family property as a sustainable, working farm in the face of political and economic pressures, such as the U.S. farm bill and urban encroachment on peri-urban land. The farmer in Hunt is acutely aware of the unintended consequences of ostensibly well-meaning laws and wondered what difference it could make if stewards of the land were tapped for their unique, local knowledge. His research question in *Civic Engagement in Food Systems Governance* was: *"How have stakeholders been included in the policy process, and has the policy process responded to their interests and concerns?"* (p. xiii, emphasis in original). These are the crucially important questions that Hunt explores in his comparison of local food advocacy organizations in Britain and the United States.

In essence, *Civic Engagement in Food Systems Governance* is a treatise on the battle facing social movement organizations (SMOs) in the food system space—the Davids versus the hegemonic,

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policy-making Goliaths (Belasco, 2012). Given that "it has always been somewhat ironic that ideas about collective action have been so influenced by thinkers in the United States—to many the home of individualism" (Edwards, 2011, p. 482), the absence of a theoretical framework on SMOs to set up the comparative case studies is regrettable. One would expect mention of Jurgen Habermas's theories on social movements and activism, perhaps, or U.S. sociologist Theda Skocpol's work on civic engagement in American politics. The issue of social movements is briefly dealt with in a tad more than a page, and does little to whet the appetite for the interesting case studies to come. The irony noted by Edwards is particularly worth exploring conceptually, especially because it is borne out in Hunt's findings and conclusions.

The book opens with an historical tracing of food policies and food movements in Britain and the United States (1991–2012 and 1976–2012, respectively). Significant differences between the two countries quickly emerge: local food in national American policy (Chapter 2) is described as "increasing inclusion, increasing policy success" (p. 22), whereas local food in national English policy (Chapter 3) is characterized as "policy decline with increased contention" (p. 59). This is not what Hunt, nor the reader, expects, and it is an exciting revelation.

Chapters 4 and 5 are the case studies proper, and can be summarized by the respective chapters' subheadings: "The co-option of local food policy by environmental interest groups" in England, and "Overcoming barriers to policy change due to civil society coordination failure" in the United States—rather cumbersome ways of saying that American activists are good at putting aside their differences, are more socially just and inclusive, and are more successful at influencing policy than their British counterparts. What is intriguing in these chapters is the insider's view of how these advocacy groups organize and operate. The "thick description" that Hunt distills from his voluminous research material will be of great interest to those in the business of advocating to government on any policy, but the reader does have to wade through rather a lot of text peppered with dozens of acronyms to unveil the narrative.

The analysis and conclusions in Chapters 6 and 7—"Making space for collaboration in the food system; Three practices for overcoming exclusion" and "Toward a theory of food systems practice"—are as nebulous as their titles. There is a weary tone where one would expect a thrilling crescendo: "Look what *I've* found!" Instead, the very last sentence of the final chapter's concluding section reads: "Civic engagement is a cornerstone of food system governance." Routledge editors, take note.

Hunt's doctoral thesis and book the share the exact same title, and the latter followed the former by less than two years. This suggests a quick reworking of the thesis into a book, a supposition that is lent some weight by, for example, a references section that runs to 43 pages and about 850 entries—the first an enigmatic "7 U.S.C. § 1991 (11)(b)," and also by chapter titles with the opening words: "This chapter focuses …"; "This chapter directly contrasts …"; "The study profiles.…" To this reviewer, this is "thesis speak," not "book speak." It is a pity because the originality of Hunt's contribution to the food policy discourse is diminished by the pedestrian presentation of the material and an absence of pizzazz about the findings, which are significant and worth shouting about. Food activists have much to glean from this book, but my hunch is that it will predominantly circulate in academic and policymaking circles, by virtue of its price alone (£85 hardback, US$110). To use a food analogy, there is plenty of meat in Hunt's research, but rather like a large pan of paella, one has to sift through a lot of plain old rice to find the protein-rich nourishment.

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A nested approach to the right to food: Food security, gender violence, and human rights

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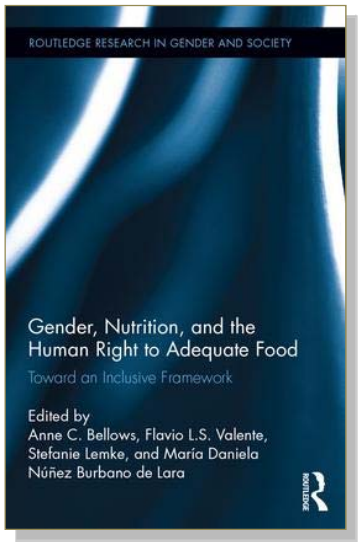

Review of *Gender, Nutrition, and the Human Right to Adequate Food: An Inclusive Framework,* edited by Anne C. Bellows, Flavio L. S. Valente, Stefanie Lemke, and María Daniela Núñez Burbano de Lara. (2016). Published by Routledge in its Research in Gender and Society series. Available as hardcover; 472 pages. Publisher's website: https://www.routledge.com/Gender-Nutrition-and-the-Human-Right-to-Adequate-Food-Toward-an-Inclusive/Bellows-Valente-Lemke-Nunez-Burbano-de-Lara/p/book/9780415714457

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The six contributed chapters in *Gender, Nutrition, and the Human Right to Adequate Food: An Inclusive Framework* bring public policy, political economy, and gender equity together to create an inclusive framework for food system reform. Uniting human rights, gender discrimination, and food sovereignty, the book offers a comprehensive analysis of the complex intersections between food and nutritional justice, as well as structural poverty and violence. The text is a product of the collaborative effort between the Gender Nutrition Rights (GNR) university-based research group and two international nongovernmental organizations, FIAN International and the Geneva Infant Feeding Association (GIFA), as part of ongoing efforts to "contribute to the capacity and momentum for action and human rights enforceability through the full engagement and self-determination of all women and men in the pursuit of nutritional well-being, with human dignity" (p. xxix). Together, the analyses presented in *Gender, Nutrition, and the Human Right to Adequate Food* add necessary depth to the consideration of patterns in food insecurity and gender violence, barriers to the full realization

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of a human right to food, and structural disconnects in the theory and practice of gender security and nutritional access.

From the book's outset, inadequate food access and extreme poverty are inextricably linked to gender discrimination and violence. The food crisis of 2008 significantly affected millions of people in areas long familiar with hunger, malnutrition, and famine, often in high-risk and remote environments where women play key roles in household food provisioning and make up about 60% of the hungry and 70% of the poor (p. 1). That the most food-insecure populations are also those in which women and girls face greater disparities in social power illustrates the nested nature of food security and gender security. Indeed, structural inequalities across demographic markers such as status of livelihood, rural-urban location, ethnicity, and class are "consistently compounded by and manifested within gender discrimination" (p. xxxvi).

Bellows, de Lara, and Viana comprehensively review the evolution of human rights and food security approaches, frameworks, and policies in the first chapter, tracing the continuing struggle "over the future of the global governance of food and nutrition policy" (p. 2). Keeping track of the alphabet soup of government agencies, nongovernmental organizations, international conventions, and various resolutions and accords can be cumbersome; this unavoidable characteristic of human rights and international development illustrates the complexity, limitations, and need for continued advancement in these endeavors. While human rights and food security discourse and practice since the mid-20th century have called for greater inclusion of women and a gender perspective, it is important to note that the food and nutrition status of women and girls has not realized significant improvement. Furthermore, even as particular human rights instruments have been designed to protect the rights of women and girls, instances of food and nutrition rights violations among women and girls have increased relative to men and boys. Pointing to the externalization of hunger in a neoliberal global economy, and the limited capability of those who suffer from hunger, structural violence "*manifest[s] discrimination* between the hungry and the policy makers" (xxviii). The shift toward a human rights framework for food and nutrition security requires the recognition "of the universality and indivisibility of human rights," and that they "cannot be viewed independently from, for example, the human right to the highest attainable standard of health, or the human rights of women and children" (p. 25).

It is against this backdrop that the conditions impeding the progress of women's rights and food security are critiqued. In the second chapter, Bellows and de Lara introduce the means by which women's rights and nutrition have been isolated through the creation of legally binding international agreements. Analysis of the Universal Declaration of Human Rights (UDHR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR) reveals the breakdowns in international policymaking that have structurally disconnected improvements in gender-based inequality and the human right to adequate food and nutrition. These authors make a compelling case for reframing the status of women and girls in institutional reforms from vulnerability to discrimination, noting that the former "may in fact contribute to sociocultural patterns of patronization and gender discrimination" (p. 59). Furthermore, the political economy of food production, coupled with the increased reliance on private-sector engagement in UN human rights efforts and public policy, have separated nutrition from food security—hence the intentional phrasing throughout this volume, the right to *adequate food and nutrition*—propping up the commoditization of agricultural products, and the medicalization of micronutrient supplementation (p. 72). Chapter 2 illustrates the paternalistic and neoliberal effects of food security policy and the implications thereof for reifying gender discrimination.

The remaining chapters unpack specific underexamined aspects of gender, nutrition, and food security. The correlation between women and girls' food-based work and gender violence is taken up in Chapter 3, in which Bellows and Jenderedijian trace the various forms of structural violence—including deleterious cultural dietary practices, restriction from public participation, and isolation from research—and institutional efforts for

reform. Case studies are used to evidence what have often been perceived as abstract concepts, while also underscoring the need for addressing gender violence both at national and international levels, as is discussed in the latter half of the chapter. Lhotska, Scherbaum, and Bellows return to the importance of nutrition in Chapter 4, homing in on the role of childbearing and health across the lifespan. As yet another nested component of the gender security and food security equation, equitable nutrition is largely rendered invisible in policymaking efforts. Indeed, as these authors note, full realization of the right to adequate food and nutrition must account for the unique capacity of women to bear children and breastfeed. What they call the "entwined subjectivities of mother and child," or the dependency of a child's health from conception through infancy as influenced by a context of socioeconomic conditions and living environment, has yet to be fully embraced by human rights instruments (p. 164). From the angle of greater promotion of local agriculture and food systems in support of sustainable livelihoods, in Chapter 5 Lemke and Bellows critique the dominant market-based systems that promote international trade as the primary response to food insecurity and malnutrition. Synthesizing threads from the previous chapters—including the patronizing effects of extant food security policies and the problematic practice of medicalized food assistance—connections between the shortcomings of measures aimed to address malnutrition and the paternalistic polices that promote food and nutrition aid dependences are brought into sharp focus. Taken together, these analyses lay bare the nested nature of gender security and food security, and the need for an inclusive approach to the human right to adequate food and nutrition.

Balancing comprehensive and compelling examination of the limits of extant human rights and food-security frameworks, with clear and constructive pathways forward, can be difficult with a thesis as fundamental as that presented by this volume. To be sure, the nested nature of gender discrimination, neoliberal political economy, patronizing public policy and international aid efforts, food access, health across the lifespan, and local livelihoods is necessarily complex; the premise that gender security and food security are inextricably linked requires in-depth analysis. However, the degree to which each chapter painstakingly walks readers though various iterations of international policies, shifts in gendered practices over time, new vocabulary and concepts, and repeated calls to address barriers and provide more adequate and equitable support, often relegates recommendations to the final pages of any given chapter.

In the final chapter, Valente, Franco, and Montes bring the volume full circle in a presentation of a new conceptual framework for the human right to adequate food and nutrition. Summarizing the conditions, disconnects, and fragmentations presented in the preceding chapters, "the role of human rights in improving women's food and nutrition security and in reducing hunger and malnutrition" (p. 341) is at the center of the volume's conclusion. Uniting Amartya Sen's capability approach, food sovereignty, and principles of participatory governance, the human right to adequate food and nutrition goes beyond "mere access to food stuffs…[and] freedom from hunger," as is the parlance and practice of extant human rights and food security policy, to "encompass how societies organize to feed themselves adequately and sustainably, in a participatory way" (p. 355). The authors present a three-pronged approach to redefining and actualizing the human right to adequate food and nutrition, codifying specific obligations and provisions in the People's and Food Sovereignty Matrix (p. 369). The chapter concludes with implications for collaborations with social movements and recommendations for human rights reform and institutional coordination.

This well composed and far-reaching volume adds critical insight to the intersections of human rights, gender discrimination, and food sovereignty. Reflecting the composition and mission of the collaborative team from which this project is borne, this text is relevant across research-, theoretical-, and application-based efforts at food system reform and human rights advocacy and enforcement. Students of international development, political economy, food systems, and gender studies would benefit from the analyses and case studies herein.

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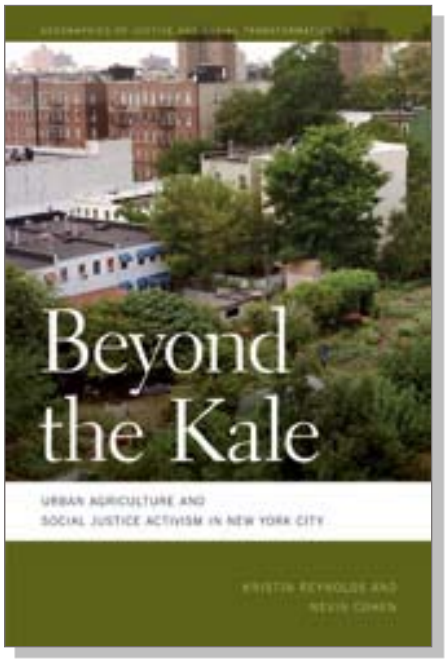
Growing food and building power: Urban agriculture in New York City



Review by Wende Marshall *
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Review of *Beyond the Kale: Urban Agriculture and Social Justice Activism in New York City,* by Kristin Reynolds and Nevin Cohen. (2016). Published by University of Georgia Press. Available as hardcover, paperback, and ebook; 224 pages. Publisher's website: http://www.ugapress.org/index.php/books/beyond_the_kale

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The early 20th-century Italian social theorist and revolutionary, Antonio Gramsci, argued that in struggling for socialism, the working class pursued two strategies. The crucial, decisive clash, the frontal attack between workers and the state, Gramsci characterized as the "war of maneuver." In contrast, he characterized the "war of position" as struggles in civil society in which the working class organizes itself and works to gain power and influence.

In many ways, Kristin Reynolds' and Nevin Cohen's *Beyond the Kale*, an analysis of the grass-roots urban farming and gardening movement in New York City, describes the movement as a "war of position." Urban gardening, in the analysis of the authors and many of their informants, is not just about growing food, but also about defining and defying the deeper structures of oppression in a race- and class-based society, and about achieving environmental justice and liberation. While for many farms and gardens the point is simply to

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grow nutritional food, Reynolds and Cohen focus on the activists for whom growing food is a starting point to dismantle oppression "at its core" (p. 14).

Although much of the media conversation about urban gardening focuses on the activities of young, white, middle-class people seeking to access nutritious food and promote a kind of environmentalism, Reynolds and Cohen focus on the successful urban farming efforts led by working-class people of color, including immigrants from the Global South. Through the authors' in-depth interviews with farmers and gardeners and their participant-observation, the story of a multifaceted survival strategy centered on the growing of food emerges. Unlike white, middle-class–led projects, which are centered on vague notions of social justice and the imperative of building sustainable cities, many of the farmers and gardeners profiled in the book understand their work as a form of political expression contesting neoliberal capitalism and the privatization of urban space. According to the authors, some urban farmers resist food insecurity, reclaim cultural roots, foster a sense of self-determination, and "respond to the latent crisis of discrimination and government abandonment" in poor neighborhoods (p. 13). Robert and De Vanie Jackson, who run a Christian-based farm in Brooklyn, "see the food system disparities that affect African American communities as a consequence of systematic economic disenfranchisement," and describe urban agriculture as "the starting point for a self-reliance movement" (pp. 40–41).

The historical roots of the urban agricultural movement described in *Beyond the Kale* stem from the 1960s and 1970s when grassroots-led community gardening emerged as a response to interconnected economic and political trends that were devastating working-class communities of color. Neoliberal fiscal austerity (for example, reductions in funding for education, health care, parks, policing, sanitation, and fire-protection services) resulted in the rampant disinvestment in wide swaths of the city beset by crumbling buildings and vacant lots. Many of the gardens and farms portrayed in the book are on lots created "by this period of malignant government and property-owner neglect of low income communities of color" (p. 28).

In Reynolds' and Cohen's analysis, the commitment of New York City farmers and gardeners to intersectional justice goes beyond simply growing food. The assertion of agency in the face of disenfranchisement and the attempt to practice self-determination are critical aspects of the movement. Farmers and gardeners engage in challenging policy by reframing problems to include structural causes of food, health, and environmental inequities. They build coalitions across race and nation, highlighting structural poverty and linking struggles against racism, sexism, and heterosexism. The authors also describe the incredible obstacles that farmers and gardeners face, from unstable land tenure to the lack of resources, time, and privilege—obstacles that loom particularly large for those engaged in the most radical work. Thus, organizations that are focused on achieving social justice "often face numerous challenges that are rooted in, and made more formidable by, the very structural forms of oppression that their programs are intended to address" (p. 112).

What is exciting and original about the book is the authors' emphasis on the ways in which the movement's practitioners challenge ruling ideas about class hierarchy, cultural difference, and the commodification of food and land, while reinvigorating the meaning of participatory democracy. It is the conceptual frameworks and theories of change that are put into practice in the New York City urban farming and gardening movement that most exemplify the Gramscian notion of a "war of position." For Gramsci, the war of position meant the development of new ideologies and practices, new ways of thinking and being, and revitalized conceptions of the world that make the "governed intellectually independent of the governing, in order to destroy one hegemony and create another" (Gramsci & Forgacs, 2000, p. 98).

The book's major weakness is its lack of attention to the deep economic, environmental, health, and racial crises that characterize the current moment and the political terrain through which urban gardening and farming is occurring at this point in the 21st century. These multiple crises signal both an erosion of ruling-class authority and

existential threats to the entire planet. Without placing the movement in an analytic frame that considers these profound crisis, the urban farming and gardening movement's full potential as a major contributor to the creation of a world based on justice and the interrelation of humans and nature is understated.

Nevertheless, *Beyond the Kale* is a compelling analysis of New York City's urban farming and gardening movement, and an inspiring tale of activists engaged in growing "freedom and possibility" in some areas struggling the hardest with the effects of neoliberal disenfranchisement.

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