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ABSTRACT

URBAN FOOD ENTREPRENEURSHIP, GOVERNANCE, AND ECONOMIC DEVELOPMENT IN THE POST-INDUSTRIAL CITIES OF NEWARK, NEW JERSEY AND DAYTON, OHIO

by

John C. Jones

The local governments of post-industrial cities in the US struggle to foster economic development and to find uses for underutilized or abandoned urban land and buildings. Partly in response to growing consumer interest in locally produced foods, food entrepreneurs are increasingly using these underutilized urban properties for farming or for producing value-added food products. However, sometimes intentionally and sometimes unintentionally, existing policies and regulatory regimes of local and state governments often restrict the ability of urban food entrepreneurs to grow. This dissertation documents urban food entrepreneurship in the post-industrial communities of greater Newark, New Jersey and greater Dayton, Ohio. The dissertation examines both: a) the characteristics of existing enterprises; and b) the network of laws, policies, regulations, and incentives that affect them. In both regions, entrepreneurs adapt vacant lots and former industrial and commercial buildings to produce a diversity of food products, including fruits and vegetables, gluten-free waffles, spice blends, beer, and wine. Entrepreneurs employ diverse organizational structures ranging from near hobby-level, informal enterprise to fully established for-profit businesses or non-profit organizations. In both regions, local government officials are cautiously supportive, an attitude that is tempered by restrictive regulations and policies. The dissertation

concludes with a series of policy recommendations to local, and to a lesser extent state, governments interested in developing urban food entrepreneurship in their communities.

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JERSEY AND DAYTON, OHIO**

by

John C. Jones

**A Dissertation
Submitted to the Faculty of
New Jersey Institute of Technology, and
Rutgers, The State University of New Jersey – Newark
in Partial Fulfillment of the Requirements for the Degree of
Doctor of Philosophy in Urban Systems**

College of Architecture and Design

August 2018

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APPROVAL PAGE

**Urban Food Entrepreneurship, Governance, and Economic Development
in the Post-Industrial Cities of Newark, New Jersey and Dayton, Ohio**

John C. Jones

Dr. Karen A. Franck, Dissertation Advisor
Professor of Architecture, New Jersey Institute of Technology

Date

Dr. Laura J. Lawson, Committee Member
Professor, Dean of Agriculture and Urban Programs,
Rutgers, The State University of New Jersey

Date

Dr. Brian J. Schilling, Committee Member
Associate Professor/Associate Extension Specialist,
Rutgers, The State University of New Jersey

Date

Dr. Richard Stock, Committee Member
Director, Business Research Group, University of Dayton

Date

BIOGRAPHICAL SKETCH

Author: John C. Jones
Degree: Doctor of Philosophy
Date: May 2018
Date of Birth: May 8, 1982
Place of Birth: Kettering, Ohio, USA

Undergraduate and Graduate Education:

- Doctor of Philosophy in Urban Systems
New Jersey Institute of Technology, Newark, NJ, 2018
- Master of Public Administration,
University of Dayton, Dayton, Ohio, 2009
- Bachelor of Arts in Political Science,
University of Dayton, Dayton, Ohio, 2005

Major: Urban Systems

Presentations and Publications:

- Cuy Castellanos, D., Jones, J. C., Christaldi, J., & Liutkus, K. A. (2017). Perspectives on the development of a local food system: the case of Dayton, Ohio. *Agroecology and Sustainable Food Systems*, 41(2), 186-203.
- Hoflund, A. Bryce, Jones, J. C., and Pautz, M. C. (Eds.). (2017). *The Intersection of Food and Public Health: Current Policy Challenges and Solutions*. Abingdon, OX: Routledge.
- Jones, J. C. (2017). A Conceptual Framework for Urban Food System Governance in Post-Industrial American Cities. In A. B. Hoflund, J. C. Jones, & M. C. Pautz (Eds.), *The Intersection of Food and Public Health: Current Policy Challenges and Solutions*. Abingdon, OX: Routledge.
- Hoflund, A. Bryce, John C. Jones, and Michelle C. Pautz. (2017). On the Frontlines in School Cafeterias: The Trials and Tribulations of Food Service Directors. In A. B. Hoflund, J. C. Jones, & M. C. Pautz (Eds.), *The Intersection of Food and Public Health: Current Policy Challenges and Solutions*. Abingdon, OX: Routledge.

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For Jane, Christina, Barbara, and Dula,
Despite our difficulties, I always knew you were there for me.
I never would have made it this far without you.
Thank you for the faith you placed in me.

Love,
Jonathan

ACKNOWLEDGMENT

I barely completed this dissertation. Only through the love and support of all the people mentioned here was I able to accomplish this goal. I'll do my best to make you proud of me!

To Karen Franck, we did it! Thank you for all your years of steady patience with me. I am sure I was not easy to deal with on numerous occasions. I swear to you Karen, I really am trying to avoid anthropomorphizing in my writing! To my committee Laura Lawson, Brian Schilling, and Richard Stock, thank you for pushing me towards being a stronger scholar. Your perspective over the years has proved invaluable to this process. To Maya Gervits, your steady encouragement and support over the years has proved invaluable. I doubt I would have completed this work when I did without you. To Phyllis Bolling, thank you for listening and for your advice.

To Grant Neeley, Michelle, Pautz, Diana Cuy, and Bryce Hoflund, your mentorship and friendship has kept me grounded to the larger reality of the life of scholar. I know I am better prepared for what comes next due to your efforts. To Chris Duncan, Nancy Martorano, Brother Ray Fitz, Ricki Huff, and Don Vermillion, thank you for introducing me to social sciences and fostering my interest in local-level issues. To Jason Pierce, thank you for mentorship and for the faith you placed in me the first time you let me in the classroom.

To my sister Christina, words fail to describe the depth of my love for you. You have been my rock these recent years. More than anyone else, I am able to write these words because of your support. Also, sorry I am not sorry for beating you to publishing a book! To my mother Jane, I know you gave everything you had to get me here. I love to the moon and back. To Dula and Barbara Brand, wherever you are I know you are proud of me.

To Don Montgomery, Brian Kronenberger, Alex Shay, Aaron Martinelli, Glenn Ferguson and Matt Farney, a man could not ask for better brothers. To Jeff Geers, I am fairly sure this makes me the best writer? To Eric Grimm, John Badgley, John Dickerson, Spencer Hargadon, and Alex and Zach Montgomery, do you guys have plans this Sunday night? To Shelby Quinlivan and Melissa Shaw, I am so glad you both are in my life. Your love and emotional support has been invaluable in recent years. To Dave Nadolny, Brian Martin, Chad Martin, and Steve Andrews, always remember that I am the party leader. To Josh Wilcox, we will always have Madrid. To Claire and Keith Hoffman, Joanne Fisher, and Jae Walker, thank you for showing me the importance of rich narratives. To Lynn Montgomery and Jodie Nadolny, thank you for putting up with me all these years.

To Blaze and Maria Lent, and Josh Zenker, you more than anyone else have made me feel at home in on the East Coast. Thank you for being my mental refugee. To Hussain Aziz and Sean Hallahan, thank you for opening your home to me and creating a calm retreat for me to finish this project. To Jay Stypinski, Ron Fyre, and Jon LeDonne thanks for the great games.

To Gene Stern, Norm Burnosky, Kirsten and Chris Latano, Padma and Garrett Fuller, Rachele Oldmixon, Alex Blockus, and Vince Magsino thank you for your friendship and your comfort. I would not have made it through the last year without all of you. To Scott Warner, Natalie Stevens, D'Arcy Sarnelle, and Shane Strano, thanks for being such wonderful father figures and generally good friends.

To Wes Dearing, Jessica Montgomery, and Bess Hargadon thank you for all your help at my properties. Everything I have built would have collapsed without you. To Maureen Willits, thank you for cultivating my interest in food and cooking at an early age. Without your influence, I may have never considered food system development as a research topic. To Adela Peña, your encouragement pushed me along the first steps of this journey. Although we now walk separate paths, I remain one of your biggest cheerleaders. Wherever you walk, may the road always rise to meet you!

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CHAPTER 1

INTRODUCTION

Many urban communities in the U.S. have experienced sustained decline since the second half of the 20th century (Beauregard, 2006; Jackson, 1987). The pace of the decline is sometimes gradual but also marked by dramatic peaks, has varied between regions (Abu-Lughod, 1999; Orfield, 2011; Rusk, 1999; Teaford, 2016). The Northeast and parts of the Midwest, the locations of manufacturing centers of the 19th century and early 20th century, experienced the effects of deindustrialization first and perhaps more acutely than other communities (Bluestone & Harrison, 1982). However, eventually most of the nation's cities would experience some flight of manufacturing capital.

Manifestations of this post-industrial decline include job loss, declining population, a reduced tax base, and high rates of abandonment and vacancy of urban buildings and land previously occupied by manufacturing industries (Bowman & Pagano, 2010; Gallagher, 2010; Hall, 2002; Koven & Lyons, 2003; Teaford, 2016). Many factors account for this decline, including federally subsidized suburban expansion (Beauregard, 2006; Hall, 2002); improvements in transportation and manufacturing technologies throughout the 20th century (Clark & Larkin, 2001; Jackson, 1987); shifts towards cheaper labor in the American Southwest (Bluestone & Harrison, 1982); and international free-trade underpinned by post-World War II globalizing wave (Friedmann, 1986; Gelinas, 2002; Stiglitz, 2015).

After several decades of decline, local governments of post-industrial cities face new challenges. Some urbanists have suggested that perhaps America's urban communities may be a natural fit for increased localized food production as one strategy to combat the aftermath of deindustrialization (American Planning Association, 2007; Goddeeris, 2013;

Hodgson, Campbell, & Bailkey, 2011; McClintock & Simpson, 2014; Pothukuchi & Kaufman, 1999) This research for this doctoral dissertation expands upon that idea by examining the intersection between the local governments of two post-industrial cities and the emergence of urban food enterprises, which includes all forms of local, commercialized food production.

1.1 A Desire for Local Food

In recent years, many American consumers have come to demand locally produced foods, which would include food produced in cities. Although definitions of what constitutes local food vary dramatically, a recent USDA report to Congress characterized local food as direct-to-consumer (DTC) farmer sales. That report suggested that DTC sales increased by roughly 36% between 1997 and 2002 and roughly 32% between 2002 and 2007 (Low, 2015). The author's analysis of other research about this increase in sales revealed several factors including: a desire for fresher, better tasting food; a desire to support the local economy; a perception that local food is safer; and social pressure compelling people to buy from local producers. This change in consumer attitudes could be viewed as a rejection of aspects of the industrialized food system, in favor of a less efficient system.

However, the authors also noted that there was a 0.9% reduction in DTC sales between 2007 and 2012. They offered several suggestions to explain this trend. Consumer demand for DTC may have plateaued due to increasing competition amongst DTC vendors. Additionally, intermediate sellers, such as grocery stores, or regionalized aggregation hubs (i.e., food hubs) may have increased their shares of local food marketing.

This shift in consumer demand has garnered responses from powerful players in the industrialized food system. One example of this demand shift is the casual dining giant Chipotle that pledged to source 10% of its food served from local producers (Balakrishnan, 2015). Similarly, Wal-Mart appears met its 2010 promise to roughly double its local produce sourcing from 4% to 9% by 2015. The relationship between urban dwellers and their food is also changing. The flight of supermarkets to the suburbs left many urban neighborhoods devoid of vendors selling healthy fruits and vegetables. Often these areas are called food deserts and may account for increased dietary health morbidities commonly found among some urban populations (Morland, Roux, & Wing, 2006).

With the increasing popularity of local food production, there may be a role for local governments in encouraging the development of urban food production as a way to capture the increasing consumer demand for local foods while using localized food production to respond to post-industrial challenges. However, some scholars have noted that local policies and regulations restrict the ability of entrepreneurs to develop urban food businesses and non-profit organizations (American Planning Association, 2007; Hodgson et al., 2011; Tomlinson, 2015; Witt, 2013). This may be due to the effects of twentieth century policies and regulations that separated agriculture from urban areas (Moore, 2006; Vitiello & Brinkley, 2014).

1.2 Urban Food Enterprises in Post-Industrial Cities

In several post-industrial cities, urban food entrepreneurs have adapted land and buildings for local food cultivation and production. One example is The Plant, located in Chicago's

South Side near the site of the now demolished Robert Taylor Homes in a former meat-packing factory. The Plant is a non-profit multi-function urban food enterprise incubator that supports a number of urban food enterprises including hydroponic and surface urban farms, an aquaponic shrimp farm, and a mushroom farm, as well as a bakery and a brewery. A major part of The Plant's mission is to develop a circular production cycle in which, "conventional waste streams from one process are repurposed as inputs for another, creating a circular, closed-loop model of material reuse" (The Plant Chicago, 2016; Tomlinson, 2015).

For this dissertation research an inclusive definition of urban food enterprises was adopted that includes all food producers in an urban setting who seek to sell, at least some, of the food they produce to consumers in the region. This definition included plant cultivation, animal husbandry (e.g., honey, eggs, meat, and fish), value-added production (e.g., bread, jellies, cheese, salsas, and spice mixes), and alcohol production (e.g., beer, wine, cider, and spirits). However, restaurants and other forms of direct meal service (e.g., food trucks) were excluded.

1.3 A Study of Post-Industrial Local Governments and Urban Food Enterprises

This dissertation systematically documents: the characteristics of urban food enterprises in the post-industrial communities of greater Newark, New Jersey and greater Dayton, Ohio and presents local-level laws, policies, programs, and incentives that affect urban food enterprises. This dissertation is novel for several reasons. First, the study positions urban food enterprises as one means of addressing the challenges facing post-industrial American cities. Second, unlike most previous scholarly work, data was collected from

both urban food entrepreneurs and from local governments. Third, traditionally researchers who have examined urban food production focus exclusively on plant cultivation and animal husbandry. This research considers two additional forms of food production: valued-added foods (e.g., breads, jams, cheese, and salsas) and alcohol production (e.g., brewing and winemaking) as urban food production. This inclusive definition of urban food enterprises allows researchers and administrators to examine the entirety of a region's food production, while separating production from the food service activities of restaurateurs and other similar businesses.

The following research questions guided this study: what are the characteristics of urban food enterprises; how do administrators perceive enterprises in administrative and economic development discourses; how do local governments support or constrain enterprises and how are those policies implemented; how do entrepreneurs perceive those policies; and how do administrators and entrepreneurs envision local government's future role in supporting enterprises? To conduct the research qualitative methods were employed, including; archival research, interviews, observational research during site visits to enterprises, and a survey. Some spatial analysis was also incorporated using geographic information system (GIS) software.

Chapter 2 summarizes some of the challenges facing America's post-industrial cities relevant to this research. Chapter 3 examines the evolution of the industrialized urban food system and the challenges to urban food system development. The definition of urban food enterprises is given in Chapter 4, as well as an examination of existing scholarship on that topic. Chapter 5 defines both regions as well as provides background

and a brief history of each region's urban food production. Chapter 6 outlines this study's research methods.

Findings from the dissertation research are presented in Chapters 7 through 11. The influence of local government regulations, policies, and interventions on urban food enterprises are presented in Chapters 7 and 8. The characteristics of the enterprises and their locations are given in Chapters 9 and the challenges entrepreneurs face are described in Chapter 10. Chapter 11 documents the perspectives of government administrators and entrepreneurs about the role that urban food enterprises can play in responding to post-industrial. Chapter 12 is a discussion of the findings that focuses on the value of an inclusive definition of urban food enterprises as a lens to examine urban food system development and presents a model for helping to explain differences between urban food enterprises. Chapter 13 provides policy recommendations for local and state government administrators interested in supporting urban food enterprises.

CHAPTER 2

CHALLENGES FACING POST-INDUSTRIAL CITIES

Post-industrial cities face myriad challenges in the 21st century across a wide spectrum of social, economic, and political dimensions. These challenges are often patterned and systemic due to causal factors at the national and international levels. Consequently, local-level decision makers' choices are often dramatically constrained by upstream realities. The manifestations of these challenges will continue to affect many post-industrial cities into the near future. However, local-level decision makers also possess significant ability able to affect change in their communities; in part, this dissertation identifies how these decision makers can influence their community's food system. This chapter documents some of the challenges facing post-industrial cities related to urban food system development.

2.1 Underutilized Land

The flight of manufacturing from its traditional homes of the 19th century left a very obvious mark in the form of empty buildings. Perhaps the most common image evoked in the minds of Americans when they hear the word, "post-industrial" is that of a shuttered factory complete with broken windows and tall weeds growing throughout the parking lot. In many post-industrial communities, one can easily take long drives passing abandoned factory after abandoned factory, with the view occasionally interspersed with unkempt residential neighborhoods filled with boarded up houses and vacant, overgrown lots.

2.1.1 Contested Definitions

Often both scholarly and popular literature employ a variety of terms to describe this phenomena, such as vacant, abandoned, blighted, decayed, underdeveloped, etc. Bowman and Pagano (2000) noted that the term “vacant land” can refer to a number of different conditions. First, vacant land might be small in size, odd in shape, and/or possess physical characteristics that impair development. Second, private or public sector actors might hold land vacant for expansion, speculation, or relocation. Often this holding period might be influenced by funding or shifting economic conditions. Third, vacant land can range from uncultivated lands bordering developed areas to urban spaces with abandoned buildings, to untouched greenfield land (Bowman & Pagano, 2000). This research focuses on so-called underutilized land that once played a role in the industrial past of its community, but has since been compelled into disuse by macro-economic pressures. This research will use the term underutilized land as other terms often embody value judgments about the land, its current, previous, and potential uses, and the people who inhabit that space. Rather, the term underutilized implies merely that the land in question was once utilized and is now utilized to a lesser extent than the previous activity.

2.2 Rates of Underutilization

Due to the contested definitions for underutilized land, reporting specific rates of underutilization is difficult. Bowman and Pagano (2010) suggested that since the 1950s, the rate of land vacancy (i.e., empty land without buildings) in US cities with more than 250,000 people has varied between 9.6% and 15% of total land. However, they noted that this finding could be misleading as cities that expanded their borders during the period

often annexed rural space with undeveloped green field spaces. This influx of undeveloped space could dramatically alter vacancy rates when expressed as a percentage of total land. Bowman and Pagano (2000) concluded that cities with the ability to expand their borders are more likely to have higher vacancy rates than cities with less-elastic borders (Rusk, 2003).¹ Most post-industrial communities, especially those in the Northeast and Midwest, were unable to annex new territory by the second half of the 20th century (Teaford, 2016). Therefore, examining underutilization in post-industrial cities is necessary. Vey (2007) noted a group of older industrial cities experienced a roughly 4% higher vacancy rates than other cities. Vey's research examined building units, not land, thus reporting on a different aspect of underutilization than Bowman and Pagano. However, Vey's conception of vacancy only included land for sale or rent, as well as land reserved for temporary use (i.e., seasonal or recreational use). Vey's definition of vacancy did not conceptualize chronic underuse or abandonment.

Schilling and Logan (2008) expanding upon Vey, suggested the idea of shrinking cities. Conceptually, shrinking cities were a subset of old industrial cities that suffered both sustained periods of population loss and increased vacancy. To qualify as a shrinking city, a city's population lost between 1960 and 2000 must exceed 25% and vacancy rates based on unit vacancy must increase during the same period. Further, the authors conceptualized vacancy more liberally to include units that were vacant due to abandonment or blight. Consequently, their analysis is superior to Bowman and Pagano or Vey's method. All of Schilling and Logan's shrinking cities were in the former industrial regions of the Northeast or Midwest. Schilling and Logan's list of shrinking

¹ Bowman and Pagano's (2010) data collection occurred in the late 1990s, at the height of the Clinton-era tech boom, and would thus not include economic shifts due to the burst of dotcom bubble or the Great Recession.

cities included Dayton and Newark with 25.9% and 26.0% vacancy rates, respectively when including abandoned or blighted properties.

2.3 Job Loss and Unemployment

Manufacturing corporations and their attendant businesses departing their traditional homes for greener economic pastures, both intra and extra-regionally, left high unemployment and depressed wages for remaining workers in their wake. Local governments and education providers in these communities are consequently tasked with the difficult burden of transitioning large segments of their citizenry who previously relied upon manufacturing jobs.

America shed jobs during the second half of the 20th century, mostly in manufacturing and other heavy industries. What manufacturing workers remained experienced declines in their wages. Bluestone and Harrison (1982) conceptualized this loss in two ways. First, many so called, “runaway shops” moved their physical plants elsewhere, either away from the traditional manufacturing central cities in the Northeast and eastern Midwest and towards the Sunbelt of the South and West. Alternatively, owners moved plants to Mexico or overseas. Second, many more plants, shops, and offices simply shutdown.

In addition to extra-regional and international flight, Teaford (2016) indicated a large migration of jobs from industrial and commercial centers of the central city to suburban spaces of the metropolitan region. He noted that by 1973 total suburban employment exceeded that of employment in the central cities and that by 1990 more than 60% of total jobs in metropolitan America existed outside of the central city. Vey (2007) suggested the notion of, “older industrial cities”, a group of 65 cities in the bottom

quintile of several economic factors. Both Dayton and Newark both fall under this conceptualization, as well as other Trenton, NJ and seven other cities in Ohio. These older industrial cities began to lose jobs after World War 2, but beginning in the 1980s these cities shed an average of 20% of their manufacturing jobs each decade for a total average of 33% lost between 1970 and 2000. Industrial cities experienced dramatic drops over short time periods; interestingly, Vey noted that Dayton, Ohio lost roughly 46% of its manufacturing jobs in the 1970s.

Overall, these waves of job movement away from American cities create downward pressure on wages due to factor price equalization, an economic theory that suggests that international competition will increase as trade openness increases and transportation costs decline (Clark & Larkin, 2001). In effect, the labor price of American workers with outsourceable jobs was reduced to compete with wages level of by workers in poorer regions and nations. Additionally, Koven and Lyons (2003) suggested that sharp decreases in both employment and wages for lower-skilled workers during the final quarter of the 21st century were the result of the spread of manufacturing technology across the globe. Similar factories constructed in regions with greater comparative advantage will naturally capture jobs from established industrial centers, assuming low barriers to international trade.

Finally, Clark, Green, and Grenell (2001) suggested that growing inequality from American capitalism as well as retrenchment in government spending on education gave rise to the, “nihilistic poor” who for a variety of reasons were segregated out of mainstream economic life as they did not have the skills to compete. Clark et al. did not indicate a spatial component to this segregation, but the suburbanization and racial

discrimination in postwar America compelled a spatial clustering of these nihilist poor in many central cities. Teaford (2016) suggested that the spatial sorting by class and race across metropolitan America led also to the political fragmentation of the metropolis. Therefore, no centralized, “economic, intellectual, or cultural” center existed in the metropolis. In total, all of these structural issues facilitated both a sharp reduction in manufacturing jobs as well as wage depression for remaining manufacturing jobs. During the 1970s, Bluestone and Harrison estimated that runways and shutdown shops cost the American economy an estimated 38 million jobs. Koven and Lyons noted a reduction in total wages from the bottom 60% of all income earners between 1977 and 1994, with the bottom quartile of income earners losing 16% of total wages during the period.

2.4 Fiscal Challenges

Teaford (2016) noted that beginning in the 1970s, municipal governments of many central cities began to experience acute financial problems. He suggested two potential causes: retrenchment from pro-central cities subsidy programs of Kennedy and Johnson, and tax base erosion due to extra-regional economic flight. These combined factors provide a framework to understand the drive of municipal government leaders to work towards local economic development as a way to grow their community tax base through economic development.

2.4.1 Retrenchment of Federal Spending

The flow of federal subsidies to state and local governments declined slowly but dramatically during the second half of the 20th century. Unsurprisingly, this retrenchment in federal spending on local development compelled state and local governments to pick

up the slack. Brace (2002) and Eisinger (1988) indicated a variety of causes for this decline, including but not limited to: the Great Depression, growing federal deficit and debt, and changes in the federal appropriation system (i.e., pork barrel spending). Both authors cited changes reductions in federal spending policies during the Reagan administration, beginning with the Omnibus Reconciliation Bill of 1981.

Koven and Lyons (2003) also noted that federal retrenchment on local spending beginning during the early years of the Reagan Administration compelled local governments to seek other allies to help finance and implement their plans. This led to the rise of public-private partnerships as one potential vehicle to gather the various resources necessary to affect large-scale economic development initiatives. The benefits of public-private partnerships are lauded by numerous late century thinkers, however Grossman and Holzer (2015) noted the proliferation of public-private partnerships is linked to the growth of New Public Management (NPM) theory that dominated public administration theory, broadly beginning with the Clinton administration. NPM, as described by Osborne and Gaebler (1992), focuses on a highly citizens-as-customer of government worldview. Grossman and Holzer (2015) contended that NPM stresses a contractual principal-agent relationship between governments and service providers. The authors asserted that public-private interactions supporting regional economic development generally follow this principal-agent structure; with public-private interaction appearing in support of a discrete goal. Most customer-oriented, public management systems may be less equipped to respond to the multi-dimensional problems of post-industrialism.

2.4.2 Challenges in Balancing Budgets

Concurrent with the need for local governments to pick up the funding slack from shifting federal priorities, was the loss in tax revenue from migrant corporations and the resulting displaced manufacturing workers. Additionally, Bluestone and Harrison (1982) noted that massive job loss in a community caused a, “ripple effect” that affected other aspects of the local economy. One example the authors provided was the relocation of the J. Wiss & Son cutlery plant from Newark, New Jersey to North Carolina in 1978. The plant’s closure cost the City of Newark 760 manufacturing jobs and the resulting ripple effect cost the city an additional 468 jobs from related local businesses. The total impact of the closure on the Newark economy was estimated at \$14 million.

Underutilized properties can also directly and indirectly impact a local government’s finances. Bowman and Pagano (2000) suggested a spatial relationship between high rates of vacancy and lowered property values, which consequently, lowers tax revenues for local governments. A US Government Accountability Office (2011) report on the cost of vacant properties to communities cited several studies that suggested vacant or foreclosed properties had a multiplicative effect upon surrounding property values. The report noted two studies from Ohio. A study from Cuyahoga County (i.e., Cleveland) suggested a 0.7% reduction in sale price for property for every vacant property within 500 feet (Whitaker & Fitzpatrick, 2011). A similar study in Columbus found a roughly ~3.5% reduction in sales price for property for each vacant property within 250 feet (Mikelbank, 2008). However, the US Government Accountability Office (GAO) report was unable to find or estimate the total impact of underutilized properties on local tax incomes nationwide. Additionally, underutilized land can also directly cost local government money, as they bear costs of extending basic municipal services (e.g.,

police, fire, etc) as well as maintaining and administrating the use or demolition of the properties (US Housing and Urban Development, 2014).

Underutilized properties with unpaid real estate taxes due to chronic delinquent owners also post a burden to local government finances. Alexander and Powell (2011) suggested that real estate tax delinquency is, “the most significant common denominator among vacant and abandoned properties. Local governments face administrative, processing, and personnel costs to initiate tax foreclosure proceedings. Often, the tax foreclosure process is burdensomely slow, creating questions of programmatic efficacy (US Housing and Urban Development, 2014).

The exact manifestations of this deindustrialization induced stress upon municipal governments is poorly understood, according to Kogan (2015), as existing research tends to focus on individual case studies over macro analysis. Kogan noted that municipal governments across the country are required to balance their budgets each fiscal year. Post-industrial communities face specific challenges due to the tax base of their communities that declined greatly during the second half of the 20th century due to the reasons mentioned above. However, these communities’ infrastructural footprint did not shrink along with their tax bases. Taxpayers remaining in post-industrial communities face an individually higher tax burden. Consequently, Brace (2002) noted taxpayers placed political pressure to increase the tax base through economic development.

2.5 Economic Development and Job Creation Challenges

Taxpayers in post-industrial communities tend to exert political pressure on local economic development officials to increase the tax base as a means to fund municipal operations and lower overall tax rates. However, a number of systemic challenges hamper economic development efforts of post-industrial communities.

2.5.1 Conflicting Narratives of Economic Development

The term economic development is often used to describe a variety of administrative and policy actions undertaken by government officials to benefit their jurisdiction's tax base. However, Koven and Lyons (2003) indicated the existence of three waves of economic development strategies employed by local government officials that are relevant to this research. The first wave, business attraction, began in the 1930s; where local governments focus on attracting a many new businesses as possible to their communities. Often, to secure these businesses, local governments extend a variety of incentive packages to potential businesses. Common examples of these incentives include grants and various types of tax modifications (e.g., abatements or exemptions)². The authors noted that the efficacy and fairness of many incentives remains a highly contested subject. Further, they noted that the use of incentives is highly favored in communities who perceive the need to make up for long-term deficiencies (i.e., post-industrial factors). Often, the pressure to respond to long-term deficiencies can compel the aggressive use of incentives.

Coinciding with the visible symptoms of deindustrialization across the nation, the second wave began in the 1980s. In this period, many communities shifted priority to retaining existing businesses. The authors noted common manifestations of this shift

² Koven and Lyons (2003) provides a comprehensive list; p 27-53.

included both a) the need to create inventories of existing businesses, and b) surveys of those businesses to determine how local government policy might better retain them in the jurisdiction.

The third and final wave began in the early 2000s and focused on environmental policies in the community that may either encourage new businesses to migrate or existing businesses to remain. Examples of this included a focus on quality-of-life issues for potential employees, deliberate industry clustering, focusing local education stakeholders on worker preparation, etc. Clark et al. (2001) argued that third wave strategies should reject outdated ideas of, “smoke-stack chasing” that jurisdictions engaged in during much of the previous two waves. Instead, they argued that policy makers should encourage both education and entrepreneurship to make their communities more attractive to development in the longer term.

2.5.2 The Shell Game of Tax Incentives

This evolution in economic development theory is relevant to this discussion as political pressures often compel local administrators and elected officials to adopt economic development policies that focus on short-term gains, or at least the perception of gains, instead of long-term victories. Accordingly, Brace (2002) indicated that despite a large body of evidence that refutes the long-term development potential of incentives and grants designed to lure intra-regional businesses or retain local businesses (i.e., the first two waves as suggested above), local and state governments continue to offer large incentive packages. Governments enact these supply-side interventions (Eisinger, 1988) to their detriment as policies are individually rational but collectively work to benefit businesses who play interested governments off of each other to draw the best incentive

package (Brace, 2002). In effect, this creates a prisoner's dilemma situation for local officials who must decide between poor investments, via incentive packages, of public dollars face unhappy citizens during the next electoral cycle who may perceive prudence as ineffectiveness. Obviously, local officials in communities facing either short-term economic crisis, such as the recessions of the early 2000s or 2008, as well as long-term economic disinvestment (i.e., post-industrialism) face dramatically more political pressure to act. Leaders in some economically challenged regions have enacted innovative policies to overcome the implications of the prisoner's dilemma on economic development spending; including the ED/GE program in Montgomery County, Ohio, a tax-sharing economic development program that dispenses grants from a pool of money funded by member jurisdictions (Rusk, 1999).

Felbinger and Rohey (2001) contended that in light of globalization's impact on the economy, cities are no longer effective units of analysis as they cannot effectively respond to global-level factors that may pull business elsewhere. Rather, the authors suggested that strategic economic development at the regional level is the most logical course of action. However, they contended that regional cooperation for economic development is often highly contested politically between central cities and their suburban neighbors. This is often due to the winner-take-all corporate tax structure of many states that rewards cities who outbid neighboring jurisdictions for new businesses to the region using various tax incentives.

CHAPTER 3

THE DEVELOPING URBAN FOOD SYSTEM

Given the struggles of many post-industrial cities, localized food production may be one strategy for sustainable development in the 21st century. To better understand this strategy, one must examine both the evolving nature of the urban food system of the industrial age as well as contemporary scholarship on urban food system development and its challenges. This chapter explores that evolution and that scholarship.

3.1 Evolution of the Industrial Urban Food System in the Industrial City

William Cronon's history of Chicago in *Nature's Metropolis*, and his discussion of the central place theory of Johann Heinrich von Thünen, are instructive to understanding the evolution towards the industrial urban food system (Cronon, 1991). Examining Von Thunen's central place theory through a food-focused lens reveals the nature of a pre-industrial urban food system. His hypothetical model of the isolated city suggested a single centralized urban space that radiated rings of differing agriculture use outward from its central point. Agricultural activity within these expanding concentric rings depends upon the decreasing costs of rents as distance from the city increases as well as the effect of spoilage over increasing distances to the urban market. The production near the city is high value, high spoilage farming and low intensive, low spoilage farming and husbandry existing at greater distances. High spoilage rates and slow transportation methods would also strongly factor into how far most foods could travel in the pre-industrial world. Von Thunen's model ignored such important factors as soil quality,

climate, terrain, and other such environmental factors as well as the potential for trade from other cities. However, the theory is instructive in envisioning the relationship between hungry consumers in pre-industrial cities and the rural farmers who fed them.

Cronon's Chicago illustrated the evolution from a pre-industrial system towards an industrial urban food system. The power of mass transportation, primarily railroads, and improving methods of food storage, ice storage, and then electrified refrigeration, drastically change the distances in which various forms of food could travel to reach consumers. Cronin indicated that Chicago's rapid expansion in the 19th century was strongly tied to the growth of the meat packing industry. Images of intensive agricultural activity in the remote, largely empty, western landscapes may conjure the word rural, but to Cronon, such images represented the border between the metropole and the frontier. Without the railroad as a path to urbanites, many such rural enterprises would have no reason to exist. The urban food system of 19th century Chicago is not a rejection of Von Thunen's model, but rather a distortion of it over larger distances by improved technology.

Vitiello and Brinkley (2014) noted that the emerging urban planning profession during this period sought to link urban consumers with increasingly distant sources of production while also limiting agriculture's role in urban and suburban environments. As supply chains delivering food to urban consumers lengthened, planners interceded to develop infrastructure plans to guide the flow of supplies, sanitary codes to protect public health, and zoning regulations to restrict undesirable forms of agricultural activity. Many developments in zoning code excluded agriculture from urban areas to encourage

development of land previously used for agriculture and related activities as well as to restrict nuisances and pollution generated by urban animal husbandry.

Technological improvements fueled expansion of the industrial food system into the 20th century through the development of globalized transportation networks, technologies, and free trade policies. The contemporary industrialized system became so expansive that individuals of no great affluence can now purchase fruits and vegetables grown across the world and shipped to their local super market. The ability of, for example, consumers in greater New York City region during the North American winter to buy grapes harvested in southern Chile earlier that week is an ability unique to consumers in recent decades in comparison to the whole of human history. This example demonstrates the efficiency of the modern food system to meet evolving consumer demands, as well as the global interconnectedness of food production, distribution, and consumption. Both are relevant to any examination of factors influencing the development of more localized food systems.

3.2 Urban Agriculture in the Industrial City

Von Thünen's model suggested land rents within the city would theoretically price food produced on urban land well above any market price of non-urban cultivation. Consequently, his model would seem to suggest that agriculture could not occur within the city. Paradoxically, examples of sustained urban agricultural activity in American cities are fairly commonplace. Lawson's (2005) *City Bountiful* was an instructive historiography of urban agriculture in the United States beginning in late 1800s. In this work, Lawson's focus is urban agriculture as the cultivation of plants; her work falls

under the broader construction of urban food system development examined by this research. Lawson implied a series of phases of urban agriculture spanning the end of the 19th century through today. Roughly understood, the phases are as follows (Jones 2013):

- The Progressive Phase: ~1890-1920
- The War Phase: 1914-1945
- The Fallow Season: ~1945-1970
- The Community Gardening Phase: Early 1970s – Mid-1990s
- The Post-Industrial/Contemporary Phase: Late 1990s – Current

These phases of urban agriculture expansion and then retraction appear cyclical for several reasons. First, many of the phases begin as the result of macro-economic and/or political strife (e.g., recession/depression and world wars). Second, many of the phases end as their causal factors wane (e.g., national economic expansion and the end of the world wars). Third, each phase is roughly 25-30 years in length. This span of time is just long enough to ensure that the idea of growing food within urban spaces falls out of the collective memory of most Americans.

One phase is of specific interest in the context of this dissertation. First, little activity appears to occur between the formal ending of the Victory Garden movement in 1945 and the emergence of community gardening in the 1970s. This fallow season is significant as it coincides with several notable challenges to contemporary urban food system development such as: a) the rapid expansion of the industrialized food system after World War 2 (Popkin, 2007); b) the expansion and evolution of transportation options that encourage suburban development (Jackson, 1987); c) the rising dominance of modernist urban theory, planning, and administration (Pudup, 2008); and d) the

compartmentalization of food system planning away from urban governance and into the US Department of Agriculture (USDA) and the globalizing corporate food industry (Vitiello & Brinkley, 2014). Unlike other phases, there is no inciting crisis that defines the phase; rather it is the absence of crisis that defines the phase. However, the fallow season ends with sustained patterns of deindustrialization and suburbanization that creates large-scale urban vacancy and unemployment in a number of urban spaces that provides the causal foundation of the sequential community gardening phase.

3.3 Federal Policy Support of the Industrialized Food System

Federal policy plays an important role in shaping both the industrialized food system at the macro level but also influences where local consumers buy food, what food they buy, and what cost they pay. Any initiative from local-level policy makers to improve their urban food system must operate in the context of this expansive, largely static, federal policy umbrella. Consequently, before addressing urban food systems, it is necessary to briefly examine some structural elements of the national food policy.

The Farm Bill, an omnibus spending bill that passes through Congress every five to seven years, is the primary subsidy agent of the national domestic food system. According to Hesterman (2011) this subsidy is highly focused on non-perishable commodity crops such as corn, wheat, soybeans and sugar, among others. Congress historically employed a variety of direct and indirect subsidy vehicles to fund commodity-focused agriculture since the passage of the first Farm Bill during the Great Depression. The cumulative effect of these sustained subsidies is a heavy focus on the production of commodity crops to the disadvantage of other crops. A number of writers

and scholars (American Planning Association, 2007; Hesterman, 2011; Institute for Agriculture and Trade Policy, 2007; Pollan, 2009; Winne, 2008) have observed the relationship between agricultural subsidies and the long-term price stability of commodity prices, and derivative products (e.g., meat, dairy, soda-pop, and processed foods), in comparison to non-subsidized agriculture products (e.g., fruits and vegetables). Russo and Smith (2013) noted that between 1995 and 2013 federal agriculture subsidies totaled \$292.5 billion. Of that total, only one percent of subsidies encouraged farmers to grow fruits and vegetables. These patterns of subsidy then affect the prices that individual consumers pay for food.

The Farm Bill also funds two major public food assistance programs of note to this research, Supplemental Nutritional Assistance Program (SNAP), informally known as food stamps, and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). In fiscal year 2014, federal expenditures on all feeding programs totaled \$103.6 billion (Oliveira, 2015). As part of the 2002 Farm Bill, the redemption method for the food stamp program and WIC changed from paper coupons to electronic balance cards similar to the magnetic cards used by credit card companies (P. Jones & Bhatia, 2011). The food stamp program was later reformed into SNAP by the 2008 Farm Bill (Wasserman, 2010). Consequently, food retailers seeking to sell to feeding program beneficiaries must either a) operate a wireless point-of-sale (POS) device to scan the EBT cards that requires monthly service fees, or b) submit redemption for every transaction for every program beneficiary wishing to purchase food from the retailer (Baesler, 2010). Several scholars (Baesler, 2010; P. Jones & Bhatia, 2011; Wasserman, 2010) have noted that this shift in food benefit redemption negatively impacted the ability of farmers'

markets and other local level distribution mechanisms to accommodate the needs of SNAP and WIC participants. Consequently, beneficiaries of these feeding programs are effectively barred from shopping for food at many local distribution points such as urban farmers' markets.

The administrative policies of the US Department of Agriculture (USDA) also impact the national food system. Nestle's (2002) description of the tri-part relationship between Congress, the federal regulatory agencies (e.g., USDA and FDA), and the food manufacturing industry closely resembles both Adams's iron triangle (Adams, D'Onofrio, & Sokoloff, 1981), as well as regulatory capture as described by Stigler (1971). The history of USDA's official dietary guidelines to citizens on healthy eating is highly contested between the food manufacturing industry's desires to compel citizens to, "eat more" and public scientists advocating for citizens to, "eat less" to be healthy (Nestle, 2002). Often, throughout much of the history of the guidelines, various food industry interests compelled the USDA to soften recommendations that could be detrimental to their industry. Often, public feeding programs are linked to the foods suggested by the guidelines. Nestle noted that during the Clinton administration, Congress required that all food served in public schools conform to USDA's guidelines.

Taken collectively, the above points reinforce the idea that federal policies support the industrialized food system to the detriment of localize production. Further, any potential policy change to encourage urban food system development by the federal government would face serious challenges.³ Morgan (2010) and Hamilton (2014) both

³ Interestingly, the 2014 Farm Bill increased spending to encourage urban food system development by \$65 million over 5 years to a total of \$75 million. Both the 2002 and

noted the complex political process involved in the passage of the two most recent Farm Bills, 2008 and 2014 respectively. The authors attributed this to the complex coalition of rural and urban legislators from both parties required for passage, often whom have very conflicted priorities. Additionally, from a purely administrative perspective, Pothukuchi and Kaufman (1999) noted that rural and urban policy on the federal level are highly compartmentalized into different cabinet level departments (i.e., Department of Agriculture and Housing and Urban Development). Any policy addressing points of intersection between the two will be administratively cumbersome.

3.4 An Emerging Post-Industrialized Food System

A number of factors interweaving narratives have aligned today to support the idea that America may be shifting towards a post-industrial food system.

3.4.1 Changing Consumer Demands and Sensitivities

Examples that consumer demand has shifted away from foods produced by the industrial food system and towards foods that are some combination of organic, local produced, and/or raised according some idealized ethic are fairly commonplace in both the popular media and food system scholarship. Examples of this shift are diverse. Barański et al. (2014) noted that consumer demand for organic food has risen in the last two decades due to the perception that the agronomic techniques employed in non-organic farming (e.g., pesticides and so-called genetic modification) creates an inferior, unhealthy product. Also, in 2015 the fast food giant McDonalds shifted its menu towards healthier offerings

2008 Farm Bills provided only \$10 million annually for urban food system development beginning in 2006 (US Department of Agriculture, 2014).

as well as its supply chain practices in response to criticism it received in the 2000s from Upton Sinclair-esque *Fast Food Nation* as well as the documentary *Super Size Me* (Specter, 2015). Further, large concentrations of non-majority populations in urban centers demand foods appropriate to their ethnic or culinary traditions (Brown & Jameton, 2000; Hernandez-Lopez, 2011).

3.4.2 Economic Crisis

As noted previously, economic crisis is a major causal factor in expansionary phases of American urban agriculture (J. C. Jones, 2013; Lawson, 2005; Pudup, 2008). The economic state of many post-industrial American cities in the 2000s and 2010s is precarious. As mentioned above, post-industrial American cities suffered from sustained economic disinvestment during the second half of the 20th century. The short-lived economic resurgence during Clinton-administration may have encouraged an ending to the community gardening phase of urban agriculture in America. However, the busting of the dotcom bubble in the late 1990s, economic uncertainty from 9/11, and the Great Recession of 2008 is ample ground for the emergence of the development of urban food systems in many cities.

3.4.3 Underutilized Urban Spaces

As noted in Chapter 2, many post-industrial cities struggled under the burden of vacant, abandoned, blighted, or unused buildings and empty lots. Some scholars and urbanists have suggested that some underutilized urban spaces could be used by urban food enterprises. Schilling and Logan (2008) suggested that large-scale green space creation was one potential way to, “right size” post-industrial communities that were fiscally top-

heavy due to existing infrastructure supporting historical population highpoints instead of current population levels. Large public greening programs can lower the cost of city services to those spaces. Lawson (2005) and Patel (1996) noted in previous phases of urban agriculture both publically and privately owned vacant lots were used by urban gardeners. Also, Drake and Lawson (2014) asserted the idea that despite the short-term challenges of managing vacant land, communities with high vacancy rates have an opportunity to use vacant spaces to the collective benefit of the community.

3.4.4 Emerging Technologies

Emerging technologies allowing intensive cultivation and production of food have emerged in recent years. These innovations represent a fundamental shift in how food might be grown, produced, and manufactured in urban spaces. In comparison to the historical techniques and land uses employed by urban farmers, these innovations alter: the characteristics of utilized urban space; the environmental viability of crops based on climate; and total potential crop output. Some examples include, but are not limited to, the following: hoop-houses, hydroponics & aquaponics, vertical farming, rooftop farming, and vermiculture (Doron, 2005; Hodgson, Campbell, & Bailkey, 2011).

Urban designers have suggested dramatic visions of how urban space might include agriculture. Examples include high-rise pig farms (Doron, 2005), low-water need skyscraper farms (Plenke), the transformation of old industrial buildings into, “plant factor[ies]” through cutting edge hydroponics (Dickie, 2015). Notions of economic viability surrounding historical urban agriculture were predicated upon potential output included by both technique, space available, and climate.

3.4.5 Evolving Distribution Mechanisms

Innovation distribution mechanisms have emerged that differ strongly from the industrialized model in which customers purchase food for home consumption at large aggregated supermarkets. Examples of these innovative distribution mechanisms include: farmers' and public markets, community supported agriculture (CSAs), mobile grocery trucks, food-buying clubs, food cooperatives, and food hubs (Cohen, Reynolds, Sanghvi, & Value, 2012; Franck, 2005). This diversity and growing popularity of these distribution mechanisms may represent a rejection, at least an unconscious one, of the industrialized distribution model.

3.5 Framing Urban Food Systems

In recent years, a number of scholars examining the urban food system have emerged from a different disciplines. Each discipline uses different lens to frame the urban food system. One lens uses the psychological benefits of gardening noted by Kaplan (1973) as well as the work of Goldschmidt and Nelson (1978) on the positive impact of localized production in rural communities in California. Recently, other scholars and activists have proposed the notion that development of micro food systems empowers residents to exert more control on their communities through greater citizen participation and engagement with local government (Hagey, Rice, & Flournoy, 2012; Norberg-Hodge, Merrifield, & Gorelick, 2002; Winne, 2008).

The ecological lens focuses on the potential environmental benefits of localized production. Barker and Mander (1999) noted an average plate of food for a U.S. consumer has typically traveled over 1,500 miles. Norberg-Hodge et al. (2002) noted that

the industrialized food system reduces bio-diversity, increases reliance on chemicals that are harmful to the broader environment, and uses production techniques that damage long-term soil health. Some scholars and activities suggest a move towards localized production would limit negative impacts to the environment (Hodgson et al., 2011; Peters, 2010).

Public health scholars have noted the relationship between diet-related health morbidities, such as high rates of obesity, and access to healthy foods (Morland, Roux, & Wing, 2006; Winne, 2008). Urban food system development can be viewed as a method for local residents to better control their dietary conditions (Hodgson et al., 2011). These scholars point to lack of available healthy food options in many urban, as well as rural areas, caused by the movements of supermarkets following affluent customers to the suburbs. Often they refer to these areas as, “food deserts” or, “food swamps” (Osorio, Corradini, & Williams, 2013; Shaw, 2006; Walker, Keane, & Burke, 2010), although Lucan et al. (2013) demonstrated the problematic nature of precisely delineating boundaries for these areas. Despite this, Vitiello and Brinkley (2014) believe the analysis of food deserts and similar ideas forms a, “rapprochement” between the urban planning and public health disciplines, that were initially like-minded in the 19th century but split from each other in the 20th century.

Critical scholars observe how food in urban spaces is often interrelated to issues of class, race, and gentrification. Scholars using this lens often use the terms “food sovereignty” and “food justice” (Kato, 2013; Passidomo, 2014). Reynolds and Cohen (2016) observed that urban agriculture is often associated with the white middle-class and can act as a mask for deeper social inequalities. However, Pudup (2008) stated that

government authority, which is often dominated by middle-class whites, can exert control over localized food production that does not conform to the government's centralized plan for the community. McClintock, Cooper, and Khandeshi (2013), Dooling (2009), Quastel (2009) and others have noted, that urban agriculture, as a response to gentrification, can paradoxically lead to increasing property values which can, in turn, have a gentrifying effect.

3.5.2 Contested Notions of Locality

The localness of local food is often a highly contested in definitions of urban food systems. Often, any production occurring in a pre-defined distance from a specific point in space is considered local (Thompson Jr, Harper, & Kraus, 2008). One example of this geographic locality of local food is Dorothy Lane Market, a regional high-end supermarket, which recently increased its definition for local food to any food grown or raised in 250 miles of Dayton, Ohio (Martinez et al., 2010). In another example, state governments will conceptualize any production within their jurisdiction as local. An example of this is the Jersey Fresh brand promoted by the New Jersey Department of Agriculture (2016). Additionally, a short supply chain, in which the customer can easily identify the producer of their food, is also commonly offered as a way to define local food (Marsden, Banks, & Bristow, 2000). Further, Martinez et al. (2010) suggested two part typology to conceptualize local food: a) direct-to-consumer sales, or b) direct-to-retail sales. Finally, Joannides (2012) conceptualized the nature of locality into several different continuums:

“Various means of differentiating businesses include:

Locally owned ----- Non-local ownership

Grown locally ----- Grown elsewhere

Made locally ----- Made elsewhere

Retain farm/farms of origin connection ----- Source not traceable

Differentiated practices (e.g., organic, fair-trade, etc.) --- Conventional practices”

While complex, these continuums effectively describe the nuance surrounding notions of locality.

4.1 Urban Food System Development and Policies

Goddeeris (2013) and Öztekin-Günaydin, Newton, Goddeeris, and Rybnicek (2015) conducted nation-wide surveys of local government policies towards foods systems, with 1,957 local government responding in 2013 and 2,237 in 2015. The International City/County Management Association (ICMA) supported the survey’s administration. Both surveys suggested that public health/environmental health and planning departments are the most responsible for food system policy, if and when such planning is occurring. In 2013, 22% of respondent communities claimed their economic development department was involved with food system issues, and this number declined to roughly 15% in 2015. In the 2015 survey, of governments responding to the question, the following were the most important priorities that motivated food related policies: public health (30%), community development (27%), economic development (21%), and agricultural land preservation (20%). Policies or programs employed by the majority of respondent governments to encourage food system development included: farmers’ markets, emergency food provision, and permitting the direct sale of produced foods.

Goldstein, Bellis, Morse, Myers, and Ura (2011) surveyed how 16 major cities incorporated urban agriculture into their land use plans. Definitions of similar activities varied across respondent communities, thus suggesting a lack of settled nomenclature surrounding urban food system issues. For example, the following terms all apply to an urban agriculture operation that intends to sell its production: Commercial Gardens (Chicago), Commercial Community Gardening (Nashville), Market or Community-Supported Farm (Philadelphia), Market Farm (Philadelphia), and urban farm (Seattle and Minneapolis). The authors concluded there is no specific method to successfully promote urban agriculture initiatives across the country.

Elmer's (2014) work with the Vermont Agriculture Land Use Task Force examined how local level regulations affected local, "agripreneurial" activities. While not directly focused on Vermont's limited urban spaces, the report directly connects improving local regulatory structures with improved outcomes for local businesses. The main thrust of the report centers upon potential modifications to zoning codes to allow for agricultural businesses that do not rely upon traditional monocrop production to thrive in the current environment.

Finally, Pothukuchi and Kaufman (1999) suggested that urban local governments should develop policies to better address their urban food system. However, the authors noted that current administrative configurations in most local governments do not lend themselves to effective interaction with urban food systems issues. Vitiello and Brinkley (2014) supported this point, noting the contemporary compartmentalization of food system planning to the USDA, rural agriculture extension services, and corporate food interests. Pothukuchi and Kaufman suggested that local governments either: create a new department-level organizational structure devoted to urban food, align with local civil

society agencies to form food policy coalitions, or align existing planning departments to house urban food system issues.

4.2 Known Challenges to Urban Food System Development

These studies, as well as existing research that closely intersects urban food system development, especially non-commercial community gardening, revealed a wide variety of challenges to urban food system development. Broadly, these challenges are either perceptual or structural in nature. Perceptual challenges are challenges rooted in the lack of understanding of the characteristics and potential of a contemporary urban food system. Commonly, perceptual challenges stem from outdated understandings drawn from previous incarnations of urban agriculture.

Among local government servants, those trained and employed as public planners are the most likely to actively interact with such policies, programs, and laws. However, paradoxically, Mendes, Balmer, Kaethler, and Rhoads (2008) noted that, “a false dichotomy exists, specifically in planning, that defines food as a non-urban issue.” Consequently, public professional planners, have traditionally completely ignored food system issues. Pothukuchi and Kaufman (2000) expanded upon this point suggesting several reasons why the planning profession ignores food: a) food does not intersect with either the built environment nor land use; the two classical components of the planning profession, b) food is viewed as rural and specifically not urban, c) planners are ignorant of food system problems, and d) planners are not trained to deal with food system problems. An American Planning Association (2007) policy guide on urban food system planning confirms these reasons, further stating that the food system meets neither of the

conditions that traditionally require planning intervention; either the involvement of a public good like air and water, or absence of any private-sector actors.

A reading between the lines of planners' reflections upon why their profession did not, until the last ten years, acknowledge their role in urban food system development reveals a conflict between the Modernist urban-rural divide collectively embraced by the planning profession and existence of agricultural production in urban spaces. Hodgson et al. (2011) noted that much of this notion is grounded in the perception that planners believed agriculture activity in urban space represented a threat to urban dwellers. One need only look to the graphic depictions of meat packing in early 20th century Chicago in Sinclair's *The Jungle* (1985) for an example of this. Hodgson et al. (2011) further noted that early 20th century planners employed exclusionary zoning as a method to push agricultural activity out of urban space. Also speaking of early planners, Pothukuchi and Kaufman (1999) suggested that planners perceived any food supply problems as a failure in farming, not in an inequity in the distribution of food within the city. This seems to be an early reference to opposition to any sort of subsistence focused urban agriculture that poor urban dwellers use in to feed themselves, as suggested by Lawson (2005).

Shifting towards the mid-century, Pothukuchi and Kaufman (1999) noted that planners did not believe that urban agricultural activities could provide enough income to afford rents for the urban spaces utilized. Additionally, they suggested that conversion to the highly industrialized food system after World War 2 coincided with a period of rapid suburbanization. The sight of new supermarkets greeted many Americans arriving in the suburbs, and therefore, they would be less concerned over growing disparities in food accessibility in depopulating urban neighborhoods. Morland, Wing, Diez Roux, and

Poole (2002) noted that many urban food markets followed their affluent customers to the suburbs during this period, eventually leading to so called food swamps in many urban neighborhoods today. Moore (2006) argued that during this period, planners and other urban elites during this period accepted the narratives of modernity suggested by the Chicago School of Sociology that advocated for a specific normative understanding of legitimate activities in urban spaces and non-urban spaces. Moore mentioned the writings of Louis Wirth's *Urbanism as a Way of Life* (1938), in which Wirth defines the city in direct opposition to rural and natural space. Moore, in agreement with Pothukuchi and Kaufman, noted that planners advanced a crisis narrative to explain why urban agriculture was necessary during both world wars as well as the Great Depression but was no longer necessary once conditions returned to the city to pre-war conditions.

However, a number of scholars have noted that urban agriculture sites on publically licensed or leased lands can face significant pressure if the landowning jurisdiction targets that land for development. Hou, Johnson, and Lawson (2009) and Vitiello and Brinkley (2014) suggested that local governments perceive most instances of urban agriculture as a short-term, transitory land use and consequently take no issue pushing for development that is a, "higher and better use." This use could take a number of different manifestations but is generally commercial, residential, or industrial in nature. This desire for a higher and better use is directly in line with Moore's (2006) commentary about the effect of Wirth and the Chicago School's influence on normative urban land use. It is possible that the perception that food production in urban space is rooted in a historical understanding of urban agriculture and not in present day realities. The in-ground vacant lot gardening of the War phrase, as discussed by Lawson (2005), is

highly dissimilar to the instances of intensive, vertical hydroponic farming that now operate in isolated places across the country.⁴ Interestingly, this research found no examples comparing outputs of historic urban agriculture to intensive, innovative techniques like hydroponics or aquaponics.

Often, the desire for a higher and better use is related to potential tax revenues; Cohen et al. (2012) noted the following response from a New York City public official on this issue, “how much more tax revenue are we going to get off some new [development] that [could] go there?”. Further, Mendes et al. (2008) noted that urban agriculture uses are often seen as, “incompatible and inefficient use of urban land that could command higher financial returns.” Witt (2013) noted a difference between cities with higher and lower relative demand for developable land; suggesting that higher demand cities were more likely to revoke use agreements when faced with development pressure while lower demand cities were likely to set aside land for urban agriculture. The most famous example of this higher-demand city is the failure of the Giuliani administration in the 1990s to develop a number of publically owned pieces of land that the City of New York had previously extended to interested community gardening groups (Pudup, 2008). According to Vitiello and Brinkley (2014), this tension is still present in cities who have softened their regulation of urban agriculture, such as Cleveland or San Diego.

4.2.1 Structural Challenges

⁴ Examples include: The Plant (www.theplantchicago.org), Growing Power (<http://www.growingpower.org/>), Vertical Harvest (<http://verticalharvestjackson.com/>), among others.

Structural challenges are systematic in nature, often the result of factors well outside of issues directly related to the urban food system. The term land tenure describes the permanency, or lack thereof, of a specific area of space for any use. Considering urban agriculture Hodgson et al.'s (2011) definition is particularly instructive, "the length of time and conditions (ownership, lease, occupation, or stewardship) under which a plot of land is available for urban agriculture use, greatly affect of the level of investment made by the farmer." As land tenure increases, enterprise owners are more likely to invest in the development of the site for agricultural proposes. According to Zientek (2015), the cultivation/production of higher value plants or other foods is positively related to more permanent land tenure. Further, Denckla (2013) noted that commercially focused urban agriculture must have no or low land tenures costs to be successful.

Land tenure over a specific piece of land generally occurs on a continuum; at one end is complete ownership of that land by the farmer/producer through various licenses or leasing schemes from private or public landowners, and ending with illegal usage of the space without permission. Hodgson et al. (2011) noted that when no legal method to access desired, unused land occurs, potential gardeners or enterprises owners would often become either squatters or guerrilla gardeners. The difference being that the former is more production focused while being less community focused, and the latter is highly community focused. See Lawson's (2005) research on the community gardening phase for the emergence of guerrilla gardeners.

Entrepreneurs using a space they do not either own or illegally use will have some manner of use agreement. Witt's (2013) suggested that use agreements tend to take the forms of either a lease or license. Licenses generally grant permission for signatory

parties to legally access the land and make minor use modifications. Witt indicated that licenses afford the farmer little protection should the landowner wish to revoke the license and are generally vaguely worded. Additionally, she noted that license agreements, often in the form of Adopt-A-Lot programs, often transfer liability to the licensee as well as indemnifying the city for any harm that occurs on the site or in the site's immediate surroundings. However, interestingly, Witt could not find any examples of libel lawsuits against site licensees/lessees. Conversely, leases are generally formalized legal agreements with the force of a civil contract behind them; which lowers the burden upon lessees in obtaining property insurance. Witt indicated that leases are preferential for interested farmers, but leases with short terms may also discourage investment in the land due to potential non-renewal.

Hodgson et al. (2011) noted that zoning was the primary method that urban planners used to remove agricultural activity from the 20th century city; by midcentury, many cities no longer recognized agriculture as a legitimate urban land use. Witt (2013) indicated zoning played a similar role in excluding various forms of animal husbandry. According to Fischel (2004), the spread of zoning across America in the first half of the 20th century placed the single family home at the apex of its protected uses, focusing on the need to protect the value of single family homes from undesirable or deleterious uses. Peters (2010) indicated that a parcel's zoning would position agricultural activity as either a primary or an accessory use; with accessory use status being the most common in urban areas. Primary use status implies an agricultural zoning designation and thus would be highly unusual within, as noted above, in an urban jurisdiction. As an accessory use, urban agricultural activity could operate either by right or as a conditional use. Peters

suggested that by right use would generally not require permission from the jurisdiction's Board of Zoning Appeals (BZA), or similar body, but may require a license or other permission. Conversely, urban agricultural by conditional use would require permission from the BZA.

Witt (2013) suggested a difference between gardening and agriculture in most residential zoning codes. Gardening generally would be an accessory use under residential zoning with the presumption that non-commercial cultivation (i.e., gardening) would not be disruptive to the, "residential character of the neighborhood" and thus acceptable. Conversely, commercial-cultivation (i.e., farming) would be disruptive to the residential character and thus should be excluded. Witt's idea of residential character can easily be seen as a stand in for property value when viewed through the lens suggested by Fischel (2004).

Considering the response of contemporary planners to emerging evidence of innovative urban food enterprise development, Zientek (2015) believed them to be a combination of, "unenlightened, unmotivated, or overburdened." Van Vranken suggested that any contemporary resistance to changing exclusionary zoning practices is rooted in the desire of administrators to protect conservative land use regimes that, in turn, protect the property values of landowners.

In addition to restrictions in zoning code, other parts of municipal code may also restrict urban food system development. Peters (2010) noted that non-zoning based regulations of animal husbandry are generally located in animal regulation titles of municipal codes as well as state-level regulations generally enforced by a state's department of agriculture. These regulations generally set permit fees, set rules for the

care of the animals, and empower inspections by government regulators. Peters indicated that honeybees are generally considered domesticated and thus not inherently dangerous to humans. Urban beekeepers are not strictly liable for injury caused by their bees, but any plaintiff can attempt to prove negligence. Regardless of this, Peters noted that beekeepers must limit the interaction of their bees with humans in the urban space to provide any potential backlash that may cause a local policy change. In recent years, Witt (2013) indicated that in response to growing citizen desire for forms of urban animal husbandry (i.e., bees, chickens, and goats), a number of municipal governments have begun to issue special use permits. However, Witt suggested that often these reforms actually increase the regulatory and financial hurdles potential farmers must overcome; manifesting into either high-cost fees relative to potential profit margins or contradictory regulations.

4.2.2 Challenges to the Adaptive Reuse of Buildings

Adapting old building, especially former industrial buildings, to new uses can be a challenge. Cantell (2005) noted that many old buildings were constructed before building use regulation became commonplace in the 20th century. Past uses could be grandfathered, but any adaptive reuse may result in non-compliance to current building safety codes. Any site renovation would need to bring the building into compliance before the desired activity could begin. The cost of this additional renovation may prove too financially burdensome to potential entrepreneurs. Also, Drake, Ravit, Ostrowski, Rico, and Lawson (2015) noted the difficulties in top-down planning for the use of vacant lots and building for urban food system development due to non-digital land use record keeping by municipal government. They suggest that the steps necessary to assemble a

site footprint of sufficient size for production might be overly burdensome to a nascent enterprise.

Additionally, Kim et al. (2014) documented potential health risks of agricultural activities in urban spaces related to residual contamination of existent urban soils by toxic chemicals including but, “lead, arsenic, mercury, chromium, cadmium , copper, organic chemicals, petrochemicals (e.g., fuel, oil), pesticides, persistent organic pollutants, and automotive fluids.” The authors noted that post-industrial cities, like their case study of Baltimore, struggle with problems of soil contamination more than other communities. Urban farmers may not possess the knowledge to understand the potential risks of pollution infiltration. Harms, Presley, Hettiarachchi, and Thien (2013) noted that in surveys across three states, urban gardeners and farmers were insufficiently aware of potential pollution dangers. Research revealed no formal analysis of education programs targeting food producers in urban environments.⁵

4.2.3 Socio-Economic and Racial Inequality

Cohen et al. (2012) and Reynolds and Cohen (2016) suggested two different communities of groups interested in urban food system development. The first group is largely composed of mostly of Caucasians with higher socio-economic class (SES) and the second is largely composed of minorities and persons of color with lower SES. The authors noted that that the latter group, in addition to obvious economic challenges related to access to capital through their SES, also face a disadvantage in accessing, and sometime competing for, grants and other programmatic awards created by local

⁵ Anecdotally, organizations like the Extension system provide this education function, but I found no specific research for programs focused on urban production. Overton’s (2014) national survey of beginning farmer incubators revealed no urban focused programming.

governments. They believe that governments can adjust to ensure more egalitarian access to development programs, but specific action by administrators to overcome this bias is necessary. Additionally, Bates and Robb (2014) indicated that minorities often experience economic factors that may push them out of paid employment and into entrepreneurship just to be pulled out of entrepreneurship as larger economic factors shift. This finding seems to align with the crisis narrative as the impetus for phases of urban agricultural expansion.

3.8 Difficulties of Food Systems Research

Two groups of scholars have proposed important critical theory questions to food system researchers, as well as public decision makers interested in food system development. Acknowledging and responding to these questions is critical to this research. In the first critical question, Born and Purcell (2006) proposed the existence of a, “local trap” in food system research. The trap cautions researchers to not presume that either the food or the economic activity generated by the local or urban food system is inherently superior to the food or economic activity generated by global, industrialized food system. According to the authors, “local-scale food systems are equally likely to be just or unjust, sustainable or unsustainable, secure or insecure.” Born and Purcell’s question is important for researchers, as McClintock (2014) suggested, many researchers are uncritically optimistic about their examinations of local or urban food systems. The author’s question is also relevant to policy makers, as the local trap challenges administrators to ask themselves, ‘Could my efforts (e.g., administrative time, political capital, budget, etc) better more effective in employing a different policy strategy?’.

In the second critical question, Reynolds and Cohen (2016) suggested that public policies designed to encourage urban agriculture may unintentionally replicate the systemic inequalities present in contemporary urban America to which urban agriculture, in some forms, has evolved as a response.⁶ This question is important for researchers, as it challenges researchers to critically examine the food system in light of systemic inequalities. The question is also relevant for policy makers, as the authors seem to encourage policy makers to ask themselves, ‘How might this policy change indirectly replicate the systemic inequality I am trying to reduce?’.

This research concurs with Born and Purcell and make no assumption that urban food enterprises, individually or systematically, are inherently superior to a) foods created and distributed by the international industrialized food system, b) other types of small business development, or c) other ways to use underutilized urban sites. This research also concurs with Reynolds and Cohen (2016) that urban agriculture does not occur in a socio-political or economic vacuum, but rather that the how, why, and who questions of urban agriculture are important when considering efforts to reduce inequality in urban areas.

However, using a public administration lens, both questions fail to consider two concepts. First, both questions fail to consider the inability of local-level decision makers to affect food system change at the national and local levels. Local-level decision makers are limited both in their ability to change national food policy (e.g., the Farm Bill) as well as national urban policy that created and helps maintain systematic inequality. However,

⁶ McClintock (2014) observed a similar point, by noting the paradoxical nature of urban agriculture and gentrification. Urban agriculture may occur in response to gentrification elsewhere in the city that draws people and capital away from a neighborhood. The development of urban agriculture in that neighborhood may then increase property values, which paradoxically will then attract more gentrifying development.

local government officials may have sufficient political, economic, and administrative capital to affect change in urban food policy, such as zoning policy, or address system inequality in their own community.

Second, both questions fail to account for the effect of bounded rationality and sufficing (Simon, 1956, 1991) on the public decision making process. Public decision makers have limited resources (e.g., administrative time, political capital, and budget) to affect a given policy. Often, that means an administrator will need to act with imperfect information about the potential efficacies of different policy alternatives. Further, pressure to respond to requests from other groups of citizens may compel officials to take administratively efficient actions in support of a policy goal, as opposed to policy actions that are more efficacious in the end. One example of this, as discussed in Chapter 3, is the use of economic development incentives that focus on short-term job gains, in favor of long-term investment in infrastructure

In effect, these questions, either individual or collectively, can paralyze administrators into not affecting any public policy action (Aucoin, 1990). Consequently, when viewing the questions proposed by Burn and Purcell, and Reynolds and Cohen, researchers and administrators should ask themselves, ‘is no action more detrimental than an action that fails one of the two challenges?’.

A hypothetical example can help illustrate this point. A senior public official considers leasing a government-owned former commercial building with a large attached green space in a distressed neighborhood to an urban food entrepreneur. The official releases a request for proposal (RFP) to seek interested entrepreneur. The official’s motivations for improving the neighborhood are, in no specific order: improve healthy

food access; provide short-term stability of land use; build the tax base and property values in the long-term; and create jobs.

After examining the applicants, the official has three choices. First, a minority resident of the community intends to build a micro-scale, surface level urban farm on the green space that will harvest and sell niche-market plants used in the culinary traditions dominant ethnic group in the neighborhood. The farmer plans to employ two workers from the neighborhood, but will not use the building. This farmer is willing to accept the three-year lease agreement proposed by the city. Second, an affluent white investor from outside the jurisdiction seeks to remediate the commercial building to allow for high intensity indoor shrimp farming. The business plan also calls for limited farming in the green space to grow food for the shrimp. The investor plans to hire ten, mostly lower skill, workers to manage day-to-day operations. However, the investor requires a minimum ten-year lease. Third, the official could reject both offers, either seeking an alternative use for the site, or simply leave it vacant.

The first option gives the opportunity for a local, minority owned business to develop. However, the first option fails the local trap as the entrepreneur's proposed impact to the local economy would be minimal, the use does not significantly improve the site, and the food produced may not be healthier than what is available at the nearby supermarket. The second option would create jobs for neighborhood residents, maintains the building, and should increase surrounding property values. However, the second option fails the critical question proposed by Reynolds and Cohen as the jobs created would be low paying and the food would be sold at a higher price point outside of the community, both of which fail to address systemic inequality. The third option, doing

nothing, fails Reynolds and Cohen's question as no action perpetrates the status quo, and may fail the local trap as the other options may be superior to the status quo.

This example demonstrates the need for inclusion of public administration theory into food system research, which will allow researchers to better understand the complexities of the public decision making process. That is not to say that administrators should discount either question in their decision-making. Rather, when, not if, administrators make public policy decision about their community's food system, they do so equipped with the best scholarly resources possible.

CHAPTER 4

URBAN FOOD ENTERPRISES

This chapter defines and explores urban food enterprise, an inclusive term for varying forms of commercialization food production occurring in urban area and a central focus of this research. This research indicates the value of recognizing the value four different types of urban food production as the same phenomenon, an, “urban food enterprise.” The central theme that ties urban food enterprises together as a unit of analysis is that each enterprise generates revenue from the sale of locally produced foods. Non-revenue generating urban food production activities, while important to the community’s food system, are excluded from this research.⁷ As Lawson (2005) and others have noted, a long standing tradition of non-revenue seeking urban agriculture operating in the United States. However, as one of the primary goals of this research is to frame urban food production as economic activity, it is therefore necessary to exclude non-revenue seeking activities.⁸ One example of an excluded non-revenue generating urban food production activity is a community garden.

⁷ Despite the exclusion of non-revenue generating local food production activities from this research, many of the eventual policy recommendation to promote local food enterprises may also indirectly promote non-revenue generating production.

⁸ Pudup’s (2008) suggestion of the term, “organized garden project” is a similar attempt to create a broader term, but she included non-profit seeking gardening, such as a teaching garden attached to an elementary school.

4.1 Defining Urban Food Enterprises

The following defines urban food enterprises in this dissertation. An entity must possess all of the following characteristics to be considered as an urban food enterprise for the purpose of this research:

- Urban food enterprises grow, produce, or manufacture edible plants, animal products, valued-added foods, and/or consumable forms of alcohol;
- Urban food enterprises produce and sell, at least some of, the food(s) they produce in their home region;
- Urban food enterprises do not sell prepared foods intended for immediate consumption (e.g, restaurants).

Instead of borrowing one of the definitions of locality as discussed above, enterprises are considered local if the farm or production sites(s) producing a significant portion of the enterprise's total food production operate in the geographic boundary of the examined region.

4.2 Types of Urban Food Production

An urban food enterprise can employ in any combination of these four food production types:

- **Plant Cultivation:** Urban farmers' efforts can produce a wide variety of fruits and vegetables. Urban farmers creatively use urban land and buildings by employing a variety of technological interventions and/or specialized techniques to mitigate the effects of urban land and buildings, and climate on cultivation, as well as to increase yield. Examples of such innovations include: raised bed farming on vacant lots; rooftop farming; indoor compost production; and hydroponic farming;

- **Animal Husbandry:** Animal husbandry includes the breeding, management, and harvest of animals and animal by-products in an urban setting. Examples of foods generated by animal husbandry include: meat and milk from domesticated animals; fish meat; eggs; and honey. Similar to plant cultivation, urban farmers creatively use urban land and buildings regarding the husbanding of animals. Examples of innovative husbandry include: aquaponic fish farming and rooftop beekeeping;
- **Value-Added Products:** Value-added products can broadly be defined as food manufactured, sold, and consumed in an urban food system. Such foods may be described as specialty, artisanal, or cottage foods. Examples of value-added urban foods might include: breads; cheeses; candies; preserves and jellies, and salsas and hot sauces. Valued-added products differ from the prepared food of restaurants and mobile food vending as valued-added product manufacturers intend for their food to be stored, even for a limited amount of time, before consumption. Conversely, restaurants expect customers to consume their food shortly after purchase. Manufacturers may utilize locally sourced ingredients, but this is not a requirement for this study. Value-added product manufacturers may utilize a variety of product spaces, examples include: their home kitchens, commercial kitchens, specially designed enterprise incubator kitchens, or manufacturing scale kitchens;
- **Brewing & Distilling:** Brewing and distilling includes any manufacture of alcoholic beverages or spirits intended for human consumption. Producers may either sell their product to local distributors and vendors for commercial sale, or sell directly to customers at or near the production site. Manufacturers may or may not utilize locally sourced ingredients, but this is not a requirement for this study.

4.3 Inadequate Definitions of Urban Food Enterprise

The existing terminology that characterizes many of the urban food enterprises documented in this dissertation is inadequate. Government agencies, think tanks, academics, practitioners, and legal codes all use different terms and definitions to describe aspects of what this dissertation defines as urban food entrepreneurship. There are no commonly agreed upon definitions. At best, this lack of precise terminology may paint with too broad of a brush, while at worse it may unintentionally exclude or include enterprises from public policies. To better understand how these terms might apply to the

urban food entrepreneurship examined by this dissertation, this section provides an overview of those terms.

Plant cultivation in urban spaces is called by different names including urban agriculture, urban farming, urban gardening, and community gardening. Often these terms are used interchangeably in published research, government documents, and popular media without attention to the size of the organization, scale of production, or the spaces utilized (Mees & Stone, 2012). This is not surprising, as Cohen, Reynolds, Sanghvi, and Value (2012) noted, urban agriculture possesses different characteristics in different cities, states, and growth zones. Table 4.1 lists several prominent definitions of these terms.

Table 4.1 Existing Definitions of Types of Urban Plant Cultivation

Term	Definition	Source
Urban and peri-urban agriculture	“production, distribution, and marketing of food and other products in the cores of metropolitan areas and at their edges”	(Pansing et al., 2013)
Urban Agriculture	Defined by: <ul style="list-style-type: none"> • Location • Activity • State of production (e.g., commercialized/non-commercialized) • Purpose 	(Kaufman & Bailkey, 2000)
Urban Agriculture	“industry located within (intraurban) or on the fringe (periurban) of a town, a city or a metropolis, which grows or raises, processes and distributes a diversity of food and non-food products, (re)using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area”	(Mougeot, 2000)
Entrepreneurial Urban Agriculture	“broad, not only including the cultivation of food crops in non-rural settings, but processing, marketing and distributing food as well.”	(Kaufman & Bailkey, 2000)
Local food enterprise	Vaguely defined as, “exceptionally diverse, including urban, rural, and suburban communities. They also span the food system from production and processing to aggregation/distribution and retail – sometimes all within one enterprise!”	(Muldoon, Taylor, Richman, & Fisk, 2013) ⁹
Community gardening	“land set aside for community members to grow edible or ornamental plants. The land may also include active or passive recreation space or other amenities”	(Lawson & Drake, 2013)
Urban Agriculture	Common types include: residential, allotment, guerrilla, collective, institutional (e.g, schools), non-profit, commercial. Engagement in markets occurs in each type, albeit rarely or occasionally in most types.	(McClintock, 2014)

⁹ The Healthy Urban Food Enterprise Development (HUFED) Center’s report, funded directly by the 2008 Farm Bill, made little attempt to define, “local food enterprise”, and did not directly address or define, “urban food enterprise”.

The USDA classifies small-scale agriculture in a number of ways. Some of these distinctions are relevant to improving the classification of urban farming as a subset of urban food entrepreneurship. The USDA Economic Research Service revised previous farm typologies in 2013 (Hoppe & MacDonald, 2013).¹⁰ Table 4.2 gives examples of contested definitions of small-scale agriculture relevant to this dissertation.

Table 4.2 Examples of Definitions for Small-Scale Agriculture

Term	Definition	Source
Farm ¹¹	“any place that produced and sold—or normally would have produced and sold—at least \$1,000 of agricultural products during a given year”.	USDA (Hoppe & MacDonald, 2013)
Family Farm	“farm where the majority of the business is owned by the operator and individuals related to the operator, including relatives who do not live in the operator’s household”.	USDA (Hoppe & MacDonald, 2013)
Nonfamily Farm ¹²	“Any farm where the operator and persons related to the operator do not own a majority of the business”.	ERS, USDA (Hoppe & MacDonald, 2013)
Small Family Farm	Gross cash farm income (GCFI) less than \$350,000.	ERS, USDA (Hoppe & MacDonald, 2013)
	Farm is primary occupation, low-sales: GCFI less than \$150,000.	
	Farm is primary occupation, moderate-sales: GCFI \$150,000 - \$349,999.	
Beginning Farming	Farmers operating for less than 10 years.	National Agricultural Statistics Service (2012)

Applying the above definitions to the cases of urban farms in this dissertation generates some interesting results. AeroFarms and Bowery Farming does not fall into any of these small-scale agricultural categories with the exception of their status as a farm. One entrepreneur using a City of Newark Adopt-a-Lot reports only several hundred dollars in sales for the 2016, thus disqualifying that entrepreneur from status as a farm

¹⁰ The 2013 Census of Agriculture used these revised definitions.

¹¹ It is unclear if the USDA considers highly capitalized hydroponic farm like AeroFarms, which in no way resembles the form of a rural farm, to be a farm.

¹² Drawn from 1998 Farm Typology by ERS USDA, Hoppe and MacDonald (2013) do not suggest another definition in their revision process.

according to the above definition. Other urban farmers making the transition from non-commercialized production to commercialized production may well fail to qualify as a farm under this definition. Most urban farmers in both regions do not own their farms and thus are unlikely to qualify as a family farm under the USDA definition. Finally, all urban farmers in both regions qualify as beginning farmers.

Similarly, a number of terms are used to refer to varying sizes of small businesses. These terms may or may not apply to the two for-profit enterprise examined in this dissertation. The North American Industry Classification System (NAICS), a standardized system of business classification used by the federal government, classifies a firm as a small business if either the firm's a) average annual employment, or b) gross annual receipts are under a predetermined maximum threshold value specific to the firm's industry. Table 4.3 gives examples of the maximum threshold values for industries relevant to this dissertation.

Table 4.3 Small Business Size Standards Matched to NAISC Codes (US Small Business Administration, 2017)¹³

NAICS Industry Description	Maximum Threshold to Qualify as a Small Business	
	Average Annual Income (millions of dollars)	Average Number of Employees
All agricultural activities, except chicken egg production	\$0.75	
Chicken egg production	\$15.0	
Breweries		1,250
Wineries		1,000
Distilleries		1,000
Retail bakeries		500
Commercial bakeries		1,000
Frozen cakes, pies, and other pastries manufacturing		750

¹³ The calculations for average annual receipts and average employment of a business are located in [13 CFR 121.104](#) and [13 CFR 121.106](#), respectively.

Urban food enterprises, as defined in this dissertation, do not align well with NASIC industry categories. However, any urban food enterprise with fewer than 500 employees or generating less than \$750,000 annually (US Small Business Administration, 2017) should qualify as a small business according to NAISC. With three exceptions, a large majority of the urban food enterprises in both regions are small businesses according to the NAISC's definition. Potential exceptions are AeroFarms, Bowery Farming, and the Anheuser-Busch factory.

Other federal government agencies use other classifications of small-scale businesses. Table 4.4 provides examples of others definitions of small-scale businesses. Variables used in these definitions include: annual income, number of full-time employees, organization structure, and ability to access traditional financing. With the three exceptions mentioned previously, all urban food enterprises in both regions are small businesses according to these definitions. At least seven enterprises examined in this research would qualify as micro-businesses.

Table 4.4 Examples of Definitions of Small-Scale Businesses

Term	Definition	Source
Small business	Operations employing fewer than 500 persons	21 CFR 120.1(b)(1)
	“the average annual monetary value of produce the farm sold during the previous 3-year period is more than \$250,000 but not more than \$500,000”	US Food And Drug Administration (2018) ¹⁴
Microenterprise	Businesses organized as either sole proprietorship, partnership or corporation; and which, “lacks access to conventional loans, equity, or other banking services”	13 CFR 119.2
Microbusiness	Firms employing 1-9 employees.	US Small Business Administration (Headd, 2017)
Very small business	Operations that have either total annual sales of less than \$500,000, or have total annual sales greater than \$500,000 but their total food sales are less than \$50,000, or are operations that employ fewer than an average of 100 full-time equivalent employees and sell fewer than 100,000 units of juice in the United States	21 CFR 120.1(b)(2)
	“average annual monetary value of produce the farm sold during the previous 3-year period is more than \$25,000 but no more than \$250,000 ”	US Food And Drug Administration (2018) ¹⁵

4.4 Existing Research on Urban Food Enterprise Development

Existing research on urban food enterprises development, as defined by this research, is limited. Cantrell, Colasanti, Goddeeris, Lucas, and McCauley (2012) also examined urban food enterprises, but excluded alcohol producers from their definition. The authors proposed the idea of, “food innovation districts”, in which urban food enterprises, in the role of producers and processors, and other food related businesses and food hubs cluster in the same geographic area to take advantage of business synergies between enterprises,

¹⁴ USDA rules for Food Safety Modernization Act (FSMA).

¹⁵ Ibid.

as suggested by Malmberg and Maskell (2002). These districts, the authors contended, can encourage the use light manufacturing as well as warehouses and food processing facilities in underutilized “historic industrial or commercial areas that have experienced disinvestment or decline.” The authors examine the potential use of zoning reforms, land banking, tax increment financing (TIF) districts, and community development block grants (CDBGs) to develop these districts.

Research examining aspects of urban food enterprises development is more common. Scholarly examination of urban agriculture, especially urban plant cultivation, have grown significantly in recent years, but often does not focus on commercialized forms. For example, Lawson and Drake (2013) surveyed community garden organizations across the nation, sampling 455 organizations representing roughly 8,500 garden sites. While not examining commercialized urban agriculture, 34% of responding organizations indicated generating income from their community garden was a benefit to their organization.

Similarly, Cohen et al. (2012) examined urban agriculture in New York City. They employed several data collection techniques including advisory boards, research workshops targeting local producers, and semi-structured interview with producers. The authors did not delineate between commercial and non-commercial uses. Despite their contention that representative data collection on urban agriculture is difficult given its dynamic nature, the authors research inspired a partner organization, Farming Concrete, to develop a web portal where local producers can report their yields. Farming Concrete’s

Barn tool is perhaps the first attempt to gather production metrics on local, but not necessarily urban, agriculture in the nation.¹⁶

McClintock and Simpson (2014) surveyed 300 urban agriculture organizations and businesses across 108 different municipalities across the US and Canada. Their research targeted for-profit businesses engaged in urban agriculture as well as non-profit organizations. However, the researchers appeared to exclude valued-added production and brewing/distilling from their definition of urban agriculture. Similarly, McClintock and Simpson (2016) surveyed 71 urban agriculture organizations and businesses in Portland, Seattle, and Vancouver. Their findings did not indicate a focus on type of production, but no mention of valued-added production or brewing/distilling appears in connection with their definition of urban agriculture.

Rosan and Pearsall (2017) noted the existence of urban farmers who operate, “under the radar.” These farmers often operate on private land with the permission of the owner or illegally on vacant lots or in buildings to which they have no formal right. The authors note that the City of Philadelphia’s attempts to “formalize” these farmers have met with difficulties including how to identify under the radar farmers, how to respond to concerns over liability and the need for insurance, and how to promote the safe use of soil.

The Intervale Center in Vermont conducted a survey of local farmers in Chittenden County with the goal of increasing direct sales and promoting in-county community supported agriculture (CSA) enterprises. However, despite Chittenden County’s status as the most densely populated county in Vermont, the county is rural and

¹⁶ See <https://farmingconcrete.org/barn/>

all respondents were traditional farmers (Intervale Center Agricultural Development Services, 2008).¹⁷

Examining small-scale food production in rural areas is another avenue for comparable scholarship. Ahearn (2011) and Johnson, Bowlan, McGonigal, Ruhf, and Sheils (2001) noted that the cost of land is often a significant issue for beginning farmers. Further, Niewolny and Lillard (2016) wrote that beginning farmers frequently have difficulties accessing the necessary capital to start farming. Schilling, Sullivan, and Komar (2012) stated that development pressure can raise farmland prices and create, “less farm-friendly business environments.” Finally, Schilling, Attavanich, and Jin (2014) noted that farmers will often diversify their business activities—for example, through the integration of educational programs or recreational activities—to create additional income streams for their farm operations.

Tomlinson (2015) studied aquaponic entrepreneurship in abandoned buildings as a potential response to food deserts, including both aquaculture (i.e., fish farming) and hydroponics (i.e., plant farming) in controlled environments. Tomlinson noted several benefits to this form of urban food enterprise, including year-round production that is immune to weather conditions, reduced need for pesticide use, and 90% less water usage in comparison to soil-based plant cultivation. The author also noted several challenges to aquaponic entrepreneurship, including the high cost of aquaponic equipment, high utility costs due to high energy use, and the high cost of building acquisition or remediation. Tomlinson primarily examined the potential of aquaponics through analysis of zoning and building code, concluding that existing state and local policies in these frequently impede this type of entrepreneurship.

¹⁷ Chittenden County’s population density was 298.4/sq mi according to the 2015 Census Estimate.

CHAPTER 5

TWO REGIONS

This research examined two post-industrial regions: greater Newark, New Jersey and greater Dayton, Ohio. This allowed me ample ability to gather significant examples of the diversity of urban food entrepreneurship as well as significant examples of government regulation and supportive interventions of post-industrial communities. Additionally, examining both the central cities of both regions along with their suburban neighbors allowed me to understand urban food entrepreneurship in a metropolitan context. Initially, I did not directly intend to compare and contrast the two regions, but that occurred at significant points that supports my overall goals.

I selected these regions due to the combination for several factors: firsthand knowledge of both regions; developed contacts, especially in local governments, in each region; and preliminary research that confirmed the existence of urban food enterprises in both regions. Further, both regions were convenient for data collection.

5.1 Regional Selection Criteria

Defining a region is inherently a subjective process. I sought to define both regions by including each central city along with associated suburban jurisdictions that are urban or peri-urban in form. I excluded jurisdictions and unincorporated areas that are predominantly rural in form as well as jurisdictions separated from the central city by significant geographic barriers (i.e., large bodies of water). Unincorporated rural land completely surrounds the City of Dayton and its suburban jurisdictions, forming an

effective natural edge to the region. Although spatially adjacent to the City of Dayton, Wright Patterson Air Force Base (WPAFB) was excluded due to its status as military base. Conversely, the Newark region is one node of the larger New York City metropolitan area and has no nearby rural space to form a natural edge. With two exceptions, the greater Newark region included all jurisdictions within a four miles linear distance from the center of the City of Newark. The New Jersey Meadowlands forms a natural barrier between Newark's urban development pattern and Cities of Bayonne and Jersey City, consequently both cities were excluded.

5.2 The Case of Newark

The greater Newark region lies in Northern New Jersey and is connected economically and culturally with New York City (NYC), which lies roughly 15 miles east from Newark's downtown. Greater Newark is one node of the greater NYC metropolitan region. The City of Newark and the majority of its suburban communities lie within Essex County with a limited number of neighboring jurisdictions in Hudson and Union Counties. Greater Newark's urban form is heavily influenced by geographic features including the Passaic and Hackensack rivers that open into Newark Bay as well as the New Jersey Meadowlands that create a natural barrier to development between greater Newark and Jersey City to the east.

5.2.1 Defining the Region

The greater Newark region includes all jurisdictions within four linear mile radius of the spatial center of the City of Newark. The greater Newark region includes the following 14 municipal governments: Belleville Township, Bloomfield Township, City of Orange,

East Newark Borough, City of East Orange, City of Elizabeth, Town of Harrison, Hillside Township, Irvington Township, Town of Kearny, Maplewood Township, City of Newark, South Orange Village Township, and Union Township. These municipalities exist within three county governments: Essex County, Hudson County, and Union County. Figure 5.1 shows the jurisdictions in the greater Newark region as well as the four-mile radius buffer.

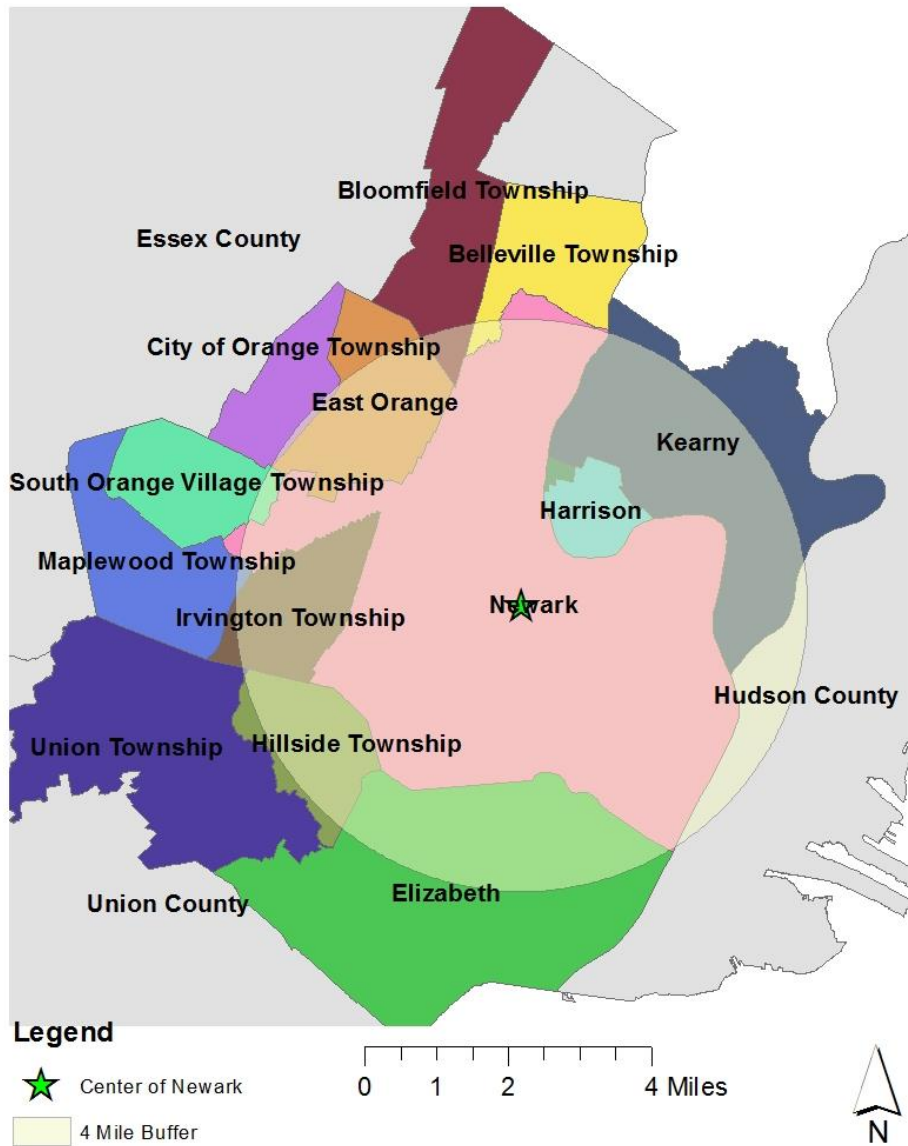


Figure 5.1 Local governments in the greater Newark region.
Sources: State of New Jersey

5.2.2 Post-Industrial Challenges

Newark was an industrial powerhouse through much of the late 19th century and the first half of the 20th century. The city's industrial might emerged after the Civil War but began

to fade slowly at the turn of the 20th century. Its decline rapidly accelerated in the years after the Second World War. The city was home to a number of industries including patent leather, textiles, brewing, scissors and other cutting tools, chemical varnishes, and steam engines (Cunningham, 1966; Schuman, 2007; Tuttle, 2009).

Newark's decline increased in the mid-20th century. Historians of Newark have noted several casual factors. Jackson (1987) suggested Newark's inability to annex its neighboring suburbs, and the middle class tax base those communities represented, in the late 19th century negatively affected the city's ability to sustain growth, eventually leading to its decline. Of its neighboring communities, Newark was only able to annex the borough of Valisburg in 1905, thereby losing affluent population to surrounding suburban communities.

Racism and identity politics also contributed to Newark's decline as the city's racial make-up changed dramatically after World War 2. African Americans, migrating north in the hopes of employment in northern industrial centers took the place of many departing middle-class whites bound for the suburbs. By 1970, black citizens became the majority racial group of the city, where ten years prior whites had outnumbered blacks two-to-one. Despite their electoral superiority of the African-American population, white politicians tied to specific neighborhood agendas continued to dominate city politics until the election of Kenneth Gibson in 1970 (Curvin, 2014).

Anyon (2005) positions Newark's decline in purely economic terms, stating that Newark and the state's other five largest cities lost more than 27% of their total jobs between 1960 and 1980. Newark lost a full quarter of its total manufacturing jobs between 1960 and 1970. Conversely, job growth exploded in the suburban portions of New Jersey, with the rate of new job growth nearly doubling between 1960 and 1980. Further compounding Newark

problems, a civil unrest, stylized a riot by the media, occurred in the city in 1967. Although Newark's post-industrial decline began before the unrest, the violence undoubtedly symbolized the city's decline to many residents (Mumford, 2007).

Newark and many of its surrounding suburban neighbors continue to struggle today. The region has lost significant population since its high marks. The City of Newark's population was 278,750 in 2014, roughly 35% of total population of Essex County (US Census Bureau, 2014). Its current population represents a roughly 37% decline from its high point population in the 1930 Census of 442,337 people (US Census Bureau, 1930). The City experienced a similar rate of population loss, 32.5%, between 1960 and 2000, generally matching exurban population movements in the second half of the 20th century (Schilling & Logan, 2008). Essex County's population in 2014 was 789,616 people (US Census Bureau, 2014). Essex County's 2014 population is roughly a 16% reduction from the county's historical high of 943,400 in 1971 (US Census Bureau, 1982). The greater Newark region, as defined by this research, had a population of 803,966 in 2010. This total was a decline from the highest population of 848,600 in 1980 (New Jersey Department of Environmental Protection, 2016).

Further, the region continues to suffer from high property vacancy rates and high unemployment. As of early 2018, the City of Newark tracked 1,536 vacant and abandoned properties in the city. City officials only consider 110 of these properties to be truly, "abandoned", while the remaining were simply vacant at the time of inspection. Truly abandoned properties are scattered across the city, however vacancy and abandonment collectively cluster in the southwestern region of the city, as well as the peninsula-like Valisburg neighborhood. Figure 5.2 shows the location of vacant and

abandoned properties in the City of Newark. McFarland and Niedt (2015) estimated that 1,151 homeowners in the City of Newark are underwater in their mortgage, meaning the value of the home is less than outstanding debt (i.e., mortgage and delinquent property taxes). The authors largely attribute this high number to the lax leaning regulations that led to the 2008 Mortgage Crisis. The median official unemployment rate for the City of Newark between 2005 and 2015 was 11.5% (City of Newark, 2016b).

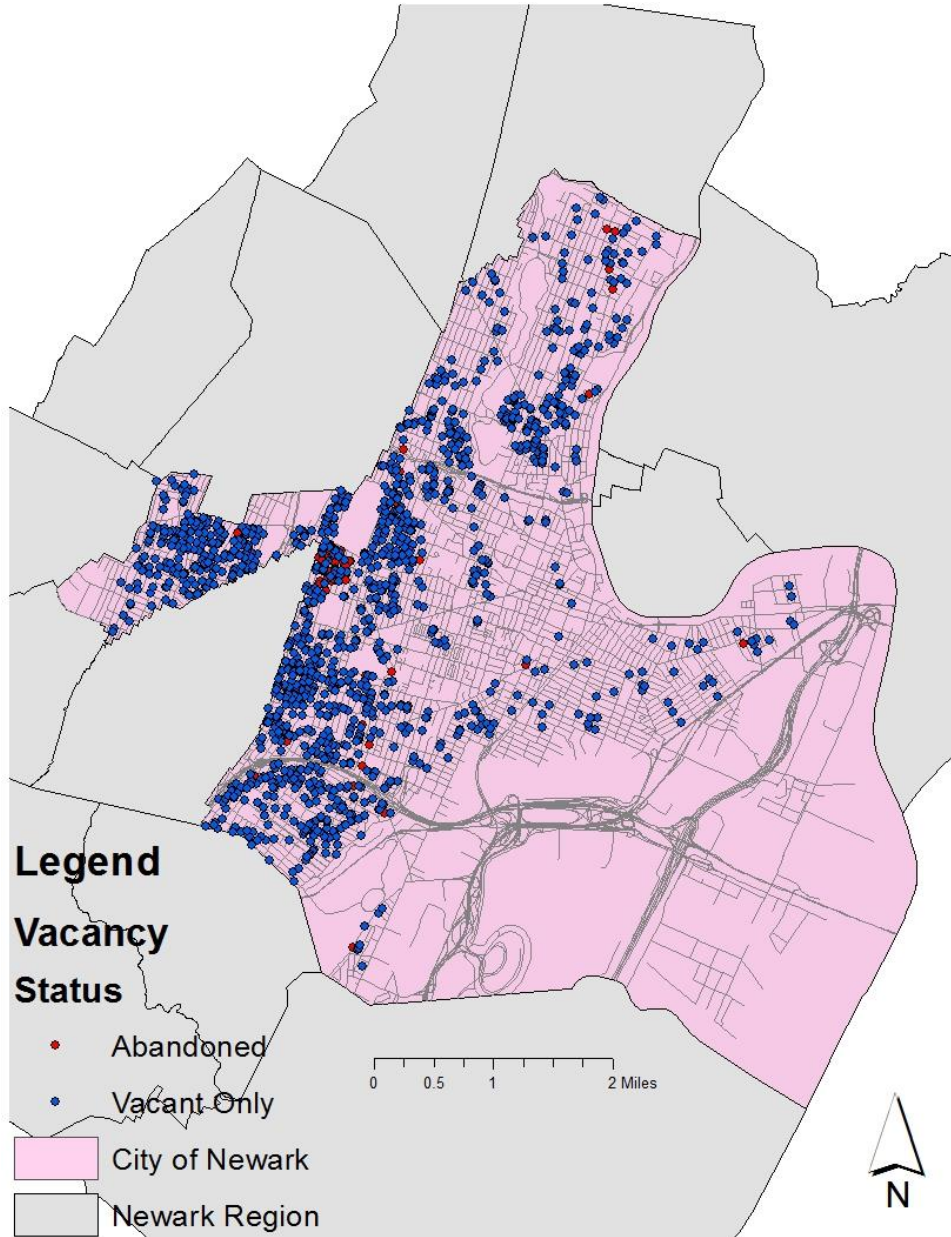


Figure 5.2 Vacant and abandoned properties in the City of Newark.

Sources: *City of Newark*
New Jersey Office of GIS

5.2.3 Local Food History

Newark has a limited history of local food production. Lawson (2005) noted a history of non-revenue seeking community gardening in Newark during the height of the

Community Gardening phase of urban agriculture development. Newark, along with eventually twenty other cities, benefited from the federal Urban Garden Program funded through USDA from the late 1970s to 1992. A federal survey indicated that roughly 3,200 people engaged in community gardening in the city in 1985, with an estimated total production value of roughly \$450,000 dollars (Lawson, 2005). Lawson is unclear if the survey attempted to measure commercial sales from these gardens, but it seems doubtful. Patel (1996), the Rutgers University Extension administrator funded by the Urban Garden Program, confirmed an increasing number of urban agriculture projects in Newark during the late 1970s through the early 1990s. Patel attributed this increasing number to the funding and administrative assistance provided through the USDA's Urban Garden Program. Federal support of community gardening ended in 1992, which generally led to shrinkage in municipal gardening programs in the previous participant cities (Lawson, 2005). An estimate from the American Community Gardening Association (1996) indicated that 1,318 community gardens existed in Newark, however the survey did not attempt to measure commercial sales.

Additionally, Newark has a history of brewing, due to the influx of German immigrants during the latter parts of the 19th century. However, roughly 30 breweries existed in Newark in the 1870s with an annual output of around 400,000 barrels. The city's longest operating brewery, Ballantine and Sons, was founded in 1870s and survived the prohibition years to eventually fold in 1972. One part of the success of Newark's brewing industry was the city's purchase of 35,000 acres of watershed to the west of Essex County and the construction of a piping system to bring the water to the city, thus ensuring an excellent source of water. The Anheuser-Busch brewery continues

to operate in Newark, but obviously due to its part of its parent company's industrialized supply chain is unlikely to fit under many definitions of urban food (Schuman, 2007).

5.3 The Case of Dayton

The greater Dayton region lies in western Ohio. The region is roughly 70 miles west and slightly south of Columbus and roughly 60 miles north of Cincinnati. The City of Dayton was founded along the banks of the Great Miami River at the turn of the 18th century. Sprawl growth has dominated in the region in recent decades due to the combination of cheap, flat land of the Miami River valley radiating in all directions from the center city as well as the presence of two major interstate highways, I-70 and I-75, which intersect slightly north of the central city. Greater Dayton's urban spatial pattern can be described as concentric rings of suburbanism radiating outward from the central city with few geographical constraints to influence the spread of urban development (Orfield, 2011). The majority of the region's municipalities exist in Montgomery County with a small number in Greene and Warren counties.

5.3.1 Defining the Region

Unincorporated rural land completely surrounds the City of Dayton and its associated suburban jurisdictions, forming a natural barrier to define the region. The greater Dayton region includes all incorporated city governments inside the ring of rural space, as well as the unincorporated townships of Harrison, Miami, and Washington due to their urban built environments and adoption of limited home-rule status as an, "urban township."¹⁸

¹⁸ See [O.R.C 504.01](#) for more details.

The greater Dayton region contains the following 19 municipal governments: City of Beavercreek, City of Centerville, City of Clayton, City of Dayton, City of Englewood, City of Fairborn, Harrison Township, City of Huber Heights, City of Kettering, City of Miamisburg, Miami Township, City of Moraine, City of Oakwood, City of Riverside, City of Springboro, City of Trotwood, City of Vandalia, Washington Township, and the City of West Carrollton. These municipalities exist in three county governments: Greene County, Montgomery County, and Warren County. All but three jurisdictions in greater Dayton exist primarily in the boundaries of Montgomery County; those communities are the City of Beavercreek, the City of Fairborn, and the City of Springboro. Figure 5.3 shows the governments in the greater Dayton region.

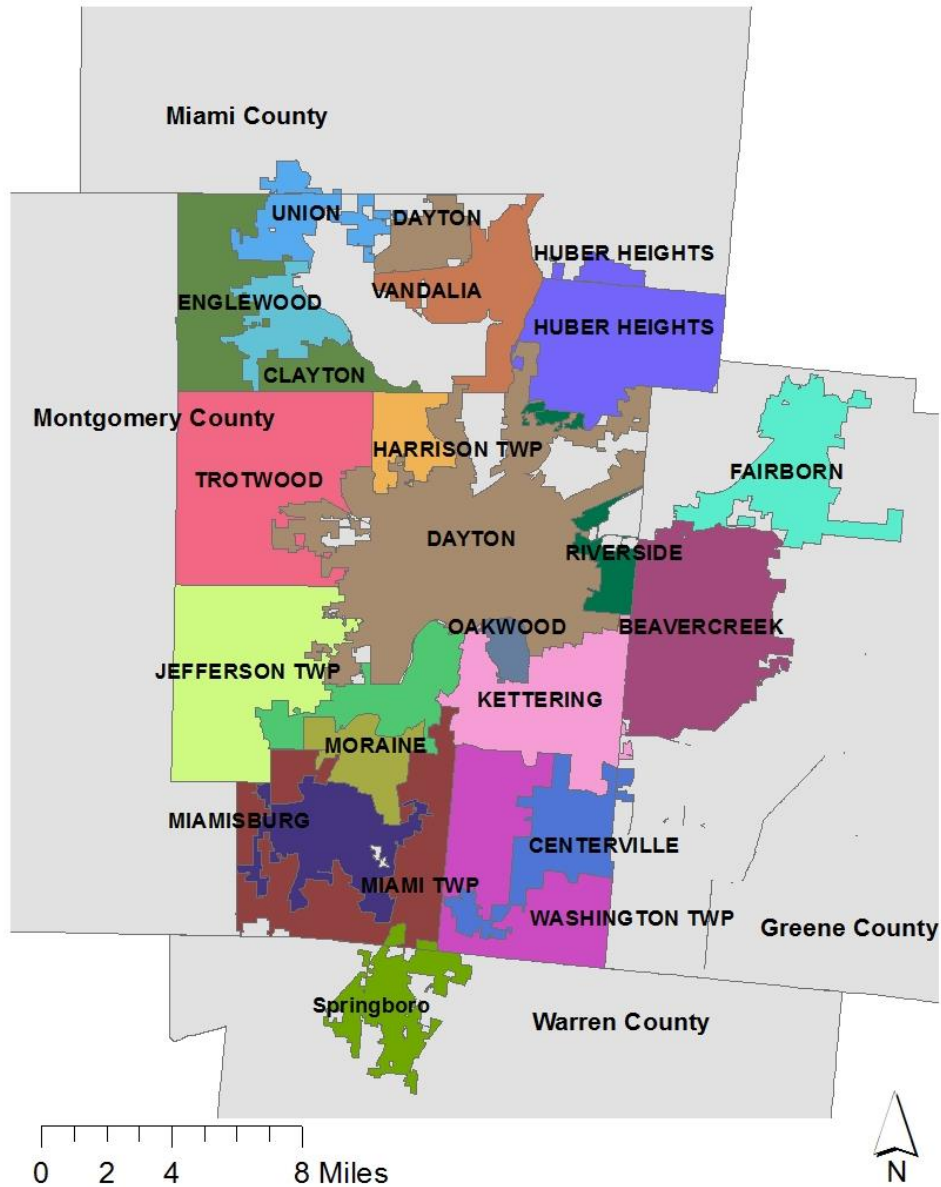


Figure 5.3 Local governments of the greater Dayton region.

Sources: Greene, Miami, Montgomery, and Warren County (Ohio) Auditor's Offices

5.3.2 Post-Industrial Challenges

Historically, the Dayton region, and the City of Dayton specifically, was a major center of engineering, aerospace, and manufacturing businesses during the latter half of the 19th

century and the first three quarters of the 20th century. A number of products found their start in Dayton including: the airplane, the cash register, the electric car starter, and the soda-pop tab (Dayton Engineer's Club, 2016). Dayton served as the headquarters for several major companies during the 20th century including: Mead, Reynolds & Reynolds, Delco, and National Cash Register. Additionally, several major manufacturing companies operated factories in the region including Frigidaire and General Motors. These companies, along with many automobile manufacturing facilities all left Dayton in the final quarter of the 20th century.

The massive departure of industry from the region compelled residents to move in turn. The City of Dayton remains the most populous municipality in Montgomery County. The City of Dayton's estimated population in 2014 was 141,003 people (US Census Bureau, 2014), a roughly 46% reduction in population from the high of roughly 262,000 people during the 1970 census (City of Dayton, 1999). Much of this population movement was towards the suburbs. The US Census (2014) estimated Montgomery County's population at 533,116 people. The county's population experienced a minor decline since the beginning of the 21st century, losing 26,025 people or a roughly 5% reduction in population. The 2014 estimate is a roughly 12% reduction in population from the historical high of 606,148 people in 1970 census (Forstall, 1995). The greater Dayton region, as defined by this research, had a population of 583,587 in 2010.

In 2010, at the height of the Great Recession, US Postal Service (USPS) reported total vacancy of all structures in Montgomery County was 24,128 properties, or roughly 8.20% total properties in the county. This high mark in vacancy was a 2.63% increase in total vacancy, roughly 8,000 properties, from pre-Great Recession rates in 2005 (Commission, 2016). The Dayton-Springfield Metropolitan Statistical Area (MSA), a

much larger region than defined in this research, reported a total vacancy of 10.9% or 42,063 structures in 2012. This placed the Dayton MSA the MSA with the eighth highest vacancy in the nation (US Census Bureau, 2012).¹⁹

The City of Dayton bears the brunt of the region's high vacancy with roughly 7,000 vacant properties in 2013, or roughly a third of total vacancy in Montgomery County. The high rate of vacancy in the City of Dayton continued despite aggressive municipal demolition programs in which 1,172 vacant structures were removed between 2009 and 2012. Federal and state funding heavily subsidized these demolitions, which cost an average of \$11,000 (Robinson). As of early 2018, the Montgomery County Auditor's Office reported 5557 certified tax delinquent properties (e.g., more than two years delinquent on real estate taxes) in the City of Dayton. While not a perfect measurement, tax delinquency is a stand-in variable for underutilization. Addressing vacant land, the Bowman and Pagano (2010) survey from the late 1990s indicated 5,773 acres of vacant land in the City of Dayton, or roughly 17.7% of the city's total land area.

Currently, Dayton's regional economy is positioned around a so-called, "Eds, Meds, Feds" strategy, relying upon major public institutions to drive the local economy (Ross, 2014). The main driver of this strategy is Wright Patterson Air Force Base (WPAFB) near the suburban city of Fairborn. In 2010, the base's total economic impact to the region was \$5.1 billion with a total of 27,406 employees (Cogliano). WPAFB benefited from an additional 1200 jobs from the 2005 Base Realignment and Closure (BRAC), an ongoing efficiency commission of the Department of Defense begun at the end of the Cold War (88th Air Base Wing Public Affairs, 2005). Other broadly public

¹⁹ The neighboring Columbus and Cincinnati MSAs also report extremely high vacancy rates at 20th and 24th highest in the nation, respectively (US Census Bureau, 2012).

and quasi-public sector institutions in the Eds, Meds, and Feds strategy include number of regional hospitals and four higher education institutions including the University of Dayton and Wright State University. However, a major weakness of this strategy is the shift of large amounts of generally high value land into public sector or non-profit ownerships can dramatically reduce property tax incomes (Wardrip, 2014).

5.3.3 Local Food History

The Dayton region has a limited history of urban food production, which mostly centers on brewing. Given the high influx of German immigrants during the second wave of European immigrant to the region, this is not surprising. Dalton (1996) noted that downtown Dayton was home to a number of breweries from roughly the Civil War through the 1960s. According Dalton, in 1908 a local newspaper, the Dayton Journal, boasted that Dayton's nine breweries produced over 200,000 barrels annually that generated \$300,000 in wages for local workers. Prohibition bankrupted most of these businesses, but several returned after the passage of the 21st amendment in 1933. Until the recent growth of new breweries, the last brewery, at the time known as the Dayton Brewing Corporation, stopped production sometime in the early 1960s (Dalton, 1996). This reality is in line with Bluestone and Harrison (1982) who noted that concentration in the malt beverage industry expanded dramatically in the two decades after World War 2, exerting significant pressure on local breweries. Lawson (2005) and J. C. Jones (2013) noted community gardening in the South Park neighborhood of the City of Dayton connected to neighborhood beatifications efforts of National Cash Register (NCR). However, this gardening did not appear to transition into commercial production. The

Dayton region is also home to two value-added businesses of regional fame that have operated for decades: Ester Price Candies opened in 1926, Mike-Sells Snack Food Company opened in 1910.

5.4 Enterprises Identified in Newark and Dayton

One minor goal of this dissertation was to identify as many urban food enterprises in each region as possible. No previous estimate of the number of such urban food enterprises operate in either region. The enterprise identification process was ongoing throughout the data collection process, between the summer of 2016 to the end of 2017. That identification process revealed a total of N=244 urban food enterprises, 110 in the Newark region and 134 in the Dayton region. Appendix A presents this identification process.

Table 5.1 lists the total number of enterprises in each region by its most significant production type. The two regions have a comparable number of enterprises of all types with the exception of alcohol production. The Dayton region has eight times more alcohol enterprises than the Newark region. The Dayton region has 26 more enterprises than the Newark region. Given that the Newark region has roughly 20% more total population than the Dayton region, this is slightly surprising. However, the Newark region's position in the larger network of suburbs attached to the NYC metropolitan suggests a number of enterprises may be located right outside this dissertation's definition of the greater Newark region. Conversely, farmland surrounds the Dayton region on all sides.

Table 5.1 Enterprises by Most Significant Production Type

Production Type	Newark Region	Dayton Region
Plant Cultivation		
Surface Level Farming	9	15
Hydroponic/Aeroponic Farming	4	2
Rooftop Farming	0	0
Plant Cultivation Total	13	17
Animal Husbandry		
Aquaponic	1	0
Livestock, poultry, and eggs	0	1
Entrepreneurial Beekeeping	3	3
Animal Husbandry Total	4	4
Valued-Added		
Valued-Added	89	68 (non-cottage)
(Cottage Production)	N/A	29
Valued-Added Total	89	97
Alcohol		
Brewing	2	13
Distilling	0	2
Winemaking	0	1
Cidermaking	0	0
Alcohol Total	2	16
Total Number of Enterprises		
	108	134

CHAPTER 6

METHOD

This dissertation research documents the characteristics of urban food enterprises in greater Newark and Dayton and the challenges the entrepreneurs face as well as the network of local and state regulations and programs that affect the development of urban food enterprises. To meet these goals, four methods of data collection were employed.

6.1 Research Questions and Sources of Data

Table 6.1 below lists the research questions that guided the research for this dissertation and the sources of data used to answer them. Research questions #1 and #3 include a number of sub-questions. Appendix B is a full list of all research questions and sources of data.

Table 6.1 Research Questions and Sources of Data

Topic	Research Questions	Sources of Data
Cases of food enterprises	1 - What are the characteristics of existing urban food enterprises?	Interviews with entrepreneurs Site visits Archival sources
	2 – How do administrators perceive urban food enterprises in current administrative & economic development discourses?	Interviews with government staff Archival sources
Governance	3 - How do local governments support or constrain urban food enterprises?	Interviews with government staff Interviews with civil society organizations staff Survey of zoning administrators Archival sources
	4 - How administrators implemented these regulations and supporting interventions?	Interviews with government staff Interviews with civil society organization staff
	5 - How do urban food entrepreneurs perceive the regulation of their enterprises and that regulation’s implementation by local and state-level officials?	Interviews with entrepreneurs
Envisioning	6 - How do administrators envision the role of urban food enterprises in light of the challenges facing post-industrial cities?	Interviews with government staff Survey of zoning administrators
	7 - How do owners and operators of urban food enterprises believe local and state government should align themselves to encourage urban food system development?	Interviews with entrepreneurs
	8 - What laws, policies, or programs should local or state governments enact to encourage growth of urban food enterprise?	Interviews with government staff Interviews with entrepreneurs Interviews with civil society organization staff Survey of zoning administrators

The four data collection strategies employed were: (1) archival sources, government documents and popular media articles; (2) interviews with urban food entrepreneurs, government officials, and staffers from civil society organizations interested in their community's food system development; (3) sites visits to select enterprises; and (4) a survey targeting zoning administrators. This combination of data collection methods allowed me to triangulate data to answer this dissertation's research questions. Archival sources form a baseline for understanding existing regulatory and incentive structures. Interviews permitted an in-depth investigation of entrepreneurs, their enterprises, government policies, and how governments implement their policies. Observations during site visits revealed how entrepreneurs use their production sites, as well as how the enterprises fit into the surrounding urban fabric. A low response rate to the zoning administrator survey in the Newark region prevents comparing zoning code between the two regions, but sufficient responses in the Dayton region allows for an analysis of zoning in that region.²⁰

6.2 Archival Sources

A combination of primary sources (e.g., government documents) and secondary sources (e.g., popular and social media) were used. Primary source government documents included: statute and administrative code; strategic and economic development plans; zoning codebooks; public health codes; municipal ordinances; policy factsheets; business

²⁰ This study also surveyed urban food entrepreneurs in both regions using an online questionnaire. This survey targeted a total of N=164 entrepreneurs in both regions, 69 in the Newark region and 95 in the Dayton region. In the Newark region, six respondents answered the survey, an 8.6% response rate, with a completion rate of 42%. In the Dayton region, 14 respondents answered the survey, a 14.7% response rate, with a 50% completion rate. Across both regions, the total rate of response was 12.2%, with a 57% completion rate. This response rate is much lower than a similar study by McClintock and Simpson (2014). I elected to exclude this survey from this dissertation due to the very low response rate.

records; and government websites. In some cases, accessing require documents required soliciting government officials directly. This included official public information records requests. Interviews also informed which documents should be reviewed.

Secondary sources included popular media and social media sources. Websites for the two major newspapers in the respective regions, the Dayton Daily News and the Newark Star-Ledger provided a number of relevant articles. Many enterprises in both regions used the social media platform Facebook to provide information about their enterprises. Additionally, this dissertation research draws on publically available geographic information systems (GIS) data to create descriptive and analytical maps of both regions; this data was available on relevant municipal, county, and state-level websites.

6.3 Interviews and Cases of Enterprises

Interviews were conducted with three groups of respondents: urban food entrepreneurs; the staffers of local governments (i.e., municipal and county); and staffers of civil society organizations interested in their region's urban food system. Two types of interview styles were employed: formalized, semi-structured interviews and informal, unstructured interviews. The following studies heavily influenced the creation of the semi-structured protocols: Goddeeris (2013); Hodgson, Campbell, and Bailkey (2011); the Farming Concrete (2015) project in New York City, an extension of Cohen, Reynolds, Sanghvi, and Value (2012); Lawson and Drake (2012); Kaufman and Bailkey (2000); Vitiello, Michael Nairn, Grisso, and Swistak (2010).

Respondents participated in semi-structure interviews. I used purposive and snowball sampling techniques to identify potential respondents for semi-structured interviews. Semi-structured interviews served as the primary source of information to answer this dissertation's research questions and increased this study's internal reliability. Semi-structured interviews of entrepreneurs provided information about themselves, their enterprises, and the challenges they face. Semi-structured interviews with government staffers and civil society staffers provided background information on both regions, as well as information on the structure and implementation of relevant regulations and supportive interventions. Data from semi-structured interviews informed the creation of the dissertation's two survey instruments.

Three separate interview protocols were used, one for each respondent group. Appendix C lists these interview protocols. All respondents allowed recording the interview audio, but many made off the record comments. Additionally, I took notes during each interview. Periodically during the analysis and writing process, respondents were contacted to confirm statements made during interviews. Pretesting of early versions of the government staffer and entrepreneur interview protocols occurred in February of 2016. Several experts in the Dayton region along with members of the Newark Food Alliance provided feedback on the indicated instruments, which was incorporated in the final versions of those interview instruments. Semi-structured interviews occurred throughout the second half of 2016 and the entirety of 2017.

Only government staffers participated in unstructured interviews. Unstructured interviews occurred purposively, and exclusively targeted government staffers responsible for specific regulations or programs. All unstructured interviews occurred on

the telephone. I did not record any unstructured interviews, but took detailed notes. Unstructured interviews occurred in the second half of 2017 and the beginning of 2018.

Mason’s (2010) idea of content saturation informed the total number of semi-structured interviews conducted. Mason suggested that content saturation occurs around 31 responses. In this study, content saturation occurred around 40 semi-structured interviews. This difference is due to the examination of three separate interview groups across two different regions. In total, this dissertation conducted 64 total interviews, 54 semi-structured and 10 unstructured. Table 6.2 details the number of interviews conducted by type, in each region.

Table 6.2 Number of Interviews Conducted by Type and by Region

Interview Type	Newark	Dayton
Semi-Structured		
Urban Food Entrepreneurs	16	18
Government Officials	5	9
Staffers of Civil Society Organizations	0	7
Subtotal	21	33
Unstructured	7	3
Total	28	36

6.3.1 Protection of Human Subjects

NJIT’s Institutional Review Board (IRB) determined that entrepreneurs were protected human subjects after a full review of this dissertation in May of 2016. The board required that entrepreneurs provide informed consent to participate in this research. Entrepreneurs received informed consent and anonymity disclosures at the beginning of semi-structured interviews. Additionally, the interview consent form included notification of intent to

record audio from the interview and an opt-in option for direct quotation in the final dissertation. The board elected to not review, discuss, or vote on any of the submitted interview protocols. The board issued a Notice of Approval for this research on May 9th, 2016, and renewed it the following year.

6.3.2 Interviews with Urban Food Entrepreneurs

Urban food entrepreneurs who participated in semi-structured interviews were either the owners or executive directors of their organizations. Entrepreneurs were invited partially purposively and partially by convenience, as not all entrepreneurs responded to invitation emails. Entrepreneurs received invitation emails requesting their participation. Entrepreneurs received two weekly reminder emails. I attempted to achieve diversity across the types of food produced (i.e plant, animal, value-added, alcohol) as well as organizational structure (i.e., for-profit, non-profit, or informally organized). However, the lack of urban animal farmers in both regions and the lack of alcohol producers in the Newark region made this difficult. Table 6.3 lists the number of entrepreneurs interviewed in each region by production type.

Table 6.3 Interviews with Urban Food Entrepreneurs by Region

Production Type	Newark Region	Dayton Region
Plant Cultivation	10	9
Animal Husbandry	1	2
Value-Added Products	1	2
Consumable Alcohol	1	4
Incubators	2	0
Total	15	17

6.3.3 Cases of Enterprises

For this dissertation 32 cases of urban food enterprises were documented; 15 enterprises in the Newark region, and 17 in the Dayton region. An enterprise was counted as a case if the entrepreneur granted me an interview. Table 6.4 and Table 6.5 lists the name of the enterprise, its main production type, if a site visit was made, and any significant notes about the enterprise, in each region respectively.

Table 6.4 Cases of Enterprises in the Newark Region

Enterprise	Main Production Type	Site Visit	Notes
Swag Project Farm	Plant	Yes	
Green Community Farm	Plant	Yes	
Greater Newark Conservancy	Plant	Yes	Manages two farm sites
Down Bottom Farm	Plant	Yes	
Garden State Urban Farms	Plant	Yes	
Newark Science and Sustainability	Plant	No	Emerging enterprise/Civil society organization
AeroFarms	Plant	No	Hydroponic
Coeur et Sol Urban Farms	Plant	No	
Unnamed Emerging Farm	Plant	No	Intends commercial sale in 2018
Garden State Urban Farm/Radical Farm	Plant	Yes	Hydroponic
Rutgers VETS Program	Animal	Yes	
PaeloBakery	Value-Added	No	
New Ark Farms & Ironbound Cider	Alcohol	Yes	Cider works
Organic Food Incubator	Incubator	Yes	
Garden State Kitchen	Incubator	Exterior Only	Still in development

Table 6.5 Cases of Enterprises in the Dayton Region

Enterprise	Main Production Type	Site Visit	Notes
Patchwork Gardens	Plant	Yes	
Dayton Food Bank Garden	Plant	Yes	Non-commercial garden
Mission of Mary Cooperative Farms	Plant	Yes	Manages four farm sites
The Urban Renewal Farm (TURF)	Plant	Yes	
Homefull Micro Farm	Plant	Yes	
Anastasia Micro Greens	Plant	Yes	Microgreens
Lucky’s Tap Room	Plant	Yes	Restaurant with rooftop farm
Dayton Urban Grown	Plant	Yes	
Davidson Family Growers	Plant	Yes	Hydroponic Out of region
Honey for Sale	Animal	No	Beekeeper
Levin Foundation Bee Sanctuary	Animal	No	Beekeeper Intends commercialization
Rosebud Ranch & Garden	Value-Added	No	
Bellbrook Chocolate Shoppe	Value-Added	Yes	
Warped Wing	Alcohol	Yes	Brewery
Mother Stewart Brewery	Alcohol	Yes	Brewery Out of region
JW Wine Cellar	Alcohol	Yes	Winery
Belle of Dayton	Alcohol	Yes	Distillery

6.3.3 Interviews with Government Staffers

Government staffer respondents worked in local and state government agencies. I invited staffers to participate based on: their knowledge of issues specific to their food system; their professional responsibilities for their jurisdiction; and their breadth of experience in similar public policy issues in the region. Government staffers received emails requesting their participation. Staffers received two weekly reminder emails. Table 6.5 lists the number of government staffers interviewed in each region. I sent invitations, along with

several follow up phone calls, to several officials from Essex County, New Jersey but none responded to my inquiries. Five interviews in the greater Dayton region were group interviews with several participating staffers or elected officials. These group interviews are recorded as single interviews for ease of record keeping.

Table 6.6 Government Staffers Interviewed in each Region

Government Type	Newark Region	Dayton Region
Municipal Government	5	5
County Government	0	6
State Government	4	1
Total	9	12

6.3.4 Interviews with Civil Society Organization Staffers

Respondents in civil society agencies were employed staffers of those organizations. I selected potential civil society staffers for interview invitations based upon several factors, including: their knowledge of issues specific to their food system; their organization’s role in promoting their region’s food system; and their breadth of experience in similar public policy issues in the region. Civil society organization staffers received emails requesting their participation. Staffers received two weekly reminder emails. Table 6.6 list the number of civil society organization staffers interviewed in each region. Executive directors of two urban agriculture organizations in the Newark region and one philanthropic organization in the Dayton region participated in interviews, but were counted as entrepreneurs as their non-profit organizations managed urban farms.

Table 6.7 Civil Society Organizations Staffers Interviewed in each Region

Organization	Newark Region	Dayton Region
Civil Society Organization Staffers	0	7

6.4 Field Observations

Site visits were conducted concurrently with the semi-structured interviews of entrepreneurs. I requested a site visit if a characteristic of the enterprise was significant to this dissertation. This a priori knowledge came from a number of sources, including: personal knowledge, other interviews or site visits, popular media or advertising, referrals from personal or professional acquaintances, etc. With one exception, every entrepreneur gave me a tour of their facility, including access to restricted areas. All site visits occurred during normal working hours, but varied throughout the year depending on entrepreneur availability. When possible, site visits to urban farms occurred during the growing season.

Data collection during site visits used a combination of methods including field notes using a uniform checklist, photographs using a cell phone camera, and sketches of site plans. These techniques focused on documenting the enterprise's use of land and buildings for production and distribution as well as how the enterprise adapted post-industrial characteristics of land and buildings for current operations. Appendix D lists the uniform checklist used during site visits.

Two hydroponic farms in the Newark region, AeroFarms and Bowery Farming, rejected requests for site visits. I completed an exterior site visit of AeroFarms's production location. Bowery Farming refused to inform me of their production location

in the Town of Kearny. A public information request to the Town of Kearny revealed Bowery Farm’s production location. An exterior site visit could not occur at Bowery Farm before the completion of this dissertation. Additionally, site visits occurred at two of the three food incubators in the Newark region. One incubator, Garden State Kitchen was in the development stage, therefore only an exterior site visit of the future building and the surrounding neighborhood was possible. In total, 23 site visits occurred. Table 6.8 outlines site visits by region and by production type.

Table 6.8 Site Visits by Region and Enterprise Production Type

Production Type	Newark Region	Dayton Region
Plant Cultivation	5	10
Animal Husbandry	1	0
Value Added Production	0	1
Alcohol Production	0	4
Food Incubator	2	N/A
Total	8	15

6.5 Survey

The zoning administrator associated with each of the municipal governments in both the Newark and Dayton regions received an email requesting their participation in a survey and a link to the questionnaire. Each administrator received three weekly reminder emails, and at least two reminder phone calls. The list of emails used for the survey incorporated email addresses from lists obtained from the American Planning Association (APA) chapters in each region, internet searches of municipal websites, and phone calls to jurisdictions. I used the Qualtrics survey software to administer the survey instrument. Pretesting of the survey instrument occurred in the early fall of 2017. Invitation emails

were first sent in late November of 2017. Reminder phone calls ended in mid-January of 2018. Through those reminder calls, I learned that many zoning officials had never seen the survey invitation emails, as their spam filters had blocked the invitations.

A few researchers have surveyed local government administrators about policies and programs related to urban food entrepreneurship. The creation of this questionnaire drew upon those studies in addition to a number of preliminary conversations with government administrators and elected officials. Previous studies that influenced the creation of the survey of zoning administrators included: the two recent nationwide surveys conducted in cooperation with the International City/County Management Association (ICMA) (Goddeeris, 2013; Öztekin-Günaydin, Newton, Goddeeris, & Rybnicek, 2015); the American Planning Association (APA) report compiled by Hodgson et al. (2011); Joannides (2012); and Bonham, Spilka, and Rastorfer (2002). The two ICMA nationwide studies (Goddeeris, 2013; Öztekin-Günaydin et al., 2015) reported a 19% response rate in 2013 and 15.7% response rate in 2015. Joannides (2012) reported a 13.3% response rate for a survey of economic development officials in a 20-county region in Minnesota.

Total sample size for the survey of zoning officials was N=33, 19 in the Dayton region, and 14 in the Newark region. The rate of response was high in the Dayton region, 14 out of 18 officials responded, a response rate of 73.7%. This high response rate was due to my professional relationships with several zoning officials in that region. The rate of response was much lower in the Newark region, three out of 14 officials responded, a response rate of 21%. This rate of response is comparable with similar studies. Several zoning officials in the greater Newark region informed me via email or on the telephone

that they were too busy to complete the survey. One of these officials said they would require a formal public information request before they would complete the survey.

6.6 Data Analysis, Reliability, and Validity

This study collected the following types of data: field notes and audio recordings from interviews; notes from archival sources; sketches, check lists, and photographs from site visits; and limited survey responses. Standardization of data collection, through semi-structured interviews, the site visit check list, and the survey instruments, worked to ensure data collection was consistent both intra-regionally and between the regions. My subjective judgment and positionality affected some aspects of this research, including the unscripted portions of semi-structured interviews, unstructured interviews, observational research, and which producers were included as enterprises.

The analysis of interview data forms the bulk of this dissertation's findings. All semi-structured interview respondents consented to recording their interviews. A free audio recording mobile phone application recorded every interview. I used NVivo version 10, published by QSR International, and Microsoft Word, a word processing software, to complete each transcription. I created digital notes from handwritten field notes during semi-structured interviews and unstructured phone interviews. All digital files, including audio records, were stored on my password protected personal computer and cloud backups.

I transcribed every semi-structured interview myself, but did not transcribe any unstructured interviews. I did not employ a specific transcription notation style, instead transcribing word-for-word. Transcripts excluded stammers, pauses, and half-words.

After the first roughly 20 transcripts, transcripts excluded my own words unless I deviated from the semi-structured interview script.

I used NVivo 10 to complete a conventional content analysis of transcribed semi-structured interview data was coded. During the first reading pass through each transcript, relevant text was coded into first-level categories directly tied to each empirical research question and sub-question. During the first reading pass, I also created three additional first-level categories: challenges facing entrepreneurs, challenges to regional distribution, and background on post-industrial challenges. Units of analysis in coding included phrases, sentences, paragraphs, or several paragraphs.

After the first coding pass, focused coding requires rereading of all interview transcripts and first-level codes to identify commonalities, significant codes, and hidden meanings. The focused coding process generated 16 second-level categories and 96 third-level categories. First-level codes were then coded into the appropriate second, and if necessary, third-level categories. Table 6.7 provides an example of the three tiers of coding generated by the content analysis process.

Table 6.9 Example of Three-Level Content Analysis

First-Level Codes	Second-Level Codes	Third-Level Codes
Characteristics of Enterprises (Research Question #1)	Financial and Legal	Capital Investments
		Sales Income
		Contracts and Leases
		Debts and Investors
		Grants and Incentives
		Insurance
		Licenses and Permits
	Organizational Structure	Organizational Structure
		Mission
		Historical Development
		Interaction with Community

Most government documents examined lacked narrative structures, which minimized their potential value in content analysis. Instead, regulatory information gleaned from archival analysis of government documents was coded into tabular memos. I combined data from these memos with focused coding to create this dissertation's findings chapters.

Data collected during site visits was only useful in answering this study's first research question, which examined the characteristics of enterprises. The analysis of site visit data was still a valuable exercise for this dissertation, as the observational research process required me to contemplate concerns over the appropriateness of where enterprises choose to locate. Without the site visits, my understanding of urban food enterprises in the context of their surrounding neighbors would be poor. Survey data was analyzed using the Qualtrics software package, and was incorporated into descriptive and analytical maps using ArcMap, version 10.5.1, a geographic information system (GIS) software.

6.7 Research Challenges

The research for this dissertation has a number of limitations, most of which emerged during the research process.

6.7.1 Examining Many Jurisdictions

I chose to study both the greater Newark and greater Dayton regions primarily for their convenience, their accessibility, and for my familiarity with these two cities. This study included 33 municipal jurisdictions that spanned five counties governments (three in New

Jersey, and two in Ohio), and two state governments. Examining two regions in two different states effectively doubled the necessary data collection as state statute and administrative code strongly influences local-level policies.

Further, collecting information for a large number of jurisdictions was demanding, and data collection focused on entrepreneurs and staffers in the two central cities over their suburban neighbors. Consequently, a number of jurisdictions in both regions received little focus from this dissertation beyond the identification of potential enterprises and the survey of zoning administrators. There is a moderate correlation between urban food entrepreneurship and their location in the central cities in both regions, which contributed to this study's focus on central cities over their suburban counterparts. Some of the characteristics underpinning this correlation are the presence of underutilized land and buildings, as well as the need for economic development and the necessary political will in central city government to intervene in favor of urban food entrepreneurship.

Another researcher approaching either region might interview different entrepreneurs, government staffers, and civil society organization staffers. These interviews could generate different findings. However, this is unlikely as patterns and themes began to emerge during interviews in both regions that indicated content saturation, as suggested by Mason (2010), occurred. This was less true of interviews with government staffers than of entrepreneurs, as characteristics of individual jurisdictions in each region vary considerably. That said, conducting interviews with public officials from 33 jurisdictions is unrealistic. Further research examining this topic in other post-industrial communities could mitigate these issues in two ways. First, for comparative

research between states, researchers could select individual jurisdictions with comparable characteristics (e.g., central cities, first tier suburbs, etc). Second, researchers could focus exclusively on jurisdictions in one region.

6.7.2 Inclusive Definition of Urban Food Enterprise

The inclusion of four types of food production in the definition of, “urban food enterprise” was based on the belief that local government officials interested in economic development should consider these different forms of urban food production as parts of the same phenomenon. This dissertation research demonstrates that many policies and regulations, as well as programs and incentives, cut across these production types. Evidence of multi-enterprise partnerships that utilize one enterprise’s waste products as biological inputs by another enterprise further demonstrate the value of this inclusive definition.

However, studying all four production types concurrently across two regions was challenging as relevant government policies, as discovered by this research, are scattered across many levels of government and many agencies across individual levels of government. With one exception, no website, factsheet, or other resources in either region, effectively explains the major regulations an urban food entrepreneur would need to know to start an enterprise. The one exception to this is the documentation intended cottage food producers in Ohio, which were highly informative. Scholars examining similar issues should consider these complexities when planning future research using broad definitions for urban food entrepreneurship.

6.7.3 Survey Challenges

The rate of return for the survey of zoning administrators varied quite dramatically between the two regions: 23% in the Newark region (N=13), and 78% in the Dayton region (N=18). However, even the rate of response in the Newark region was higher than the 15.7% and 19% reported by the national surveys of local government's by Öztekin-Günaydin et al. (2015) and Goddeeris (2013).

Two factors may have influenced this response rate. First, during follow up phone calls in the Newark region, several zoning administrators said they never received invitation emails. They indicated their jurisdiction's anti-spam software had blocked the Qualtrics emails. Only seven unique internet protocol (IP) addresses, out of a potential 14, accessed the survey in the Newark region. Conversely, 18 unique IP addresses, out of a potential 19, accessed the survey in the Dayton region. This significant difference in access rate seems to confirm anti-spam software blocked emails from the Qualtrics software in the Newark region.

Second, differences in the response rate may be due to differences in administrative culture between New Jersey and Ohio. In a number of instances, local and state government staffers in New Jersey required submission of an Open Public Records Act (OPRA) request to obtain any regulatory or public records information. Examples of these requests included address records of retail food businesses and winter beehive locations. Further, at least one zoning officials required an OPRA request before they would complete the survey. Conversely, government staffers in the Dayton region and at the State of Ohio were much more cooperative in responding to informal requests for information. I did not submit any formal records requests in the Dayton region. This may

be due, in part, to my personal relationships with administrators in the greater Dayton region due to my previous professional experience in that region.

6.7.4 Composting Excluded: A Limitation

Since composting is not a food producing activity, composting efforts of urban farmers was excluded from this research. In hindsight, it is clear that was a limitation of the study. Nearly all farmers in both regions compost at their farm sites to create their own soil. However, many farmers also expressed ignorance of both composting regulations and which government agencies are responsible for enforcing such regulations. Future research on how local and state-level regulations can affect entrepreneurial urban agriculture should examine compost regulations.

During the research, one business devoted to composting was identified in each region. Compost Dayton, is a for-profit business operated by one of original founders of the Mission of Mary Cooperative. Customers subscribe to a weekly food waste pickup service, and then receive delivery of a matching amount of compost at the beginning of the growing season (Dayton, 2015). One entrepreneur in the Newark region started a small-scale composting company that would collect biological waste from clients, transport that bio-matter to a composting site in the City of Newark, and then later sell the compost commercially. However, the business failed due to unforeseen state-level regulatory complications involving the difference between off-site and on-site composting. The entrepreneur said the difference in regulatory status, and the required permits, made a small-scale operation not economically viable. Both of these businesses, and similar businesses, could affect urban food entrepreneurship in a given region, as such operations could serve as both a collector of biological waste products (e.g., rotting

vegetables or spent brewery grains) as well as a source of biological inputs for urban farms (e.g., soil and compost). Future research should include composting as policies that affect on-site composting affect urban farmers.

CHAPTER 7

REGULATING ENTERPRISES

One goal of this dissertation is to document local-level, and to a lesser extent state-level, regulatory frameworks significant to urban food entrepreneurship in the Newark and Dayton regions. Documenting regulations is difficult due to the ever-evolving nature of statutes, administrative rules, and municipal codes, as well as their implementation by regulators. This study's focus on multiple municipal, county, and state-level governments, combined with the highly varied nature of urban food entrepreneurship increases the difficulty of this documentation process. This chapter is a snapshot of significant regulations affecting urban food entrepreneurship in greater Newark and Dayton between mid-2016 and early 2018. What follows is a description of two significant areas of regulation, a) regulations that span multiple production types, and b) regulations specific to individual food production types (i.e., plant cultivation, animal husbandry, value-added production, and alcohol production).

7.1 Governments Responsible for Regulating Enterprises

The regulatory framework that affects urban food entrepreneurship spans multiple layers of the American federal system and varies greatly depending upon the production type employed. Table 7.1 lists which government agencies in both regions are primarily responsible for regulating that production type of urban food entrepreneurship.

Table 7.1 Levels of Government Responsible for Regulating Enterprises

Production Type	Region	Production	Land Use	Building Code	Labeling and Packaging	Sales
Plant Cultivation	Newark	State Dept of Agriculture (DoA)	Municipal, County, or Township Zoning Authority	Municipal or County Building Department; underpinned by State Building Code	No Regulations	State DoA
	Dayton					
Animal Husbandry	Newark	Municipal Health Dept	TTB with Local Zoning Authority	TTB with Local Building Department	State and Federal DoA	State and Federal DoA
	Dayton					
Value-Added	Newark	County Public Health	TTB with Local Zoning Authority	TTB with Local Building Department	State DoA And Food and Drug Administration (FDA)	State DoA and FDA
	Dayton					
Alcohol	Newark	Alcohol and Tobacco Tax and Trade (TTB)	TTB with Local Zoning Authority	TTB with Local Building Department	TTB	TTB
	Dayton					

7.2 Regulations Affecting All Enterprises

Four significant regulations cut across the production types.

7.2.1 State Health Codes

State health code in both New Jersey and Ohio regulates many aspects of the urban food entrepreneurship. In both states, municipal and county health department enforce aspects of the state health code. In New Jersey, Chapter 24 of the State Sanitary Code is relevant to urban food entrepreneurship.²¹ In Ohio, Chapter 3717-1 of the Ohio Administrative Code, also known as the State of Ohio Uniform Food Safety Code, is relevant to urban food entrepreneurship.²²

²¹ [N.J.A.C. 8:24](#)

²² <http://www.agri.ohio.gov/foodsafety/Docs/Regs/DR1-01.pdf>

7.2.2 State-Level Building Code

Building code affects any urban food enterprise occurring indoors. Building code only affects buildings, which are structures that people can physically enter. Building code has no jurisdiction over structures that people cannot enter. For example, a building official said that his department has no jurisdiction over a two-foot tall seedling hothouse at an urban farm.

State-level agencies maintain, and regularly update, the state-level building code. The International Building Code (IBC) underpins each state's building code, with only limited variation between states. A building code official in Ohio suggested a roughly 5% difference occur between Ohio's code and the IBC. Either a municipal or county-level building department will administrate and enforce the state building code at the local level.

A building official in Ohio said building renovations require the most oversight from building code officials when the building's use changes from the existing building code use group to a new use group. For example, converting an abandoned lumber warehouse, a moderate hazard storage group S-2, into a hydroponic facility, likely moderate or light hazard factory group F-1 or F-2, will require a full building code review. Conversely, converting a former textile factor, an F-1 use, into a hydroponic facility, another F-1 use, is not a change in use group, and therefore does not require a full review by building officials. The official believes that building official in most jurisdictions would likely consider hydroponic plant cultivation moderate or light hazard factory group F-1 or F-2. In some cases, the official said that grandfathering the reuse of buildings that are safe but not-conforming with current state-code occurs infrequently. He

further noted that grandfathering was recent change in Ohio building code policy, where previously no option existed to consider non-conformity with current code as still safe.

7.2.3 Defining Farm Markets and Farmers' Markets

With the exemption of alcohol producers, entrepreneurs in both regions sell their products directly to consumers either at individual stands or at gatherings of similar producers. Colloquially these gatherings of producers are called, "farmers' markets". Similarly, an individual farmer selling produce at their farm site or at another site are sometimes referred to as, "farm markets". State statute and administrative rules in both New Jersey and Ohio defines and regulates the operation of both farm markets and farmers' markets. Appendix Table E.1 details the definitions of both types of markets in both regions, as well as the required registration process.

There are several significant differences between New Jersey and Ohio. Ohio law specifically defines farm stands and farmer's markets, and regulates what foods can be sold at each. Farmers selling at individual farm markets and the managers of farmers' markets are required to register annually with the Ohio Department of Agriculture. Conversely, New Jersey law defines farm markets, but does not define farmers' markets. New Jersey Department of Agriculture does not require either form of market to register with the state government, but seeks to advise farmers' market managers.

7.2.4 Food Safety Modernization Act

The 2011 Food Safety Modernization Act (FSMA) of 2011 was the first major legislative overhaul of the nation's food safety standards since the Federal Food, Drug, and Cosmetic Act of 1938. FMSA's importance to nationwide food production cannot be

understated, and the act's implications for urban food entrepreneurship are significant enough to warrant discussion in this analysis of local and state-level regulation. FSMA affects all types of urban food production except alcohol. Through the Cooperative Agreement Program (CAP), the FDA contracts with some state-level food agencies to conduct inspection and compliance with FSMA. Both New Jersey and Ohio's Departments of Agriculture participate in the CAP program as of early 2018.

The FDA requires all non-exempt domestic food production facilities to bi-annually, register with the FDA and conform to FSMA rules; this includes all facilities engaged in, "manufacturing, processing, packing, or holding food for consumption in the United States."²³ FSMA rules do not apply to most of urban food enterprises examined in this research. FSMA's definition of farming includes urban farming.²⁴

However, given the characteristics of urban farms observed during this research, few urban farmers are subject to FSMA. FSMA rules do not apply to any farm selling less than an average of \$25,000 of produce over the last three-year period.²⁵ Additionally, farms meeting both the following requirements are exempt from FSMA rules: a) food sales must average annually less than \$500,000 over the last three-year period, and b) sales to qualified users must exceed the income all other farm sales. Qualified users are either a) the final consumer or b) a restaurant or food retail establishment located in the same state or less than 275 miles away (US Food And Drug Administration, 2017b).²⁶

²³ Facilities required to register through FSMA may do so at the FDA registration website: <https://www.fda.gov/Food/GuidanceRegulation/FoodFacilityRegistration/default.htm>

²⁴ [21 CFR 1.227](#)

²⁵ [21 CFR 112.4](#)

²⁶ [21 CFR 112.5-6](#)

The FDA also considers community supported agriculture (CSA) as food retail operations and thus exempt from registration. Finally, the FDA considers roadside farm stand operations, either on-site or off-site of the farm, to be retail food operations and thus exempt from FSMA requirements (US Food And Drug Administration, 2014).

Officials from Rutgers Extension (2016) noted that FSMA does not specifically address honey production. They stated that the FDA considers honey an unprocessed, low-risk commodity, and not as produce, and is therefore exempt from FSMA regulation. However, they cautioned that honey would become a processed good, and therefore applicable to FSMA regulation, if additives (i.e., sweeteners) were incorporated prior to sale.

Value-added entrepreneurs that can qualify as a, “retail food establishment” are also exempt from FSMA rules. Retail food establishment’s primary function is to sell food products directly to consumers. Value-added entrepreneurs can qualify as such if their, “annual monetary value of sales of food products directly to consumers [not including businesses] exceeds the annual monetary value of sales of food products to all other buyers.”²⁷ Value-added entrepreneurs that do not qualify as retail food businesses are subject to FSMA regulations. In effect, value-added businesses selling more food to non-consumers (e.g., wholesalers, distributors, and re-packers) than directly to consumers, including grocery stores and restaurants, are subject to FSMA regulations.

7.3 Regulations for Specific Production Types

Different regulations apply to each of the four production types of urban food entrepreneurship. Regulations will also vary in the same production type. Finally, regulations of the same production type will also differ between the greater Newark and greater Dayton regions. What follows is a summary of five significant regulations

²⁷ [21 CFR 1.226](#)

identified by this study, divided by production type: production; land use; building code; labeling, packaging, and handling; and sales.

7.3.1 Regulations Affecting Plant Cultivation

The cultivation of plants in urban area was the least regulated of the four production types.

7.3.1.1 Production. The cultivation of edible plants does not require a specific license, registration, or permit in either region.

7.3.1.2 Land Use. Zoning uniformly restricts entrepreneurial urban agriculture in both regions. Of those jurisdictions that responded to the survey, only five define entrepreneurial urban plant cultivation in their zoning code for non-agricultural districts. With one exception, only municipal governments in the Dayton region use a specific definition. Each municipality uses different terminology to define urban agriculture and does not appear to follow any intra-regional standardization. Table 7.2 highlights zoning code definitions or provisions specific to entrepreneurial urban agriculture in the greater Dayton region. The City of Dayton is by far the most progressive municipality, effectively allowing plant cultivation and bee keeping universally across their major zoning districts. Additionally, in the Newark region, archival examination of the City of Orange's redevelopment plan encourages entrepreneurial urban agriculture on rooftops and in restaurants' outdoor seating areas.

Table 7.2 Relevant Zoning Code to Urban Agriculture in the Dayton Region²⁸

Jurisdiction	Zoning Code Definitions or Provisions
Clayton	Permits “Hobby farming” with restrictions across residential districts: Allows “small animals” <ul style="list-style-type: none"> • 2 or more acres, no restrictions • Less than 2 acres, requires permits with required standards Permits on-site sales, but restricts signage.
Centerville	Residential zones: agriculture uses permitted if lot five acres or larger. Commercial and Industrial zones: agriculture uses permitted if lot five acres or larger, else use must be inside a building.
Dayton	Allows plant cultivation and bee keeping: <ul style="list-style-type: none"> • “community gardening” – less than one acre • “harvesting” – more than one acre, allows larger accessory structures than normally permitted under relevant zoning district²⁹ Else, must conform with existing zoning. Farm markets permitted at production sites.
West Carrollton	“Home Occupations” could be applied to indoor plant or value-added production in a residential zone. <ul style="list-style-type: none"> • Must occur in the primary residence, not accessory building, and not use more than 25% of total floor area • No additional traffic beyond residential standards • No non-residential alterations to the interior or exterior of the residence • No outdoor storage • Only commodities produced at the home may be sold at the home.

Drawing on survey data from the Dayton region, I created a series of descriptive maps using the geographic information systems (GIS) software package ArcMap 10.5.1 that details relevant zoning code in the Dayton region. Low response rate prevented the creation of a similar map for the Newark region. Appendix F shows these maps. The maps examine the permissibility of three production subtypes, plant, chicken keeping, and bee keeping, in three zoning districts: residential, commercial, and industrial. The survey instrument asked zoning administrators to answer with the least permissive case

²⁸ Zoning officials for the City of Newark failed to respond to the survey.

²⁹ City of Dayton, Ohio. Zoning Code.150.565.24.5 (2010).

Accessory buildings can be an additional ten square feet larger for every 0.1 acre the zoned land exceeds one acre.

when conflict occurred between similar district types (e.g., differences between Residential-1 and Residential-2).

Entrepreneurial plant cultivation is mostly restricted in residential districts in the Dayton region, with the exception of the City of Dayton's near universal permissiveness of the practice. The practice is more permissible in commercial and industrial districts outside of the central city. However, several of the older, inner ring suburbs (e.g., Riverside, Harrison Township, and Moraine) have no relevant code; while the less dense and more affluent second tier suburbs permit the activity.

7.3.1.3 Building Code. With the exception of hydroponic and microgreen production, all urban plant cultivation in both regions occurs outdoors on otherwise vacant lots. Therefore, building code has limited applicability for plant cultivation, except for: temporary structures and hoop houses. However, Right to Farm legislation in both states can relax building code regulations if an urban farm could qualify under the relevant legislation.

7.3.1.3.1 Agricultural Protections from Building Regulations. Right to Farm legislation in both states can provide protection against excessive regulation of agricultural activity. Right to Farm protections can provide relief for some building regulations. These protections do not exclude urban agriculture, but the threshold eligibility requirements for Right to Farm Act protection place high barriers for urban farmers. Appendix Table E.2 details the requirements and effects of these protections.

Qualifying for Right to Farm protection in urban New Jersey is exceptionally difficult. Few if any urban farms are more than five acres, meaning that instead of having

to meet the Right to Farm Act's requirements for larger farms, they would have to meet the Act's requirements for small farms. These requirements require significantly more annual production (\$50,000 rather than \$2,500). To be eligible for Right to Farm protection, farms less than five acres also must satisfy the non-acreage-related eligibility criteria in the Farmland Assessment Act. This criteria includes at least two years of continuous operation as a farm devoted to agricultural uses. To be eligible for Right to Farm Act protection, a farm also must be located in a zone that permits agriculture or has been in operation as of July 2, 1998. This requirement will be difficult to meet unless urban zoning specifically permits agricultural uses.

According to a building official in the Dayton region, qualifying for an exemption in urban Ohio is much easier; requiring that at least 50% of gross income from the structure be from sales of the farm or from other farms owned by the operator. Additionally, the municipal zoning officer must approve the request for exemption. The City of Dayton's zoning official said precedent exists for granting agricultural exemptions for high tunnel hoop houses. He said the city's chief building officer has given this exemption to several hoop houses constructed by Ohio State Extension at community gardens in the city. The zoning official still requires a zoning certificate for the structure that requires a \$25 fee.

7.3.1.3.2 Regulation of Temporary Structures. Farmers in both regions frequently use temporary tents for selling either at their farm site or at a farmers' market. These temporary structures provide shelter against weather, but are also a visual symbol to customers. Most often, these temporary structures are tents, but they can take other forms. Zoning code may regulate the use and characteristics of these temporary

structures, but this research did not reveal any noteworthy examples. State building code, and potentially fire code, also regulates these structures. In most cases, building code requires a permit to erect a temporary structure. However, exceptions relevant to entrepreneurial urban agriculture apply in both states. Appendix Table E.3 details these exemptions. Figure 7.1 shows a temporary structure for a farm market on one of Mission of Mary Cooperative's farm sites.



Figure 7.1 Temporary farm market tent at Mission of Mary Cooperative Farm in Dayton.

7.3.1.3.3 Regulations of Hoop Houses. Farmers in both regions use hoop houses, various forms of semi-permanent plastic greenhouses, at their farms. Many farmers said they use the hoop houses to extend their growing seasons. Hoop houses can take a number of different sizes and shapes. Generally, they can be divided into low tunnels, hoop houses built directly over an individual raised bed, or high tunnels, hoop houses built over several raised beds or other production sites. Low tunnel hoop houses are exempt from building code as a person cannot stand up inside them. High tunnels are regulated under

building code. Figure 7.2 shows the use of low tunnels covering raised beds at TURF in Dayton. Figure 7.3 shows a high tunnel at Dayton Urban Grown’s farm site.

Several government officials in both regions voiced concerns regarding the safety of hoop houses in inclement weather. Mainly, their concerns centered on the idea that hoop houses could blow away in high winds. A chief building official in the Dayton area said older style, “glass and frame” greenhouses were designed to deal with bad weather, but expressed the same skepticism voiced by other officials.³⁰



Figure 7.2 Example of a low tunnel hoop house at TURF in Dayton.

³⁰ A search of existing research found no empirical documentation examples of high tunnels blowing away during high winds.



Figure 7.3 Example of a high tunnel hoop house at Dayton Urban Grown in Dayton.

Appendix Table E.4 summarizes the regulation of hoop houses in both states. Right to Farm protections for urban hoop houses in New Jersey are very difficult to obtain. As noted previously, qualifying for Right to Farm as an urban farm in New Jersey is possible, but functionally very difficult. Conversely, in Ohio, qualifying for an exemption for a hoop house that is less than 200 square feet is relatively easy. Otherwise, the farmer must apply for a building permit.

7.3.1.4 Labeling, Packaging, and Handling. The FDA regulates the labeling, packaging, or handling of fresh fruits and vegetables through FSMA. FSMA requires that farmers packaging their fresh produce either use new containers, or reusable containers that can be cleaned and sanitized. Further, FSMA requires that farmers label packaging with the farm's name and location. Those farmers selling at direct marketing locations

(e.g., farmers' markets), including, "qualified exempt" farmers, must display signage at the sales location indicated the farm's name and business address.³¹

At least one urban farmer in the Dayton region reported during an interview that the use of plastic grocery store bags drew the attention of a public health official. According to the farm manager of Mission of Mary Cooperative, a county public health official complained that the farm was selling leafy greens in a grocery bag by claiming that the act of putting the greens in a bag was, "processing" and beyond simple cutting and washing of the plant. According to another public health official in the region, if a farmer engages in an act of processing, the food safety regulations then require inspection through county public health as a food service operation engaged in meal preparation. However, according to the farmer, the official investigated further and determined the act of putting greens into a plastic bag was not, "processing." Consequently no action was required of the farmer.

7.3.1.5 Sales. Urban farmers in both regions want to sell their produce at on-site or off-site stands managed by the individual farmers, at farmers' markets, as well as sales to restaurants and grocery stores. Governments in both regions minimally regulate produce sales. However, entrepreneurs suggested that private sector buyers may place additional requirements on producers. Appendix Tables E.5 and 5.6 outlines the regulation of produce through various sales methods in New Jersey and Dayton, respectively, as well as potential private sector requirements.

No farmers in either region spoke of regulations of produce sales beyond those outlined in Tables E.5 and E.6. However, several farmers were unsure of how sales

³¹ The exemptions to FSMA mentioned earlier in this chapter still apply, with the exception of required signage at direct marketing locations like farmers' markets.

regulations might apply to their specialized products. For example, a microgreen farmer in the Dayton region was concerned about which, if any, regulations affected potential sales of microgreens. After initially contacting county public health, she was directed to speak to an Ohio Department of Agriculture official. The official was initially did not understand about what microgreens were, but after researching the issue, informed the farmer that microgreens are a vegetable and thus not restricted. However, despite this official clarification from an ODA official, the farmer still sells living microgreens to customers. The farmer believes that by selling living plants, she effectively circumvents food retail regulations.

7.3.2 Regulations Affecting Animal Husbandry

Urban animal farmers are subject to more regulations than urban plant farmers. Most of these regulations are state and federal-level, with active involvement from state-level departments of agriculture.

7.3.2.1 Production. Before examining the specific regulations, a limited overview of federal level regulations is necessary to contextualize the state and local regulations that follow.

7.3.2.1.1 Federal Meat Inspection Rules. Urban animal farmers seeking to slaughter animals for meat must do so in a federally regulated facility. Federal law regulates the sanitary requirements for meat and poultry production under Title 9 of the Code of Federal Regulations (CFR). The USDA's Food Safety Inspection Service (FSIS) department conducts inspections of meat processing plants nationwide. State

governments can adopt their own meat inspection operations but their rules must meet or exceed those outlined in Title 9 CFR.³² Federal law prevents interstate sales of meat inspected by state-level meat inspectors. However, USDA's Cooperative Interstate Shipment (CIS) program allows state-inspected plants to sell their meat nationally and internationally. Ohio participates in the CIS program but New Jersey does not. As of early 2018, 12 Ohio plants participated in the CIS program, six of which are located in major metropolitan areas, but none are in the Dayton region (US Department of Agriculture, 2018).

Given the characteristics of urban food enterprises observed in this research, securing a USDA license to slaughter poultry or meat is economically and administratively unfeasible entrepreneurs. Thus, urban animal farmers seeking to slaughter animals for legal sale would need to seek out an FSIS approved slaughter facility that accepts small groups of animals. In New Jersey, the Goffle Road Poultry Farm in Wyckoff, NJ is the closest USDA slaughter facility to the greater Newark region. At least four publically available slaughter facilities operate in the Dayton region.

Appendix Tables E.7 and E.8 detail all of the animal related food production regulations in New Jersey and Ohio, respectively. The effect of these regulations on urban animal farmers is uniform across both states. Additionally, both states require beekeepers to register their hives, but these requirements are minimal. Finally, both states provide exemptions to small-scale egg producers that might be found in an urban context.

7.3.2.2 Land Use. Zoning regulates what farm animals can live in urban areas. Often, zoning separates beekeeping and chicken keeping for egg production from other

³² See [O.R.C 918.04](#)

husbanded animals (e.g., ducks, horses, cows, and swine). Beyond zoning, municipalities may also use other regulatory structures to restrict the presence of agricultural animals in a land use context. These restrictions may be located in less than obvious places. For example, a public health official for the City of Orange, New Jersey, indicated the City of Orange's property maintenance code restrict the following animals, "horses, cows, calves, swine, sheep, goats, chickens, goose, ducks, pigeons, raccoons, chinchillas, rabbits shall be kept in any city premise."³³

During this research, urban chicken and bee keeping emerged as contentious issues. Chicken keeping emerged as an issue in both regions. Conversely, beekeeping was a contentious issue in the Newark region, but largely accepted in much of the Dayton region.

7.3.2.2.1 Contesting Urban Chicken Keeping. The ability to keep chickens for egg production emerged as a hotly contested issue in both regions. The enterprise identification process only identified a single chicken farmer in the Newark region and none in the Dayton region. Both entrepreneurs and administrators in both regions speculated chicken keeping occurs in both regions but operates informally and illegally.

City of Dayton's Mayor Whaley said that in 2016 the city commission was split over legalizing chicken keeping. Whaley voiced her personal support for chicken keeping as well as urban agriculture more generally. She said that the City conducted an online survey of residents in 2016 to gauge public opinion on chicken keeping. Respondents strongly supported liberalizing chicken keeping policy (85% in support), but she cautioned that respondents were heavily concentrated in more affluent, predominately

³³ City of Orange Property Maintenance Code ~156.12

white, neighborhoods on the east side of the city. A zoning official for the City of Dayton suggested the potential of a chicken keeping pilot program in one of Dayton's highly depopulated neighborhoods. If the pilot was successful, city staff could then adapt it into other neighborhoods. Despite the efforts of the Whaley administration in 2016 to push towards liberalizing chicken keeping in the City of Dayton, as of early 2018 no policy changes have occurred. Additionally, as of early 2018, the City Council of West Carrollton, one of Dayton's suburbs, was considering whether or not to permit small farm animals in residential neighborhoods. City staff conducted an online survey in early 2018. They planned to revisit the issue with the municipal council after the survey's completion.

Administrator opposition to chicken keeping centered on two points. First, several interviewees suggested municipal zoning and nuisance abatement staffers were already unable to compel compliance with existing nuisance laws. Permitting chicken keeping would create more compliance work for these often-overstressed staffers. Second, other public officials believe chickens would generate too much pollution (e.g., noise, waste, etc) and therefore think them inappropriate for contemporary urban life (Frolik, 2016). For example, the NJSDA specifically prohibits chicken keeping in their public leases for GNC's Hawthorne Ave Farm and Down Bottom Farm. Officials from both urban farms said they would like to keep chickens at their respective farms, but the leases prevent this.

A similar contention over chickens existed in Springfield, Ohio, Dayton's closest major city. According to the city's Deputy City Manager the city's chicken keeping zoning policy is very restrictive (i.e., restricted on plots less than three acres). Despite this, the city is continually engaged in code enforcement cases against chicken keeping.

The Deputy City Manager spoke about one specific case in which a family claimed their chickens were therapy animals for their mentally challenged child. This case received local news coverage (Wichie, 2014).³⁴

7.3.2.2 Contesting Urban Beekeeping. Beekeeping was largely a settled question in the Dayton region. The City of Dayton and at least five other suburban jurisdictions in the region permit bee keeping in their zoning. No interviewee in the Dayton region spoke about excessive regulations regarding bee keeping. Conversely, urban beekeeping is contested in New Jersey. In late 2017, the New Jersey Department of Agriculture released new draft rules for beekeeping statewide based on 2015 legislative changes. The draft rules would strongly impede urban beekeeping in New Jersey by completely restricting hives on lots less than one-quarter acre and limiting the number of hives to two and 10 for residential and commercial lots, respectively, between one-quarter and five acres.³⁵ An urban beekeeper expressed concerns about this rule change effectively restricting his ability to keep his hives during an informal conversation in late 2017.

This study was unable collect lot size information from urban beekeepers in either region. However, due to high density and cost of land in the greater Newark region, many beekeepers in the greater Newark region may locate their hives on lots less than one-quarter acre. This rule would significantly hampered urban beekeepers in the Newark region, along with other high-density urban area across the state. This restriction would dramatically lower the likelihood of new entrepreneurial urban beekeepers. The comment

³⁴ The official displays the child's crayon drawing of a chicken in his office, which the child's parents sent to the official during the case.

³⁵ 49 N.J.R. 3565

window for the proposed rules ended in late January of 2018. No additional information was available as of the completion of this dissertation.

7.3.2.2.3 Zoning Patterns in Dayton Region. The zoning maps of the Dayton region (see Appendix F) indicate that chicken keeping is nearly universally restricted in the Dayton region. Conversely, beekeeping is a principal use in residential districts in the City of Dayton and the inner ring of suburbs. Dayton and several suburban jurisdictions also allow a similar use in commercial districts; but with three suburban exceptions, beekeeping is restricted in industrial districts.

7.3.2.3 Building. Potential building code conflicts with animal husbandry are vast given the wide diversity of potential forms of indoor urban animal husbandry. Urban animal farmers may seek to erect temporary structures to aid in the sale of their animal products in a similar manner to how plants are sold. There is overlap between animal husbandry and plant cultivation regarding the building regulation of temporary structures as well as hoop houses and greenhouses. The building regulation subsection of plant production details all regulations of temporary structures relevant to urban animal farming (see 7.3.1.3). The presence of animal products does not appear to change how governments regulate temporary structures in either region. Additionally, Right to Farm legislation in both states could grant relief from building code regulations if an urban farm could qualify under the relevant legislation.

7.3.2.4 Labeling, Packaging, and Handling. Examination of relevant websites and factsheets, and consultations with state and local Department of Agriculture and Health administrators in both regions found limited information about labeling, packaging, and

handling regulations of animal products in both regions. One factsheet from the New Jersey Department of Agriculture provided information relevant to animal farmers seeking to sell at farm markets and farmers' markets. However, the factsheet was more than ten years old, and failed to provide references to rules or statute, which limited its usefulness to both researchers and entrepreneurs. This study found no similar factsheets for the Dayton region. Generally, labeling, packaging, and handling regulations require producers to use clean containers, maintain foods at sufficiently cold temperatures to prevent the growth of bacteria, and otherwise follow Good Handling Practices (GHPs). Appendix Tables E.9 and E.10 detail the labeling, packaging, and handling requirements relevant to urban animal farmers in New Jersey and Ohio, respectively.

7.3.2.5 Sales. Sales of individual animal products at farm markets and farmers' markets are regulated differently in both regions. The sale of meat slaughter at a USDA inspected facility and bearing a stamp of approval is not otherwise restricted, but must conform to local public health rules (US Department of Agriculture, 2018). Further examination of relevant websites and factsheets, and consultations with state and local Department of Agriculture and Health administrators in both regions found limited information about the sales regulations of animal products specific to direct to retail, sales to restaurants, and wholesale. This suggests most regulations are federal and state level, but local zoning and public health will influence where commercial sales can occur. Appendix Table E.11 outlines the sales regulations relevant to urban animal farmers in New Jersey. Appendix Table E.12 outlines the sales regulations relevant to urban animal farmers in Ohio.

7.3.3 Regulations Affecting Value-Added Production

Urban value-added entrepreneurs in both regions produce the largest diversity of products examined in this research. Examples of products made by entrepreneurs in both regions include spice mixes, fruit butters, gluten-free plantain-based waffles, juice blends using produce from urban farms, fermented beverages, baked goods of various types, canned goods, and candies. Consequently, documenting regulations affecting value-added production is challenging due to this large diversity.

7.3.4.1 Production. Production regulations for value-added products are the most nuanced of the four production types examined. Regulations affecting the production, registration, and inspection of urban value-added food entrepreneurs are complex and interwoven across the federal system. The FDA requires value-added producers to follow Current Good Manufacturing Practices (CGMPs).³⁶

In New Jersey, local-level public health departments (i.e., municipal, county, or regional) license and inspect retail food establishments in their jurisdictions. Retail food establishments can produce and sell individual meals (e.g., restaurants), as well as manufacture products for later sale. New Jersey State Sanitary Code also defines food processing plants, but archival research and consultations with relevant administrators failed to uncover the between difference between these plants and retail food establishments.³⁷ In the State of New Jersey, Appendix Table E.13 summarizes regulations affecting value-added food production in urban New Jersey.

³⁶ [21 CFR part 110](#)

See the FDA website for more details: <https://www.fda.gov/Food/GuidanceRegulation/CGMP/default.htm>

³⁷ See [N.J.A.C. 8:24](#) for more details.

In Ohio, local-level (i.e., generally county) public health departments license and inspect retail food establishment (i.e., primarily non-meal service sales) and food service operations (i.e., primarily meal service). There is overlap between the licenses, and a business could possess both licenses. Only retail food establishments are relevant to urban food entrepreneurship as defined by this research. Appendix Table E.14 summarizes regulations affecting types of value-added food production in urban Ohio.

7.3.4.1.1 Cottage Food Production. The regulation of cottage food production laws is very significant to this research and many entrepreneurs in both regions. With the exception of cottage food laws in Ohio, state laws in both regions require the use of inspected commercial-grade kitchens to manufacture value-added products. Archival research and consultations with relevant agencies could not locate applicable information about specific equipment and sanitary requirements for these kitchens in both states.

In Ohio, many value-added products fall under a broad designation as, “cottage foods” under state law. Ohio’s cottage food law allows entrepreneurs to produce and sell specific value-added products made in their home kitchens.³⁸ The law requires cottage producers to register with county-level public health department, but does not require inspections of home kitchens. Cottage producers must also label and sell their products according to the cottage food law.

The one cottage food entrepreneur in the Dayton region said the cottage food law gives her flexibility while she develops her enterprise. However, she voiced concerns about the clarity of the production restrictions for some products under the cottage food laws. As of the end of 2016, based on her success as a cottage food entrepreneur, she was

³⁸ See O.R.C. [3715.025](#)

transitioning towards full-time entrepreneurship as a for-profit small business owner. Additionally, Ohio also allows “home bakeries”, in which an entrepreneur can use their home oven to produce, store, label, and sell specific bakery products. In many ways, the home bakery rules function similarly to a producer using the cottage food law to produce, label, and sell their products (Ohio Department of Agriculture, 2017).

While Ohio permits cottage-scale value-added production, New Jersey completely restricts the practice. However, two bills have past the New Jersey State Assembly in recent years that would legalize forms of commercialized home food production.³⁹ State Senator Joseph Vitale, the chairperson of the State Senate Health and Human Services Committee, has not allowed the senate version of the bill to come to the floor. Senator Vitale objects on the grounds that legalized home production would unfairly compete with entrepreneurs who have invested in commercial kitchens (Food Safety News, 2018).

7.3.4.2 Land Use and Building. Value-added production must comply with existing zoning and building code. Based on characteristics of enterprises observed during this research, with the exception of cottage food production, most value-added production will operate in commercial or industrial zoning districts. Building use will vary depending on the production techniques employed, but should still fall under established state building code. The one relevant exception to this is cottage food and home bakery production in Ohio. In both cases, entrepreneurs must use their home kitchens, which will occur in residential zoning districts and residential building use groups.

7.3.4.3 Labeling, Packaging, and Handling. The US Food and Drug Administration (FDA) requires the labeling of value-added foods. The FDA frequently adjusts these

³⁹ See 2014-2015 New Jersey Legislative Bills [A1244](#) and [A3618](#)

regulations and the FDA requires all food products to remain current on legal requirements. The FDA annually compiles regulations in Title 21 of the Federal Code of Regulations (FCR). Part 101 of FCR Title 21 is relevant to this research.⁴⁰ The FDA requires that packaged food labels detail the nutritional content of the product.⁴¹

There are exemptions to this requirement for small-scale producers (US Food And Drug Administration, 2007). Retailers (i.e., those engaged in direct sales to consumers) with gross annual sales of less than \$50,000 in food or \$500,000 in food and non-food are exempt from nutritional labeling requirements, provided the label makes no nutritional claims. Wholesalers with less than 100 full-time employees that sold less than 100,000 units in the last year are also exempt. Manufacturers who qualify for this exemption must submit a notification to the FDA annually.⁴² In conjunction with the US Department of Health and Human Services, the FDA infrequently publishes a food labeling guide that advises industry on compliance with federal labeling regulations (US Food And Drug Administration, 2013). Food manufacturers are not required to submit labels to the FDA for preapproval before releasing a new product (US Food And Drug Administration, 2017a).

The FDA also requires that labels list the product's net weight. State and local level weights and measures departments enforce oversight to ensure a product's weight matches the amount listed on its label. In Ohio, the ODA's Division of Weights and Measures is responsible, but works in conjunction with county-level Weights and Measures departments in each county auditor's office. In New Jersey, the Office of

⁴⁰ See 21 CFR 101 for more details.

⁴¹ Section 403(q) of the Federal Food, Drug, and Cosmetic Act

⁴² [CFR 21, 101.9\(j\)](https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm053857.htm). More information available at the FDA website: <https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm053857.htm>

Weights and Measures, in the Department of Consumer Affairs, is responsible for this enforcement along with matching offices at the county level.

Ohio law requires cottage food producers and beekeepers to comply with FDA regulations for food labeling, but also requires the inclusion of the following text on the label in 10-point font, "This Product is Home Produced."⁴³ Ohio State Extension prepared a high-quality fact sheet that outlines these requirements (Ohio Department of Agriculture, June 2016). The State of Ohio does not require cottage food producers to submit labels for review before manufacture but inspections can occur in the field. A cottage food producer in the Dayton region noted in an interview that label inspections of her products occurred rarely, and only at farmers' markets.

7.3.4.4 Sales. Archival research and consultations with relevant agencies could not locate applicable information about the regulations affecting the sale of value-added products. The research suggests that the sale of value-added products that properly labeled according to FDA rules are not restricted further by any federal agency.

Cottage food producers in Ohio are not restricted from selling properly labeled cottage foods from their homes, or at farm markets and farmer's markets.⁴⁴ Archival research and consultations with relevant agencies could not confirm if cottage foods in Ohio could be sold to restaurants or wholesale. Assuming such sales are permitted, private buyers may require certifications such as Good Handling Practices (GHP) or SafeServe from cottage food entrepreneurs. Appendix Table E.15 outlines the regulations that affect the sale of cottage and home bakery products in Ohio.

⁴³ See O.R.C. [3715.023](#)

⁴⁴ See O.R.C. [3717.22\(B\)\(6\)](#)

7.3.4 Regulations Affecting Alcohol Production

Regulation of alcohol occurs mostly at the federal, and to a lesser extent, state levels, and is therefore mostly outside the scope of this dissertation. What follows is a limited overview of some significant regulations relevant to urban alcohol entrepreneurs.

7.3.4.1 Production. The Alcohol and Tobacco Tax and Trade Bureau (TTB), an agency in the US Department of the Treasury, regulates the production, labeling, and wholesale distribution of alcoholic beverages. Prospective alcohol producers must secure a federal permit from the TTB, for example the Federal Basic Permit, before seeking a subsequent state-level license or permit. State-level agencies issue permits to alcohol producers, and may additionally regulate production, distribution, sales. In New Jersey, the Division of Alcohol Control, part of the Department of Law & Public Safety, regulates the commerce of alcohol beverages. The division provides Class A manufacturer's licenses to quality producers.⁴⁵ In Ohio, the Division of Liquor Control, part of the Department of Commerce, regulates production, distribution, and sales.⁴⁶ The division issues annual permits to all alcohol producers as class A permits.

A legislative change in Ohio in 2013 emerged as significant to this research. OH SB48 created the A-1c permit for beer manufacturing.⁴⁷ Previously, Ohio only offered two brewing permits: A-1, an industrial-scale permit; and A-1-A, a small-business scale but also required licensed, on-site food service. Brewers in the Dayton region said the food service requirement of the A-1-A license was prohibitive to opening a small brewing business because the permit in effect required the owner to operate a restaurant

⁴⁵ The Division of Alcohol Control's website is very poorly design and I faced significant challenges in researching issues relevant to this dissertation.

⁴⁶ Relevant laws are outline in Ohio Revised Code Chapters 4301 and 4303.

⁴⁷ [OH SB48 \(2013\)](#)

as well as a brewery. The A-1c allows for small-business scale brewing without the food service requirement, but restricts beer service to only what is produced on-site.⁴⁸ Both brewers said they started their breweries because they could take advantage of the new A-1c permit. One brewer suggested the dramatic increase in the number of breweries in the Dayton region in the last five years is linked to the passage of SB48.

7.3.4.2 Land Use and Building. Most commercial alcohol production will occur in commercial, industrial, or similar zoning districts. This research's investigation of municipal zoning codes, as well as the survey, suggests alcohol production is commonly an established permitted use in these districts. Similarly, alcohol production is an established practice in state building code. Most forms of alcohol production will fall into either F-1 or F-2 factory use groups under the IBC (International Code Council, 2015). Entrepreneurs in the Dayton region said once they secured the necessary state and federal level permits, they had few problems securing approval from local zoning and building code officials.

In 2013, the City of Dayton amended its zoning code to include a microbottler definition. The code permits a microbottler facility to produce and package beverages for distribution, retail and/or wholesale, on or off-site, but production and packaging uses are limited to less than 31,000 square feet of total area. The code allows the owner of a microbottler to maintain a tasting room to sample beverages produced on or off-site as an accessory use. Microbottling is a permitted use in many of the City of Dayton's zoning districts relevant to this dissertation, including: all industrial, all commercial, and all

⁴⁸ [O.R.C 4303.01](#)

downtown districts.⁴⁹ This change in the city's zoning code coincides with the passage of OH SB48 in 2013, which created the A-1c beer manufacturing permit. This further supports the notion of a causal relationship between the passage of SB48 and the rapid growth of breweries in the Dayton area.

As Figure 7.4 shows, beer brewing is a permitted use in the industrial zoning districts of most jurisdictions in the Dayton region. Interested entrepreneurs could adapt former industrial buildings in these jurisdictions. Two breweries in the City of Dayton, Warped Wing and Dayton Beer Company, inhabit former industrial buildings. The poor response rate from the zoning survey in the Newark region prevented a similar analysis for that region.

⁴⁹ City of Dayton Zoning Code 150.565.33.5

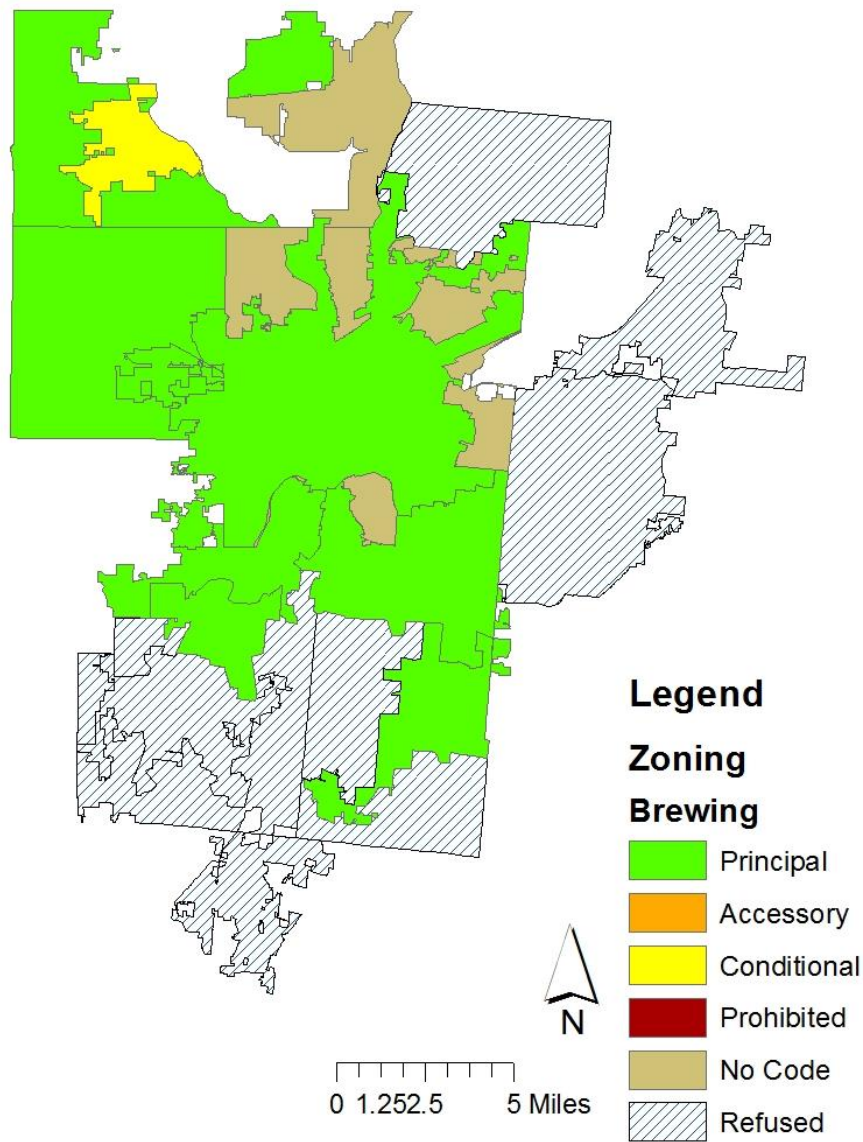


Figure 7.4 Permissibility of brewing in industrial zoning districts in the greater Dayton region.

Sources: Greene, Montgomery, and Warren County (Ohio) Auditor's Offices

7.3.4.3 Labeling, Packaging, and Handling. The TTB exclusively regulates the labeling and packaging of alcoholic beverages. The TTB provides labeling guides on its website.⁵⁰

⁵⁰ Wine - <https://www.ttb.gov/pdf/brochures/p51901.pdf>

Entrepreneurs in the Ohio region said they were pleased with their experiences with the TTB's label submission and approval process.

7.3.4.4 Sales. The New Jersey Division of Alcohol Control, offers a Class B wholesaler's licenses and a Class C retailer's licenses for businesses seeking to sell alcohol in New Jersey. Class C licenses restrict retail sales at groceries, delicatessens, and drug stores, and are limited in the number available in a given municipality.⁵¹

Ohio's Division of Liquor Control has sole jurisdiction over the purchase and distribution of spirits of equal to or greater than 21% ABV (43 proof). The Division of Liquor Control contracts with private retail businesses (i.e., state liquor stores) to sell liquor. These state liquor stores often sell other products as well. The Division of Liquor Control collects a commission on liquor sales in the State of Ohio. The agency regulates the number of state liquor stores. As of early 2018, roughly 450 were located across the state and the division uses an internal formula to determine the potential need to open additional stores.⁵² For the sale of other alcohol beverages and spirits with lower than 21% ABV, the Division of Liquor Control also issue annual permits to wholesalers (i.e., class B), retail stores (i.e., class C), restaurants (i.e., class D), and others (Ohio Division of Liquor Control, 2018).

7.4 Key Regulations

The regulation of urban food entrepreneurship is complex, involving multiple agencies and governments, across the layers of American federalism. As shown in the subsections

Malt Beverage - <https://www.ttb.gov/pdf/brochures/p51903.pdf>

Spirits - <https://www.ttb.gov/pdf/brochures/p51902.pdf>

⁵¹ See [N.J.S.A 33:1-9](#) (2013) for more details.

⁵² See [O.A.C 4301.5](#) for more details on this process.

of this chapter, this is also true of specific production types of urban food entrepreneurship. This study found that a prospective entrepreneur will need to work with a number local and state, and potentially federal, agencies to navigate the necessary regulatory process needed to be an urban food entrepreneur.

Many urban food entrepreneurs complained of difficulties in accessing information regarding potential regulations or obtaining various licenses and permits. Examples of these difficulties include: knowing which agency or agencies have jurisdiction; navigating inadequate or outdated information on the appropriate websites or factsheets; navigating conflicting information listed on websites or factsheets from different governments, as well as conflicting answers supplied by staffers from the same agency; and responding to staff ignorance of innovative production practices.

I encountered similar frustrations during the research for this chapter. In many cases, the information provided by government websites and digital resources (e.g., guidelines, guidebooks, and factsheets) was either insufficient or written in a style that would be challenging for food entrepreneurs, as well as researchers, to decipher. Many digital resources make vague references to federal or state-level food safety laws without providing links or citations to sources or additional information. Further, soliciting answer from administrators was challenging, as commonly, only one administrator is responsible for an aspect of regulation for their jurisdiction.⁵³ If that administrator was out of the office or otherwise unreachable, research on that topic halted. Additionally, some administrations expressed uncertainty when asked to apply regulations common in rural areas to an urban context.

⁵³ An example of this is the lone State Apiarist in both Ohio and New Jersey, who is responsible for all statewide bee keeping for their respective states.

These difficulties in accessing relevant regulatory information speaks to the intersection of two of this dissertation's key findings: a) local and state governments are largely unaware of, and do not understand, contemporary manifestations of urban food entrepreneurship, and b) local and state governments do not currently value the scale of small business development of which urban food entrepreneurship is part.

Many of the regulations uncovered by this research originate from state or federal government. Local-level administrators have a limited ability to affect the structure of these regulations. However, in many cases, bureaucrats of local-level government agencies act as the enforcement arm for state and federal regulations. Prominent examples include local-level public health inspectors and building code officials. These local-level officials may have significant flexibility in the implementation of state and federal policies. Further research could examine the potential of local-level officials to work within the boundaries created by state and federal policy to assist urban food entrepreneurs by using the street-level bureaucrat lens suggested by (Lipsky, 2010; Maynard-Moody & Musheno, 2003).

CHAPTER 8

INCENTIVES AND PROGRAMS FOR ENTERPRISES

In addition to regulating urban food entrepreneurship, local and state governments also intervene to support entrepreneurs. Entrepreneurs could use many of these interventions to benefit their enterprises. However, few entrepreneurs in both regions use these incentives and programs because, in many cases, they are unaware that the existence of the interventions.⁵⁴ Only rarely do government agencies reach out to entrepreneurs to inform them of either incentives or programs that could benefit them.

Many terms describe these interventions (i.e., subsidy, program, incentive, exemptions) and government officials often use them interchangeably. For clarity, the term “incentive” is used here to describe any government intervention that is specifically designed to assist urban food enterprises, and the term, “program” describes more general interventions available to a larger population of potential beneficiaries (e.g., small businesses, non-profit organizations, and individual citizens) for which urban food enterprises are also eligible. In what follows, interventions identified during the research process are described in the following thematic sections: land and building access; infrastructure development and site remediation; financial assistance; and staffing assistance.

8.1 Land Access and Infrastructure Development

Urban food entrepreneurs stress that that long-term access to land is major development challenge. There are a number of incentives and programs that provide access to, and

⁵⁴ The entrepreneur interview protocol asked specific questions about entrepreneur awareness of interventions or their participation thereof. However, discussions about interventions evolved organically during many interviews.

development of, land in both regions. My investigation into the various interventions suggests that some may be more helpful to entrepreneurs in the short-term, while others can benefit entrepreneurs in the middle to long-term.

8.1.1 City of Newark's Adopt-A-Lot

The City of Newark's Adopt-a-Lot incentive provides residents, businesses, and non-profits access to city-owned vacant lots to develop as urban agriculture sites. The Booker Administration started the program in 2004. The City of Newark provides annual leases for available lots for the cost of one dollar per year. The renewal process requires an in-person visit to city hall to complete a form, and at least one farmer noted the process was quick and easy. The City of Newark also coordinates with the Greater Newark Conservancy to provide supplies to Adopt-A-Lot gardeners, such as soil and seeds (City of Newark, 2017a).⁵⁵ Six farmers interviewed for this dissertation research either leased an Adopt-A-Lot or they managed a farm for an organization that did. Figure 8.1 shows a map of Adopt-A-Lot location from 2016 generated by the City of Newark.

⁵⁵ As of early 2018, the City of Newark had, at least temporarily, suspended the Adopt-A-Lot program.

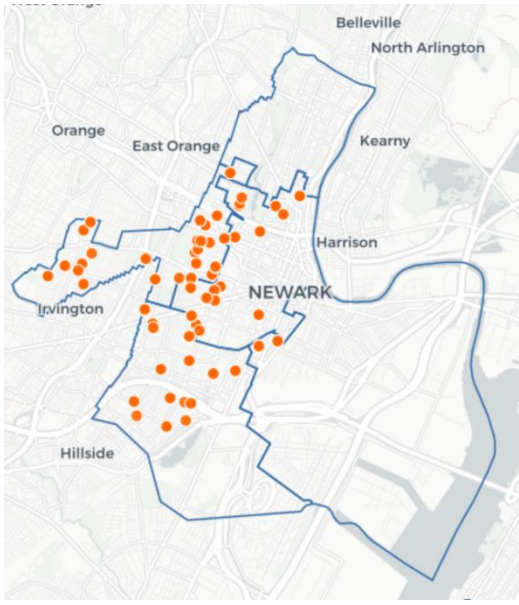


Figure 8.1 City of Newark Adopt-A-Lot sites in 2016 (City of Newark, 2016).⁵⁶

A former Booker Administration official said the incentive’s original intent was to provide land to individuals who wished to grow food for personal consumption. The staffer said that at the program’s inception, the Booker Administration did not anticipate a strong desire among participating citizens to sell the produce grown on Adopt-A-Lot parcels. The 2017 lease prohibits on-site sale of produce grown on Adopt-A-Lot sites, while also restricting off-site sales (City of Newark, 2017b).⁵⁷ According to the same Booker Administration official, this citywide prohibition was necessary in order to create the program.

The prohibition against on-site sale led at least one farmer in this study to creatively circumnavigate the policy. During our interview, a passing pedestrian inquired about buying produce from the Adopt-A-Lot farmer. After agreeing on volume and price,

⁵⁶ The City of Newark maintains a digital map of its Adopt-A-Lot locations as of 2016: https://cityofnewark.carto.com/u/gismail-newgin/viz/d2c7e4ca-3e2b-11e6-b06d-0e31c9be1b51/public_map

⁵⁷ See Section A8 of the City of Newark’s Adopt-A-Lot lease for more details

the farmer bagged the produce then walked across the street and exchanged money for vegetables on the opposite sidewalk. After returning to complete the interview, the farmer voiced no concern over this action, stating that the sale did not physically occur on the Adopt-A-Lot site.

Gardeners and farmers using Adopt-A-Lot sites are vulnerable to development pressure. For example, on Valentine's Day of 2015, the Baraka administration conducted a sale of 100+ Adopt-A-Lot lots. The sale targeted couples interested in building a house on vacant lots in the City of Newark (Nix, 2015). Two urban farmers said they lost their Adopt-A-Lot sites due to this sale. Both farmers received little warning of the impending sale from the city. One farmer said he contacted city hall once he learned his lot might be sold, and city staffers were able to arrange for the buyer to secure another site. The development potential of an urban farmer accessing land through the Adopt-A-Lot incentive, or a similar intervention, is at a significant disadvantage due to the City of Newark's willingness to revoke leases with little warning.

8.1.2 City of Dayton's Lot Links

Since 2007, the City of Dayton's Lot Links program allows citizens and developers to acquire tax delinquent properties. The program utilizes a provision in Ohio statute commonly called the Real Estate Acquisition Process (REAP).⁵⁸ According to the City of Dayton's website, acquiring a property through Lot Links costs an average of \$2000 to \$2500 and takes an average 15 to 20 months (City of Dayton, 2017). Eligible sites are unoccupied/vacant or abandoned properties in the City of Dayton that are at least two years in arrears in real estate taxes (i.e., certified tax delinquent). Any individual or

⁵⁸ [O.R.C 323.65-323.79](#)

company is eligible to use this program. After processing, the applicant owns the property in fee simple and all delinquent real estate taxes are removed (City of Dayton, 2017).

The website <http://www.lotlinker.com/> lists all parcels available through the Lot Links programs. As of November 3, 2017, the website listed 9,449 parcels available (Code for Dayton, 2017). The city's mayor reports that the program had transferred over 2,000 properties as of fall 2016. Creating opportunities for urban gardens is one of the potential uses listed on the City of Dayton's website for properties acquired through Lot Links (City of Dayton, 2017). The program is a low cost mechanism for entrepreneurs, especially urban farmers, to acquire tax-free land cheaply. Interestingly, none of the entrepreneurs interviewed in the Dayton region used the program to access land or indicated any awareness of the program or the program's potential for land access. The LotLinks program is a superior intervention for urban farmers in comparison to the City of Newark's Adopt-A-Lot program because the Lot Links program allows the farm to purchase the land.

8.1.3 Montgomery County Land Bank

The Montgomery County Land Bank is another program that urban food entrepreneurs could use to gain access to production sites. In response to the underutilization of Ohio's urban land, the Ohio legislature past enabling legislation in 2009 to allow county governments to create their own land banks.⁵⁹ For counties that create a land bank, a percentage of delinquent real estate taxes and assessments are set aside to fund the land

⁵⁹ [Ohio Legis. S.B. 353 127th General Assembly \(2009\)](#)

bank's operations and property acquisition. This funding stream is generally stable year to year. Montgomery County launched its own land bank in 2011.

According to the land bank's executive director, the land bank manages a number of different programs that allow citizens, investors, and municipal governments to acquire any kind of real property in the county. Through these various programs, the land bank is able to reposition properties that have become so undesirable that acquisition and redevelopment in the open market is highly unlikely. Prominent examples are: underwater properties, vacant or abandoned properties with delinquent property taxes that exceed the value of the property; and zombie properties (properties that possess unclear titles due to cancelled bank foreclosures). In all cases, the land bank is empowered to acquire such properties, cleans the title and removes delinquent taxes, as well as paying for the demolition of any existing structures or needed remediation. The land bank can then hold the property for future development or sell the property to an interested party.

While the enabling legislation gives the land bank considerable flexibility, the land bank would not act against the development plans of an individual municipality. Any entrepreneur seeking to utilize a land bank program to purchase land would also need the support of the municipality. The executive director said the land bank could help urban food entrepreneurs acquire land, suggesting that the land bank could assemble several smaller properties into a single large one, potentially creating a multi-acre site for an urban farm. As of 2017, the land bank was working with The Urban Renewal Farm (TURF), an urban farm in the City of Dayton, to transfer ownership of the abandoned factory to the organization. However, the transfer required that TURF complete its registration as a 501c3 organization, which as of early 2018 had not occurred. Of the

urban farmer examined in the Dayton region, TURF was the only farm working with the land bank.

8.1.4 Leasing and Selling Public Land

There are other opportunities for urban food entrepreneurs to gain access to land. However, these opportunities are effectively one-off opportunities that are more a product of circumstance and less the result of an established policy creating a direct incentive or indirect program.

The New Jersey School Development Authority (NJSDA) owns two urban farms in the City of Newark: GNC leases one, calling it Hawthorne Ave Farm; and the Ironbound Community Corporation leases the other, calling it Down Bottom Farm. GNC's executive director said that the Hawthorne Avenue Farm was the first lease NJSDA provided for an urban farm in New Jersey in 2010. Initially, the lease term for the Hawthorne Avenue Farm was six months. In 2016, the executive director convinced the NJSDA to increase the length of the lease to one year, which matches the term of the lease NJSDA offered to Down Bottom Farms. Leases for both farms prevent the construction of any buildings on the respective sites, and the short-term lease structure creates significant challenges developing the farms. GNC also leases another farm site from the City of Newark, calling this site the Court Street Farm. This annual lease originated during the Booker administration around 2009. GNC's executive director said that the City of Newark is not interested in activities at the farm, and did not object to the erection of two large hoop houses at the Court Street site.

Mission of Mary Cooperative, a non-profit urban farm in the Dayton region, operates a number of farms in the City of Dayton's Twin Towers neighborhood. Twin

Towers is a low-income, predominantly white neighborhood with several large immigrant populations, especially Somali and Turkish. Mission of Mary worked with the East End Community Center (East End), the land owner and a multi-purpose social service non-profit organization located in the neighborhood, and the nearby University of Dayton, to develop the Lincoln Hill Farm in 2016 and 2017. A memorandum of understanding links the three partners, and is not a lease structure. The planting season of 2017 was the farm's first year in cultivation. Previously, the five-acre Lincoln Hill Farm site had been the location of an elementary school in the Dayton Public School (DPS) system that was demolished in early 2012.

East End sought to purchase the vacant site directly from DPS, but state law prevented the sale to a private entity. The City of Dayton acquired the land from DPS and then sold the site to East End in 2015. Initially, East End planned to put multi-unit housing on the site, similar to their other construction projects in the Twin Towers neighborhood. However, at neighborhood association meetings local residents pressured East End to create community green space. East End then worked with an architecture firm to create a community green space with a portion set aside for Mission of Mary to develop an urban farm.⁶⁰ The University of Dayton's Hanley Institute of Sustainability, of which urban agriculture is a core area of focus, donated heavily to fund the development of the farm's infrastructure, including water and electrical hookups and several large high tunnel hoop houses.

Archival research in New Jersey and an interview in Dayton revealed two more incentives for land access. In 2011, the New Jersey legislature passed a bill permitting

⁶⁰ As of 2017, Lincoln Hill Farm uses roughly 20% of the total five-acre site. Follow this link to the site plan: <http://udquickly.udayton.edu/wp-content/uploads/2016/10/Screen-Shot-2016-10-04-at-4.14.07-PM.png>

local governments to lease or sell public land to non-profit organizations interested in developing urban farms. The legislature declared the need to, “cultivate these lands can provide both recreational opportunities and a source of fresh, locally grown fruits and vegetables for local residents.” However, the bill specifically restricts the lease or sale of properties smaller than five acres.⁶¹ No administrators in the Newark region spoke about this law during interviews, but the interview protocol did not include a question specifically soliciting such information.

A senior Montgomery County official believes that another possible kind of property to lease for agriculture is unused, publically owned land surrounding water towers, pump stations, and other public utility sites. He said that the county government might be open to leasing this land to an interested non-profit urban farmer with a socially focused mission, but he warned that the county might want a small percentage if the enterprise became profitable. This official envisions a university or other educational institution developing a farm on one of these sites.

8.1.5 Potential Interventions for Access to Buildings

Interviews with two government officials in the Dayton region suggested two ways government could offer entrepreneurs underused buildings for food production. Assistant City Manager of Springfield, Ohio, said that Springfield is considering remediating former factory sites to attract hydroponic farming enterprises. However, he believes this process would be difficult for two reasons. First, he believes that a hydroponic enterprise needs a building with a total square footage from 15,000 to 20,000 but all of the former

⁶¹ N.J.P.L. 2011, c.35

This limit effectively prevents WIC participants from redeeming program dollars at New Jersey urban farms. See Chapter 10 for more details.

factories in Springfield are either too large or too small. Second, he said that Springfield previously relied on a brownfield redevelopment program through a state-run remediation program called CleanOhio.⁶² However, funding for CleanOhio was cut and the program's last round of funding occurred in 2013. Without similar state-level programs, the official believes that cities like Springfield are simply unable to remediate such sites to accept hydroponic enterprises.

Montgomery County's chief administrator expressed a similar interest in the disposable nature of real estate, especially commercial real estate, in the Midwest as opposed to the East Coast. One major difference between the two regions is the large number of abandoned big box stores in communities across the Midwest (e.g., Wal-Mart and Target). The administrator contends that most of these structures will never return to use as larger scale retail, stating they are, "the next plague on the [Midwestern] urban landscape." He believes local governments need to find adaptive reuses for these structures. Given their uniform nature, with high ceilings and few walls, he thought these structures might be ideal for adaption by urban food entrepreneurs, specifically for hydroponic production.⁶³

8.2 Infrastructure Development and Site Remediation

Entrepreneurs in both regions face challenges in both remediating previously utilized sites as well as in developing infrastructure on sites they control. Interventions to assist

⁶² For more information about CleanOhio's brownfield program, please see: <https://development.ohio.gov/cleanohio/BrownfieldRevitalization/>.

⁶³ As of early 2018, no former big box stores were in development by urban food entrepreneurs in the Dayton region.

with these challenges are available in both regions, but their use by entrepreneurs is quite limited.

Many entrepreneurs spoke of the difficulties in adapting sites for food production uses and the government assistance they need to prepare those sites for this new use. There are several programs that entrepreneurs could take advantage of, but no specific incentives for urban food entrepreneurs exist. The US Department of the Interior offers two programs to assist developers in reusing older buildings. One 10% credit targets the rehabilitation of non-historic buildings built before 1936. The second 20% credit requires certification of the building by the Department of the Interior as a “certified historic structure” (US Department of the Interior, 2017). No entrepreneurs interviewed for this research had applied for received historic tax credits in the reuse of their buildings.

One of the owners of Mother Steward Brewery considered applying for these tax credits during the renovation of the former Springfield Metallic Casket company. Ultimately, he and his partners chose not to apply because the time required to secure the credits would delay the completion and the costs of the delay would outweigh the value of the tax credit. The owner said, “I’m convinced that [in] doing some of these deals, you chew up 10% in administrative delay. Time is money.”

In an example of site preparation, the public-private partnership HANDS indirectly assisted the development of Garden State Kitchen, a for-profit value-added food incubator in the City of Orange. HANDS, a neighborhood revitalization non-profit, has been active in Orange since the 1980s. HANDS invited the owner of Garden State Kitchen to start her incubator in a renovated building they own. The building is located in the Valley Arts District, a redevelopment zone created by the City of Orange with the

specific intention of attracting, in the words of a City of Orange official an, “artisan level of manufacturing.” The 15-square block Valley Arts District was formerly an industrial neighborhood dedicated to the production of hats. The incubator’s owner believes locating in the Valley Arts District would be an asset to her business and would assist in attracting client businesses.

The City of Dayton recognizes the relationships between water infrastructure and urban agriculture. In 2012, the city launched a water infrastructure improvement incentive to reduce the amount of stormwater entering municipal drainage systems and to improve access to healthy food in the city. Any urban farmer or gardener in the municipality, including operators of for-profit urban farms, is eligible. The incentive provides \$2500 for capital improvement of water taps and up to \$500 annually to pay water use costs. The city contracts with a private plumbing company to complete the installation of water taps. As of the end of the 2017 calendar year, 42 community gardens and urban farms participated in this program. One participating urban farmer spoke highly of the incentive but express frustration around waiting for the contracted plumber to complete the installation.

Urban farmers in both regions spoke of the need for biological materials to develop their farm sites, especially to make soil. In the Dayton region, Montgomery County’s government provided 40 truckloads of horse manure from the county fairgrounds to one urban farmer. Another farmer in Dayton reports that he had picked up leaf mulch from the City of Huber Heights’ municipal collection point. Several non-profit or emerging farmers spoke of success in offering reduced payment for materials or requesting donations from for-profit businesses and philanthropic organizations. The

Greater Newark Conservancy also provides soil and other biological materials to community gardens and a few emerging enterprises in the Newark region. This support was more active during the Booker administration due to funding through Community Development Block Grants (CDBG). Finally, farmers in both regions said a variety of local foundations, and some for-profit businesses, provide in-kind donations such as plants, soil, fencing, and tools.

8.3 Financial Assistance

Several incentives available to enterprises provide direct financial assistance in the form of direct subsidies, exemptions from taxes, or food purchase assistance programs.

8.3.1 Direct Subsidies

Research revealed only one enterprise in either region received direct financial assistance. In 2014, the New Jersey Economic Development Authority (NJEDA) awarded Aerofarms \$8.7 million in tax credits to develop Aerofarms' Ferry Street site in Newark's Ironbound neighborhood. These tax credits leveraged private investments of \$42.5 million from a number of companies including Goldman Sachs Urban Investment Group and Prudential Financial Inc (New Jersey Economic Development Authority, 2014, 2015). Additionally, in 2017 the NJEDA awarded Aerofarms an \$11.14 million in tax abatement over 10 years to construct a vertical farm in Camden, New Jersey. The Aerofarms CEO stated in a published interview that the company would not have expanded to Camden without that intervention (Hoover, 2017).

However, this study uncovered several indirect financial assistance programs that urban food entrepreneurs could benefit from. In the summer of 2016, Montgomery

County launched a micro-grant program in recognition to support small business growth in the county. As of late 2017, the County had allotted \$200,000 for this program. Businesses can apply for up to \$25,000 for capital improvements. Applicants must be for-profit businesses, with one to five employees, with under \$500,000 in annual sales, and must have been in business for at least one year (Montgomery County (Ohio), 2016). However, as of early 2018, no urban farms or other food enterprises had applied for the micro-grant program.

A number of entrepreneurs, in both regions reported that they benefited from government grants to help finance their operations. Two urban farmers in Dayton region and one in the Newark region said they received agriculture development grants through the USDA (e.g., Specialty Crop Block Grants). Three urban farmers in the Newark region said they benefited from some manner from workforce development grants (e.g., US Department of Labor, state-level Department of Labor, and community colleges). Homefull in applied for workforce development grants in support of its Micro-Farm, but was rejected.

8.3.2 Real Estate Tax Relief for Agriculture

Non-profit entrepreneurs who own their land can apply for real estate tax exemptions in New Jersey and Ohio. State tax law in both states also offers exemptions from traditional real estate taxes levied on for-profit agriculture in urban areas. However, urban farmers face difficulties in qualifying for these exemptions.

In New Jersey, the New Jersey Farmland Assessment Act of 1964 provides a differential rate of taxation for agricultural land uses. Under the Act, farmland or woodland may be assessed real estate taxes based on productivity as if the land was used

for agriculture or horticultural production as long as other requirements are also met. One requirement is that the land be at least five contiguous acres. Due to the high cost of real estate in greater Newark, along with development pressure from the New York metropolitan area, assembling five contiguous acres is nearly impossible, making it unlikely for-profit urban farmers in the Newark region could qualify for agricultural use value (New Jersey Department of Agriculture, 2015).⁶⁴

Urban farmers in New Jersey have another option for seeking relief from real estate taxes. A 2011 New Jersey law permits local governments to lease or sell unused public land to nonprofits to facilitate the development of urban agriculture. The law exempts such land from real estate taxes despite the fact that the non-profits will generate revenue from the sale of produce.⁶⁵ However, potential urban farmers can only benefit from this aspect of the law if their local governments agree to lease or sell publically held land for this purpose. With the exception Newark's Adopt-A-Lot incentive, this research identified no governments in the greater Newark region selling or leasing land through this law.

In Ohio, state law allows land used exclusively for commercial agriculture to be valued according to its current agricultural use instead of its regular market value. This process is commonly referred to as the Current Agricultural Use Value (CAUV) program.⁶⁶ The CAUV program allows farmers to significantly lower their annual real estate taxes. County Auditor's Offices administrate the CAUV program. For-profit

⁶⁴ N.J.A.C. 18:15-1.1

The largest urban farm observed in the Newark region is the roughly three-acre Hawthorne Avenue Farm managed by the Greater Newark Conservancy but owned by the New Jersey School Development Authority.

⁶⁵ N.J.P.L. 2011, c.35

⁶⁶ See [O.R.C. 5715.01](#) and [O.R.C. 5713.30\(A\)\(1\) & \(A\)\(2\)](#) for more details.

[ORC 5713.30\(A\)\(4\)](#) specifically includes, "aquaculture, apiculture" but does not specifically mention hydroponic production.

farmers who have operated for at least three years, as well as non-profit farmers not seeking non-profit tax exemption, apply for the exemption through the County Auditor. Farmers must apply to renew their exemption each year. Farms smaller than ten acres must have generated at least \$2500 in gross annual revenue for the last three years to be eligible. Farms of more than ten acres are not restricted by income, but must have a three-year history.

A formula in Ohio statute determines the farmland's taxable value that projects the farm's gross income based on soil types, non-land production costs, and an adjusted capitalization rate. Any improvements (i.e., buildings) on a parcel are taxed at the regular market value, but any unimproved land on the farm is eligible for CAUV. This stipulation effectively excludes in-door hydroponic or aquaponic uses (Ohio Department of Taxation, 2017).⁶⁷

According to a Montgomery County Auditor's Office staffer, no urban farmers have applied for a CAUV in Montgomery County. Urban farms are eligible for CAUV, but the municipality must permit agricultural land use in its zoning ordinances. An Auditor's Office staffer speculated that an urban farm less than five acres is probably too small to benefit from CAUV, but such a determination would be impossible without a specific site to examine. Nearly all urban farms in the Dayton region are non-profits and are able to apply for exemptions to real estate taxes under Ohio law.⁶⁸ One single for-profit urban farm examined in this research, Patchwork Gardens, resides in a rural zoning designation and therefore could benefit from CAUV.

⁶⁷ CAUV consider the first acre of any farm with an improved structure to be the home site, which is always taxed at regular market value.

⁶⁸ [O.R.C 5709](#)

8.3.3 Food Purchase Assistance Programs

A number of programs and incentives help customers purchase healthy foods, generally in the form of fruits and vegetables. Most of these programs are part of the federal government's package of food assistance available as part of the social safety net. However, there are other private and public sector direct incentives. Urban food entrepreneurs benefit from these programs as they both encourage new customers to buy products and allow existing customers to purchase more food.

8.3.3.1 Federal Food Assistance Programs The federal government maintains a number of food assistance programs for vulnerable populations. The most commonplace ones are the Supplemental Nutritional Assistant Program (SNAP) and Women and Infant Children (WIC). Recipients can redeem SNAP and WIC at participating retailers including farms and farmers' markets. The USDA provides addition subsidy programs to income-qualified WIC participants and senior citizens: the WIC Cash Value Voucher Program (CCV), WIC Farmers' Market Nutrition Program (FMNP), and the Senior Farmers Market Nutrition Program (SFMNP).

These food assistance programs have the potential to subsidize urban food entrepreneurship. Entrepreneurs can benefit from these subsidies directly, by becoming authorized to accept food program vouchers at a farm stand, a farmers' market or other retail site, or indirectly by selling products to a retail business, that then accepts vouchers from the food program. However, many rules impede the ability of urban food entrepreneurs to capitalize on these subsidy streams, as discussed in Chapter 10.

Funding for these programs originates from farm bills. The USDA Food and Nutrition Service (FNS) office authorizes SNAP vendors nation-wide, while state-level

Departments of Health authorize WIC and FMNP vendors in both New Jersey and Ohio. The Ohio Department of Aging administers the SFMNP program in that state, while the Department of Health is responsible in New Jersey.

In the early 2000s, Congress converted the SNAP program from paper coupons to Electronic Balance Transfer cards, more commonly called EBT cards, nationwide (US Department of Agriculture, 2013). Participants use EBT cards much like credit or debit cards, but the card electronically connects with the appropriate databases. To allow customers to redeem EBT for their purchases, vendors must possess a point-of-sale (POS) reader to process EBT transactions.⁶⁹ Baesler (2010) estimated POS devices range from \$750 to \$1500 with additional set up charges and monthly use fees.

WIC participants use paper coupons to redeem products from retailers and farmers. USDA moved to integrate WIC redemption through EBT in the middle 2000s, but at the time technical problems posed too strong a barrier to integration (US Department of Agriculture, 2011). New Jersey plans to implement statewide WIC integration into EBT, so-called, “eWIC” by 2020 (New Jersey Department of Health, 2017a). Ohio now provides WIC recipients with a WIC Nutrition Card (WNC) that is separate from the Ohio SNAP EBT card (Ohio Department of Health, 2017b).⁷⁰

FNS provides access to free point-of-sale devices to multiple vendors, including the following relevant to this research: eligible farmers markets, farmers directly vending to customers (e.g., farm stands), and non-profit organizations. However, as of early 2018, the FNS website indicated the program was suspended until winter of 2018 (US

⁶⁹ FNS provides a list of third-parties that lease or sell these devices: <https://fns-prod.azureedge.net/sites/default/files/snap/SNAP-EBT-TPP-guidance.pdf>

⁷⁰ The State of Ohio, in coordination with FNS, conducted a pilot program for a unified, “one-card” in the 2000s that failed due to high costs (US Department of Agriculture, 2011).

Department of Agriculture, 2017). State governments are also empowered to subsidize point-of-sale devices to the same group of retailers, but as of early 2018, neither New Jersey nor Ohio possessed such a program.

FNS awards benefits to SNAP participants based several eligibility formulas.⁷¹ The New Jersey Department of Human Services administrates SNAP in the State of New Jersey. Program applicants can apply online or in-person at county-level welfare agencies.⁷² The Ohio Department of Job and Family Services administrates SNAP in the State of Ohio. Program applicants can apply online or in-person at county-level job and family service departments (US Department of Agriculture, 2018).⁷³

In New Jersey, the State Department of Health administrates the WIC program, but awards money to local-level WIC offices for dispersal to participants. Participants benefit from the programs in the following ways:

- CVV participants, mothers and children 2-4 years old, received monthly paper coupons of \$11 and \$8, respectively, to buy fresh, canned or frozen fruits and vegetables at stores and farmers' markets, year-round;
- FMNP participants, mothers and children 2-4 years old, receive a one-time \$20 paper coupon each growing season through their local WIC office that must be redeemed for fresh fruits and vegetables sold by an authorized NJ farmer;
- SFMNP participants, individuals over 60, receive five \$5 paper coupons each growing season through their local WIC office that must be redeemed for fresh fruits and vegetables sold by an authorized NJ farmer (New Jersey Department of Agriculture, 2017; New Jersey Department of Health, 2017b, 2017c).

Participants of any of these programs are restricted by income requirements in addition to the other requirements listed above.

⁷¹ See <https://www.fns.usda.gov/snap/eligibility> for more details.

⁷² Applicants in New Jersey can apply using the web portal: <https://oneapp.dhs.state.nj.us/>

⁷³ Applicants in Ohio can apply using the web portal: <https://odjfsbenefits.ohio.gov/SelfServiceSplash.jsf>.

In Ohio, the Ohio Department of Health administrates the WIC program, but money is awarded to local WIC offices for dispersal to participants. In the greater Dayton region, the Montgomery, Greene, and Warren County Public Health Departments administrate the WIC program in each county. The Ohio Department of Aging administrates the SFMNP program in conjunction with regional offices. However, the greater Dayton region's corresponding region for the Department of Aging does not participate in the SMFP program. Participants benefit from the programs in the following ways:

- The Ohio WIC Program ended the CVV program in the state in 2016 due to less than a 2% participation rate from farmers. One official suggested high administrative and technology costs necessary to accept the CVV via EBT card as the main reason for ending the program in Ohio;
- FMNP participants, mothers and children younger than five years old, receive four \$5 paper coupons, for a total of \$20, each growing season through their local WIC office that must be redeemed for fresh fruits and vegetables sold an authorized Ohio farmer;
- SFMNP participants receive ten \$5 paper coupons to redeem locally grown produce from Ohio farmers during the growing season (Ohio Department of Aging, 2017; Ohio Department of Health, 2017a).

Participants in any of these programs are restricted by income requirements in addition to the other requirements listed above.

8.3.3.2 Other Purchase Incentives. Beyond the federal food assistance programs, entrepreneurs can tap into two other purchase incentives, one in each region: an international non-profit that encourages healthy eating and an incentive that piggybacks on the SNAP program.

The farm manager of SWAG Project in Newark reported that his farm received an incentive from Slow Foods Northern NJ to discount the price of the farm's vegetables.

The grant provided a \$2 coupon for every \$5 a customer spent. Customer could redeem these coupons either at SWAG's on-site farm stand or at the farmers markets SWAG hosts at several local hospitals. Slow Foods is an international organization with chapters across the US, entrepreneurs in the Dayton region could approach the matching regional organization to secure a similar incentive.

A statewide non-profit in Ohio called Produce Perks Midwest, launched in 2016, operates the Produce Perks incentive in conjunction with the Montgomery County Public Health Department. This incentive program allows SNAP participants to receive one-for-one matching dollars up to \$10 to purchase fruits and vegetables when they use SNAP dollars at an approved vendor. This program draws inspiration from the Double Up Food Bucks program that originated out of the State of Michigan in the 2000s. Funding for the matching incentive comes from USDA Food Insecurity Nutrition Incentive (FINI) grant originating out of the 2014 Farm Bill to a national non-profit called the Wholesome Wave. Producer Perks Midwest is a sub-grantor through the FINI grant. As of 2018, the grant is in its third and final year. Produce Perks Midwest plans to apply for another grant through FINI as well as work with other regional non-profits in the emerging Ohio Nutrition Incentive Network (ONIN) to petition the Ohio State Legislature to fund the incentive in a manner similar to the States of Michigan and Pennsylvania. In 2016, recipients redeemed over \$6,000 in Produce Perks using through 1,200 transactions. In 2017, Produce Perks participation was \$4,996.

As of 2017, Produce Perks was only available at three locations in the greater Dayton region: 2nd Street Market, downtown Dayton's central permanent local market; the Wright Stop Market, located in main public transit terminal in downtown Dayton; and

the Shiloh Farmers' Market, a major farmers' market directly north of the City of Dayton in Harrison Township. At each market, SNAP participants must use their EBT card to redeem money in the form of tokens that can be used to purchase SNAP approved foods at the market. Separate tokens are also provided specific to the Produce Perks program that can only be used to purchase fruits and vegetables (Produce Perks Midwest, 2017; Public Health Department Montgomery County (Ohio), 2017).

8.4 Staffing Assistance

Urban farmers in both regions take advantage of workforce training contracts or grant programs to obtain more workers for their farms. The rationale underpinning these job-training programs varied, as well as the end goal for program graduates. These programs target several challenged populations, including the homeless, ex-offenders, students, and veterans. In at least three cases, government or private sector grants funded these programs. Two entrepreneurs reported difficulty in accessing workforce-training grants.

One urban farmer in the Newark region collaborated with Essex County College in the early 2010s as job-training site for the college's students. The farmer taught farming techniques to students at the farm as well as providing classroom instruction on basic plant biology and awareness of healthy foods. The goal of this program was to expose students to healthy food culture but also to assist them in obtaining jobs at greenhouses or farms. The farmer sought jobs for program graduates with local food distribution businesses, as well as AeroFarms, but had little success in placing program graduates.

In Newark one job-training program targeted veterans. Between 2013 and the end of 2016 the Rutgers Veterans Environmental Technology and Solutions (VETS) program ran an aquaponic operation in the City of Newark. A sizeable grant from the Cooperating Parties Group (CPG), a group of corporations required by the US EPA to clean the Passaic River Superfund Site, which runs through downtown Newark, funded the farm. The farm's manager believes that the farm's existence was due to "political football" between the corporate interests and EPA over the cleanup of the Passaic River. That is, it was an attempt by corporate interests to appear that they were working to address effects of the river's pollution. The manager worked with the US Veterans Administration to provide general job training as well as specific training in aquaponic, horticulture, and small-scale vegetable farming. The program paid participating veterans \$12 an hour for a 40-hour working week. The VETS program trained participants to exit into urban agriculture jobs after graduation.

Job training programs also target ex-offenders. GNC maintains an ex-offender training program called the Clean & Green program. The program has operated since 2009 and is aligned with GNC's development of their Court Street Farm. In the mid-2010s, the program expanded into a landscaping enterprise that employs only ex-offenders. Any revenue from the landscaping business flows back into GNC's larger operation. Similarly, another urban farmer in Newark said that she had attempted to secure a prisoner reentry-training program. The partnership intended to build a greenhouse, which would then serve as a training site for ex-offenders. However, this partnership failed because it could not find suitable land in Newark they could lease for at least five years.

Two entrepreneurs, one in each region, said they faced difficulties in securing state-level workforce development grants. Homefull employs homeless or formerly homeless in a 120-hour job-training program at their urban farm. Homefull's farm manager said that training participants for future employment in urban agriculture is not their intention. Rather, the program's goal is to provide participants with a chance to learn interpersonal skills essential to the work place, as well as a positive reference for future employment.

Homefull's executive director said she tried and failed to secure state and federal Departments of Labor workforce development money to fund the program, but was able to secure funding from local public and private funders. However, she received no specific response grant applications, but believes both Departments of Labor rejected the grant applications because both departments consider urban farm work to be exclusively seasonal, with a low potential to transition to more permanent jobs. This inference led her to construct hoop houses at the MicroFarm based on the belief that achieving a 12-month production cycle would improve the likelihood of receiving grants in the future.

New Ark Farms and Ironbound Cider, is a paired farm and cider works located in rural Hunterdon County, New Jersey. The owner hires ex-offender residents of the City of Newark under the auspices of post-reentry job training without outside financial assistance. The owner said he sought a workforce-training grant through the New Jersey Department of Labor but was unable to secure funding for an agriculture operation. He pays to bus ex-offenders from the City of Newark, a roughly 50-mile distance, to his farm, and pays the ex-offenders \$15 an hour, including health insurance, and often feeds them.

8.5 Key Interventions

Three types of interventions emerged as the most significant for this research: land and building access, food purchase assistance subsidies, and staffing assistance. Interventions are available in both regions to provide entrepreneurs with stable access to land and buildings, which addresses the most significant challenge urban food entrepreneurs face – stable land tenure. However, urban food entrepreneurs using poorly designed or poorly implemented land access interventions face significant, and unnecessary, challenges to their viability. The challenges facing Adopt-A-Lot farmers, as well as the two NJSDA leased farm sites, are examples of poorly designed or implemented land access interventions.

Conversely, the programs offered by the Montgomery County Land Bank are an excellent example of an intervention that could effectively to aid an urban food entrepreneur by providing access to land or buildings that would otherwise be inaccessible due to high delinquent real estate taxes or a cloud on the land title (e.g., an outstanding lien). This is also true of the City of Dayton Lot Links program, but only for urban farmers interested in access to vacant lots.

If governments want to assist urban food entrepreneurship, they should design and implement land access interventions that provide land with characteristics that can assist an enterprise's development. Municipal governments in New Jersey have significant latitude through New Jersey's Public Law 2011, c.35. Further, governments in both regions could make unused public land surrounding public infrastructure, such as land around water towers or public right-of-ways, available to urban farmers through long-

term leases. Local government could also remediate vacant industrial and commercial (e.g., big box stores) buildings for future use by hydroponic, value-added manufacturing, or alcohol production. Such an intervention could find a use for an otherwise vacant buildings while intentionally providing built environment characteristics that entrepreneurs require to grow or produce food (i.e., uniformly flat ceilings and floors, loading docks, and contemporary utility infrastructure).

The many food purchase assistance programs represent an untapped income stream for urban food entrepreneurs (e.g., SNAP, WIC, and incentives similar to the State of Michigan's Double Up Food Bucks program). Increasing redemptions rates in these programs could also increase the amount of healthy foods in the hands of lower income citizens, an important urban public health goal. However, tapping into these food purchase assistance programs can be difficult for urban food entrepreneurs, as outlined in Chapter 10.

Entrepreneurs use job-training programs to secure more workers for their enterprises. These job-training programs draw participants from several populations that are important to public policy makers: ex-offenders, veterans, college students, and the homeless. Many entrepreneurs reported that teaching basic life skills and so-called "soft" skills was more important than agriculture skills. At least two entrepreneurs reported difficulties accessing job-training funds due to negative perceptions about training potential workers for jobs in agriculture held by government administrators. Securing job-training funds could be an excellent income stream for some urban food enterprises. However, the potential use of such funds may create internal conflicts over the

enterprise's mission, as following the requirements of a job-training grant may distract from other social goals as well as a profit motive.

CHAPTER 9

CHARACTERISTICS OF ENTERPRISES

This chapter draws on data gathered from 32 enterprises in the two regions: 22 farms, three value-added enterprises, five alcohol enterprises, and two food incubators. The data is a combination of information from interviews conducted with entrepreneurs and from site visits to enterprises.

9.1 Becoming an Urban Food Entrepreneur

Urban food entrepreneurs dedicate time and energy to building their enterprises. As they do so, they rely on diverse skill sets and many draw motivation from a social mission. Entrepreneurs learned the skills necessary to produce food from a variety of sources including pursuing it previously as a hobby, taking classes, and working previously in the food sector. With three exceptions, every entrepreneur expressed a desire to create some level of social good in addition to maintaining economic viability of the endeavor. Examples of social missions include: providing access to healthy food, employing neighbors, reusing urban spaces, and improving community health.

9.1.1 Methods for Developing Skills

For three entrepreneurs food production was a hobby before it became a commercial enterprise.. The founder of JW Wine Cellar in Trotwood, a suburb of Dayton, pursued winemaking as a hobby for much of his adult life. However, his wife indicated that his hobby was getting too costly and taking up too much space in their house. He leased nearby office space to continue his hobby, but after a year, he began the incorporation process and secured the lease to his current storefront. Similarly, a microgreen farmer in

the Dayton region said that she grew microgreens for her personal use for a number of years due to her dietary challenges. In the summer of 2015, a friend requested she sell her microgreens at a nearby farmers' market so that others could buy her produce. Finally, a spice maker in the Dayton region initially began making spice blends for her family and friends, but the popularity of the blends encouraged her to consider selling them.

Roughly, one-third of entrepreneurs attended classes or seminars either to improve their food production skills or to develop the business acumen necessary to run their enterprises effectively. Examples include beer and wine making seminars, urban farming courses hosted by other urban farmers, entrepreneurship classes hosted by the local Small Business Development Centers (SBDC), as well as marketing and other business courses. Many urban farmers indicated they were participants in or graduates of both the Master Gardener and Good Agriculture Practice (GAP) certification programs offered by Ohio State and Rutgers Extension.

Still other entrepreneurs reported that their current jobs unrelated to food actually assist them in developing their food enterprises. The microgreen farmer in Dayton has a full-time job as a graphic designer. Her graphic design skills allowed her to create branding elements for her company. Further, her employer permits her to set up a small shelf of grow lights next to her cubicle in a downtown office building. This allows her to keep her microgreens under lights until she hand delivers them to downtown customers on her breaks. An employee of the Greater Newark Conservancy, together with her husband, is a gluten free pancake entrepreneur, and had a similar experience. Her husband, a professional chef, hosts volunteer cooking classes for children at the Greater Newark Conservancy (GNC) and in an even hour-per-hour exchange, he uses GNC's

certified commercial kitchen to make their pancakes. Additionally, the family owners of Mother Stewart brewery in Springfield, Ohio have been active real estate developers in Springfield for over 100 years. The owner said his family's expertise and connections as large-scale developers was invaluable as he and his brother developed the brewery. Specifically, he said he could always rely upon his father to dispassionately evaluate his plans for brewery during the development process.

Finally, entrepreneurs drew on formal education to help develop their enterprises. Several entrepreneurs have formal academic training in either business or entrepreneurship, training they said it was very helpful to the development of their enterprise. Other entrepreneurs have formal training in public policy or public administration. They believe their training allows them to navigate various public policies throughout the development of their enterprises. A government official in the Dayton region supported this idea, noting that someone with an understanding of municipal codes (i.e., building, fire, zoning, etc) would be more likely to be successful in starting a food enterprise.

9.1.2 Social Mission

Ten out of 18 for-profit entrepreneurs (roughly 65%) described a social or environmental mission for their enterprise beyond generating profits. Amongst all entrepreneurs, more than 80% described a social mission. The owner of a Dayton area bar-restaurant installed a hydroponic roof farm to grow leafy greens and tomatoes. He said, "I wanted to do something that was positive both socially and environment and on a personal level I wanted to be outside, working with my hands." One of the owners of AeroFarms said of their business plan, "We would be employing city people again, the technology seemed

simple and trainable. Not everyone wants to grow plants, but a lot of people do.” A value-added spice maker in the Dayton region said her struggles with her own health led her to make custom spices for herself before she expanded into commercial sales. She hopes her products help allow people to eat better. A valued-added pancake maker in the Newark region is gluten intolerance, this challenge led her and her husband to develop a gluten-free pancake that they now sell. A microgreen farmer in the Dayton region, echoes a very similar note, stating that her vegetarian diet led her to begin to grow microgreens.

Two non-profit agencies in each region created urban food enterprises as an extension of their broader social mission. The Ironbound Community Corporation (ICC) is a social service non-profit organization in the Ironbound neighborhood of Newark. The organization has maintained a number of community gardens in the neighborhood for many years, but in 2015 it gained access to a site owned by the New Jersey School Development Authority (NJSDA), the state body responsible for acquiring new public school sites. The ICC founded Down Bottom Farm on the site as well as an on-site farmers’ market, to provide an access point for healthy food for the Ironbound neighborhood. Similarly, Homefull, a homeless prevention non-profit in Dayton, created the Homefull MicroFarm in the late 2009, in part, to provide job-training opportunities for their clients. Homefull’s executive director believes that training and paying people a living wage to work on their urban farm is, “about poverty, it is about food access, it is about all of the other things that people who are living in poverty are faced with.”

Ten entrepreneurs spoke of a desire to reuse urban space. One of the founders of Belle of Dayton Distillery said he located his business in downtown Dayton to be part of the on-going redevelopment surge in the neighborhood. Mission of Mary’s farm manager

said the organization's founders wanted to locate the farm in a poor neighborhood, "They also saw the vacant land, the 30% vacancy at the time. Many of the structures still needed to come down. So they thought they could a) beautify the neighborhood, the[pretty much cleaned up a dump essential, and then they were like, we will grow food." Mission of Mary's mission is tied to a lay community of the Society of Mary, a Catholic religious order.⁷⁴

Finally, many entrepreneurs believe in increasing the public's awareness of the role of healthy food in the social determinates of health. One urban farmer, who is currently working towards commercialization as a non-profit, wants to increase the health and sustainability of his native Newark. This calling led him to become an urban farmer. Mission of Mary Cooperative's farm manager said his non-profit was founded in a poor City of Dayton neighborhood in order to respond to the conflux of poverty, high rates of dietary morbidities, and food insecurity. Similarly, the head farmer of the SWAG Project urban farm said his organization's focus on children in Newark is to teach children, and their parents, about the value of buying and eating healthy foods.

9.2 Organizational Structure

All enterprises have operated for less than a decade with the exception of the Greater Newark Conservancy and the Homefull. Both these non-profits have existed for more than 20 years, but launched their urban farms in 2010 and 2011, respectively. Although not examined for this research, several value-added businesses have operated for decades in both regions. In the Dayton region, Ester Price Candies opened in 1926, Mike-Sells

⁷⁴ The Marianist order runs the University of Dayton. Alumni from the university founded Mission of Mary with support from the Marianist order and the University.

Snack Food Company opened in 1910, and Bill's Donuts, a nationally recognized donut shop, opened in 1967. At least two such businesses operate in the Newark region as well. The Vieira's Bakery opened in Newark's Ironbound neighborhood in 1974, the Anheuser-Busch brewery opened in 1951, Lopes Sausage Company opened in 1965

An enterprise's incorporation status as a for-profit or a non-profit emerged as a significant characteristic in this research. Some enterprises, almost exclusively one-person enterprises, possess no organizational structure and appear like hobby-scale production except for very modest commercial sales. Conversely, some enterprises are incorporated for-profit or non-profit corporations with many employees and capital assets. A third group of enterprises fall between the other two types: the entrepreneur is moving towards for-profit or non-profit incorporation.

9.2.1 Formal and Informal Enterprises

As a senior county level official in the Dayton region noted, some enterprises are part of the formal economy, meaning they have formal organizational structures, either as for-profit or non-profit corporations. Enterprises in the formal economy must: maintain well-documented financial records, possess an Employee Identification Number (EIN) from the Internal Revenue Service (IRS), and pay taxes. Entrepreneurs equipped with this financial information can apply for commercial financing from lenders. Several interviewees referred to such enterprises as "bankable." Formal enterprises, as legal entities, are also fully subject to the regulations outlined in Chapter 7 and may benefit from supportive incentives and programs outlined in Chapter 8. AeroFarms in Newark and Warped Wing brewery in Dayton are examples of enterprises in the formal economy.

Conversely, enterprises in the informal economy lack some combination of the following: incorporated status (i.e., as for or non-profit), well documented financial records, an EIN, or a history of tax payments. Informal enterprises are unable to secure commercial financing from banks, and are unable to benefit from most government incentives or programs. The government may have difficulty regulating such enterprises since they lack a legal organizational structure. The Green Community Farm, an Adopt-A-Lot farm in the City of Newark and TURF in the City of Dayton are examples of enterprises in the informal economy.

Entrepreneurs in the informal economy expressed confusion about the legal process necessary for incorporation either as a for-profit or a non-profit organization. Some were also unaware about the value of incorporation. When asked, an urban farmer in Newark said, “Frankly, I don’t know what that [incorporation] means. It is too much work, I don’t have time to set up a nonprofit. I farm. I want to be hands on... I don’t have time to run a non-profit.”

Operators of informal enterprises face a difficult position. On the one hand, they are unable to access most government programs or to secure loans to build infrastructure. Several entrepreneurs in this group reported that they had relied upon family or friends to secure the loans necessary to acquire land or develop infrastructure. On the other hand, their informal status does not require them to spend time on the administrative tasks necessary to run a formal for-profit or non-profit organization. Additionally, and perhaps most importantly, for tax purposes informal enterprises do not officially exist and can operate a purely cash-based business. In effect, entrepreneurs in the informal economy can pay little to no taxes on the sale of their products.

During the research for this dissertation, six entrepreneurs said they were in the process of transitioning from an informal status to either a for-profit or a non-profit organization. In 2016, the farm manager of The Urban Redevelopment Farm (TURF) in Dayton was working with a senior administrator at the University of Dayton, along with a group of undergraduate students, to register as a 501c3. Non-profit status would allow TURF to receive ownership of the farm's abandoned former factory site through a program of the county government's land bank. Other entrepreneurs without a formal organizational structure suggested that as the scale of their production increases, so will the need to create an official, incorporated organization.

These three types of organizational structure align with the following three types of organizations, which allow for a comparative discussion with other characteristics of enterprises and offer a more accurate means of identifying the extent to which public policy affects the enterprise:

- Informal enterprises: lack any formal organizational structure (either as a for-profit or non-profit), and not planning any formal organization in the near future;
- Transitioning enterprises; current lack any formal organizational structure but transitioning towards for-profit or non-profit status;
- Formal enterprises: currently have for-profit or non-profit status.

9.3 Funding Enterprise Start-Ups

Entrepreneurs use a variety of methods to fund their entrepreneurial efforts. In some cases, entrepreneurs rely upon current jobs to leverage funding. In other cases, entrepreneurs tapped grants to ensure necessary funding. In still other cases, entrepreneurs used personal finances or sought investors from friends and family.

Some entrepreneurs leveraged existing jobs to assist in funding their transition to full-time employment as urban food entrepreneurs. The owner of Patchwork Gardens, a for-profit peri-urban farm in the Dayton region, secured a loan to purchase the first 12 acres of his farm using his salary from a full-time job at an engineering firm.⁷⁵ Since starting the farm, he purchased another 12 acres and then left his job to operate the farm full-time. As of 2016, he was still paying off the mortgage. Eventually, he hopes to attract other partner-owners to join the enterprise as a worker-owned farm. He is concerned about acquiring large equipment (e.g., small tractors, and seeding facilities) through a business loan, but he believes he could easily tap friends and family to acquire the necessary funds. Similarly, the spice blend entrepreneur in the greater Dayton region had a full-time job as an executive assistant at a local manufacturing company throughout 2016. She operated her business under Ohio's Cottage Food laws and produced, packaged, and sold her food products in the evenings and on weekends. Towards the end of 2016, her employer let her scale back to 30 hours a week to assist in her transitioning to food entrepreneurship full-time. She planned to quit her job in 2017 and run her fledging value-added business full-time.

In addition to the public sector grants described in Chapter 8, some entrepreneurs benefit from private grants and other fundraising from private sector sources. The Rutgers VETS program, an aquaponic farm in Newark, received about \$1.6 million over three years from the private sector Cooperating Parties Group (CPG). The farm manager said that most of this money was used to employ the veterans participating in the training

⁷⁵ Patchwork Farm is located in the City of Trotwood, a suburb of Dayton. Due to its complete annexation of Madison Township it possesses large amounts land that is rural in land use, despite being inside the city's municipal boundary. Patchwork Farm's land was zoned agricultural and commercial at purchase, but the owner secured rezoning to exclusively agricultural use.

program. The SWAG Farm in Newark raised operating funds through a crowd-funding website and received small grants from regional private philanthropic donors. An Adopt-A-Lot urban farmer in Newark said the Victoria Foundation, a private foundation focusing on alleviating poverty in Newark, provides funds to the City of Newark to repair fences and provide tools for Adopt-A-Lot farmers.

Other entrepreneurs raised the necessary start up funds using personal funds, as well as receiving funds from their families and personal networks. This was particularly common among entrepreneurs producing alcohol. Three brothers founded Belle of Dayton, a distillery in downtown Dayton. Two of the brothers provided the initial startup capital. Belle of Dayton secured its first business loan from a traditional bank in late 2016 to expand their operations. The owner of Mother Stewart Brewery, in Springfield Ohio, raised nearly \$3 million from family and friends to develop the brewery. The brewery's owner comes from a family of real estate developers in greater Springfield region. He acknowledged that his family connections aid the brewery's development in a number of ways, financing included. Finally, the owner of JW Wine Cellar made wine as a hobby for many years and frequently gave wine as gifts. Occasionally, friends expressed an interest in supporting him should he ever go into commercial winemaking. Eventually, he invited three of these friends to become investors.

9.4 Production Methods

Although entrepreneurs in the two regions employ the same production methods and roughly the same number of enterprises operates in both regions, regional differences

also exist. A number of entrepreneurs in both regions used innovative production and organizational techniques.

9.4.1 Regional Differences

Despite similarity between regions, a number of differences emerged. Alcohol production is significantly more common in the Dayton region. Hydroponic production occurs in both regions, but was more common and of larger scale in greater Newark. New Jersey's lack of cottage food laws creates differences in value-added production between the regions. Finally, the large Hispanic population in the Newark region may have led to a higher number of bakeries and pastry shops.

There is a large disparity in alcohol production between the two regions. In the fall of 2017, 16 breweries, distillers, and wineries existed in the Dayton region. Nearly all of these alcohol-based enterprises opened in the previous five years and are all likely small businesses. Conversely, only two alcohol-based enterprises operated in the Newark region: the industrial level Anheuser-Busch brewery as well as one brewery/restaurant in South Orange Village, an affluent suburb. One small-scale brewery, Port 44 Brew Pub, opened in downtown Newark in 2010 but closed a few years later. An early 2018 popular media article suggested another brewery may return to the space used by Port 44 (Kofsky, 2018).

Additionally, in 2011 an entrepreneur sought to develop a cider-making operation in the City of Newark. He sought to help rekindle Newark's economy by creating jobs and building infrastructure in the city. However, in the early 2010s, New Jersey offered no cidery license; instead cider-making fell under winemaking. At the time, a winery license required a minimum of three acres of devoted farmland plus an adjacent wine

production facility. The entrepreneur said that finding and securing such a property in the City of Newark was impossible. Instead, he developed his operation in rural Hunterdon County, New Jersey using two for-profit businesses: New Ark Farms, a commercial apple and vegetable farm, and Jersey Cider Works, the cidery.⁷⁶ In May of 2017, the New Jersey Legislature passed a bill that created licenses for the manufacture and sale of hard cider and mead.⁷⁷

Hydroponic production occurs in both regions. However, instances of hydroponic production in the Dayton region were much smaller-scale in comparison to the Newark region. Hydroponic production in Dayton was limited to one in-home microgreen producer and one micro-scale hydroponic operation set up inside one permanent green house. The in-home microgreen producer was an emerging entrepreneur in late 2016. She began growing microgreens in her house for her own consumption but later expand to commercial sale while still working a full-time job. She built her production space in her laundry room, using plastic shelving and grow lights. At the time of our interview, she could produce 16 trays of microgreens a week if demand warranted. Figure 9.1 shows this microgreen production site.

⁷⁶ Jersey Cider Works uses Harrison Apple, an apple cultivar historically used by Newark cider makers in the 18th and 19th centuries, as a reference to Newark's cidermaking past.

⁷⁷ [New Jersey P.L.2017, c.80.](#)



Figure 9.1 A home-based microgreen production site in the Dayton region.

Conversely, hydroponic production is more common in the Newark region. Two smaller-scale hydroponic operations occupy a leased greenhouse owned by Essex County in Newark's Branch Brook Park and a leased greenhouse owned by Newark Beth Israel Hospital. These two operations, one for-profit and one non-profit, are owned and

controlled by the same family. The family members coordinate both organizations towards their social entrepreneurial goals. Figure 9.2 shows the hydroponic production adjacent to Newark Beth Israel Hospital. Additionally, one surface-level urban farmer also runs a small microgreen production operation in her house.⁷⁸



Figure 9.2 The Beth Greenhouse in Newark.

The Newark region is also notable for its two large-scale hydroponic operations, AeroFarms, which employs an aeroponic production technique, in the City of Newark and Bowery Farming in the City of Kearny. Both for-profit enterprises are large-scale operations that each required multi-million dollar capital investments. Both enterprises' greens are available for sale at supermarkets in the greater Newark region. AeroFarms employees over 100 people. Each produces a variety a leafy greens using proprietary hydroponic or aeroponic technologies. Both businesses refused tours of their facilities

⁷⁸ As of late 2017, she also raised chickens for eggs on her 1/8 farm site in the City of East Orange and sold them at farmers' markets. She believes her egg operation is a stepping stone in scaling up her operation. She eventually plans to acquire a nearby 1/3 acre site for another farm.

and Bowery Farming refused an interview. According to one of AeroFarms' owners, the company uses a combination of proprietary aeroponic technologies that involve suspending leafy greens in a cloth medium; where LED grow lights and mist sprays delivers plants necessary light and nutrients. AeroFarms stacks these growing devices in shelves to an ideal height of 35 feet, or the height of most modern warehouses. Given the high capitalization, advanced organizational structure, and a Ford-like approach to mass production, conceptualizing enterprises like AeroFarms and Bowery Farming as lettuce factories may be helpful in delineating them from smaller-scale hydroponic producers. The likelihood that building and zoning officials will consider this type of plant cultivation to be a manufacturing use supports this notion.

Ohio law allows individuals to produce limited types of value-added products in their home kitchens under cottage food laws. New Jersey statute restricts this production method. This difference led to differences in value-added production between the two regions. Several respondents in Newark believe the lack of cottage food laws may simply move small-scale home production underground. They believe such producers sell directly to friends and neighbors informally and illegally. Owners of two the three food incubators in the Newark region said their business models in part tap into pent up demand that is otherwise restricted by the lack of cottage food laws. A value-added entrepreneur in the Newark said she would cook her products at home if she legally could.

A potential solution to the lack of cottage food laws in New Jersey is food incubators, of which there are three in the greater Newark region. As of early 2018, one had operated since late 2016, another opened in March 2018, and the third is expected to

open sometime in 2018. Each incubator provides a combination of production site, storage space, office space, and small-business support to value-added entrepreneurs. Organic Food Incubator (OFI), the established incubator specifically supports beverage and fermented food producers and occupies a former ravioli factory in Bloomfield, a northern suburb of Newark. The incubator's owner also operates his own beverage and fermented food enterprise at the incubator, Bad Ass Organics. As of the summer of 2017, OFI had roughly 50 active clients. Similarly, the founder of Garden State Kitchen, the nascent incubator was an active consumer of organic products and a volunteer at regional farmers' markets for a number of years before deciding to start a food business incubator. She decided to start her incubator because she observed a bottleneck in local and organic production at the production kitchen level. As of summer 2017, she was negotiating a lease for a building in the Valley Arts District, a former industrial turned arts district in Orange, a suburb of Newark. No similar commercial kitchens incubators operate in the Dayton region, but as of early 2018, one is in development in the suburb of Fairborn.

The final major difference between the two regions is the large number of small-scale Hispanic bakeries and pastry shops in the Newark region compared to Dayton. Two examples are Teixeira's Bakery in Newark's Ironbound neighborhood and Caribe Portuguese Bakery in Elizabeth. The images attached to many of these business records, appearing on the internet, suggest that many are mixed-use retail operations where customers can purchase baked goods for home consumption while also selling individual meals that customers can eat in the store (and not qualifying as an urban food

enterprise).⁷⁹ Many of these bakeries cluster in or near neighborhoods with high Hispanic populations (see Figure 9.3).

9.4.2 Sources of Biological Inputs

Entrepreneurs use a variety of sources for the biological inputs needed in their food production. Water was the most common biological input, needed by nearly all enterprises. Site visits demonstrated that in most cases, urban farmers in both regions draw water from existing municipal water taps at their farms. Each of the alcohol producers, along with the single hydroponic producer interviewed, use municipal water. All urban farmers interviewed use some manner of composting or soil creation and at least three farmers use vermiculture on their farms. Two farmers in the Dayton region secure horse manure from the county fairgrounds. Additionally, many of the urban farmers need biological matter various soil and fertilizer production including: leaf mulch, wood chips, manure. If donations were unavailable, farmers purchased supplies from gardening supply stores, other farmers, and wood chipping companies.

Generally, the alcohol producers source biomaterials from farms across the country. The vintner in Dayton purchases grape juice from an Ohio farmer roughly 200 miles from Dayton. This farmer also supplies some of the bottling equipment the vintner uses. One of the owner's of Belle of Dayton distillery said he recently began sourcing yellow corn and a specialty pepper, for flavored vodka, from rural farmers near Dayton. He would like to buy more from local farmers, but said that sourcing from nearby farmers can be difficult due to changes in local growing conditions. The owner of Mother Stewart's brewery is very interested in sourcing hops from local farmers, but said that

⁷⁹ I elected to include these bakeries as enterprises to be as liberal as possible in my examination of urban food entrepreneurship.

only very limited amounts were locally available. He believes local sourcing is an important economic security issue for his business, as bad weather across the country can negatively affect his business.

9.5 Distributing and Selling Food

Entrepreneurs in both regions use a variety of distribution and sales methods that are similar in both regions (see Tables 9.1 and 9.2). Major differences arise from cottage food production in Ohio, a lack of participation of direct retail at trade shows and festivals by Newark region entrepreneurs, and specific methods used by the few animal producers in both regions. Four methods emerged as significant to understanding entrepreneurship in both region: selling at farmers markets, selling to retailers, community supported agriculture, and online sales. No specific method emerged as for each type of enterprise. However, many entrepreneurs commented on the efficacy of certain methods and entrepreneurs of a similar production type (e.g., urban farmers or brewers) often expressed opposing opinions about best methods.

Table 9.1 Methods of Distribution and Sales in the Newark Region

Type	Plant Cultivation	Animal Husbandry	Value-Added Production	Consumable Alcohol
Production Site/Farm Market ⁸⁰	Yes			Permit Dependent
Farmers' Market	Yes	Yes	Yes	
Community Support Agriculture (CSA)	Yes	Yes	Yes	
Trade Shows, Festivals, etc	Not mentioned in region			
Independent Retail Store	Yes		Yes	
Grocery Store	Yes		Yes	Yes
Online Retail	Not observed, but emerging in 2018		Yes	
Wholesale	Yes			Yes

Table 9.2 Methods of Distribution and Sales in the Dayton Region

Type	Plant Cultivation	Animal Husbandry	Value-Added Production	Consumable Alcohol
Production Site/Farm Market	Yes	Yes		Permit Dependent
Farmers' Market	Yes	Yes	Yes	
Community Support Agriculture (CSA)	Yes	Yes	Yes	
Trade Shows, Festivals, etc	Yes		Yes	Yes
Independent Retail Store	Yes	Yes	Yes	
Grocery Store	Yes		Yes	Yes
Online Retail			Yes, but cottage foods are restricted	
Wholesale	Yes			Yes

⁸⁰ See Chapter 7 for definitions of farm markets in both states. In effect, farm stands are on-farm direct retail.

9.5.1 Farmers' Markets

With the exception of value-added entrepreneurs with brick and mortar storefronts and alcohol producers, selling at farmers' markets and farm markets are the most commonly used sales methods in both regions. Some respondents spoke highly of selling at farmers' markets. However, a number of farmers and small-scale value-added producers question their efficacy. An urban farmer in Dayton said farmers' markets are good ways to speak directly with customers, but often customer attendance at markets is inconsistent. A candy maker in the Dayton region said that sales have improved in recent years at the booth he manages at the 2nd Street Market, a public market in downtown Dayton.

Other producers believe that farmers markets are not an effective sales method, but they continue to attend them for other reasons. A value-added producer from the greater Dayton region, said, "farmers markets aren't reliable but I wouldn't give them up. I started [my business selling] at farmers' markets." Mission of Mary's farm manager said sales from their farm stand is not as profitable as other methods, but believes the farm stand helps to fulfill his organization's mission to bring healthy food to Dayton's Twin Towers neighborhood. The executive director of the Greater Newark Conservancy spoke of a similar conflict between mission and financial sustainability, noting her ability to raise prices at a downtown Newark farmers' market but the pressure to keep prices low at the on-farm stand to help fulfill their social mission. The owner of Patchwork Gardens in the Dayton region believes that farmers' markets are the most problematic sales method, noting that forces outside of his control, like the weather, might lead him to throw away quality produce he would have otherwise sold.

9.5.2 Sales to Retailers

Twelve entrepreneurs, four in the Newark region and eight in the Dayton region, reported selling their products directly to restaurants and retail stores. Most said selling directly to restaurants or other retail vendors is the easiest sales method available to them. The vintner in Dayton said he preferred selling directly to restaurants due to the method's simplicity. However, he believes he may need to rethink that practice since 80% of his sales occur in his on-site tasting room.

The spice-maker in the Dayton region said she preferred selling directly to a few small retail stores, "There is more of a personal connection with the small store [owners]. And I can send people that want to buy from me to the small stores." An Afro-Caribbean urban farmer in the City of Newark is developing relationships with several restaurants near her farm. She hand delivers samples to the chefs, who then, generally, place small-scale orders. She plans to deliver samples of the Afro-Caribbean plants she grows to nearby Asian restaurants since the vegetables are also common in Asian cuisine.

Farmers and some value-added entrepreneurs want to sell their products to grocery stores and to large, local institutions with direct food service (e.g., school districts, universities, and hospitals) but most were unsure of the logistics to affect such sales.⁸¹ Only two farmers, both in the Dayton region, reported selling directly to grocery stores. No entrepreneurs currently sell their products to local institutions. The owners of

⁸¹ I investigated this disconnect between entrepreneurs and local institutions. Two hospital chains, one in each region, did not respond to my requests for an interview. However, a dining services administrator at the University of Dayton said he university was interested in buying more from local producers, but two challenges make that difficult. First, most local farmers want to sell crops when school is not in session. Second, the university's dining services central receiving dock is located in the center of campus and an increase in delivery trucks would disrupt student life.

AeroFarms and Warped Wing reported that they sell directly to grocery stores and employ staff to manage these sales.

Entrepreneurs' lack of knowledge about sales to grocery stores centers on two issues. First, entrepreneurs are unsure of which party, either the grocery store or they, should initiate the sale process. If entrepreneurs need to pitch their products, they are unsure which individuals in the grocery corporate structure to approach. Second, entrepreneurs are concerned about what requirements, if any, grocery chains may have. Examples include production certification (e.g., Good Agriculture Practices or Good Handling Practices), liability insurance, and packaging and labeling.

9.5.3 Community Supported Agriculture (CSA)

Six farmers maintain a CSA program; three in each region. CSAs are restricted to plant and animal producers. While details of the CSA models may vary, in each region customers buy shares of a producer's production in advance and receive produce each week. In all instances, customers paid upfront for the entire subscription or for specific weeks. Two small-scale valued-added producers reported using a CSA style, subscription model to sell their products, one in each region.

Due to upfront payment, nearly all farmers who use the CSA method believe it is a good method because the sales income is stable as opposed to sales income at farmers' markets and farm stands. However, Homefull's executive director said the income received from her organization's CSA does not justify the time intensive tasks of sorting and processing the weekly shares, but she continues to fund the CSA since it fulfills Homefull's mission.

Two noteworthy variations of CSAs emerged, both in the Dayton region. First, Mission of Mary farm's CSA provides two price points: the standard market price and a discounted price for low-income residents of the local neighborhood. Mission of Mary sells these CSA memberships for roughly one third of the regular market price. This pricing structure, while not as advantageous for financial stability, is in line with the non-profit's mission to bring healthy food to neighborhood residents. Several farmers in Newark said they were considering a similar structure for their 2018 CSA season.

Second, the owner of Patchwork Gardens, a peri-urban farm in the Dayton region, modified his farm's CSA from using centralized pick up points to delivering food to each subscriber's door each week in 2016. According to the farmer, this change to home delivery is not a dramatic cost increase, a \$1.50 delivery charge, and he believes setting the box of vegetables on the customer's doorstep is an important customer service. However, he stresses the CSA model requires a significant commitment to deliver a regular amount of food on a weekly basis, the only farm in this study to do that. Patchwork Gardens did not use a CSA model for the first two years of its operation. The farmer said he and his employees needed experience with lower risk sales at farmers' markets and direct retail to restaurants before developing a CSA. He speaks highly of his CSA, but he also emphasizes that retention of customers can be difficult as customers can feel pressure from a box of, often strange, vegetables each week. He believes CSA participation often does not conform to customers' busy lives.

9.5.4 Online Sales

Entrepreneurs use the internet to connect with customers. Four entrepreneurs in the Newark region sell products online, two value-added producers and one farmer who

invites CSA application on her website. Four entrepreneurs in the Dayton region sell products online; two value-added producers, along with two farmers who allow CSA applications on their websites. During the process of identifying of enterprises, a large number appeared on Facebook with individual website or business pages.

9.6 Reusing Land and Buildings

Entrepreneurs adapt a wide diversity of spaces, both vacant lots and buildings, in their entrepreneurial efforts. These enterprises were scattered across both regions, but some patterns emerged through analysis of their locations. Entrepreneurs employed numerous innovative strategies in the reuse of vacant lots and buildings.

9.6.1 Locations of Enterprises in Newark and Dayton

As noted in Chapter 6, obtaining good address information for enterprises was surprisingly quite difficult. The enterprise identification process identified 106 good addresses for the Newark region, and 100 good addresses in the Dayton region.⁸² Figure 9.3 and 9.4 show the location of urban food enterprises in the Newark and Dayton regions, respectively.⁸³

Enterprises in the Newark region form two clusters: both consist of a large number of Hispanic bakeries, along with other value-added businesses, in the City of Newark's Ironbound neighborhood and the downtown area of the City of Elizabeth. This is not surprising given the large Hispanic populations in both regions. The southwest area

⁸² Mapping locations of beehives was not possible for two reasons: the State of Ohio does not delineate between commercial and non-commercial beekeeping registration, and the State of New Jersey considers address information for bee yards to be confidential information.

⁸³ Both maps use the same five-class symbology to show percent vacancy except for the highest class in each region. I made this choice to allow for comparison of percent vacancy between the regions.

of the City of Newark at the border with Irvington has the highest vacancy in the region but has few enterprises.⁸⁴ Thirty-six enterprises are located in the top two quintiles of percent vacancy by census tract: six urban farms: four hydroponic farms; one beekeeper; 22 value-added producers; two incubators, and the Anheuser-Busch factory.⁸⁵ Conversely, 41 enterprises are located in the bottom two quintiles of percent vacancy by census tract: two farms; one hydroponic farm; one beekeeper; 36 value-added producers; and one incubator.

⁸⁴ The City of Newark's internal vacancy data confirms this.

⁸⁵ A partnership of US Housing and Urban Development and the US Postal Service provided this vacancy data. I joined this data to census tract shapefiles in ArcMap to create these maps. More information on this vacancy data can be found at: <https://www.huduser.gov/portal/usps/index.html>.

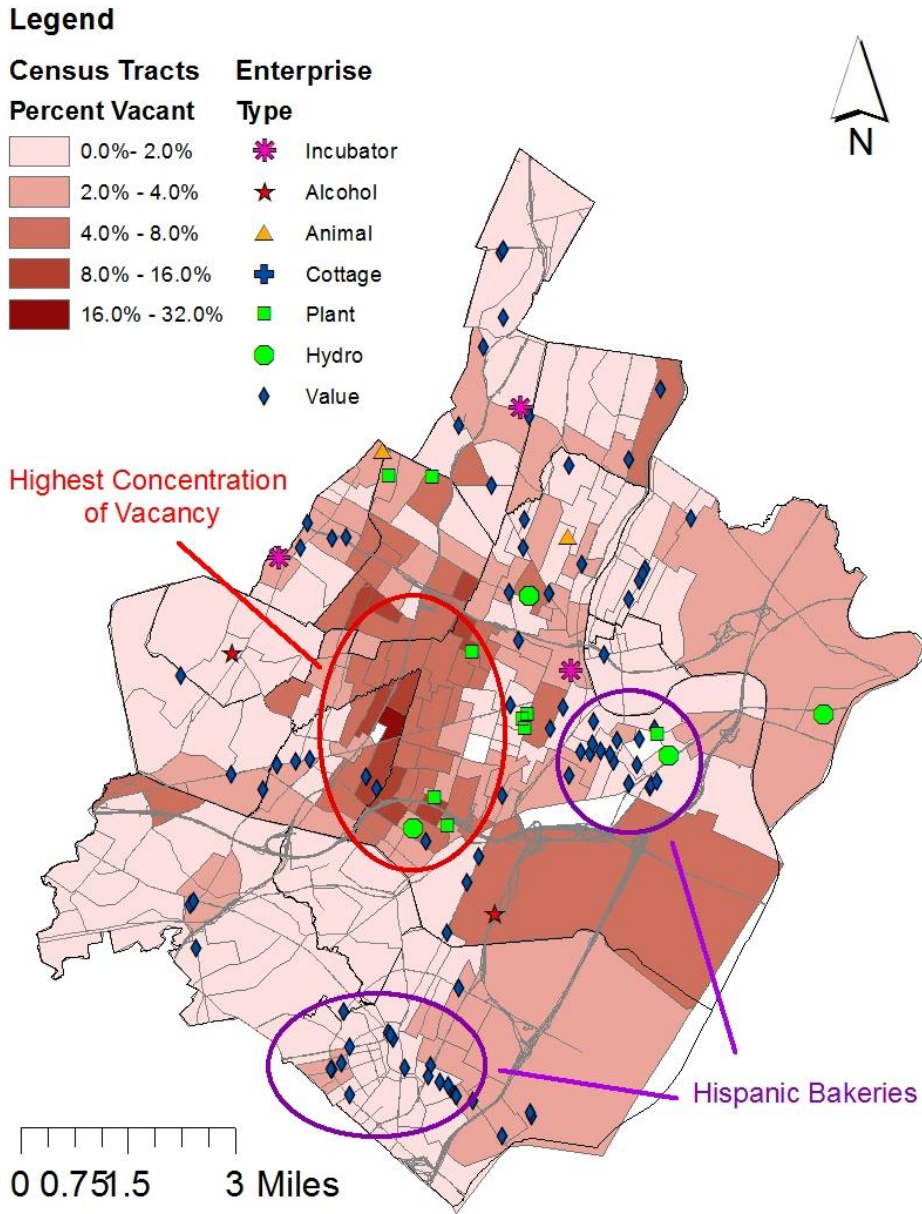


Figure 9.3 Location of urban food enterprises in the greater Newark region.
Sources: US Census Bureau, US Department of Housing and Urban Development, New Jersey Geographic Information Network

In the Dayton region, enterprises form three clusters: in downtown Dayton, near the Fairfield Mall in Beavercreek, and near Centerville's town center. Each cluster is in a high-income area, Beavercreek and Centerville are affluent suburbs and downtown Dayton has enjoyed a development boom since roughly 2010. Further, several

enterprises, including two breweries, are located in Miamisburg's town center. More than half of all alcohol enterprises are located in downtown Dayton. Most urban farmers are located either directly outside greater downtown Dayton or at the Dayton region's peri-urban development edge. Twenty-three enterprises are located in the top two quintiles of percent vacancy by census tract: five farms; 14 value-added producers, including one cottage producer; and four alcohol producers. Conversely, 17 enterprises are located in the bottom two quartiles of percent vacancy by census tract: two farms; one beekeeper; 12 value-added producers, including one cottage producer; and two alcohol producers.

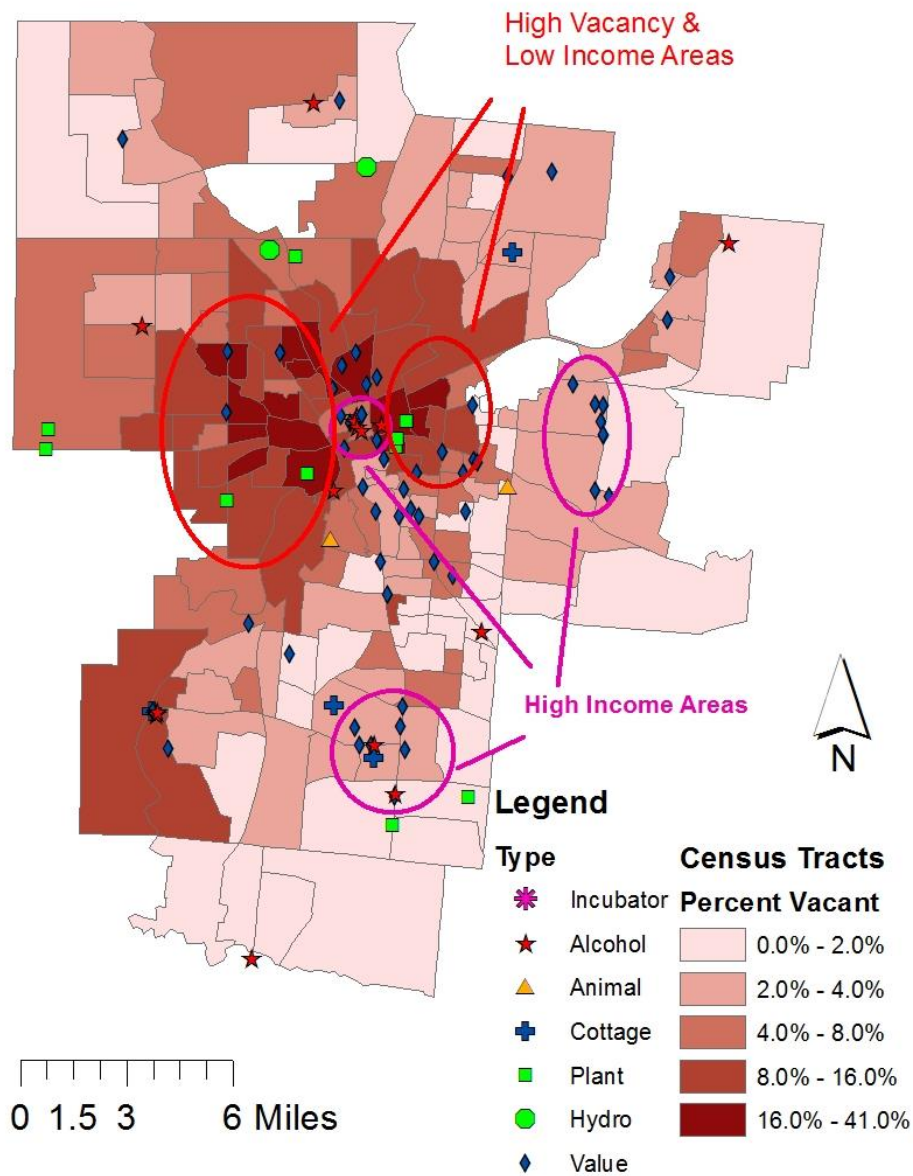


Figure 9.4 Location of urban food enterprises in the greater Dayton region.
Sources: US Census Bureau, US Department of Housing and Urban Development, and the Greene, Montgomery, and Warren County (Ohio) Auditor's Offices

9.6.2 Reuse of Buildings

The Organic Food Incubator, a commercial kitchen and value-added business incubator, occupies a former ravioli factory in the Newark region's Bloomfield Township

(see Figure 9.5). While the building's overall use did not change (i.e., light manufacturing to light manufacturing) the conversion necessary to develop incubator spaces (e.g offices or storage spaces) in the building still cost more than \$150,000. This adaptation was simple as the use of the space remains largely the same – food production.⁸⁶



Figure 9.5 Organic Food Incubator in the greater Newark region.

Other cases of building reuse required more effort and more capital from entrepreneurs. The owners of Warped Wing, a brewery in downtown Dayton, deliberately retained architectural elements from their building's industrial past.⁸⁷ Originally, in 1938 a metal working company named Buckeye Iron & Brass Works constructed the building that Warped Wing now inhabits. Buckeye Iron & Brass made gas nozzles for aeronautic and automotive machines, but closed sometime in the final quarter of the 20th century.

⁸⁶ The incubator's owner also operated his own, separate value-added business, Badass Organics, out of the incubator space.

⁸⁷ Warped Wing is also named after the warped wing design created by the Wright Brothers, natives of Dayton, during their development of the first airplane.

The building sat empty for many years, but briefly saw life as a nightclub called The Foundry in the mid-2000s.

Warped Wing's owners retained the open shop floor space for the indoor beer garden and bar space. From the beer garden, no walls obstruct views of the brewing equipment at the rear of the building. No second floor sits above the shop floor, and on sunny days sunlight streams in through large glass block windows on the second floor. The retained design feature that is most noticeable is the massive yellow colored crane hoist labeled, "10 Ton" that is directly visible above the beer garden and suspends a large brewing tank. One of the brewery's beers is also named 10 Ton. Figure 9.6 shows this crane in Warped Wing's open floor plan. An industrial garage door sits at the front of the building and is opened on warm days to allow a view of downtown Dayton from the interior beer garden. The building's design aesthetic is consistent the shop floor, industrial feel throughout the space. Keen eyed visitors might also notice some graffiti from the space's nightclub days that appear to be deliberately left by the owners.

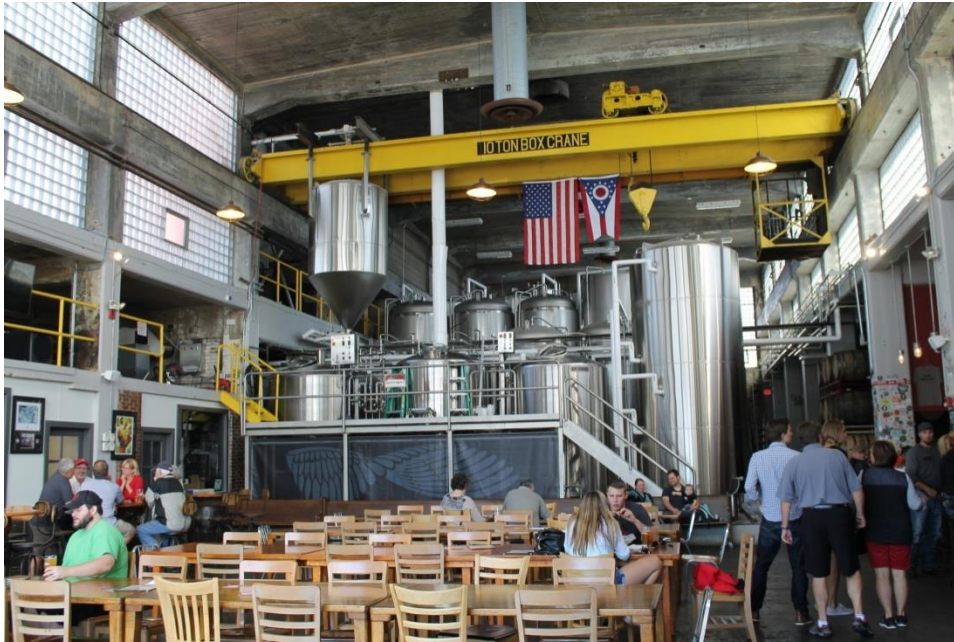


Figure 9.6 Warped Wing’s use of the building’s original crane hoist in Dayton.

Mother Stewart Brewery is similar to Warped Wing as it is a brewery with on-site, direct sales to customers. The brewery now occupies a 120-year-old, three story, 36,000 square foot building. The structure was originally part of the Springfield Metallic Casket Company’s ten building campus, which operated from the 1890s until the 1960s. Later, the campus’s railroad tracks and open spaces were used as a lumberyard that was then abandoned. The brewery’s owners purchased the building in September of 2015, occupied the building b May 2016, and opened their doors in July of 2016.

Mother Stewart’s owners adapted their building to provide food service to their customers without the need to install a kitchen.⁸⁸ During the renovation process, they installed a parking space near the main entrance to the brewery where a food truck could

⁸⁸ As noted in Chapter 7, recent changes in Ohio law now allows brewery permits without the need for in-house food service.

park to serve the brewery's customers. The owners used a rotating schedule of several local food trucks to offer customers a variety of foods.



Figure 9.7 A food truck at Mother Stewart's Brewery in Springfield, Ohio.

J W Wine Cellar opened in the spring 2016 in a strip mall in a suburb of Dayton. The winery occupies a commercial space formerly used as a florist shop, and only minimal improvements were required. All production, starting with grape juice purchased from an Ohio farmer occurs at this location. The winery sits between a beauty salon and an ice cream parlor. The business' street presence is similar to the other businesses in the strip mall. Pedestrians or drivers are unlikely to specifically notice a winery. The business's 1,600 square foot layout is very simple: the front half of the total space is a tasting room and office space while the back half is devoted to production and storage. Figure 9.8 shows a street view of the strip mall the winery inhabits, the winery is effectively indistinguishable from its neighboring businesses.



Figure 9.8 A winery in a strip mall in the Dayton region.

In 2016, AeroFarms occupied a former factory building in the Ironbound neighborhood of Newark.⁸⁹ AeroFarms's business model is predicated on selling wholesale to grocery store chains as well as to restaurants in midtown Manhattan. Unlike conventional urban farmers, AeroFarms does not sell directly to the public and does not operate direct retail sales from their production location. Therefore, AeroFarms has no reason to improve the facade of this building or to advertise their presence. Before AeroFarms took over the building, it had been used as a paintball range. The building still bears the faded logo of the paintball company. Unless a pedestrian or driver already knew that a hydroponic farm was located in that building, they would not be able to distinguish the structure from the surrounding factories and warehouses. Figure 9.9 shows AeroFarms former building in Newark's Ironbound neighborhood. In 2017, AeroFarms

⁸⁹ AeroFarms's owner was unaware of the building's industrial past and I was unable to uncover any additional information.

transferred their operations to another former industrial building at 212 Rome Street, also in the Ironbound. One motivation for the move was to secure a building with consistently level ceilings to allow for maximum height for their aeroponic devices. As of late 2017, they had made no improvements to the facade of that building, despite architectural renderings of facade improvement on their website (Aerofarms, 2018).



Figure 9.9 Aerofarms' facade is similar to many former industrial buildings in Newark.

9.6.3 Use of Vacant Land

Urban farmers have also found ways to adapt vacant land to meet their production needs. Homefull's MicroFarm is a roughly three acre green space attached to the now closed Montgomery County Jail's workhouse building. As of the fall of 2016, roughly half of the available space was cultivated. At least a decade ago, the county allowed the workhouse's conversion to a homeless shelter. Homefull now co-manages the former workhouse with another non-profit organization. The farm evolved from a garden originally created as a therapeutic opportunity for residents of the homeless shelter. The farm is adjacent to the campus of the current Montgomery County Jail, separated from it

by ten-foot high fences and razor wire. A locked gate restricts access to the farm, to which only the farm's manager and other senior Homefull staff, have a key. As of the fall of 2016, the farm included 150 raised beds, two in-ground fields under soil remediation, and a newly constructed hoop house.⁹⁰ 9.10 shows Homefull's MicroFarm.



Figure 9.10 Homefull's Microfarm is adjacent to the Montgomery County jail, in Dayton.

The Greater Newark Conservancy's Court Street farm sits at the back of a 19th century mansion that has fallen into extreme disrepair. Former Mayor Booker helped GNC lease the roughly two-acre site in 2009-2010. The GNC has operated the farm since then but does not use the mansion for any purpose. Participants in GNC's Clean and Green program, an ex-offender training program, primarily work this farm. GNC built two hoop houses at the site without directly seeking permission from the city but no officials have objected. The farm also has extensive drip irrigation throughout the site that water the in-ground and raised beds. Farm workers operate a farm stand at the Court

⁹⁰The MicroFarm's farm manager reports growing sunflowers in the two in-ground fields to clean the soil of heavy metals.

Street farm for neighbors to buy produce. In late 2016, GNC's executive director spoke of rumors of an investor looking to redevelop the mansion, but as of early 2018 nothing had occurred. Figure 9.11 shows the Court Street Farm.



Figure 9.11 The Court Street Farm and its abandoned mansion in Newark.

9.7 Staff

The operation of urban food enterprises can be quite labor intensive. Entrepreneurs most often spoke of the following tasks: producing, harvesting, packaging, storing, delivering, selling, and cleaning. Entrepreneurs in both regions engage in all of these tasks and often hire employees to assist them. Six enterprises employed workers as part of job training initiatives, four used workforce development grants to fund these workers, while two did not. Volunteers are also commonplace at many non-profit enterprises as well as emerging for-profit enterprises.

9.7.1 Employees

A number of enterprises employ workers in the traditional sense. Formal, for-profit value-added and alcohol enterprises are the most likely to hire paid staff. With three exceptions, all value-added or alcohol enterprises employ fewer than ten employees. Three enterprises employ more than ten employees: AeroFarms in the City of Newark; and Warped Wing and Donut Palace, a local chain of donut shops, in the City of Dayton. One of AeroFarms's owners said his company employed 15 employees at the company's first location in Newark around 2010, and employed roughly 110 employees in 2016, a 500% increase in roughly half a decade. Warped Wing, which opened in 2013 with seven employees, grew to employ 32 in 2016. The Donut Place operates three locations across the greater Dayton region and employed a combination of 25 full-time and part-time employees in 2017.

However, some entrepreneurs, often those transitioning from informal, often hobby-scale production to organized, formal production, pay workers in casual or informal ways. The owner of an emerging value-added enterprise in the Dayton region said that she employs a local high school student as a part-time worker. Her mother also assists with her cottage production. A friend of the value-added entrepreneur in the Newark volunteers several hours a week to assist her, and the entrepreneur planed to bring her on the payroll shortly after her early 2017 interview.

9.7.2 Volunteers

Volunteers are common on non-profit and informal farms. Farmers recruit their volunteers from a variety of locations and employ volunteers in different roles. Several non-profit farmers in the Newark region rely upon volunteers from the surrounding neighborhood to assist with basic farm tasks. GNC's executive director said her

organization employ hundreds over volunteers in an average year, but not all work at GNC's two urban farms. An urban farmer in the City of Dayton developed a relationship with the several environmentally focused student organizations at the University of Dayton to develop a volunteer base. The farmer also identifies students using social media. Through social media, he organizes bi-weekend volunteer days and holds weeding sessions during the week. The same farmer also recruits residents from his low-income neighborhood, both to help feed people but also to increase the number of people who will look to protect the farm from crime.

Three entrepreneurs provide stipends to volunteers. The Newark Urban League compensates volunteers to work at one Adopt-A-Lot urban farm as part of the Urban League's Second Chance program. The Urban League initially approached the farm to suggest this arrangement. Volunteers work several hours a week with the farmer and the farmer often gives them free vegetables. The farmer is satisfied with the quality of volunteers provided by the Urban League. A non-profit urban farmer in Newark recruits interns from local charter high schools as well as from nearby colleges to assist with farming as well as basic managerial tasks. When possible, the farmer pays small stipends to the students to compensate them for their time. Mission of Mary Cooperative urban farm in the City of Dayton also hires interns for minimum two-month commitments. Interns receive free room and board with a nearby host family and a \$250 per month stipend (Mission of Mary Cooperative, 2015). Several other urban farmers expressed an interest in recruiting interns to assist them with farm work, as well as more administrative and networking tasks. However, none expressed coherent plans for how to recruit or pay potential interns.

9.8 Key Characteristics of Enterprises

Researchers and Public decision makers should consider three significant characteristics of urban food entrepreneurship. Urban food entrepreneurship takes many forms. Examples from this research include: multimillion dollar for-profit hydroponic lettuce factories with 50+ employees; to established non-profit organizations that employ hundreds of volunteers on multi-acre urban farms; to an administrative assistant making spice blends in her kitchen to sell at farmers' markets on the weekends, who hopes to turn this into a business one day; to a retiree illegally selling small amount of vegetables grown on a city-owned vacant lot.

More than 80% of all entrepreneurs interviewed spoke of a social mission to his or her enterprise. The focus on a social mission was most obvious for non-profit urban farms, or non-profit organizations that ran a farm. Their social missions included: using underutilized urban spaces; growing healthy foods for low income individuals; creating employment or job-training opportunities for populations with special needs (e.g., neighbors, ex-offenders, or veterans); and building healthier urban communities. However, each for-profit entrepreneur also described goals that extend beyond a simple profit motive. Some for-profit entrepreneurs want to grow or produce healthy foods for people in their community; others want to participate in the regeneration of their region's central cities while still others want to employ or train specific populations (e.g., central city residents or ex-offenders). Government should attempt to harness the social

missions of urban food entrepreneurship through coproduction (Jakobsen, 2012; Thomas, 2013) to achieve broader public policy goals.

Entrepreneurs found creative ways to adapt underutilized land and buildings to grow or manufacture food. Urban farmers created spaces to grow food at a commercial scale in all manner of inhospitable built environments including: inside former factories; inside homes and other businesses; on top of concrete parking lots, sometimes with pollution underneath; on vacant lots previously occupied by houses; and in open spaces adjacent to occupied buildings. Value-added and alcohol producers produce food in unexpected spaces including: former industrial buildings, their home kitchens, commercial kitchens at their places of employment; incubator kitchens, and a former florist shop in a strip mall.

CHAPTER 10

CHALLENGES ENTREPRENEURS FACE

Urban food entrepreneurs face diverse challenges in starting and developing their enterprises, challenges that stem from various sources. These include regulations and their implementation, the difficulty in starting small businesses and non-profits, conflict over the use of urban sites, the effects of de-industrialization on the urban built environment, and competition with the industrialized food system.

10.1 Finances and Management

Entrepreneurs reported that financial and administrative concerns are some of their greatest challenges. Even established non-profit organizations operating urban farms have experienced such challenges, to the same extent as entrepreneurs of informal enterprises. These challenges include: the high cost of health insurance, the need to wear too many ‘hats’ (e.g., producer, marketer, and accountant), paying overhead during slow sale seasons, navigating the grant application process, concerns over cash flow, developing and managing eCommerce and social media applications (e.g., Facebook, Instagram, and Twitter).

Another common challenge is the need for effective administrative and entrepreneurial skill sets. Some entrepreneurs report lacking certain skills required to be successful in their endeavors. For example, a senior level administrator in the Dayton region spoke about a potential partnership between his government agency and an urban farmer that eventually failed. The administrator said that the farmer, “performed very

poorly and didn't tell his story well and just like [sic] didn't let people help him tell his story well." The administrator also said that the farmer managed his employees ineffectively and often failed to pay his employees on time. This administrative inefficiency quickly led to other problems, which caused the enterprise to close.

Balancing necessary skills and time commitments to be an effective entrepreneur can also be challenging. A number of entrepreneurs hold full-time jobs separate in addition to their food production role. Several said that juggling a full-time job makes it difficult to focus on developing their food enterprise. A value-added producer in Dayton has a full-time job as an administrative assistant at a small manufacturing business. Only in her free time could she build her food business. However, she said that her employer has, "Been fantastic, I have been open and honest with my boss. The CEO of my company has allowed me to decrease my hours in the last few months to 30 hours a week." The pancake producer in Newark echoes this comment, saying that she wished she had two copies of herself so that she could meet all of her work, entrepreneurial, and familial obligations. Other respondents were able to work part time outside of their entrepreneurial endeavors. For example, a non-profit urban farmer in Newark, works a part-time administrative job. This part-time position provides him with the health insurance that would have been difficult to obtain by working only as an agent of the small urban farm non-profit.

Many non-profit farmers believe that balancing their socially conscious mission with maintaining their organization's long-term economic viability is a difficult challenge. Often their mission's focus on either providing healthy food access to low-income residents or providing employment opportunities for unemployed urban residents.

The farm manager of the Down Bottom Farms in Newark summarized this point saying, “Essentially if you’re a nonprofit, it shouldn’t mean that you don’t make money, but we want it to be, or at least for myself, a not-for-profit, not-for-loss kind of model.” Non-profit farmers used different strategies to achieve this balance (Table 10.1).

Table 10.1 Strategies of Non-Profit Enterprises to Balance Mission and Economic Viability

Strategies	Enterprises
Offering discounted prices to mission-specific populations, while charging higher prices to more affluent customers.	Mission of Mary Cooperative Homefull Micro-Farm SWAG Project
Locating production facility in a low-income and/or food desert or swamp neighborhood.	All non-profit urban farms identified through this research
Expanding sales efforts towards more affluent customers to offset losses elsewhere.	GNC Rutgers VETS Program
Operating the farm at a loss and supplementing funding from elsewhere in organization.	Homefull Micro-Farm ⁹¹

10.2 Land and Buildings

Entrepreneurs use land and buildings to produce and store their products. Some entrepreneurs also sell their products on property they own or control. In all cases, entrepreneurs adapted either vacant lots or buildings to suit their entrepreneurial purposes. No entrepreneurs developed or constructed new buildings. In only limited cases do entrepreneurs own their production sites; instead most entrepreneurs lease. Many entrepreneurs have difficulties both in sustaining effective land tenure to their production sites, as well as in adapting vacant lots and buildings to their needs.

⁹¹ Homefull’s Executive Director expanded on this point saying, “There isn’t any [urban agriculture] program that will be self-sufficient, we are a non-profit, we are ok with that. We would like it to get close to the 25% subsidy than the 50% we are at now”.

10.2.1 Land Tenure

Urban farmers in both regions said that stable access to land for production is a major challenge. Farmers leasing public lands are concerned they may lose access to their production sites. For example, the Adopt-A-Lot incentive's leases are for one year and require payment of one dollar (City of Newark, 2017). Two farmers in the Newark region indicated that the possible non-renewal of the lease was a major concern, while another said they were not concerned at all. That farmer spoke of an excellent, long-term relationship with the city staff responsible for the program. Consequently, the farmer is confident his land tenure.

Farmers leasing private land have similar concerns. One of farm sites of the SWAG Farm in Newark occupies the backyard of a synagogue. The farm's manager has no formal lease with the synagogue. He said, "I never feel completely secure", and is concerned about losing the site as the rabbi with whom he previously had an excellent relationship has died. Mission of Mary's farm manager is mildly concerned that leases for two of his organization's four farm sites might end. His concerns focus on the investment in time necessary to develop high quality soil on both farm sites, and that one site is the location of the organization's weekly farm stand.

10.2.2 Adapting Buildings

With the exceptions of hydroponic enterprises and TURF in Dayton, no urban agriculture enterprises use buildings. Entrepreneurs using buildings to house their production operations face challenges in adapting buildings to new uses. The scope of adaptation

required for other types of food production varied. In some cases, buildings did not require much work, while in other cases, entrepreneurs expended considerable effort.

The owners of Mother Stewart's brewery faced large renovation costs in adapting the building to their needs. The owners acquired and demolished an attached building attached to what? ,which was part of the old industrial campus as well as a house. This cleared space became the brewery's parking lot. The building contained significant amounts of asbestos, the removal cost about \$15,000. The owners removed the railroad track to clear an open space that was made into an outdoor beer garden and green space (see Figure 10.1). The owners sandblasted every piece of wood in the building; some extra pieces of wood were refinished and used to construct the service bar. The owners updated the building's electrical, plumbing, and fire safety equipment to comply with the local building code.



Figure 10.1 Mother Stewart Brewery's beer garden in Springfield, Ohio.

The owner of Lucky's Taproom, a bar and restaurant in the City of Dayton, installed a hydroponic production facility on his building's roof in 2015. Dissatisfied with the quality of tomatoes at grocery stores during most of the year, he now grows tomatoes and leafy greens for use in his restaurants. In the fall of 2016, he was operating 16 Garden Towers, a brand of high intensity hydroponic growing containers. The owner installed a custom roof over the hydroponic containers that is completely climate controlled with a sensor package/ that will change internal conditions to account for heat, humidity, wind, and shading (see Figure 10.2).



Figure 10.2 Lucky's Taproom's rooftop farm in City of Dayton.

Lucky's Tap Room's owner encountered several problems during the development and installation process of the roof. Lucky's is located in an historic district

and any exterior changes to the building must conform to the district's architectural requirements. In addition, the owner wanted to use recycled windows and recycled materials in the roof's construction and this required special approval from the Ohio Landmarks Commission. After some confusion with the Landmarks Commission, the owner hired another architect who successfully secured approval. Then, the owner had to find a contractor willing to work with a custom designed roof installation.



Figure 10.3 Lucky's Taproom's custom greenhouse roof.

As of 2017, The Urban Renewal Farm (TURF) in Dayton used the parking lot of a former factory site for raised beds and container farming. TURF squat on the site of the former factory of the Monarch Marking System Company, producers of hand-held price-ticketing machine. The factory was active, from the 1920s through the late 2000s. TURF used the three-story building for storage as well as for some vermiculture and hydroponic farming at the experimental stage. In 2016, thieves stole the factory's water meter, from

which TURF staff had procured water. The City of Dayton refused to install another tap as they considered the building abandoned. This forced TURF's farm manager to install a catchment system on the roof to collect water in rain barrels. The farm manager also installed several solar panels to power TURF's hydroponic experiments.

10.2.3 Adapting Vacant Lots

Farmers using vacant lots must deal with a diverse set of challenges that are consequences of the community's industrial past, such as pollution and residual foundations. Farmers face additional challenges when adapting land provided to them through public land access incentives and programs.

Some farmers face minimal challenges. An urban farmer in Newark purchased 500 Earthboxes, a brand of specialized gardening container, instead of using the polluted soil on a vacant lot. Prior to acquiring Earthboxes, the farmer cleared the overgrown vegetation and garbage from the site. The boxes gave the farmer great flexibility in site management so she could reposition them around the site as demands changed over time. Eventually, when she lost access to the site due to development pressure, she moved the Earthboxes to another site. Similarly, four farmers, two in each region, farm empty concrete lots. They use several different forms of raised beds to hold the soil as well as plastic containers.

All farmers expressed concerns about potential hazards of farming in polluted soil, but were not concerned about soil pollution at their farm sites. Every urban farmer in this research either uses some kind of raised bed with imported soil, or farms in existing soil after testing proved negative for pollution. In many cases, farmers spoke of the need for on-site composting to either create their own soil for use in raised bed and/or to dilute

potential pollutants in existing soil. In the 2016 growing season, Homefull's MicroFarm grew sunflowers, known for drawing acidity out of soil, on two fields with high soil acidity in the hopes of preparing them for future vegetable cultivation.

Down Bottom Farm and TURF face the greatest challenge in adapting their sites for farming. The NJSDA's lease to Down Bottom Farm prohibits any digging into the concrete surface that serves as a soil barrier on the remediated brownfield site. Consequently, all of the farm's produce is grown in raised beds, containers/planters, or a hoop house. This includes apple, pear, and peach trees in planters. TURF farms on the parking lot of the former factory site using raised beds and containers. TURF's lack of any legal right to the site does not prevent them from digging into this concrete, but assuming the desire existed, TURF lacks the financial resources to remove the concrete.

Mission of Mary Cooperative established its Lincoln Hill Farm on part of the site of a former Dayton public elementary school, demolished several years earlier. However, many pieces of foundation remain scattered across the site. Mission of Mary staff used jackhammers to clear the foundation to allow for the installation of water and electrical infrastructure. Their farming plan requires these utilities to support the desired level of production inside high tunnel hoop houses.

10.3 Production

Production challenges were universal across the production types, while other challenges were specific to a particular production type or method of production. Despite these challenges, all entrepreneurs believe their production challenges are conquerable or will

not drive them out of business. Alcohol producing entrepreneurs did not report any challenges specific to production.

10.3.1 Access to Water

Access to water is the greatest production challenge, spanning all production types although having the greatest impact on urban plant farmers. Almost all plant farmers in both regions reported that reliable access to water is a challenge. Farms access water in three ways: an on-site tap provides water, long hose lines carry water from nearby sites or houses, or large storage tanks hold water, which farmers find a way to fill occasionally. Many farmers believe that dedicated onsite access to water is the most desirable form of water infrastructure.

In some cases, financial constraints make access to water difficult. The manager of Dayton Food Bank's urban farm, an emerging enterprise, said that the installation cost for a municipal water tap is \$8,000, but her operation only paid half of that due to a donation. Initially she had thought to tap a nearby municipal fire hydrant but this would have required the installation of a special water meter on the hydrant. The special meter was costlier than the \$4,000 tap installation. Other farmers said the installation of a similar tap was too expensive for them.

In other cases, non-financial constraints prevent sustainable access to water. The farm manager of TURF in Dayton reported that thieves broke in and stole his building's water meter. At the time of our interview, TURF was legally constrained from accessing municipal water on the site because they were effectively squatting on the former factory site. Their lack of legal access to the building precluded using a municipal water account. After the theft, the city shut off water access to the building, which forced the farm

manager to install a catchment system to collect rainwater. The farm manager of Down Bottom Farms in Newark also has no on-site access to water. Instead, she relies on the City of Newark Fire Department to fill up her water storage tanks. Each week she requests that the fire department bring a truck to the farm. The firefighters run one hose from the hydrant to their truck and another from the truck to the farm's water storage tank. This process is timing consuming and can only occur when the nearby fire station is not busy.

For Down Bottom Farm, the challenge to water access is a legal one. The farm's site is a polluted lot owned by the New Jersey School Development Authority (NJSDA). After discovering pollution on the site, the NJSDA covered the entire site with a blacktop cap. In order to prevent pollution from leaking out, the NJSDA's lease forbids any digging into the blacktop cover, thus preventing Down Bottom Farms from installing an onsite water tap.

Access to water is a much greater challenge in the Newark region for two reasons. As of the early 2000s gardeners and farmers were restricted from freely tapping municipal hydrants, although previously this had been allowed. Second, the City of Dayton's water infrastructure incentive helped urban farmers and gardeners in the City of Dayton install the necessary infrastructure.

10.3.2 Extending the Growing Season

Most farmers would prefer to develop infrastructure needed for year-round production, which would insure the sale of harvested plants even in winter month.⁹²

⁹² The USDA Plant Hardiness Zone Map (2012), indicates Dayton is in zone 6a and Newark is in 7a. While Newark is slightly warmer, both regions are fairly similar in average annual minimum winter temperature and, as such, have similar growing seasons.

Urban farmers interested in extending the growing season spoke of the need for hoop houses, greenhouses, or other structures that provide heat insulation. Farmers described two problems with erecting such structures. The first is the questionable safety of hoop houses and similar structures in inclement weather. As described in Chapter 7, government officials in both regions are concerned about potential damage from a hoop house being carried away by high winds. One farmer said a public official requested that the farmer remove the structures or the insulating lining in winter months, which would defeat the structure's purpose of extending the growing season. The second problem is the prohibition against erecting hoop houses in lease agreements for public land. This is the problem GNC's urban farm on Hawthorne Avenue faces. They lease from the NJSDA. Their lease prohibits any construction on the site that requires digging. The farmer said, "They don't want us to dig into the ground. We were able to put up a hoop house, but we had to remove the cover in the winter. They think it will blow away, but we have it anchored and concreted to the ground."

Additionally, farms may need to develop capacity for year-round production to be eligible for certain grants. The executive director of Homefull wants the non-profit's MicroFarm to grow produce year-round. In an attempt to make Homefull's urban farm less costly to the larger organization, she applied for a number of state and federal workforce development grants in 2015 and 2016 with the hope of subsidizing job-training programs for farm workers. Homefull was not selected for any of these grants. The executive director believes the applications were rejected because both the US and Ohio Departments of Labor consider working on an urban farm to be a seasonal job with a low likelihood of transitioning into permanent employment. This inference led her to push for

the development of hoop houses at Homefull's farm to achieve year-round production. She believes that achieving year-round production may overcome the perception of seasonality. At the time of the interview in late 2016, Homefull was also developing a hydroponic facility on a vacant lot that was once the site of a now demolished Dayton Public School.

10.3.3 Policies that Limit Production

Finally, restrictive public policies hamper entrepreneurs' production efforts. In the Newark region laws preventing cottage food production impede the establishment of value-added enterprises. Several respondents in that region believe some churches with commercial kitchens may give entrepreneurs access, but none provided any evidence of this practice. One entrepreneur, a full-time employee at the Greater Newark Conservancy, discovered an interesting work around. She arranged a trade with GNC, in which her husband exchanges time, on an hour-to-hour basis, by providing cooking and nutritional demonstrations at GNC for access to GNC's commercial kitchen to make their product. The entrepreneur is pleased with this arrangement and believes this low-cost access to a commercial kitchen has helped her business develop. In May of 2016, GNC's executive director said she was working to increase their commercial kitchen facilities and planned to apply for a USDA grant to support that development.

Animal protection protocols inadvertently prevented the Rutgers VETS aquaponic fish farm in Newark from providing an opportunity for community members to swap fish caught in the highly polluted Passaic River for clean aquaponically grown fish. The farm's status as an agriculture experiment station of Rutgers University, and not a production facility, required that the Rutgers' Animal Review Board review their

operations. The Board determined that the farm could not trade live farm-raised fish to a member of the public, or sell the fish commercially, as Rutgers could not prevent the recipient from subsequently butchering the fish in an ethical manner consistent with protections extended to animals used in experimental research.⁹³ The VETS farm development team overlooked this detail during the farm's development. Employees of the VETS farm could butcher the fish themselves, but this would require becoming a licensed butcher shop. The farm's manager indicated that applying for a butcher's license was too burdensome. To fulfill their mission of exchanging fish, the farm purchased frozen fish from Costco that they then exchanged for Passaic River fish. Beyond this trading the farm manager intends to sell excess fish for profit, but the restriction on selling fish effectively ended the farm's potential for economic viability. The farmer has explored connecting to a larger scale fish processor on the East Coast, but could not find one willing to work with such a small-scale farm. The VETS farm closed at the end of 2016 when its funding ended.

10.4 Regulations

The two previous cases are examples of entrepreneurial efforts that come into conflict with regulations. Entrepreneurs in both regions are frustrated by perceived inconsistencies in the administration or enforcement of regulations and believe these inconsistencies are harmful to their enterprises. For example, a cottage food entrepreneur in the Dayton region makes fruit butters. She reported receiving conflicting information from her county's public health department website and the Ohio Department of

⁹³ The VETS manager said the Rutgers Animal Board required that a fish be numbed in an ice bath for five minutes before slaughter.

Agriculture's (ODA) website about pH requirements for fruit butter production, as well as what fruits could be made into fruit butter. The entrepreneur sought to make a mango pepper fruit butter, but was unsure if Ohio's cottage food laws allowed her to add lemon juice during production to lower the product's final pH below 4.6 or use of mangos.⁹⁴ She contacted a regulator at ODA via email, but received a confusing, inconclusive response. Eventually, she located a report on the US Food and Drug Administration (FDA) website that restricted using lemon juice to lower fruit butter pH below 4.6 outside of a commercial facility. The entrepreneur needs greater clarity about what specific products she can make under Ohio's cottage food laws, not just general lists.

Other entrepreneurs report that inspectors are inconsistent or incorrect in their application of rules and regulations. A value-added entrepreneur in the Dayton region moved his business from one county to another in the greater Dayton region. He reported that the official from one county worked with him to resolve concerns, while the matching official from the other county was focused on minutia and was much harsher about the entrepreneur's infractions. While the entrepreneur believes that both were trying to make his business better and safer, he quipped that the harsher inspector would give him a citation because, "your silverware is facing the wrong way in the drawer." A beekeeper in the greater Dayton region is similarly dissatisfied with the ODA, noting that ODA officials often give conflicting information. He mentioned one example from several years ago when ODA officials did not know about the exact requirements for labeling pie he produced under cottage food laws. Eventually, the beekeeper said he

⁹⁴ FDA guidelines consider products with final equilibrium below pH 4.6 to be acidified and shelf stable; see [21 CFR 114](#) for more details.

spoke directly to the official in charge of labeling for the ODA, and even that person did not know.

Entrepreneurs are annoyed that they need to educate regulators about innovative or non-traditional production methods. The farmer manager of Down Bottom Farms traveled to Trenton to meet with representatives from the NJ School Development Authority (NJSDA), the lessor of Down Bottom Farm's land in the City of Newark, about her desire to erect a hoop house. A number of high-ranking NJSDA officials attended this meeting, including the chief financial officer and a risk analyst. During the meeting, the farmer played the role of educator in an attempt to persuade the NJSDA officials that a hoop house was not the liability they imagined. Reflecting on the difficulty of the experience, she said, "people that are in urban settings now are not used to seeing hoop houses, they're not used to seeing farms, they don't want to touch dirt or have bugs... there is a big naïve-ness and ignorance to the whole thing." A microgreen farmer in the Dayton region reported a similar experience with regulators. She contacted an ODA official to inquire about food safety and sales regulations for her microgreen operation. She said the official was unaware of what microgreens were and required some research before he could properly answer the farmer's questions. The entrepreneur developing Garden State Kitchen also is frustrated about the need to explain to every government official in the City of Orange how a food business incubator functions and what value it can bring to the local economy.

To help secure an alcohol production permit from the TTB, two entrepreneurs in Ohio, one brewer and one vintner, hired consultants to assist them. The owner of Mother Stewart's Brewery in Springfield, Ohio paid \$2,500 to a consultant to assist him in his

application to the TTB. He believes it was the best money he ever spent. The vintner in the Dayton region hired two different lawyers on two separate occasions: one to secure a permit for the temporary office space he initially used, and then another lawyer to secure a permit for his current location. He was dissatisfied with the first attorney, noting that the application process took over a year. However, he is pleased that the second attorney secured the new license in four months.

Finally, a significant source of confusion among many urban farmers is whether they need liability insurance against consumers getting sick from consuming their foods. A Rutgers Extension staffer said that insurance companies often sell liability coverage as a rider to an overall policy. Interestingly, none of the government staffers interviewed mentioned concerns over liability for urban food products.⁹⁵ An urban farmer in greater Newark, organized as an LLC, wrote in a follow up email that she purchases liability insurance. She said that running her operation under an LLC structure provides her an additional layer of protection against liability. GNC explored adding other gardeners and farmers in the City of Newark to GNC's insurance policy in the mid 2010s. This initiative was part of a larger strategy by GNC to secure long-term leases for a large number of lots available through the City of Newark's Adopt-A-Lot incentive. GNC would then provide land access to gardeners and extend their liability insurance. This plan did not come to fruition, but GNC did extend insurance coverage to at least one other urban farmer interviewed for this dissertation.

⁹⁵ The semi-structured interview protocol contained no specific questions about insurance and the topic only emerged organically during certain interviews. Only halfway through the data collection process did I realize the omission from the interview protocol. Future research on this issue should include questioning entrepreneurs on this topic.

10.5 Government Programs and Incentives

Many entrepreneurs believe they do not have the administrative capacity to access some government programs and incentives. Redeeming SNAP is an excellent example of this challenge. To access SNAP, an enterprise must possess the capacity to do the complete the following administrative tasks: complete the application process; secure the needed point-of-sale equipment and train sales staff in its use; train sales staff in the redemption process; track, maintain, and report sales records to the USDA; and process incoming reimbursement payments from USDA. Less formal enterprises are even less likely to possess such administrative capacity and are therefore less able to access programs and incentives. Even formal enterprises can experience difficulty accessing programs or incentives due to their developing nature. The vintner in the Dayton region was ineligible for Montgomery County's micro-grant program because he had not been in business more than one year. A senior official from Montgomery County confirmed this requirement, saying that such a requirement helps screen applicants to ensure wise investment of public funds.

Accessing programs and incentives is often time consuming for entrepreneurs, in either the application process or waiting for government officials to act. Several entrepreneurs are frustrated that programs and incentives do not move at the speed of their operations. An urban farmer in the City of Dayton benefited from the city's water infrastructure installation program but had to delay development of his farm site while he waited for the city's contracted plumber to complete the installation. Similarly, the owner

of Mother Stewart's Brewery in Springfield, Ohio initially intended to apply for historic tax credits for the redevelopment of the building his brewery occupies. However, he ultimately did not apply as he believed the benefit would not outweigh the time spent completing the application and waiting for the award.

10.5.1 Obstacles to Redeeming Subsidies from Food Assistance Programs

Many urban farmers wish that their customers could redeem subsidies from various federal food assistance programs for their produce. Several farmers view SNAP and WIC as potential sources of income. Some non-profit farmers also saw promoting the use of program subsidies to buy healthy fruits and vegetables to be part of their larger social mission to improve access to, and consumption of, healthy food. However, the farmers are unsure about navigating the application process, and were also skeptical about the potential return on investment, both in cost and time. These concerns align with existing research on this topic, such as Jones and Bhatia (2011). Finally, managers of farmers' markets face similar challenges in becoming an approved vendor for their market, which allows SNAP participants to redeem program dollars for use at the market.

Three urban farms are registered SNAP or WIC vendors: two in the Newark region and one in the Dayton region. All these farms are part of larger non-profit organizations. In 2015, Homefull received a USDA grant that subsidizes the Wright Stop Market, a farm stand located in the bus terminal of the Greater Dayton Regional Transit Authority in downtown Dayton. The grant program supports a sales person to operate the stand as well as the wireless POS device to allow participants to redeem SNAP subsidy at the stand. Homefull reports a high rate of SNAP redemption at the farm stand and believes that the grant funded market helps combat the problem of poor access to healthy

foods in Dayton. The Wright Stop Market continued to operate in early 2018 and is one of three Produce Perks sites in Montgomery County.

Under FNS guidelines, individual farmers, farmers’ markets managers, and retail vendors can register to become SNAP vendors. FNS administrates this process nationally. Retail vendors must provide: a government ID, social security number, and proof of the store’s name and location (e.g., using a state business license, local permit, vendor’s license). Farmers and farmers’ market managers must provide the following document: a government ID and social security number. FNS normally processes applications in two or three weeks.⁹⁶ Additional vendor requirements are listed in Table 10.2.

Table 10.2 SNAP Vendor Requirements (US Department of Agriculture, 2010).

Type	Requirement
Sales	<ul style="list-style-type: none"> • Must generate more than 50% of total sales from eligible staple foods. • Must continuously offer for sale three types of foods from each of the four categories: meat, poultry or fish; bread or cereal; vegetables or fruits; and dairy products. FNS liberally defines what foods can be redeemed through SNAP, essentially including all foods except alcohol, individually prepared meals, and vitamins and supplements.⁹⁷
Operational	<ul style="list-style-type: none"> • All employees and volunteers must be trained in SNAP redemption procedures, and must participate in a documented annual refresher training.⁹⁸

Two aspects of SNAP redemption are specifically relevant to this research’s focus on urban food entrepreneurship: community supported agriculture (CSA) and the use of

⁹⁶ More information is available at <https://www.fns.usda.gov/snap/retailer-apply>.

⁹⁷ See <https://fns-prod.azureedge.net/sites/default/files/eligibility.pdf> for more details

⁹⁸ See the SNAP Training Guide for Retailers for more information at https://fns-prod.azureedge.net/sites/default/files/Retailer_Training_Guide.pdf as well as the training video at https://www.youtube.com/watch?v=JCBhn_NdX8U&feature=youtu.be.

smart phones or tablets as POS devices. First, urban farmers in both regions use CSAs as a distribution model. Several of those farmers wish SNAP dollars could be used to purchase CSA shares, but were either uncertain if such purchases were possible or were skeptical about their ability to navigate the vendor registration process. FNS policy, as dictated by the Section 4012 of the 2014 Farm Bill, permits SNAP redemption of CSAs. However, FNS requires that SNAP payments for CSA shares must be processed no more than 14 days in advance. FNS additionally requires that full refunds be given if a CSA share is undelivered or uncollected (US Department of Agriculture, 2016). In effect, this requires farmers using a CSA sales model to process SNAP payments for delivery of every individual, generally weekly, share. The administrative burden, along with the high initial cost-to-benefit ratio, for SNAP redemption for CSAs may be too high for individual urban farmers to overcome.⁹⁹

Second, several urban farmers said the ability to process SNAP and/or WIC transactions on a hand-held device would be ideal for use either at on-site farms stands or farmers' markets. Archival research into this uncovered the following challenge: the financial industry's security policy restricts the use of personal identify numbers (PIN) for transactions processed through smart phones or tablets. SNAP requires that participants enter a PIN to process for each transaction. This policy effectively prevents SNAP redemption through smart phones or tablets. However, FNS worked with a private-sector software developer Novo Dio Group, to develop a software solution to this problem. In 2017, FNS, in conjunction with the Farmer's Market Coalition, a nationwide

⁹⁹ New Roots, Inc is a non-profit organization in Louisville, Kentucky that serves as a local aggregation point for local agriculture. New Roots runs a CSA program targeting low-income sections of Louisville that allows participants to redeem SNAP dollars for weekly shares. New Roots fronts the overhead for the purchases and processes the SNAP redemption paperwork on their customers behalf. See <http://www.newroots.org/> for more details.

non-profit organization, and Novo Dio Group created the MarketLink incentive for farmers and farmers' markets. MarketLink provides packages to individual farmers and farmer's markets that include three years of subsidized access to the software application MobileMarket+ as well as a free iPad or iPhone, complete with data package. Applicants are only required to pay a \$0.15 service charge per SNAP transaction as well as 1.79% plus \$0.15 service charge for transactions using credit or debit (Novo Dio Group, 2017).¹⁰⁰

Farmers and farmer's markets can accept the three WIC program payment streams: the Cash Value Voucher Program (CVV), the WIC Farmers' Market Nutrition Program (FMNP), and the Senior Farmers Market Nutrition Program (SFMNP). However, state-level agencies administrate these streams, including registration requirements and award amounts, in their states. Collectively, these registration requirements may be quite burdensome for small-scale urban farmers to meet, especially when the return on investment through redemptions may be quite low. New Jersey farmers and farmers' market managers seeking to become a WIC vendor must register through the NJ WIC Farmer's Market Unit. The office grants certifications for three-year terms. Vendors must meet the requirements listed in Table 10.3.

¹⁰⁰ Interested applicants must apply through this website: <http://www.fmctoolbox.org/>.

Table 10.3 New Jersey WIC Vendor Requirements (New Jersey Department of Health, 2017a, 2017b).

Type	Requirement
Sales	<ul style="list-style-type: none"> • Coupon can only be redeemed June 1st to November 30th. • Farmers must grow at least 35 percent of the produce they sell, and source the remaining produce from other local farmers.¹⁰¹ • CCV redemptions ignore the local sourcing and product growing requirements.
Operational	<ul style="list-style-type: none"> • Farmers must vend their produce a minimum of 6 hours per week. • Farmers must complete a face-to-face training with New Jersey WIC staff and train any employees accordingly.
Production	<ul style="list-style-type: none"> • Farmers must grow at least seven authorized, locally grown fruits, vegetables and/or herbs throughout the season. • Farmers must grow three of authorized fruits, vegetables and/or herbs all year long.¹⁰²
Land	<ul style="list-style-type: none"> • Farmers must possess a minimum of five acres in production.

One challenge to urban farmers becoming WIC vendors in New Jersey but not in Ohio is that the New Jersey WIC Office requires that applicants farm a minimum of five acres of land to qualify as a WIC vendor (New Jersey Department of Health, 2017a). Some urban farmers and food system advocates in New Jersey refer to this requirement to as the, “five acre rule.” The largest urban farm in the Newark region is a three acres farm operated by GNC.¹⁰³ Given the greater Newark’s region’s density and high land costs, even on vacant lots, assembling a five-acre, even noncontiguous, farm would be very difficult. Effectively, the five-acre rule prevents any urban farmer in greater Newark from becoming a WIC vendor. Interestingly, for a number of years the New Jersey WIC Office allowed GNC to accept WIC as well as the SFMNP coupons at their on-site farm stand. However, that changed in 2017 when the state agency revoked this ability. GNC’s

¹⁰¹ No specific definition of “local” is provided here. Likely, this is left to staff discretion.

¹⁰² A NJ WIC Office staffer indicated no specific list of required produce exists, but staff would only consider produce within season that is able to be grown within New Jersey.

¹⁰³ I am unaware of any urban farms in New Jersey that are, at least, five acres in size.

executive director said this change in state policy directly affected GNC financial sustainability.¹⁰⁴

Ohio farmers and farmers' markets seeking to participate in this program must register through the Ohio WIC Office. Applications are required annually. Vendors must meet the requirements listed in Table 10.4. Unlike New Jersey, the Ohio FMNP program does not limit farmers by the size of their farms.

¹⁰⁴ A small cadre of interest academics and non-profit organization leaders have researched and advocated about this issue since the late 2000s with little result, but as of late 2017, awareness was increasing among state-level officials.

Table 10.4 Ohio WIC Vendor Requirements (Ohio Department of Health, 2017a, 2017b, 2017c).¹⁰⁵

Type	Requirement
Sales	<ul style="list-style-type: none"> • Coupons can only be redeemed June 1st through Oct 31st. • Coupons must be used to redeem produce that can grow in Ohio (e.g., citrus fruits cannot be redeemed through the program).¹⁰⁶ • Coupons cannot be used to redeem animal or valued-added products (e.g., including honey and eggs). • Farmers cannot accept FMNP coupons for produce purchased from a store or wholesaler.
Operational	<ul style="list-style-type: none"> • Farmers may redeem coupons at authorized, “farmstands.” Farmstands must be an established location in a county participating in the FMNP program and must operate on set days and times during the approved season. • Farmers must possess a Tax Identification Number (TIN) through the Federal Internal Revenue Service (IRS). • Farmers must complete training with Ohio WIC program and train any employees accordingly. • Farmers’ Market managers must ensure all participating farmers at their market follow established guidelines.
Production	<ul style="list-style-type: none"> • Farmers must grow the majority of the produced redeemed via the FMNP. • Farmers can purchase or receive donations of other produce to supplement their produce offerings, but such produce must be grown in the State of Ohio or a neighboring state and must be on the approved list.
Land	<ul style="list-style-type: none"> • Farmers using leased or licensed land may participate in the FMNP program but the leasee must carry out the complete production of the produce.

10.6 Distribution and Sales

Some regulations impede entrepreneurs’ ability to sell their products. Cottage food production laws in Ohio forbid cottage producers from selling their products outside of the state; this includes online sales (Ohio Department of Agriculture, June 2016). A

¹⁰⁵ Interestingly, the Ohio Department of Health (ODH) does not provide digital links for FMNP application forms. Instead, farmers or market managers must contact ODH to begin the application process before they receive the application forms.

¹⁰⁶ See VII of the *Ohio FMNP Manual 2017* for more details.

cottage value-added producer in the greater Dayton region said she receives many requests from potential out of state customers seeking to buy her products through her website. She believes she is losing a potential revenue stream because of this restriction. This restriction was one of the reasons that led her to organize as a for-profit business and lease space at a commercial kitchen.

Entrepreneurs making beer and distilled spirits in the Dayton region said state and federal regulations of alcohol distribution cause them significant problems. A distiller in the Dayton region is frustrated at regulations that require him to pay for his product to sit in inventory at the state-run, but privately managed, liquor distribution warehouse. The distiller only receives payment once his product leaves the state warehouse. Local, private liquor store owners have told the distiller that the state warehouse will automatically send reorders of mainstream spirits, for example Sky Vodka or Jim Bean Whiskey. However, if private liquor storeowners want the distiller's product on their shelves, they must send a special requisition form that may not be honored by the state warehouse. The distiller believes two factors underscore this inefficiency: a) corporate distillers indirectly increase their shelf space by requiring private liquor stores to stock several of their brands before allowing the store to stock a desired brand, and b) the State of Ohio generates significant revenue from this inefficient system and therefore is not interested in improving their system. One media report indicated the State of Ohio adds a 44% mark up in fees and taxes through the warehouse process, generating roughly \$214 million in 2014 (Weiker, 2015).

Similarly, a brewer is frustrated by how Ohio Liquor Control implements state regulations. He described a pay-to-play system in which beer distributors and

manufacturers pay “advertising fees” to retailers and restaurants to give them exclusive or restricted access. The brewer said he had a list of potential customers around the Dayton region that he could not sell to because of these illegal pouring contracts. The brewer wants Ohio Liquor Control to police against these illegal arrangements, but believes the limited number of regulators effectively prevents Ohio Liquor Control from enforcing the law.

Beyond regulations, information asymmetry creates obstacles to effective distribution and sales. Many entrepreneurs lack the knowledge of how to about how to sell their products to grocery stores. One value-added entrepreneur in Dayton described this confusion, saying, “I’ve met with them [a representative from a local grocery store chain], you’ll have one person approach you [at a farmer’s market], and they are like ‘we want you in our store’ but then that person [company’s buyer] is like ‘yeah whatever’.

Entrepreneurs also do not understand what requirements, certifications, or food safety liability insurance grocery companies might require of producers. Potential certifications include: Good Agricultural Practices (GAP)/Good Handling Practices (GHP) certification, compliance with Food Safety Modernization Act requirements, state or local public health inspections, third-party audits, Serve Safe Certified, etc. No entrepreneur or government staffer participating in the research could speak with much certainty about what exactly is required of a given producer seeking to sell to grocery stores. The farmer manager of Mission of Mary Cooperative said that a buyer from a grocery store in the Dayton area requested a tour of their farm sites to better understand Mission of Mary’s growing practices before agreeing to purchase produce, but did not require any certifications.

Similar problems affect entrepreneurs who want to sell their products directly to retail vendors and restaurants. One urban farmer in Dayton cultivated relationships with the chefs of several local restaurants. He spoke about challenges in communicating what vegetables he intended to harvest in the coming weeks to potential buyers. He travels to restaurants to speak to the chefs about what he could harvest that week. He found that that method was not efficient but he was not sure how else to approach chefs. Further, he said that after one of his regular chef customers accepted a new job, the restaurant's new chef was not interested in buying from him. The farmer speculates the new chef was working with another farmer, but he was not sure. Several other farmers voiced similar concerns about these logistical problems. Other farmers said they would regularly email chefs with their harvest lists. The vintner in the Dayton region said that despite the praise restaurateurs gave his wines when he personally dropped off samples, it was difficult to complete sales transactions with many restaurateurs.

10.7 Staffing

Entrepreneurs reported difficulties in adequately staffing their enterprises. For-profit enterprises experienced difficulties with locating and paying more employees. Non-profits face challenges in hiring high quality farm managers as well as recruiting and managing volunteers.

Several for-profit entrepreneurs struggle with hiring additional workers. In some cases, entrepreneurs want to hire additional staff to grow their businesses, but their current income prevents such expansion. The vintner in the Dayton region wants to hire someone to market his wines across the greater Dayton region. A chocolatier in the

Dayton region needs to hire more people to increase production, since all of their production and packaging is done by hand. However, she also believes that scaling up to wholesale level production is impossible due to labor costs. In other cases, increasing the number of employees could lead to other logistical concerns. One brewer in the Dayton region was considering launching a delivery service instead of relying upon a distributor. This expansion would require hiring several new employees and buying delivery trucks. He was unsure if this expansion would benefit his business in the mid-to-long term.

Several entrepreneurs struggle to find potential workers with skill sets that match their needs. One of the owners of AeroFarms said that AeroFarms' commitment to hiring Newark residents indirectly led to challenges. Most potential employees lacked experience in both: a) understanding the natural processes involved in agriculture and b) feeling comfortable working with the technologies AeroFarms uses in their production. He said that even among willing employees, new workers need time to develop, "farm boy common sense."

Four large social service non-profits, two in the Newark region and two in the Dayton region, operate urban farms. Each non-profit employs a farm manager to oversee the operation of the farm. The farm manager of Down Bottom Farm, part of the larger Ironbound Community Corporation (ICC) in Newark, noted a wide diversity of skills is necessary to successfully manage a non-profit urban farm. She believes that the combination of necessary skills is hard to find as a farmer manager must wear a number of hats, including: farmer, volunteer manager, salesperson, development officer, and government relations officer.

Many urban farmers spoke of the large volume of labor required to complete the daily and weekly tasks at their farms. For entrepreneurs who rely on volunteers, finding and sustaining the influx of necessary volunteers was quite difficult. The farm manager of TURF in Dayton indicates that securing a stable source of volunteers was his greatest challenge. To find volunteers, he regularly uses his connection with local universities. He said he need, “4-5 people every other weekend or a few people regularly during the week” to complete all of the weekly tasks necessary to maintain operations.

Volunteers and interns are undoubtedly useful to the non-profits enterprises they assist. However, farmers believe that managing volunteers is a challenge in itself. The farm manager of the Dayton Food Bank farm engage youth volunteers through a youth summer program run by the county government. The youth volunteers were instrumental in completing all of the tasks at her farm. Despite this, the time she spends to direct the large groups of short-term volunteers frustrates her. With such temporary volunteers, she believes she wastes significant time without accomplishing much for the farm. A farmer in Newark believes that his enterprise has reached a managerial chokepoint; he needs more volunteers to take responsibilities from him, but he has so many responsibilities he cannot really train volunteers or seek external money to pay stipends to interns. Further, while he normally has a good supply of volunteers, most of his volunteers are only interested in task specific work. Few volunteers are willing, or in some cases able, to step up to a leadership role such as setting up and managing the farm market.

10.8 Key Challenges

Although secure land tenure is a major challenge for urban farmers in both region, this challenge was more obvious in the Newark region due to the short-term leases provided through the City of Newark's Adopt-A-Lot, as well as the NJSDA leases to GNC and Down Bottom Farm. However, an excellent example is challenge is Garden Station, a now closed community garden in the Dayton region. Garden Station lost of its lease from the City of Dayton in the face of development pressure in late 2016. Garden Station's head gardener went on to found Dayton Urban Grown at another City of Dayton owned site, but as of early 2018, the proposed construction had not begun on Garden Station's former site. Each of these examples demonstrates that current government policy behind leasing public land to urban farmers is focused on creating transitive uses for the land in question, without thought to creating conditions where an urban farm could prosper over the longer term.

Access to water is also a major challenge for urban farmers in the Newark region, and urban farmers in the Dayton region are also concerned. A number of factors contribute to this challenge: lack of existing water infrastructure on publically leased sites; the difficulty or inability to install water infrastructure due to residual characteristics from previous uses (i.e., foundations, concrete lots, or pollution); legal restrictions due to leases; and high installation costs. An especially troubling manifestation of this challenge is Down Bottom Farm's lease that prevents any digging into the site's concrete cap. Not only does the lease prevent Down Bottom Farm from installing water infrastructure, it also prevents the proper installation of a hoophouse needed for year-round production. This burdensome aspect of the lease is a significant

challenge to the farm's economic viability and begs the question why the NJSDA agreed to the lease in the first place.

Navigating regulations was a challenge for all entrepreneurs, across both regions. Many entrepreneurs report difficulty in accessing regulatory information, from both regulators and government websites. They perceive inconsistencies in the manner in which regulators apply regulations and rules. One additional complication is that many individual-scale entrepreneurs reported seeking clarity about regulations in between juggling day jobs, daily farm upkeep, and personal lives.

Finally, all entrepreneurs struggle with distributing and selling their production. Surprisingly, nearly all entrepreneurs reported an ability to produce more food than they do at present. Their inability to effectively distribute and sell additional products prevents them from scaling up their production. This challenge has different manifestations for different production types: urban farmers spoke of the need for regional-scale aggregation; both urban farmers and value-added producers lack sufficient information about how to sell their products to grocery stores; and alcohol producers spoke of challenges with state-level regulations of alcohol sales.

CHAPTER 11

PERSPECTIVES ON URBAN FOOD ENTREPRENEURSHIP

One primary goal of this research was to understand what role urban food entrepreneurship can play in responding to the effects of deindustrialization. Meeting this goal requires an examination of the attitudes of public decision makers toward urban food entrepreneurship, and how both public decision makers and entrepreneurs envision the role that urban food entrepreneurship can play in responding to deindustrialization.

11.1 Attitudes of Government Staffers

Many government officials spoke about the potential of urban food entrepreneurship to be a transformational force for their communities. Montgomery County's chief administrator believes that the urban food system is more important to local government than was previously understood both in the role that urban food production plays in the local economy but also how it can address food inequalities. He believes that public decision makers need to respond to constituents' demands for a healthier food system. To achieve this, he believes that government must recognize there are inequalities in the food systems of many communities and that innovative public policy is necessary to mitigate those inequalities.¹⁰⁷ Similarly, the Mayor of Dayton spoke about the value in connecting

¹⁰⁷ He believes that inclusion of food access as a community priority in the 2016 Montgomery County's joint Health and Human Services Strategic Plan is an example of this necessary recognition (Montgomery County (Ohio), 2016).

local entrepreneurs with local restaurateurs. She also strongly supports both commercial and non-commercial urban agriculture.¹⁰⁸

Government officials at multiple levels in both regions believe that urban food entrepreneurship can be an effective response to vacancy and abandonment, especially in highly distressed areas. A former official from Cory Booker's mayoral administration believes that hydroponic production is an excellent way for 21st century post-industrial cities to put some of their light industrial spaces back into effective use. A current senior planner at the City of Newark echoed this position, indicating that the City of Newark sees integrating food manufacturing as a necessary part of Newark's economic future, given that food manufacturing has increased 10 to 15% in the New York City metropolitan area in the last five years.

An official in the City of East Orange said his city's government believes encouraging and investing in urban agriculture now can have a positive, transformational affect on the city ten years in the future. He said language supporting urban agriculture as a transformational use would be included in the city's upcoming master plan and zoning code updates. As of early 2018, the City of East Orange had acquired a 3.5-acre vacant lot that was once a clay-court tennis club. While still in the exploratory stage, the city intends to develop this site as an urban farm.¹⁰⁹ Similarly, a zoning official from the City of Orange believes that the impending launch of the Garden State Kitchen food incubator in his jurisdiction's Valley Arts District will encourage future, "artisan" food and non-food based economic development in the city's otherwise post-industrial district.

¹⁰⁸ Mayor Whaley included language supporting urban agriculture in her recent reelection campaign platform.

¹⁰⁹ East Orange staffers were working on new versions of both documents as of the writing of this dissertation.

Officials in the Dayton region concur with their counterparts in greater Newark, but also stress the potential of urban food entrepreneurship to make use of underutilized urban spaces. Montgomery County's chief administrator made this point eloquently, suggesting that urban farming could be transformative in neighborhoods that are, "20% populated and 75% vacant and fallow, where residential redevelopment makes no sense [and] commercial development is even more nonsensical." He also believes that hydroponic production may be able to use some of the large number of empty big box stores (e.g., Walmart and Target) in the greater Dayton region. The Deputy City Manager of Springfield, Ohio also spoke highly of the potential of hydroponic businesses to utilize buildings on polluted brownfield sites throughout the city, even contemplating using municipal resources to prepare former factory sites for future use by hydroponic enterprises. He also believes that urban agriculture has a role in reducing stormwater runoff into his city's sewer system.

While many officials expressed support for urban food entrepreneurship, doubts often tempered their comments. Such doubts may well stem from their lack of awareness of the characteristics of specific enterprises or of the various types of existing enterprises or the full scope of the region's urban food system. Entrepreneurs in both regions believe many public officials do not properly understand the nature of their enterprises. The farm manager at Homefull's MicroFarm in Dayton said that despite his organization's successful operation of the MicroFarm for almost a decade, many public officials who are aware of Homefull's broader mission do not know about the farm.

Administrators are also skeptical about the ability of urban food entrepreneurship to create living wage jobs. This perception may lead government officials to view urban

food entrepreneurship either as a transitory use of urban spaces or of insufficient size to warrant attention. The Mayor of Dayton is a self-professed proponent of urban agriculture but she is skeptical about urban agriculture's economic potential, noting that when city looks to fund developing businesses, "We are looking for gazelles. Food might create two or three jobs. We also have rules that if we invest in a company, it has to be a living wage job, and these generally aren't living wage jobs." A former staffer from the Booker administration also believes that urban farming is exciting and important, but questioned if one-half acre in the City of Newark could actually support a living wage job.

Other officials are skeptical because they view urban food entrepreneurship as a novelty, and therefore not worthy of attention. For example, a City of Dayton planner staffer believes that a person might think making \$12 an hour as a cottage food producer selling homemade donuts is more desirable than making \$12 an hour as a waiter in a restaurant. This suggests that he sees cottage-scale entrepreneurship as simply trading one job with a questionable standard of living for an arguably more enjoyable job with a similar, questionable standard of living.

Several public officials are doubtful about the appropriateness of urban food entrepreneurship at specific sites, neighborhoods, or communities. For example, a municipal public health official in the Newark region believes that it is inappropriate for an urban farmer to sell produce directly from a vacant lot farm in a residential neighborhood. His main objection to this hypothetical farm stand centers on the disruption to pedestrian and automobile traffic patterns the farm stand might create. He

remarked, “What [would be] the point of having a business zoned district? [We need to keep] residential districts with residential use.”

Other public officials share this view of the inappropriateness of urban food entrepreneurship in their communities, but their concerns manifest in different ways. Public officials in both regions are concerned about chicken keeping, especially in higher density neighborhoods or jurisdictions. Their concerns center on potential noise pollution as well as the inability of people to properly house and care for the birds. One official in the Dayton region suggested that other public officials in his city believe that chickens will escape their enclosures and wander around the streets.

A former official from Greene County, Ohio, which encompasses part of the Dayton region’s suburbs, also spoke about the appropriateness of urban food entrepreneurship, but with an urban versus suburban component. He speculated other Greene county officials have mixed feelings about urban food entrepreneurship. He believes that other county officials view urban food entrepreneurship in a positive light given the county’s higher rural population and cultural tradition in comparison to Montgomery County. However, he also suggested that officials are likely to dismiss the idea of urban food entrepreneurship as a response to post-industrial problems because the officials are unwilling, for political reasons, to admit that part of their county faces post-industrial challenges. In effect, peri-urban county governments may not wish to associate themselves with the problems, and potential responses to problems, of urban counties.

11.2 Policy Recommendations from Government Staffers

Government staffers recommended both general and specific policy interventions at the local and state-level for improving urban food entrepreneurship. Administrators spoke of the need for closer coordination and cooperation both intra-governmentally, as well as between governments, civil society organizations, and urban food entrepreneurs. Many believe that for urban food entrepreneurship to grow, all relevant local departments responsible for regulations (e.g., economic development, zoning, building, and public health) must work collectively to update policies and processes in order to reduce regulatory burdens placed on entrepreneurs.

Administrators are unsure exactly how to create this intra-governmental coordination, or which individuals, agency, or department should be responsible for implementing this change. However, many believe that even incremental change is efficacious as minor innovations allow officials to test policies or programs before larger implementation. One example of such an incremental change would be the City of Dayton allowing chicken keeping for egg production in one neighborhood. This experiment would allow officials to watch for compliance and safety concerns before moving towards citywide adoption.

Beyond coordination, administrators question which agency or individual should coordinate the efforts between entrepreneurs, aligned civil society organizations, and government officials. Interviews confirmed that coordination in both regions has been problematic in recent years. In their discussion of the challenges facing the greater Dayton region's food system, Cuy Castellanos, Jones, Christaldi, and Liutkus (2017) suggest that the failures of the Montgomery County Food Policy Coalition stem from the

absence of a dedicated staffer responsible for the managerial and administrative tasks necessary to manage a coalition of various volunteer actors (e.g., facilitating regular meetings, recording meeting minutes, and coordinating subcommittees). No food policy coalition, or similar organization, currently or previously existed in the Newark region, but several entrepreneurs spoke of the disruption caused by the dissolution of the Booker administration's Office of Sustainability, which contained two staff members who acted in a coordinating role for Newark's urban farmers. Administrators who spoke on this topic were undecided as to which organization or person should assume this coordinating role for the region, but most agreed that the role must be resistant to change to best ensure continuity of regional efforts.

Government administrators also gave a number of specific suggestions for modifications to existing policies, regulations, programs, or incentives, as well as suggestions for new ones. Table 11.1 summarizes these suggestions in no specific order.

Figure 11.1 Suggestions for Policy, Regulation, Program, and Incentive Improvement

Increase land tenure for urban farmers utilizing publicly owned or controlled land.
Utilize former big box stores (i.e., Walmart and Target) for use by urban food enterprises. The built environment characteristics of big box stores require specific uses. Some forms of entrepreneurial urban agriculture (i.e., hydroponic and aquaponic production) need such built environments.
Renovate specific abandoned, former industrial buildings that fit the built environment characteristics for hydroponic or other high capitalization urban food entrepreneurship (i.e., alcohol production and value-added incubators).
Use land acquisition programs (e.g., such as the Montgomery County Land Bank) to prepare urban farm sites ranging between one-half to five acres with attached single family houses, which are then leased or sold to potential urban farmers
Target immigrants and refugees as well as veterans to participate in beginning urban farmer training programs. Immigrants and refugees may already possess gardening or farming backgrounds.
Large public (e.g., universities, schools, and prisons) and private institutions (e.g., hospitals and senior housing) should commit to sourcing foods from producers in the same region.
Modify existing zoning codes, or create zoning overlay districts to encourage urban food entrepreneurship. Targeting specific activities (i.e., raising chicken) or specific neighborhoods may serve as a test to determine viability and safety of specific production methods.
Provide specific training to potential and developing entrepreneurs instead of more generalized worker training.
Established public-sector education services (e.g., university extension and similar organizations) that should provide training, education, and certification to urban food entrepreneurs. Such training should provide a certification or similar document from a degree granting college or university.
Create specific zoning for urban agriculture, as well as define urban agriculture in zoning code, this may allow urban farmers to be eligible for USDA grants that specifically target farms. ¹¹⁰
Government should lease publically owned green space (i.e., open land around and under water towers) to non-profit urban farmers.

11.3 How Entrepreneurs Envision their Role in Building Community

Many farmers believe that their farms will have a positive effect on their surrounding neighborhoods and larger communities by increasing the presence and access to healthy foods, an idea that is often imbedded in the mission of many non-profit urban farms. Farmers also spoke of urban agriculture's potential for visual beauty, which can

¹¹⁰ The respondent suggested this has occurred in the City of Cleveland.

positively contribute to the aesthetic of the neighborhood. However, farmers also emphasized that three factors must be present for urban agriculture to contribute to the community: a) urban farms must be within a walkable distance for residents, even if the entirety of the farm is not accessible to the public; b) the farm's site must have sufficient land tenure to allow for the development of sustainable infrastructure; and c) the farm site must be accessible by a truck to better facilitate economic viability via off-site sales.

Many urban farmers believe that the lack aggregation points for regionally produced fruits and vegetables limits their potential impact on the community. They suggested that regional aggregation is necessary to shift their community's food system into the next level of development. They believe aggregation would allow producers to achieve the necessary production volume to sell directly to wholesalers, or regional institutions with invested interest in supporting the local farms or accessing healthy foods (e.g., hospitals, school districts, and universities). Without regional aggregation, they are individually unable to achieve the level of production necessary to fulfill the needs of a large institution.¹¹¹ Aggregation may allow individual farmers to specialize in growing specific crops, in particular high value crops, as well as lower farm management burdens and improve harvests and quality.

Four of the five alcohol entrepreneurs chose to locate their businesses in their metropolitan's downtown or the central business district of their suburban community.¹¹² Each alcohol entrepreneur wants to be part of the redevelopment of their community and see their businesses as a regenerative factor for their community's central business district. The distiller in the Dayton region stated this idea well, saying, "We are called the

¹¹¹ Several non-profit urban farmers believe that institutional sales are necessary to balance out their below market sales to low-income or neighborhood residents in fulfillment of their mission.

¹¹² State licensing restrictions prevented Ironbound Cider from locating in the City of Newark.

Belle of Dayton...I live here. I work here. I love downtown. I wanted to be in Dayton, of course I wanted to be in the Oregon District... in terms of artisan food, or beer, this is where things are happening.”

Non-farmer entrepreneurs did not express an interest in regional aggregation, but several wished for more opportunities to acquire biological input for use in their production. Examples include fruit for candy production, and various grains, as well as hot peppers, for alcohol production.

11.4 Policy Recommendations from Entrepreneurs

Entrepreneurs want government to take an active role in developing their community’s urban food system in two ways: to be a champion for urban food entrepreneurship and to improve their bureaucratic functions. Many urban farmers want local and state government to gain a deeper understanding of their food production efforts. In some cases, these desires manifest simply as a wish for government officials to become aware of entrepreneurs’ specific efforts to develop part of a neighborhood. Farmers want public officials to visit their farms and see the entrepreneurs’ progress despite little or no public-sector assistance. These entrepreneurs hope that by witnessing the development of their farms, public officials might funnel resources and political capital towards farmers. In other cases, farmers desire a change in the way government views urban agriculture, away from temporary uses and towards transformative ones. The director of the Greater Newark Conservancy stated this point well by saying, “[the City of Philadelphia] looks at their vacant land as an asset and [the City of] Newark looks at their vacant land as a liability. Newark needs to flip that and see their vacant land as an asset.”

11.3.1 Local Government as Champion

Entrepreneurs believe local and state governments could become champions of their development by encouraging them in three ways: protecting and developing needed infrastructure; promoting business development; and ensuring that policies are consistent overtime.

All entrepreneurs must access infrastructure to produce their products. Water access was a point of contention for urban farmers in the Newark region but less of a concern in the Dayton region, partly due to the City of Dayton's water infrastructure program presented in Chapter 8. Farmers also want government to assist in identifying and providing access to production sites with land tenure. Several farmers proposed that their municipal governments could identify specific parcels or regions of the community where the government desires urban agriculture. Farmers also want government to assist in developing needed soils and compost; the most obvious manifestation of this assistance would be drop off of municipal leaf collection.

Several entrepreneurs expressed an interest in attending public-sponsored education or training for emerging urban food entrepreneurs. Despite this belief, most entrepreneurs were unaware of already existing small business development resources in their communities like the Small Business Development Centers (SBDC). Others entrepreneurs want to see government take a more active role in connecting urban producers with potential consumers and encouraging residents to buy from local producers.

Finally, entrepreneurs are concerned about the possibility that government's support of urban food system development will erode due to changes in local and state

political leadership. Farmers in particular prefer continuity from local government, since they require multiple growing seasons to develop a farm site. Farmers in the City of Newark experienced a lack of continuity with the change from the Booker to the Baraka administration and the dismissal of unclassified staff attached to the Office of Sustainability who had encouraged food system development in Newark under the Booker administration.

11.3.2 Improve Bureaucratic Processes

Many entrepreneurs lack knowledge about over what regulations they are subject to and expressed frustration over inconsistencies in the implement regulations. In cases where implementation of regulations differed between two jurisdictions (i.e., between local and state officials, between local officials in different jurisdictions, or between separate officials in the same jurisdiction), entrepreneurs call for greater consistency.¹¹³

Many small-scale producers do not know if they possess the correct certifications, licenses, or permits necessary to distribute or sell their products, either using specific sales methods (e.g., online or CSA sales) or at specific locations (e.g., farm markets). This confusion increases whenever entrepreneurs consider aggregating their production with other local entrepreneurs. For example, one urban farmer in the Dayton region has managed a successful CSA program for many years. Many of his customers want him to include eggs as part of the CSA share. The farmer does not raise chickens himself, but considered purchasing eggs from a nearby rural farmer for use in his CSA. However, he is unsure if this is permitted under food safety regulations, and if it is permitted, what sort

¹¹³ The lack of consistency from food safety officials was the most common criticism on this topic.

of refrigeration equipment would be required, either on his farm or in his delivery vehicle.

Many entrepreneurs use the internet to search for information on regulations. However, some are dissatisfied with the limited presence, as well as lack of depth, presented by government websites and digital resources (i.e., guidelines, guidebooks, and factsheets). Some entrepreneurs also want the ability to contact regulators for advice during non-traditional business hours (i.e., evenings and weekends) as many individual-scale entrepreneurs worked full-time jobs during regular business hours that prevent them from making phone calls or sending emails.

Finally, several entrepreneurs in New Jersey stress the need to allow cottage-level food production in a fashion like that of other states. These respondents believe that concerns over food safety are overstated because, a) nearly every other state in the US has some level of cottage food production laws, and b) many entrepreneurs believe that people already sell illegally home produced foods in their neighborhoods.

11.5 Key Perspectives

Both administrators and entrepreneurs agree that government administrators should be more aware of their community's entrepreneurial urban food system. Administrators largely admitted to ignorance of urban food entrepreneurship in their communities. Entrepreneurs want administrators to see how their efforts are affecting change in their surrounding community, in many cases with little or no assistance from government. Entrepreneurs believe that if administrators were more aware of their efforts than they

might receive favorable discretion from regulators as well as more incentives to support their efforts.

Both administrators and entrepreneurs believe that urban food entrepreneurship has a role to play in responding to post-industrial challenges and shaping their communities for the 21st century. Administrators hold this belief, despite the skepticism expressed by many about economic viability of many forms of urban food entrepreneurship. Several administrators spoke of channeling the efforts of entrepreneurs to adapt underutilized land and buildings. This aligns with farmers need for vacant land and alcohol entrepreneurs desire to position themselves in their community's downtowns and central business districts.

Finally, both administrators and entrepreneurs wish government would take a more coordinated approach to urban food system development. Entrepreneurs want government to be consistent in their implementation of regulations and interventions as well as to champion their growth as businesses and non-profit organizations. Some government administrators believe that government should take an active role in coordinating the development of urban food entrepreneurship in their region. Several administrators spoke of coordinating uniformity of municipal codes and rules across the region as well as using pilot initiatives to test certain types of urban food entrepreneurship in specific areas or neighborhoods (e.g., permitting chicken keeping in one neighborhood).

CHAPTER 12

DISCUSSION

This dissertation research departs from existing scholarship in two ways. First, it departs from scholarship examining post-industrial cities by recognizing urban food enterprises as a response to the problems of the post-industrial city. Second, it departs from existing urban food system research by: a) examining urban food systems from a post-industrial context, (b) adopting an inclusive definition of such enterprises that proves to be beneficial, and (c) proposing a model for conceptualizing the differences between enterprises.

12.1 Urban Food Enterprises in the Post Industrial City

The regions of greater Newark and greater Dayton regions suffer from similar effects of the deindustrialization that started in the second half of the 20th century. Suburbanization strongly reduced population levels in the central cities of both regions, lowering their population totals more than 35% from historic high points. The combination of deindustrialization and population loss manifests today in large numbers of underutilized land and buildings in both regions. Deindustrialization and population loss also creates a local political and administrative need for effective economic development to rebuild the tax base and fund municipal coffers. The urban food enterprises examined in this research are one effective response to that need.

Government administrators and entrepreneurs in both regions do recognize that urban food entrepreneurship has a role to play in responding to the post-industrial problems of their region. Government administrators in both regions expressed

progressive positions about urban food entrepreneurship and its potential role in their community's future. Officials in the Newark region believe that urban food entrepreneurship is an activity that 21st century cities should employ and see a role for hydroponic production in adapting vacant light manufacturing facilities. Two officials from the Dayton region echoed their counterparts from Newark, they propose using municipal resources to prepare former factories as well as vacant big box stores for use by hydroponic or other urban food entrepreneurs. Many administrators in both regions said they want to better understand urban food entrepreneurship and what role local and state government can play in encouraging it.

The adaptability of urban food enterprises allows them to manifest in many different forms and to make innovative use of underutilized land and building. But they face serious challenges in meeting their needs. Primary among these are: a) access to land with stable land tenure; b) access to water and other vital utility infrastructure; c) understanding and navigating government regulations; and d) distributing and selling their products. These challenges are often similar to those that small and beginning farmers in rural areas face, including the need for secure access to affordable land, losing land to development pressure, access to markets, the need for diversified income streams, and access to capital (Ahearn, 2011; Niewolny & Lillard, 2016; Schilling, Attavanich, & Jin, 2014; Schilling, Sullivan, & Komar, 2012).

Local and state governments play an active role in urban food enterprise development through their regulations. Production regulations affect what food production occurs. Often regulations require entrepreneurs to complete and maintain registration, comply with inspections, and to follow food safety protocols. Zoning code

and other land use regulations and rules affect what production activity can occur in which sites. Building codes affects not only entrepreneurs' adaptations of buildings for food uses, but also affects the ability of urban farmers to erect hoop houses, which allow urban farmers to achieve an important goal of year-round production. Labeling, packaging and handling regulations affect how entrepreneurs store their products and prepare them for sale. Finally, distribution and sales regulations affect how entrepreneurs transport and sell their products. Often vastly different regulations exist depending on the type of sales method. For example, an entrepreneur selling chicken eggs at farmers' markets will face different regulatory oversight than if he or she sold the eggs to a grocery store.

The ability to influence the policy structure of these regulations gives local and state governments significant power to encourage or impede urban food entrepreneurship. Even in instances where local or state officials are unable to influence the structure of the regions, this research suggests that local-level officials have flexibility in the implementation of state and federal policies. Further research could use the street-level bureaucrat lens suggested by (Lipsky, 2010; Maynard-Moody & Musheno, 2003) examine which administrators possess the most flexibility to assist urban food enterprise development.

Governments in the Newark and Dayton region already intervene in support of urban food entrepreneurship. Urban food entrepreneurs can benefit from incentives specifically designed by governments to assist urban food entrepreneurs. The City of Dayton's water infrastructure incentive and the Produce Perks incentive in the Dayton region are the best of examples of such interventions. Entrepreneurs are also able to

benefit from general programs designed to help a broader segment of society, such as small businesses, non-profit organizations, or individual citizens. Examples of programs that entrepreneurs can already benefit from include food purchase subsidy through SNAP, the ability to purchase land through the Montgomery County Land Bank, or eligibility for real estate tax abatement for a for-profit urban farmer are all good examples of such interventions.

If local, and state, level governments want to harness the potential of urban food entrepreneurship to respond to post-industrial problems, governments must design or create policies, regulations, and interventions that specifically address the challenges facing entrepreneurs uncovered by this research. This study uncovered several examples of government policies that unintentionally restricted the potential of an urban food enterprise. The City of Newark's Adopt-A-Lot program is perhaps the best example. Originally designed to respond to citizen desires for land for community gardening as well as the need to find transitory uses for city-owned lots; urban farmers co-opted the incentive to gain access to land at a low cost. The subsequent mayoral administration (i.e., the Baraka Administration) then faced push back from farmers and other citizen groups when the city began to sell the Adopt-A-Lot sites to investors, often without informing the farmers or gardeners of the sale.

12.2 An Inclusive Definition of Food Enterprises

This study use three criteria to defined urban food enterprises: a) enterprises use at least one of four types of food production; b) enterprises produce and sell, at least some, of the foods they produce in their home region; and c) enterprises do not sell prepared foods

intended for immediate consumption (e.g., restaurants). Enterprises can employ any of combination of the following types of food production: plant cultivation, animal husbandry, value-added production, or alcohol production. Enterprises are local to their region if a significant portion of the enterprises' total production are grown or produced at a site(s) in the region.

This inclusive definition proved beneficial in a number of ways. Such a definition leads to a more inclusive conceptualization for a region's local food economy, such as suggested by Cantrell, Colasanti, Goddeeris, Lucas, and McCauley (2012).

Administrators were asked to speculate about the size and scope of their region's local food economy. Nearly all respondents were unable to answer, and several confessed they wished they knew more. The use of specific criteria for defining food enterprises allows for data collection about this sector of a region's economy in a novel way and creates a useful distinction between a region's food service economy (e.g., restaurants) and its food production economy.

Over 100 enterprises in each region were identified. Identifying enterprise in this way is the first step towards more expansive data collection. Further, the location of enterprises identified through GIS allows for an analysis of spatial patterns of enterprises collectively, as well as identifying patterns of types of enterprise, in a region. For example, the analysis maps of both regions reveal that most commercialized urban agriculture does not occur in census tracts with very high rates of vacancy. This was counter to the informal hypothesis I held at the beginning of this research.

The inclusive definition revealed examples multi-enterprise partnerships. Several enterprises used the biological waste products of another enterprise for production inputs;

Chapter 9 profiles these examples. Similarly, two enterprises in the Dayton region acquired peppers from one local and one urban farm for use in the production of hot sauce and flavored vodka. The existence of these multi-enterprise partnerships reinforces the idea of an interconnected regional food system. Evidence of these partnerships arose during interviews and supports the idea of food innovation districts and spatial clustering of similar businesses proposed by Cantrell et al. (2012) and Malmberg and Maskell (2002), respectively. Future researchers could inquire of the existence similar partnerships. Further, future researchers could examine the ecological and economic impact of these partnerships on the environment and community.

Urban food entrepreneurs can be seen collectively as a single actor making new uses of underutilized land and buildings in urban communities. This study's analysis of the challenges facing urban food entrepreneurs and local governments of post-industrial cities suggests there is overlap between the needs and wants of both groups. Local governments of post-industrial cities need to find innovative ways to develop underutilized land and building, as well as create economic opportunities for citizens. Urban food entrepreneurs need affordable access to land and buildings for production sites, and often need government intervention to access these sites.

Adopting an inclusive definition and thereby studying a variety of food entrepreneurs revealed an important similarity between them. More than 80% of entrepreneurs, for-profit or non-profit, farmer or brewer, described a social focus to their overall enterprise's mission. This should be of interest to any researchers interested in the role of small businesses and community non-profit organizations in improving their community as well as researchers interested in government co-production.

Viewing urban food enterprises as an economic sector that is also socially motivated allows local government to develop opportunities for stronger methods of co-production (Jakobsen, 2012; Thomas, 2013) to respond to post-industrial challenges. For example, a local government can use public policy to encourage urban agriculture as one way to increase the community's stormwater retention, thereby assisting the government's goal of reducing stormwater runoff into the sewer system. Rosan and Pearsall (2017) discuss the City of Philadelphia's use of co-production to encourage urban agriculture to increase stormwater retention.

Finally, the inclusive definition allows research to identify variables that may contribute to the characteristics of developing enterprises in a given region. While inferential-level prediction of causal factors is outside the scope of this dissertation, qualitative identification and description is an important first step to developing predictive models. Future researchers may be able to develop quantitative measurements to better predict how new urban food enterprises will manifest in a given community. Understanding how antecedent factors may influence urban food enterprise development in a given community is important for both researchers and public policy makers.

The cost of underutilized land may affect which, if any, entrepreneurs use such land. Built environment characteristics of a neighborhood, jurisdiction, or region may also affect urban food enterprise development. For example, staffers from two suburban jurisdictions, one in each region, believe that surface level urban agriculture is unlikely to occur in their jurisdictions due to low vacancy rates for existing structures as well as few vacant lots. Both staffers noted that they have received few inquiries from citizens about urban agriculture, and partially attribute that lack of interest to few available sites.

Entrepreneurs' ability to access tenure-stable land for production through government programs or incentives may also affect urban food enterprise development. Land access incentives in the greater Newark region are limited to the City of Newark's Adopt-a-Lot program, which both strongly impedes commercial sales and is tenure insecure. Conversely, in the Dayton region, the Montgomery County Land Bank provides an excellent, low cost mechanism for entrepreneurs to acquire either vacant lots or empty buildings for development into production sites. Such properties would be clear of any outstanding real estate taxes or other liens. The Land Bank's acquisition costs range from \$200 to \$2000 for vacant parcels and range up to \$4000 for developed parcels (Montgomery County (Ohio), 2018). Farmers in the City of Dayton may also benefit the city's water infrastructure improvement incentive to additional in-kind start up assistance.

Entrepreneurs' ability to sell their products in affluent areas of their region, through farmers' markets and boutique retail stores, may allow for a different, potentially more economically sustainable, business model than what might otherwise be possible. The ability to charge higher prices in specific neighborhoods or communities may affect enterprise development in two ways. First, higher price points can offset higher capital start-up costs like those of AeroFarms, or other similar hydroponic operations. Second, higher price points can offset mission specific sales to low-income populations. Mary of Mary Cooperative is an example of this second point, as they offer two price points for their CSA subscription, one market rate and one lower cost rate for neighbors with limited means.

12.3 A Model to Conceptualize Urban Food Enterprises

This study shows that there are substantial differences between enterprises of the same production type in the same region. Perhaps the best example of this diversity is AeroFarms, a multi-million dollar hydroponic farm located in a former industrial building that sells leafy greens to grocery stores in the greater Newark/NYC region and employs over 100 people vs. and the Green Community Farm, an Adopt-a-Lot site farmed by a retired woman, who sells to interested pedestrians and a few nearby restaurants. Researchers and government officials might consider both enterprises as urban agriculture or urban farming. However, existing terminology to describe these enterprises as farms or businesses fails to address the stark differences between these two enterprises. Further, using such general terminology to describe very different enterprises may confuse local regulators and policymakers, especially when these officials attempt to apply codes and policies to such different cases of commercial urban farming.

A model could assist could aid researchers in understanding the difference between different forms of urban food entrepreneurship and public decision makers in designing policy reforms to target specific types of enterprises. Based on the findings from this study the model below (see Figure 12.1) shows significant differences between urban food enterprises. Researchers and administrators should be able to collect the information to measure all three variables in the model by researchers or administrators.

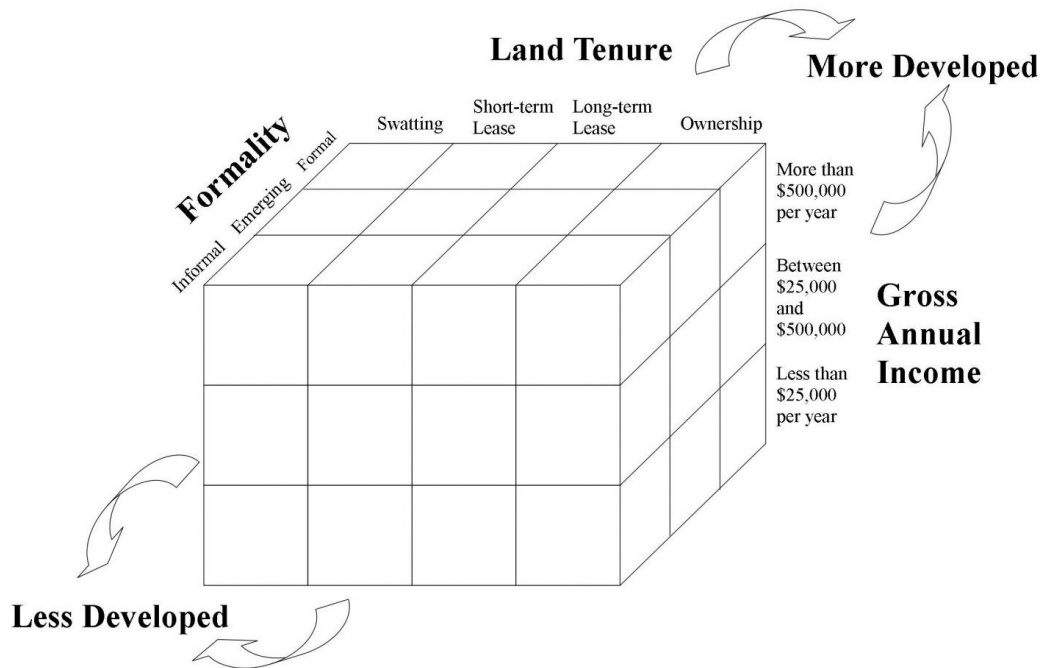


Figure 12.1 Conceptual Model of Urban Food Entrepreneurship.

One difference is the formality/informality of the enterprise’s organizational structure. Informal enterprises do not possess the internal administrative capacity to access programs and incentives but enjoy more freedom from regulatory oversight. The reverse is true of formal enterprises. This difference between formal and informal is best expressed as a continuum between complete informality, where entrepreneurs are effectively free from government oversight yet are ineligible to benefit from public programs and incentives and complete formality, where entrepreneurs are subject to government oversight but are able to benefit from programs and incentives. Between the two extremes are emerging enterprises that are progressing towards formalization but have yet to complete the process.

Formality of an enterprise is a significant characteristic as it indicates a government's ability to affect the enterprise, both positively through programs and incentives, as well as negatively through regulations. Identifying formalized enterprises is easily achieved by accessing state-level business and non-profit registration records. This study demonstrates that identifying emerging, and to lesser extent, informal enterprises is more challenging, but still possible. A conceptual model of characteristics of enterprises should include formality as a variable.

Concerns over land tenure emerged repeatedly during this research. Production cannot occur without a site and entrepreneurs with insecure land tenure are less likely to develop their production sites, thus limiting both their enterprise's economic potential as well as the site's economic potential. Conversely, entrepreneurs who either own or possess long-term leases are more likely to make improvements or develop production infrastructure. Land tenure is included in the conceptual model as a four-point range between ownership as most the developed possibility and squatting or guerrilla gardening as the least developed. In between, are short-term leases, that is leases shorter than five years, and long-term leases, leases longer than five years. Every entrepreneur interviewed in this study provided information about his or her land tenure. Therefore, collection of information on land tenure is possible. Given this, and the significance of land tenure, a conceptual model of characteristics of enterprises should include land tenure as a variable.

Several government staffers reported that they would like to know much food urban food entrepreneurs produce in their region. The Five Borough Farm Project sought production information for urban agriculture in NYC (Cohen, Reynolds, Sanghvi, &

Value, 2012). An enterprise's volume of production would be a useful variable to include in a model and could simply be expressed as an integer. However, given this dissertation's inclusive definition of urban food entrepreneurship, creating a standardized unit of production poses a significant challenge. In effect, how many heads of cabbage equals a box of chocolates or a liter of vodka? Comparing volume of production may be a possible for similar types of value-added or alcohol production. Isolating plant cultivation is also problematic as vegetables are rarely sold in a uniform manner. For example, how many one-pound bundles of spinach equal a head of cabbage? Therefore, volume of production is too difficult to measure in a standardized manner for a conceptual model that characterizations so many different types of urban food entrepreneurship.

NAICS and other definitions use annual gross sales as one threshold value to define small businesses. Sales data could be a variable for modeling urban food enterprises characteristics. However, informal enterprises are unlikely to track and report sales , either due to a lack of internal accounting systems or a desire to avoid taxation. Further, given the sensitive nature of financial data, many enterprises of all types may be hesitant to share this information with researchers or government agencies without the condition of anonymity. For example, fewer than ten enterprises provided specific, on the record, sales data during in this study. This poses difficulty for including sales data in the conceptual model.

Similarly, NAICS and other definitions of small businesses use the number of employees a business employs as a threshold value to indentify small businesses and microbusinesses. Number of employees is a good way of characterizing formal businesses. However, the variable fails to accurately describe both informal ones and

non-profits who may rely on a large number of volunteers. For example, the Greater Newark Conservancy employs roughly 25 employees but also engages hundreds of volunteers, many often one-off volunteers.¹¹⁴ Given the large number of non-profit and informal urban food enterprises in Newark and Dayton, using number of employees in a conceptual model may not accurately reflect the size of the actual workforce of an enterprise.

Of these potential variables, formality, land tenure, and gross annual sales are the most feasible to use in a conceptual model of the characteristics of urban food entrepreneurship. For use in this model, each variable possess several discrete values. The values for formality include: informal, emerging, and formal. The values for land tenure include: squatting, short-term, long-term, and ownership. The values for gross annual sales include: less than \$25,000 per year, between \$25,000 and \$500,000 a year, and more than \$500,000 a year. These threshold values are drawn from US Food And Drug Administration (2018) definitions of very small businesses as outlined in Chapter 4.¹¹⁵ When possible, three-year average values should be used for gross annual sales, but this may not be possible for new enterprises. Each enterprise would be placed in one discrete position in the model. Enterprises in cells near the top-right of the model can be understood as more developed, while enterprises in cells near the bottom-left of the model can be understood as less developed. Five entrepreneurs gave permission to apply their interview data to the conceptual model. Table 12.1 models the characteristics of those enterprises.

¹¹⁴ The Greater Newark Conservancy operates two urban farms examined for this research, but has numerous other functions not directly related to its urban farms. The reported number of employees spans the entire organization.

¹¹⁵ [21 CFR 120.1\(b\)\(2\)](#)

Table 12.1 Modeling Selected Cases of Enterprises

Enterprise	Region	Formality	Land Tenure	Gross Annual Income
Mission of Mary Cooperative	Dayton	Formal (Non-profit)	Short-term (Multiple sites)	Middle Range
Mother Stewart Brewery	Dayton	Formal (For-Profit)	Own	High Range
The Urban Renewal Farm (TURF) ¹¹⁶	Dayton	Emerging	Squatting	Low Range
Coeur et Sol Urban Farms	Newark	Formal (For-profit)	Own & Lease (Two sites)	Middle Range
Green Community Farm	Newark	Informal	Lease (Adopt-a-Lot)	Low Range

12.4 Opportunities for Future Research

Three potential avenues for future research emerged during the course of this research. A more developed understanding of these three issues can advance the argument to local and state government officials that urban food entrepreneur is a viable economic development strategy in 21st century post-industrial cities.

Existing research suggests a there is a positive relationship between the presence of parks or other preserved open spaces and property values of surrounding land (Crompton, 2005; Lutzenhiser & Netusil, 2001). Many characteristics of entrepreneurial urban agriculture and community gardening are similar to those of parks and other preserved open spaces. Therefore, urban agriculture may also have a positive spatial effect on surrounding property values. If there were a positive effect, it would provide additional support for encouraging urban food system development on economic

¹¹⁶ As of April 2018, TURF's organization had collapsed due to internal management issues. Mission of Mary Cooperative was working to assume control of TURF's farm site.

grounds. However, this increase in property values may create, as Dooling (2009) and Quastel (2009) suggest, “ecological gentrification” that may increase rents to unsustainable levels for current residents. This research should use the second trap mentioned above in order to mitigate the potential for ecological gentrification.

A search for studies that examine the effects of urban agriculture, or other urban food enterprises, on surrounding property values revealed no such studies. Future research using GIS to test for this possible effect is needed. One major challenge facing such research to locate high quality cases that have operated for a sufficient length of time to affect local property values. Local government’s reappraisal of land values generally occurs every few years. Consequently, researchers would need to identify urban farms that have operated for several reappraisal cycles to possess sufficient information for testing. Further, some urban farms may be adjacent to public right-of-ways, natural barriers, or other urban features that do not possess appraised values. Researchers would need to identify farms with a large number of adjacent and nearby properties to test for declines in spatial effect over distance.

Several entrepreneurs expressed varying degrees of interest, and varying degrees of progress, in transitioning from informal status to formal incorporation as a business or non-profit. Government officials wish to understand how to encourage formalization of urban food enterprises. However, what could help entrepreneurs make this transition is not clear. Researchers should seek to understand what is necessary to shift informal enterprises into formal enterprises.

This will require deeper investigations into the previous experiences, socio-economic backgrounds, and skill sets of urban food entrepreneurs. Such investigations

lends itself to the use of a critical theory lens and awareness of the danger suggested by Reynolds and Cohen (2016) in recreating structural inequalities through urban agriculture. Further, while this dissertation incorporated some business literature, this work was firmly rooted in social science. Future researchers examining this topic could employ business and economics lenses.

This dissertation research excluded a critical theory examination of interplay between urban food entrepreneurship and race, socio-economic status, and gentrification in post-industrial cities. Interested researchers might draw on this dissertation's findings to frame critical questions about either region. Questions for the Newark region could focus on the tension between nominally middle class white urban food entrepreneurs and other urban food entrepreneurs. Questions in the Dayton region could focus on why there are few minority entrepreneurs and what regionally specific structural factors may prevent their entry into urban food entrepreneurship.

CHAPTER 13

POLICY IMPLICATIONS

The underlying motivation for this dissertation was to, eventually, advise local and state governments on how they might encourage urban food entrepreneurship as a way to mitigate some effects of deindustrialization. This chapter does so, beginning by advocating for a broad shift in how government perceives the value of urban food entrepreneurship, then presenting more specific recommendations.

13.1 Food Entrepreneurship: A Legitimate Activity for 21st Century Cities

To capture the transformative value of urban food entrepreneurship, local and state government officials will need to recognize that urban food entrepreneurship generally, and entrepreneurial urban agriculture more specifically, is a legitimate economic activity in urban spaces and should be supported as such. This dissertation research demonstrates that urban food entrepreneurship already occurs in two 21st century post-industrial cities. Entrepreneurs in these cities face serious challenges yet despite this, they voiced optimism about their enterprises' futures. Local officials generally expressed similar optimism. In order to give support and guidance to entrepreneurs staffers of local and state governments need to reevaluate their understanding of urban agriculture. Such a shift in government administrative culture is necessary to erode mid-20th century modernist narratives about the strict division between urban and rural.

Critics may observe that many instances of urban agriculture, including many of the farms examined in this study, benefit from various public sector interventions (e.g.,

land access, financial assistance, and in-kind assistance). They might argue that government subsidies are inappropriate, as many urban farms would not be economically viable without government aid. This reasoning is flawed for two reasons. First, as the manager of the Rutgers VETS program noted during an interview, federal agriculture policy, through the Farm Bill as well as other legislative interventions, subsidizes traditional monocrop agriculture through a number of different programs (e.g., direct subsidies and crop insurance). Price supports for corn and soybean, among other commodities, reduce the cost of value-added food products made from those substances. Those subsidized products then compete with fruits and vegetables for space in customers' shopping carts. Therefore, the charge that urban agriculture should not be subsidized only has merit if price supports for competitive products made of corn and soybean were removed as well. Urban governments play no part in national-level agricultural subsidies, which are entirely separate sources of money and resources from local governments. There is no zero-sum situation where only either rural agriculture or urban agriculture will receive subsidies. Rather, if the federal government believes that support for rural agriculture is an important national policy objective, should not local and state governments be free to support urban agriculture if they believe it to be an important policy objective?

Local government in post-industrial communities continue to struggle to respond to deindustrialization. As this dissertation research documents, various forms of urban agriculture can effectively use urban spaces that may otherwise remain underutilized, and as a result jobs may be created. However, in the two cities examined in this research, local government expended little effort and resources to encourage their development.

The impact of urban food entrepreneurship would be greater if a combination of policy interventions were employed presented in this chapter.

Further, existing research suggests there is a positive spatial effect on property values generated by proximity to preserved parks or green spaces (Crompton, 2005; Lutzenhiser & Netusil, 2001). An examination of existing research revealed no existing empirical study of a similar effect of urban agriculture on surrounding land values. However, assuming that the appearance of an urban farm, or a community garden, resembled that of other green spaces (e.g., clear sight lines to vegetation, aesthetically pleasing views, or some level of pedestrian access), it is likely that a similar effect on land values would occur. If future empirical research could confirm this effect, this would be one more economic indicator that could encourage local public decision makers to favor policy changes that would foster development of the urban agriculture. However, administrators and researchers alike should also consider warnings of how preserving green spaces can lead to, “ecological gentrification” suggested by Quastel (2009) and Dooling (2009), as well as the second trap discussed by Reynolds and Cohen (2016).

A change in administrative culture that recognizes the value of urban food entrepreneurship will require both educating officials and documenting the ability of urban food enterprises to effectively use underutilized urban spaces and generate economic activity. The research for this dissertation demonstrates that this is now happening In Newark and in Dayton but more research, specifically quantitative research examining specific impacts, is necessary.

Local and state governments could develop economic development tools to encourage urban food entrepreneurship. These tools would be based on the recognition

that urban food entrepreneurship, viewed as an industry, could be both an effective a) as a transitory use, encouraged as a stopgap function until other development with high potential emerges, and b) as transformative and more long-term use, changing neighborhoods into more vibrant, livable spaces.

The shift in administrative culture that is required should include the adoption of language that identifies urban food entrepreneurship in master plans, neighborhood redevelopment plans, and other similar documents. Supportive language focusing on urban food entrepreneurship as a transformational force could be included in these documents. The inclusion of such language would support urban food entrepreneurs who appear at planning and zoning board meetings.

Governments should approach urban food entrepreneurship with intentionality. If administrators seek to use urban agriculture as a transitory use of public land until a higher and better use emerges or occurs, then administrators should intentionally design land access interventions with this transitory nature in mind.¹¹⁷ However, instead of simply discarding the farmer when the higher and better use presents itself, administrators should work with the farmer throughout the farmers' use of the site. An example of an intentional use of public land for transitory reasons might plan to provide farmers with other acceptable land and resources after their farms are developed.

Similarly, administrators seeking to use urban food entrepreneurship to create transformational uses of land should intentionally design interventions and regulations that give the entrepreneur the best chance to achieve the desired transformational effect. An example of an intentional use of public land for a transformational effect might

¹¹⁷ Potentially this example could apply to value-added or alcohol producers, but this is unlikely given this research's findings.

provide that entrepreneur with a lease that is sufficient length for the farmer to justify investments in infrastructure, as well as permission in the lease to install important infrastructure like hoop houses or water access.

13.2 Role of Urban Food Entrepreneurship in Economic Development

One of the goals of this dissertation research was to understand how urban food entrepreneurship, both as individual enterprises but also as an urban phenomenon, could play a role in growing the economy of post-industrial communities.

13.2.1 Can Urban Food Enterprises Stimulate Development?

Entrepreneurs believe that their presence encourages other development nearby. However, such claims are extremely difficult to verify. The best example of this was Garden Station, a non-commercial community garden, in the City of Dayton. For many years Garden Station leased land annually from the City of Dayton and developed a robust community garden and public art space. In 2015, the City of Dayton declined to renew Garden Station's lease, citing its intention to sell the land to a developer planning to build an apartment building.¹¹⁸ Garden Station's volunteers, along with many neighboring residents, protested the termination of the lease at city commission meetings and on social media. With assistance from the City of Dayton, Garden Station's founder eventually secured a roughly one-quarter acre lot roughly a mile from the former Garden Station site and in 2016 launched Dayton Urban Grown, a commercial urban farm and training site. Interviews with other respondents in the Dayton region, along with Garden

¹¹⁸ As of early 2018, the developer had not started construction on Garden Station's former site.

Station's founder, suggests that Garden Station's sustained presence over many years generated development pressure in the neighborhood.

This development pressure potential may have contributed to the developer's desire to acquire the property. However, Garden Station was located between two expanding nodes in greater downtown Dayton: (1) the Historic Oregon District, the downtown Dayton's arts and entertainment district and 2nd Street Market, downtown's public market, and (2) several upscale converted loft apartment buildings. In recent years, demand for housing in downtown Dayton has grown dramatically, spurring the construction of new housing around these two nodes for the first time in decades.

Determining empirically if Garden Station's success increased the likelihood of its own destruction is very difficult. The development on Garden Station's site was likely inevitable given its position between two expanding nodes in downtown Dayton. The development pressure from these two nodes was likely too great for City of Dayton officials to side with a non-commercial community garden over a \$30 million housing development (Frolik, 2017). While Garden Station did not sell produce grown at the site, and therefore was not an urban food enterprise, its eventual closure speaks to the need for urban agriculture generally, as well as urban food entrepreneurship specifically, to operate in appropriate spaces in the built environment.

Conversely, the City of Orange Township in New Jersey seeks to leverage urban food entrepreneurship to encourage other development, both food and non-food related, in its Valley Arts District, a former industrial neighborhood, by working to bring Garden State Kitchen to the district. Garden State Kitchen will open sometime in 2018. The city's zoning official believes that the launch of the commercial kitchen incubator will be a

catalyst for the district that will evoke a sense of community and attract value-added entrepreneurs from across the tri-state region to the district. He further hopes that the incubator's presence will attract a distillery or similar business to the district. In Garden Station's case, its location was inappropriate since it interfered with other development. Conversely, Garden State Kitchen's presence as an anchor tenant for development of the Valley Arts District is appropriate to that location. Both of these examples show a relationship between an enterprise's economic, or potential economic, viability and its location relative to the surrounding urban form. The next section examines this point in detail.

13.2.2 Which Locations are Appropriate?

It is important that an enterprise's location in the urban environment is appropriate to the context of the other land uses that surround it. For example, several public officials voiced concern about the appropriateness of an urban farmer establishing a semi-permanent retail farm stand that might disrupt other activities in a neighborhood or district. A public health official in the Newark region believes that with the exception of single-day farm markets, residents will, "complain about people being on the [farm] site at 7 am on a Saturday making noise. [If you're in the wrong zone] people don't want to hear it". In effect, the official's comments indicate that the same enterprise may be appropriate in one urban space while being inappropriate in another one.

Government policies may directly affect the appropriateness of location. Zoning regulations for high-density neighborhoods may restrict onsite sales to prevent traffic jams. Conversely, the same farm mentioned by the public health official in a low-density neighborhood may not provoke the ire of neighbors or significantly create more traffic,

and would therefore be appropriate. Built environment factors may also influence the appropriateness of an enterprise's location. For example, several breweries observed in the Dayton region positioned themselves to take advantage of foot traffic from nearby residential areas. This location is appropriate for these breweries' business plans as their tasting rooms that depend on foot traffic. Conversely, a direct service brewery located deep in an industrial district would be inappropriate, as the area is unlikely to experience much pedestrian foot traffic.

An enterprise that develops at an inappropriate location and subsequently fails cannot contribute to the city's economy. Therefore, it is in the best interests of local governments to encourage urban food enterprises to develop in appropriate areas of the city. This is true even if the local government wishes to take no direct action to encourage or otherwise support those enterprises. Zoning, as a restrictive force, is the obvious way that municipal governments can encourage enterprises to develop in appropriate locations. However, as this research shows, existing zoning may not effectively address variations of urban food entrepreneurship or may unnecessarily restrict one production form while restricting another form. However, local governments wishing to encourage entrepreneurship could deliberately identify areas of their jurisdiction where specific types of urban food entrepreneurship would be most appropriate.

13.2.3 How Can Enterprises Expand Production?

In this study government staffers expressed an interest in knowing if entrepreneurs were capable of scaling up their production (e.g., shift from informal to formal, add new employees, or increase sales), and if doing so was desirable for entrepreneurs. Several senior level government officials in both regions want to know what challenges prevent

enterprises from scaling up to larger operations, and if scaling up were of interest to individual-scale entrepreneurs. One staffer in the Dayton region noted that given limited resources and staff time, public-sector assistance may only be possible after high quality or potentially high quality enterprises separate themselves from the, “chaff”.

Many urban farmers and value-added producers reported that they want to grow or produce more food, but many face challenges in finding effective ways to market, sell, and distribute their products. Most urban farmers desire some form of regional-level aggregation point that could collect produce from urban farmers and then sell on behalf of the farmer, or as a separate business, to retail and wholesale buyers (e.g., restaurants, school, hospitals, etc). Several farmers said they found selling their products was difficult and would rather sell their products to another business so they could focus directly on managing their farm.

No research reviewed for this dissertation presented a model for understanding the developmental progression of urban food entrepreneurship.¹¹⁹ Table 13.1 shows the beginnings of such a model.

Table 13.1 Developmental Stages of a Post-Industrial Urban Food Entrepreneurship

Stage 1 <-----> Stage 2 <-----> Stage 3		
No or little entrepreneurship No regional aggregation	Substantial entrepreneurship present No regional aggregation	Substantial entrepreneurship present Regional aggregation present

Based on the research for this dissertation, the urban food system in both regions possesses significant local entrepreneurship but mostly lacks regional scale aggregation, placing both regions firmly in Stage 2 in Table 13.1. Limited regional aggregation of

¹¹⁹ Both regions have roughly the same number of enterprises, however entrepreneurship in the Dayton region might be described as greater given the significant differences in population and population density.

produce already occurs in both regions. One for-profit produce aggregator operates in each region, Zone 7 in greater Newark, and Produce One in greater Dayton.¹²⁰ To progress to Stage 3, each region must create an effective localized aggregation system.

In addition to the absence of aggregation points for selling their products locally, entrepreneurs note various difficulties in producing food. Some challenges are specific to producing food in urban environments, while other challenges could occur in rural environments as well. Table 13.2 outlines challenges that prevent entrepreneurs from expanding their production. Governments wishing to encourage expansion of urban food entrepreneurship could intervene to mitigate some of these challenges.

¹²⁰ Interviewing these aggregators was outside the scope of this dissertation, but future researchers on this topic could investigate relationships between these aggregators and urban food entrepreneurs, specifically urban farmers.

Table 13.2 Challenges to Production Expansion by Type of Food Produced

Type of Food Produced	Challenges
Plant Cultivation	<ul style="list-style-type: none"> • Scheduling crop rotations to grow diverse set of crops for CSA, farmers would rather specialize in small set of crops, • Communicating weekly harvest schedules with restaurants, • Paying for water and electrical infrastructure installation, potentially while removing residual debris, • Paying for costly mechanized equipment (e.g., rototillers, bobcats) • Acquiring or creating soil, compost, and fertilizer, • Employing laborers (i.e., employees or volunteers)
Animal Husbandry ¹²¹	<ul style="list-style-type: none"> • Permissibility under zoning and other municipal-level and state-level codes and rule.
Valued Added	<ul style="list-style-type: none"> • Navigating sales regulations (e.g., cottage food laws in Ohio prevent out of state sales) • Paying storage costs • Paying the necessary labor costs to scale up to wholesale level production • Ensuring quality control during packaging and labeling • Using advertising dollars effectively
Consumable Alcohol	<ul style="list-style-type: none"> • Securing sales commitments from restaurants and bars. • Meeting state licensing requirements
Common Challenges	<ul style="list-style-type: none"> • Securing financing for start-up or expansion, • Managing time effectively, especially for solo entrepreneurs with full-time jobs • Remediating old buildings • Securing public and governmental support for non-traditional use of land or space

13.3 Role of Public Sector in Building a Regional Food System

Local governments, as well as state governments, seeking to encourage urban food entrepreneurship should focus their efforts in two policy areas. First, governments should

¹²¹ The limited number of entrepreneurs producing animal products spoke of production challenges during interviews.

work to improve urban food entrepreneurship in their region at the systemic level. This will require government to explicitly acknowledge its role in that development. Second, governments should design interventions to support the establishment and growth of urban food entrepreneurship. This will require that governments recognize urban food entrepreneurs as valid food producers and as small for profit businesses or fledging non-profits and not just as transitory activities.

Governments have limited resources for supporting the local business community. However, by not intervening on behalf of more informal enterprises, public officials may encourage a process of creative destruction by which only the strongest businesses transition to formal enterprises (Schumpeter, 1942). Therefore, it is necessary for public officials seeking to incentivize urban food entrepreneurs by designing interventions that will: a) encourage more informal enterprises to transition effectively to more formal enterprises: and b) identify more formal enterprises that have the greatest potential of becoming economically viable in the mid and long-term. Local government could follow the recommendations presented below to build the region's food system.

13.3.1 Increase Awareness

The research for this dissertation revealed more than 100 urban food enterprises in each region. In both regions, this was more than I, or any government official I interviewed, had expected. Local government's lack of awareness of urban food entrepreneurship in a given region is likely matched by consumers' lack of awareness. Once local government becomes aware of and knowledgeable about local enterprises, it can create and sustain a, "buy local" campaign that encourages residents to purchase from urban food entrepreneurs as well as from farmers in nearby rural locations. Such an advertising effort

could expand to incorporate other elements, such as the region's industrial past, non-food handicrafts, or small businesses in general. A county government is best suited for this advertising, as suburban jurisdictions are likely to acknowledge their subordinate status to their central city for regional branding purposes. For example, "Buy Irvington" carries much less weight from a branding perspective than, "Buy Newark." Local governments could also work cooperatively with university extension personnel, the local chamber of commerce, or similar organizations to advance a, "buy local" narrative.

13.3.2 Empower a Policy Intrapreneur

An important question that emerged during interviews in both regions was whether it would be helpful if an organization, agency, or individual took a leadership role in developing that region's urban food system. Officials were undecided on this point. Of those who wished for centralized leadership, no consensus emerged in either region as to what individual or organization should assume that role. Should a government agency take the lead? Should a civil society organization? Should an entrepreneur or group of entrepreneurs?

In the Dayton region, the Montgomery County Food Policy Coalition spearheaded efforts in the early 2010s to improve the region's food system. A county-level elected official launched the coalition and tasked her executive staff assistant to manage the coalition in addition to her other responsibilities. Respondents in that region suggested that despite the executive staff assistant's best efforts, the coalition needed a full-time staff person to perform basic, but essential, administrative tasks. Castellanos, Jones, Christaldi, and Liutkus (2016) confirm this conclusion. In December of 2015, a new independently funded non-profit, the Hall Hunger Initiative, emerged in the region to take

a leadership role over the remnants of the defunct food policy coalition. As of early 2018, the Hall Hunger Initiative has a full-time staff member devoted to performing essential administrative tasks in support of regional food system development.

In the Newark region, the Booker administration took an active role in developing both community gardening and, to a lesser extent, urban farming, in the City of Newark. The Booker administration allocated two unclassified staffers to this effort. The Baraka administration removed these unclassified workers but hired another, initially unclassified employee to fill sustainability focused role that included food system development.¹²² Essex County has not been involved in any regional food system development beyond leasing a county-owned greenhouse in Branch Brook Park to Radical Farms. Concurrent with these public-sector efforts were several initiatives led by producers and gardeners including recent efforts of the Newark Urban Agriculture Alliance and Occupy Newark Science and Sustainability, as well as the sustained efforts of the Greater Newark Conservancy over the last roughly 30 years.

Local government should take an active role in leading efforts to develop their regional food systems. County governments are best equipped for this task as they can work to benefit subordinate jurisdictions. To ensure consistency and uniformity of vision, local government could recruit or train a staffer to serve as a regional food policy intrapreneur. Jones (2017) suggests that the idea of a public-sector “intrapreneur,” as advanced by Grossman and Holzer (2015), should assume a leadership role in advancing a region’s urban food system development. The intrapreneur is similar to an entrepreneur.

¹²² As of early 2018, the Baraka Administration shifted the previously unclassified Chief Sustainability Officer into a classified role.

But instead of an individual benefitting from their labor like an entrepreneur, the public benefits from the intrapreneur's labor.

The intrapreneur would have a protected position as a dedicated full-time, classified employee in a government organization. This protected position would allow the intrapreneur to focus all his or her efforts on developing the region's food system while enjoying a guaranteed salary that is protected from political pressure. Such a staffer could focus on both the basic administrative and managerial tasks necessary to manage a diffuse system of regional partners as well as advocate both intra-jurisdictionally and inter-jurisdictionally about policy improvements.

13.3.3 Make Legislative Changes

This dissertation research uncovered several legislative impediments to urban food entrepreneurship in both regions. Local governments and entrepreneurs should pressure legislatures to modify or adopt legislation to improve the ability of urban food entrepreneurs to grow their businesses while still protecting the health and safety of citizens. Three legislative issues emerged as most significant.

The New Jersey legislature should adopt some manner of laws for cottage food production. Assembly Bill 3618 passed the lower house in late 2016 but did not leave the State Senate Health and Human Services Committee controlled by Senator Vitale. A3618 allows for in-home production of baked foods that do not require "further cooking or refrigeration for food safety and are not a 'potentially hazardous'." The bill allows for the sale of these goods at the entrepreneur's home as well as at farmers' markets, farm stands, and fairs and festivals, but prohibits other sales methods. The bill restricts home-production to under \$50,000 gross annual income and requires the entrepreneur and any

assistants to possess a current, valid food handler's certificate.¹²³ Passage of AB 3618 or a similar bill would allow value-added entrepreneurs of informal enterprises to emerge from the shadows and start on a path to establishing for-profit businesses.

Alcohol producers in both regions believe that state alcohol licensing laws unnecessarily constrain both the number of entrepreneurial alcohol enterprises in the state and which locations entrepreneurs can develop. With one exception, all alcohol enterprises in the Dayton region opened in the last five years. Nine of these 12 alcohol enterprises are breweries. The two Ohio brewers confirmed that they founded their breweries with the intention of using the A-1c permit and were not, at least at the time of opening, interested in the retail food service operation required for the A1 permit. One brewer said that after the addition of the A-1c permit, the number of breweries in the State of Ohio roughly tripled since the early 2010s. While it is not possible to establish a causal link between the Ohio legislature's creation of the A-1c permit in 2013, the combination of a massive increase in brewery start ups, combined with confirmation from affected entrepreneurs, suggests a likely relationship. State legislatures interested in encouraging small scale brewing in their state should create permits or licenses that allow brewing operations without attached retail food service (i.e., brew-pubs). Further, given the difficulties that the owner of the Belle of Dayton distillery described regarding securing deliveries of his products to liquor stores, the Ohio legislature should reconsider its distribution model and its effects on small business distilling in the state.

Local governments should advocate for streamlining the application processes and improved access to federal food assistance programs for urban food entrepreneurs. This advocacy will likely require a combination of legislative and administrative change

¹²³ [A3618. New Jersey. \(2016\)](#)

at state and federal levels. Local government advocates should adopt the position that these federal food assistance programs are an economic development funding stream that is difficult for small business owners in their jurisdiction to access. Improvements should include: a) reducing the administrative requirements required of entrepreneurs to register for the various programs; and b) encouraging state-level SNAP offices to provide free wireless point-of-sales (POS) devices to farmers, to farmers' markets, and to small-scale urban food enterprises. These POS should be mobile card readers that are compatible with mainline smart phones. These recommendations may require development and implementation of a single unified statewide EBT card that could store data for all relevant programs.

13.3.4 Enterprise Specific Interventions

Beyond intervening at the regional level, local governments could also support individual enterprises in a number of ways.

13.3.4.1 Inventory Underutilized Spaces. Local governments interested in providing urban food entrepreneurs with access to publically controlled land, either through temporary leases or sale for development, should inventory publically owned, vacant or otherwise abandoned properties. Staff can then analyze the inventory to determine which properties best fit the jurisdiction's goals for economic development and food system development. Government could use various existing programs (e.g., land banks) to acquire desirable tax delinquent properties for development as urban food enterprises. Such an inventory could take two, potentially overlapping, forms.

First, a local government could inventory and analyze all vacant lots in their jurisdiction for characteristics that would be beneficial for urban agriculture, or non-commercial community gardening. The Land Evaluation and Site Assessment (LESA) using GIS is likely the best tool for identifying these properties (Tulloch, Myers, Hasse, Parks, & Lathrop, 2003; Wright, Zitzmann, Young, & Googins, 1983). Potential variables for the analysis include: land slope; access to water; healthy soil; land cost and outstanding delinquent taxes; high sunlight filtration; conformity with zoning; use restrictions such as historic districts, access to markets; and access to transportation. Finally, staffers should screen out properties that are likely to have high development potential or are targeted in existing development or master plans. One example is in Sonoma County, California, where the county government used a similar analysis method to determine which county owned land it would lease to farmers for its County Lands for Food Production program (Larson, 2015).

Second, a local government could inventory and analyze abandoned structures in their jurisdiction for characteristics that would be beneficial either for single urban food production types, or some combination of production types. For example, one jurisdiction might be interested in identifying which buildings are best suited for hydroponic farms, while another might be interested in value-added and alcohol production. Variables for this analysis will vary according to the type of desired development. Potential variables could include: presence of pollution; quality of utility infrastructure, both internal and external hookups; height and uniformity of ceilings; presence of loading dock facilities; access to parking; access to markets; access to transportation. Additionally, local

government might also consider the applicability of various state and federal incentives (e.g., Historic Tax Credits).

13.3.4.2. Improve Leases for Urban Farmers. Local and state government should improve the structure and terms of public land leases to urban farmers and community gardens. This dissertation research documented several concerns entrepreneurs have with public leases in the Newark region. Most concerns centered on the annual lease structure, which discourages farmers and gardeners from developing agriculture infrastructure on site. Single year leases reinforce urban agriculture as a transitory use. If governments wish to harness urban farming, as well as non-commercial community gardening, as a transformative use, lease terms should be at least five years, but possibly as long as 30 years. A multi-tiered lease structure is possible, with short-term leases focused on sites where transitory uses are needed and longer-term leases focused on sites where longer lasting, transformative uses are needed. This multi-tiered lease strategy could be combined with the LESA analysis mentioned previously. Further, if a government plans to sell or auction publically leased properties, staffers should communicate with the farmer leasee once the plan to sell the parcel is confirmed. Farmers should not be surprised to learn that their farm sites have been sold.

It would be best if governments only leased land with characteristics that support the economic viability of an urban farm on that site. For example, the ability to dig into the ground is essential for the economic viability of urban farms. Likely scenarios where digging in the ground is important include in ground farming, being able to anchor high tunnel hoop houses, and installing water infrastructure. Government should avoid leasing polluted parcels to urban farmers where digging into the ground or into concrete caps is

restricted for this reason. Further, government should add provisions to leases to allow for the erection and use of high tunnel hoop hoses, as long as such structures conform to building safety standards. Finally, leases should permit onsite sale of produce grown at the farm. Leases should also stipulate what sort of temporary structures farmers can use to create retail farm stands. Such stipulations should encourage compliance with building codes. Governments seeking to restrict farm market sales in certain land uses or zoning districts should create a separate lease for community gardeners.

13.3.4.3 Develop Infrastructure. Urban farmers in the Newark region are concerned about access to water while urban farmers in the Dayton are significantly less concerned. Part of this difference is likely due to the City of Dayton's water infrastructure incentive. However, the farmers' concerns underscore the need of all urban food entrepreneurs for sustainable access to high quality water. Local government with control over water utilities should: a) work to ensure their water is of the highest quality possible; and b) develop sustainable plans to give access to water to both commercial urban farmers and community gardeners. Local government could consider subsidizing the installation of water infrastructure for urban agriculture as well as providing favorable, variable water rates for urban agriculture. Acquisition of storm water reduction grants from federal and state agencies might defray these programmatic costs, as surface-level urban agriculture development is one type of green infrastructure that can absorb stormwater. In cases where utility uses are billed jointly for water and sewage system use, authorities should allow for separate billing of these systems so that urban farmers are not forced to pay for use of sewage systems they do not use.

One owner of Aerofarms reported that the company had worked with the city to improve municipal/public utility water hook-ups and electric transformers, as well as to improve the company's internal water and electrical access points. Local governments interested in attracting hydroponic enterprises, like Aerofarms, should be aware of the capacity of their utility grids in relation to the likely needs of hydroponic enterprises and consider improving them where necessary. Jurisdictions specifically preparing vacant buildings for conversion for hydroponic use should consider this need in their building identification and remediation process.

13.3.4.4 Model Use of High Tunnel Hoop Houses. A number of urban farmers in both regions use high tunnel hoop houses. Farmers praised high tunnels, mainly focusing on the structure's ability to extend the growing season to year-round production. Farmers desire to grow year-round to improve their farms' economic viability. However, several farmers in the greater Newark region spoke of the opposition they faced in erecting these structures, both in the enforcement of building codes as well as in use regulations in leases.

Local governments with building code oversight should develop a fact sheet to inform urban farmers about the various requirements for the use of high tunnel houses. The fact sheet should provide information on the following topics: navigating the permit process; safety requirements, such as anchorage and setbacks; use requirements, such as who can enter the structure; conformity with existing zoning; and ensuring the farm's aesthetic conforms to adjacent uses. For example, the fact sheet might warn farmers to never allow customers inside hoop houses or greenhouses. This prevents those temporary structures from qualifying as retail structure under building code, which would otherwise

add additional safety and spacing requirements. Local governments that modify zoning districts or create overlay districts to accommodate urban farming should include provisions for the use of high tunnels.

Governments should only grant public leases to urban farmers if they are willing to allow the erection and use of high tunnels and similar structure to better ensure long-term economic viability of the farm. Any government that leases publically owned land for urban farming could create provisions in the lease to allow for the erection and operation of a high tunnel hoop house, as long as certain safety protocols are followed. Any safety requirements with such a lease should align with local building code requirements advanced by the relevant local government. Local governments could collaborate intra-regionally to ensure consistency of these codes and rules across the region. This will allow farmers to add new production sites in different jurisdictions with minimal effort.

13.3.4.5 Provide Business Training. Many farmers and value-added entrepreneurs believe they could benefit from education focused on developing their enterprises as small businesses. Small Business Development Center (SBDC) resources are already available in both regions, but no entrepreneurs interviewed were aware of the SBDC network. SBDC offices should outreach directly to these entrepreneurs. However, given a number of challenges noted in this dissertation, entrepreneurs may need more specialized urban food entrepreneur training to help start and grow their enterprises.

There are two examples of such programming. Ohio State University County Extension for the counties of Columbus and Toledo has urban farmer workshops.¹²⁴

¹²⁴ Franklin County Program Website: <https://franklin.osu.edu/news/2017-ohio-master-urban-farmer>

These multi-week workshops are similar in structure to master gardener programs offered by county extension offices across the country. Informal discussions with the county agents in charge of these two programs in the summer of 2016 suggested that neither program was well attended. Further examination of these programs' challenges is needed.

Some overlap exists between the needs of beginning farmers in rural areas and the urban farmers studied in this dissertation research. Examples of overlapping challenges from research about beginning farmers include: the need to cover land costs and startup capital, the need for business management education, assistance in transitioning to farmer lifestyle, and effective access to markets and capital (Ahearn, 2011; Johnson, Bowlan, McGonigal, Ruhf, & Sheils, 2001; Mishra, Wilson, & Williams, 2009; Niewolny & Lillard, 2016). With these overlaps in mind, one avenue for funding urban farmer education might be to see grant funding targeting beginning farmer education.

13.3.4.6 Offer Financial Incentives. Local governments interested in expanding entrepreneurial urban agriculture could well consider direct financial incentives for those farmers. These incentives could take the form of in-kind grants or tax credits. Several examples of these direct incentives exist across the county.

The City of Cleveland directly incentivizes entrepreneurial urban agriculture through the Gardening for Greenbacks program, which provides up to \$5000 for production equipment such as tools, rain barrels, and hoop houses, as well as marketing equipment like display tables, booths, and signage (City of Cleveland, 2018). Other governments have sought to incentivize entrepreneurial urban agriculture through tax incentives. In 2014, the Maryland Legislature passed the Property Tax Credit – Urban

Agricultural Property. This Act allows county, municipal, and Baltimore City governments the ability to give real estate tax credits to properties ranging from 1/8 to no more than five acres that are used for urban agriculture, including entrepreneurial production and sales (Wakefield, 2014).¹²⁵

Similarly, in 2013, the California Legislature passed the Urban Agriculture Incentive Zones Act. The Act allows jurisdictions and individuals to restrict use of parcels of at least one-tenth of an acre that are, “vacant, unimproved, or otherwise blighted lands for small-scale production of agricultural crops and animal husbandry” for no less than five years. County assessors value such parcels proportionally based on the average per-acre value of irrigated cropland in California.¹²⁶ This tax credit caused some controversy due to extremely high property values in San Francisco. A popular media article in 2014 estimated this tax incentive could drop the annual tax burden of a vacant parcel in the city from over \$10,000 to roughly \$100 (Bland, 2014). This massive drop in taxes drew charges of gentrification from fair housing advocates, stating that subsidies for urban agriculture were too high when urban agriculture competes against affordable housing (Friedersdorf, 2014). Tortorello noted similar that charges of urban agriculture as gentrification emerged in New York City. Interested governments should consider these examples when designing tax incentive structures to encourage entrepreneurial urban agriculture.

Beyond direct incentives, local governments could also provide in-kind donations of biological materials that urban farmers can use in their operations. Two farmers in the Dayton region receive donations of biological materials from a county government in the

¹²⁵ Property Tax Credit – Urban Agricultural Property, HB 223. Maryland (2014)

¹²⁶ Urban Agriculture Incentive Zones Act, AB 551. California. (2013-2014)

form of horse manure and from a municipal government in the form of leaves. Both farmers said they used these materials for onsite composting for later use for their crops. Local governments should adopt similar donation schemes for leaf and manure waste. Additional budget expenditure for such efforts might be justified when considering the ecological impact of that waste not ending in the municipal landfill.

13.3.4.7 Encourage Food Assistance Program Redemption. Entrepreneurs face difficulties in participating in federal food assistance programs such as SNAP and WIC. Local and state governments should prioritize developing programmatic and policy improvements to make it easier for small-scale urban food entrepreneurs to participate in these programs. This will likely require a shift from thinking of federal food programs as public assistance for lower-income citizens towards thinking of the food programs as economic subsidies for agriculture and food manufacturing sectors. Currently, grocery stores, and the underpinning international, industrialized food system, likely benefit from the majority of those subsidy dollars. Local and state governments should recognize that more food assistance dollars redeemed through urban food entrepreneurs means more money stays in the local economy, as opposed to supporting long supply chains to bring products from other regions or countries.

Local and state governments could consider subsidies similar to the Double Up Food Bucks program (Double Up) first developed in the State of Michigan in 2009. The 2014 Farm Bill created the Food Insecurity Nutrition Incentive (FINI) program that provides matching dollars to Double Up inspired local programs across the nation. The Produce Perks program in the Dayton region is a manifestation of the Double Up program. In 2016, the Fair Food Network reported SNAP participants in the State of

Michigan redeemed a total of roughly \$2 million of combined SNAP and Double Up dollars. Over 1000 Michigan farmers benefited from the program (Fair Food Network, 2017).

Private donors could also provide matching incentive, which could create a triple up effect for SNAP redemption or a double up effect for other programs. For example, the Wholesome Wave, a national non-profit and receipt of FINI money, provided three-to-one matching for SNAP redemption at farmers markets in Trenton, New Jersey in 2017. Additionally, the Alliance of YMCAs also provided the Wholesome Wave two-to-one matching dollars for SNAP recipients to buy any items, including non-food products, at the market.

13.4 Private Sector Involvement

Finally, non-governmental actors interested in developing their community's urban food system can take several steps.

13.4.1 Local Sourcing in Food Service Contracts

Large institutional organizations that serve food as part of their operations (e.g., hospitals, schools, universities, and prisons) should commit to sourcing foods from urban food enterprises and other local producers and farmers. This purchasing could occur on an ad-hoc basis. However, this dissertation research uncovered some logistical problems are possible with ad-hoc purchasing as it would increase in the number of trucks delivering to the central commissary. Rather, institutions could consider renegotiating their purchasing contract with their food vendor to require sourcing a small percentage of food from local or urban vendors. This could have a significant impact on their community's food

system. Such a contract might facilitate the development of a localized aggregation point to gather the production from multiple micro-scale producers to meet the demands from a major institution.

Actors in the non-institutional private sector could collectively commit to increase their sourcing from urban food enterprises. For example, individual restaurants could commit to buying certain products from urban farmers. Some evidence of this practice exists in Dayton and Newark. However, the region's restaurant association, or similar entity, pushing its collective membership towards this goal would likely have a greater impact.

Prior to committing to local sourcing many organizations may not understand which products used in their kitchens could be sourced from local producers. Organizations could conduct internal reviews of the products they require to better understand what could be sourced from local producers. Armed with this knowledge, organizations could then contract directly with local producers or modify contracts with existing food vendors.

Two prominent examples of this approach exist. First, in 2015 Ohio State University pledged to, "increase production and purchase of locally and sustainably sourced food to 40% by 2025." The university, in line with its position as a state university, defined local as any producer or farmer in the State of Ohio (The Ohio State University Panel on Food Sustainability, 2016). Second, in 2014 the Cultivate Michigan campaign, part of the Michigan Farm to Institution Network, asked institutions in the State of Michigan to purchase 20% of their total food from Michigan producers by 2020. As of 2016, 53 institutions had joined the campaign, spending roughly \$3.5 million on

Michigan foods in that two year period (Michigan Farm to Institution Network, 2016). While both these examples are statewide initiatives, an individual institutions or a group of institutions in the same region or city could launch a similar initiative.

13.4.2 Recommendations for Entrepreneurs

Entrepreneurs could leverage their collective power by forming voluntary trade organizations. Further, entrepreneurs could form partnerships with other entrepreneurs to capture biological production input from each other. Finally, entrepreneurs could lobby legislatures to ease their ability to redeem federal food assistance programs like SNAP and WIC.

Using this dissertation's inclusive definition of urban food entrepreneurship would allow for a broad and diverse set of enterprises to participate in a regional trade association. The association's organization structure could adopt several existing forms including region restaurant associations, production co-ops, etc. Potential activities include, advocating on behalf of entrepreneurs to local and state government; promoting buy local branding in the region; organizing aggregation methods and locations; facilitating intra-association connections (e.g., sourcing production inputs from another enterprises waste products); and coordinating purchasing with rural farmers.

Several instances where enterprises used the biological waste products of another regional enterprise as production inputs were described in Chapter 9. Similarly, two enterprises in the Dayton region acquire peppers from one local rural farmer and one urban farmer for use in the production of hot sauce and flavored vodka. These multi-enterprise partnerships support the local economy in a number of ways. First, sourcing products locally keeps more money in the region. Second, the purchasing enterprise may

acquire a higher quality product than might be available in the wholesale marketplace. Third, such partnerships reduce bio-wastes in landfills and could reduce the carbon footprint of the production as production inputs travel a shorter distance than they would likely otherwise. The entrepreneurs said these partnerships and purchasing agreements evolved organically and had a positive effect on their businesses. Similar partnerships could be established between other enterprises in the same region. For example, the owners of Bellbrook Chocolate Shoppe said they were interested in buying high quality fruit for use in their candies. Entrepreneurs should seek out these partnerships where possible and local and state government should find ways to facilitate and support such partnerships.

Finally, urban food entrepreneurs could lobby state and federal government to streamline application processes and improved access to federal food assistance programs. This advocacy may require a combination of legislative and administrative change at state and federal levels. This recommendation is similar to the legislative recommendation provided earlier in this chapter for local governments. Entrepreneurs should argue that administrative requirements to participate in these programs are burdensome and their ability to participate would both increase access to healthy foods by program participants as well as improve sales to urban food enterprises.

This research identified a variety of interventions available to local and state-level public decision makers seeking to use public policy to encourage urban food entrepreneurship in their jurisdictions. Public decision makers in post-industrial cities have a great opportunity to harness the transformative power of urban food entrepreneurship. To do this, public decision makers must intentionally design, reform,

and implement regulations and policies in a manner that encourages urban food entrepreneurs to be active participants in responding to the challenges facing America's post-industrial cities in the 21st century.

APPENDIX A

ENTERPRISE IDENTIFICATION PROCESS

A combination of methods made it possible to identify urban food enterprises. I began by creating lists for both regions based on my personal knowledge. The lists included the following, where possible: owner name, production address, type of products produced, website, phone number, and owner email address. Over time, potential enterprises emerged as I consumed popular media and engaged in informal conversations about the two regions. The entrepreneur interview protocol contained a question designed to identify other enterprises. I also used social media to crowd source data collection through a Google Form that solicited the identity of enterprises. Purposive internet searches and business lists obtained from government agencies were the final two methods used. These final two methods require additional explanation.

Internet searches identified potential enterprises by using a variety of search terms drawn from my personal knowledge of the four production types. Examples include urban farm, hydroponic farm, CSA, honey, aquaponic, eggs, artisan, bread, bakery, brewery, etc. Many enterprises maintain business profiles on Facebook; these profiles were an excellent source of information. When needed, internet searches helped determine if a given business fit the needed inclusion criteria. For example, an internet search revealed that Dunkin Donuts no longer makes donuts in-house, thus disqualifying any stores as enterprises.

I also obtained lists for retail food businesses from relevant government agencies in each region (i.e., county government in Ohio and municipal government in New Jersey). Each municipal government in the Newark region required an OPRA request to

obtain this information. Context clues included on lists (e.g., business name) suggested a business' potential status as an urban food enterprise. I rejected most businesses from the list as their primary business model was clearly direct food service. Examples include: 7-Eleven or Giovanni's Pizza. For some businesses on the lists, an internet search for additional information occurred. This process was highly subjective and not replicable.

Identification Challenges

Throughout the identification process, several challenges emerged. First, it became clear that some enterprises employ in more than one production type. Second, a number of enterprises serve meals directly to individual consumers as part of their businesses. Third, counting commercial beekeeping was challenging due to how both state governments collect and maintain relevant records. Fourth, the discovery of food incubators in the Newark region posed specific identification challenges.

For simplicity, enterprises that employ more than one production type were sorted into a single production category. When the most significant production type was unclear, I selected a production type based on available data (e.g., interview, survey, or information listed online) and my judgment. However, the vast majority of enterprises exclusively produced one type of product. About 10-15% of enterprises in either region employ more than one type of production. The most common multi-product enterprise was plant and animal, as several urban farms in both regions raise bees. In addition, number of farms also maintain very small value-added production operations, generally to convert excess produce into value-added products like juices and jams.

The search revealed businesses that fit the criteria of an urban food enterprise, but also sold individual servings to customers at a storefront. The best example of this is

the large number of Hispanic bakeries in the Newark region that provide several tables at the front of their store for customers to drink coffee and eat bake goods. Ultimately, bakeries, pastry shops, and donut shops, as well as wedding cake bakers were included in the list of urban food enterprises as long as their store did not appear to be a fully functioning restaurant.

Identifying entrepreneurial beekeeping for honey production was difficult for two reasons. First, as noted in Chapter 7, neither New Jersey nor Ohio requires specific licensing to produce or sell honey. Thus, there is no centralized list of entrepreneurs. Second, both state Departments of Agriculture require that beekeepers register the locations of hives, but beekeepers are not required to note if hives are for commercial or personal use. Therefore, the final count of urban food enterprises only includes beekeepers where additional confirmation of their entrepreneurial status is present (e.g., such as a commercial website).

Finally, snowballing identification of enterprises during interviews revealed the existence of three commercial kitchen incubators in the Newark region. Organic Food Incubator, the Newark region's sole established food incubator in 2017, operates in the Township of Bloomfield. The incubator primarily focuses on beverage and fermented food product manufacturing. Its owner noted the incubator averaged roughly 50 clients at any given time.¹²⁷ Garden State Kitchen was in development throughout 2017 and its owner expects to open in the City of Orange in 2018. She indicated in early 2018 that she possessed 97 potential clients once the incubator opens. Additionally, Pilotworks, a commercial kitchen incubator chain business opened a kitchen incubator in downtown

¹²⁷ The owner of the Organic Food Incubator refused to provide a list of client enterprises. This prevented cross-referenced verification of enterprises using the incubator during the identification process.

Newark in early 2018. Pilotworks operates five other commercial kitchen incubator in other cities across the US ("Pilotworks," 2018).

APPENDIX B

RESEARCH QUESTIONS AND SOURCES OF DATA

Table B.1 Research Questions and Sources of Data

Topic	Research Questions	Sources of Data
Cases of food enterprises	1 - What are the characteristics of existing urban food enterprises? A. Current location(s), its land uses, and existing zoning? B. Evidence of adaptation of underutilized post-industrial land and buildings? C. Type and volume of foods produced? D. Number of employees? E. Demographic information of owners/operators & staff? F. Organization cash flow and other financials? G. Organizational structure, history, and mission? H. Distribution of food to what locations and in what amounts? I. How can the public interact with enterprise product facilities?	Interviews with entrepreneurs Site visits Archival sources
	2 – How do administrators perceive urban food enterprises in current administrative & economic development discourses?	Interviews with government staff Archival sources
Governance	3 - How do local governments support or constrain urban food enterprises? A. What regulations, policies, programs, and incentives currently shape the development of urban food enterprises? B. What agencies are responsible for regulating urban food enterprises? C. Have the regulations, policies, programs, and incentives changed over time?	Interviews with government staff Interviews with civil society organizations staff Survey of zoning administrators Archival sources
	4 - How administrators implemented these regulations and supporting interventions?	Interviews with government staff Interviews with civil society organization staff
	5 - How do urban food entrepreneurs perceive the regulation of their enterprises and that regulation’s implementation by local and state-level officials?	Interviews with entrepreneurs
Envisioning	6 - How do administrators envision the role of urban food enterprises in light of the challenges facing post-industrial cities?	Interviews with government staff Survey of zoning administrators
	7 - How do owners and operators of urban food enterprises believe local and state government should align themselves to encourage urban food system development?	Interviews with entrepreneurs

APPENDIX C

INTERVIEW PROTOCOLS

This appendix lists the three interview protocols used in this research.

C.1 Interview Protocol - Government Staffer

Introductory Note:

Thank you again for agreeing to participate in my dissertation research. My research examines how post-industrial cities can encourage the development of urban food production as a tool of economic development. As part of this research, I'm speaking with officials from jurisdictions across the Dayton/Newark region.

Before we begin, it is important that you know your participation in this research is voluntary. You may at any time refuse to answer any question or end the interview at any point. I cannot compensate you or your organization for your assistance today; however, I hope that my research may encourage economic development in the region.

Your responses today will guide the later stages of my research. I may wish to quote you directly in my findings. However, I will only do so with your permission. I have a form that outlines your rights in this research that requires your signature.

Provide IRB form.

During this interview, I will refer to "urban food enterprises." By this, I mean:

- For profit and nonprofit organizations;
- That grow or produce food in the greater <Newark/Dayton> region;
- That sell the food(s) they produce;
- But are not prepared food services (i.e., restaurants or fast-food).

Do you have questions before we begin?

Section 1 – Warm Up

Section Preface: "I will start with a few questions about your work here."

1. How long have you worked in your current position?
2. What are your major responsibilities?

Section 2 – Coping with Challenges

Section Preface: "Great. Now I want to talk about the economic challenges facing <Jurisdiction>."

3. First, could you tell me whether <Jurisdiction> here and across the region at large is experiencing the following urban problems that are common to many post-industrial cities today?
 - Unemployment?
 - Vacant buildings?

- Polluted brownfield sites?
 - Are certain regions or neighborhoods of <Jurisdiction> affected more than others?
4. Could you tell me what strategies <Jurisdiction> may be currently using to combat these problems?
- Probes:
- Macro-level economic development strategy?
 - Worker training programs?
 - Vacant building demolition programs?
 - Redevelopment strategies for vacant buildings?
 - Brownfield cleanup programs?
5. How long have these program existed? (Probe for specific programs of interest.)
6. How could these programs work more efficiently?
7. Have any new problems presented themselves since <Jurisdiction> started employing these strategies?

Section 3 – Perception of Urban food Enterprises

Section Preface: “Now I want to talk about <Jurisdiction> urban food enterprises.”

8. How many urban food enterprises do you estimate exist in <Jurisdiction>?
9. What role do you think urban food enterprises play in the economic vitality of <Jurisdiction> your community?
10. Does economic planning in <Jurisdiction> currently consider urban food enterprises as a means of development?
- a. If YES, could you tell me about that?
 - b. If NO, has there been any discussion of doing that?
 - i. If YES, could you tell me about that?
11. Does <Jurisdiction> have direct contact with urban food enterprises?
- a. If YES, which departments? Who are the staffers there?
 - b. If YES, what form does that contact take?
- Probes:
- c. How regular is the contact?
 - d. Who generally initiates the contact?
 - e. What topics are discussed in these communications?
12. To your knowledge, does economic development planning in <Jurisdiction> specifically encourage urban food enterprise development?
- a. If YES, how does it do that?
 - b. If YES, has this changed over time?
 - c. If NO, why not?
13. To your knowledge, has <Jurisdiction> received any positive feedback from citizens about urban food enterprises?
- a. If YES, can you tell me about that?
14. To your knowledge, has <Jurisdiction> received any complaints from citizens about urban food enterprises, activities, or their waste products?
- a. If YES, could you tell me about that?

15. (If NOT ELECTED) Are you aware of any pressure exerted against elected officials on the issue of urban food enterprises
16. (If ELECTED) Are citizens speaking with you about urban food enterprises? If YES, what are they saying?
17. Are you aware if <Jurisdiction> has partnered with a local farmer to provide a CSA to <Jurisdiction> staff?
 - a. If Yes, please tell me more about this.
18. If <Jurisdiction> SERVES FOOD, has <Jurisdiction> considered sourcing a small percentage of the food served from local producers?
 - a. If Yes, could you tell me about that?
 - b. If No, do you have an idea why this hasn't been considered?
19. Overall, how would you characterize <Jurisdiction> relationships with urban food enterprises?

Section 4 – Policies Affecting Local Enterprises

Section Preface: "Next, I want to talk about the regulations, policies, programs, and incentives of <Jurisdiction> that affect urban food enterprises."

Preface: "First, let us talk about incentive programs."

1. Does <Jurisdiction> have any incentive programs that could benefit urban food enterprises?
 - a. If YES, can you tell me about them?
 - b. If YES, are any of these programs specifically targeted towards urban food enterprises?
 - c. If NO, why not?
2. Have these programs changed over time?
 - a. IF YES, can you tell why they have changed?
3. IF NO PROGRAMS, has <Jurisdiction> considered, but not implemented, ways of encouraging urban food enterprises as a way to improve the local economy?
 - a. If YES, what is being considered?
 - b. If YES, why are these programs yet to be implemented?

Preface: "Now, let us talk about regulations and policies."

20. Can you describe the ways that <Jurisdiction> might regulate or control urban food enterprises?

Probes:

- Does zoning restrict agricultural activities? Generally, which classifications restrict what activities?
 - Could building codes restrict agricultural activities? If YES, how so?
 - What about public health codes for food production and sale?
 - What about restrictions on public sales (i.e., farm stands, farmer's markets, etc)?
 - What about leasing <Jurisdiction> owned land?
 - What about restrictions on employees?
21. Which departments in <Jurisdiction> are charged with implementing these regulations?
 - Permissible uses in zoning?
 - Building improvements?

- Health and safety?
 - Direct sales of foods?
 - Leasing publically owned land?
 - Labor restrictions?
- a. Which departments in <Jurisdiction> are charged with implementing these
22. Have these regulations changed over time?
- a. If YES, how so?
 - b. If YES, why have they changed?
23. In order to encourage the development of urban food enterprises in <Jurisdiction> and the region, has <Jurisdiction> considered altering the regulation of urban food enterprises?
- a. If YES, what changes are being considered?
 - b. If YES, can you tell me why these changes are being considered?
 - c. If NO, why haven't changes been considered?
- Probe on relevant regulations

Section 5 – Visioning

Section Preface: “Finally, I want to ask you a few forward looking questions.”

4. Do see a role for urban food enterprises in the future economic development of <Jurisdiction>?
5. If sufficient resources existed, how might <Jurisdiction> relationship with urban food enterprises change?
 - a. What <Jurisdiction> or state-level policies would need to be changed for this to occur?
 - b. How can the capital necessary to implement these changes be developed?

Section 6 – Wrap Up

Section Preface: “Excellent, thank you for your help today, I have just a few wrap up questions.”

1. At a later stage of my research, I plan to conduct a survey all urban food enterprises in the region. Can you name any enterprises I should include in my survey?
 2. Given my line of questioning today, what other government staffers, either in <Jurisdiction> or another jurisdiction should I speak with on this issue?
 3. Is there anything else you wish to tell me about <Jurisdiction>'s relationship with its urban food enterprises?
-

C.2 Interview Protocol – Enterprise Owner/Operator

Introductory Note:

Thank you again for agreeing to participate in my dissertation research. My research examines how post-industrial cities can encourage the development of urban food production as a tool of economic development. I requested an interview with <Enterprise> for that reason.

Before we begin, it is important that you know your participation in this research is voluntary. You may at any time refuse to answer any question or end the interview at any point. I cannot compensate you or your organization for your assistance today; however, I hope that my research may improve the legitimacy of urban food production in the region.

Your responses today will guide the later stages of my research. I may wish to quote you directly in my findings. However, I will only do so with your permission. I have a form that outlines your rights in this research that requires your signature.

Provide IRB form.

Do you have questions before we begin?

Section 1 – Background

Section Preface: “First, I’m going to ask some background questions about <Enterprise>’s history and development.”

1. When was <Enterprise> started?
2. What were the reasons for starting <Enterprise>?
3. Do those continue to be reasons for <Enterprise> continued existence?
 - a. If NO, could you tell me what has changed?
4. Why did you choose to develop in <Jurisdiction>?

Probes:

- Has <Enterprise> always been located in <Jurisdiction>?
 - If NOT SAME LOCATION, where was <Enterprise> started?
 - a. When did you move here?
 - b. What factors led you to move here?
5. How is <Enterprise> structured? A for-profit business? A non-profit?
 - a. If BUSINESS, are you the owner of <Enterprise>?
 - i. How many owners does <Enterprise> have?
 - b. If NGO, is food production for sale a major part of your mission?
 - i. If YES, when was it added?
 - ii. If YES, why?
 - iii. If NO, when was it added?
 - iv. If NO, why?
 6. Can you tell me about <Enterprise> mission or goals for the near future?
 - a. If BUSINESS, outside of making a profit, do you hope <Enterprise> will affect any change in the community?
 7. What foods does <Enterprise> grow?
 8. What foods does <Enterprise> produce?

9. Why did <Enterprise> elect to grow or produce these types of food?

Section 2 – Current Operations

Section Preface: “My next questions are about how <Enterprise> operates now.

Preface: “Now, let’s talk about the paid employees at <Enterprise>.”

10. How many people work at <Enterprise>?

11. How many employees are engaged in growing or producing of food?

12. How many employees are engaged in the sale of food <Enterprise> grows or produces?

13. How many employees are paid to instruct others about growing or producing food?

14. How many hours do these employees work during an average growing season week?

15. How many of these employees were hired from local residents (i.e., residents of <Jurisdiction> or its neighbors?

Preface: “Let’s change gears slightly and talk about the volunteers who work at <Enterprise>?”

16. How many volunteers does <Enterprise> engage?

17. How many volunteers are engaged in growing or producing of food?

18. How many volunteers are engaged in the sale of food <Enterprise> grows or produces?

19. How many volunteers instruct others about growing or producing food?

20. How many hours do these volunteers work during an average week during the growing season?

Preface: “Finally, some general questions about <Enterprise> current operations.”

21. What other revenue generating functions does <Enterprise> engage in?

Probes:

- Farming/Gardening Education?
- Composting?
- Fundraising?
- Other?

22. How many employees are devoted to non-growth/production or sale of food activities?

23. Roughly, how much food did <Enterprise> grow in 2015? (units will vary)

24. Roughly, how much food did <Enterprise> produce in 2015? (units will vary)

25. Roughly, how much food did <Enterprise> sell in 2015? (units will vary)

26. Roughly, what percentage of <Enterprise> total annual income is from the sale of foods produce?

27. Has this percentage grown, declined, or stayed roughly the same in recent years? When did this change occur? Can you tell me why?

28. What is the greatest challenge currently facing <Enterprise>?

Probes:

- Labor?
- Access to capital?
- Infrastructure limits?
- Distribution?

- Regulation?
29. What is the greater opportunity currently facing <Enterprise>?
 30. Which is currently of greater importance to <Enterprise>, the challenge or the opportunity? Can you tell me why?

Section 3 – Site Use

Section Preface: “Excellent, great information. Now let’s and talk about the locations<Enterprise> uses for commercial food operations.”

31. Could you tell me about the location(s) <Enterprise> uses for its commercial food operations? How many are there in total? What do you call them?

START RECURSIVE QUESTIONS

Recursive Preface: “Let’s discuss this <Location> next.”

32. Where is <Location> located?
33. Roughly what is the property of <Location>?
34. Does <Location> have any buildings>?
 - a. If YES, how many?
 - b. If 2+, how many are currently utilized?
35. Does <Enterprise> own <Location>?
 - a. If NO, who owns <Location>?
 - i. If PUBLICALLY OWNED, which government agency owes <Location>?
 - ii. If PUBLICALLY OWNED, please describe the lease/license/access agreement between <Enterprise> and the landowner.
 - b. If YES, roughly how much did <Enterprise> pay to purchase <Location>?
36. What challenges did <Enterprise> face in securing <Location>?

Probes:

- Difficulties in purchase/lease/license process?
 - Difficulties in securing financing?
 - Difficulties in securing tax incentives or credits?
 - Conflict with zoning designations?
37. Is this part or all of <Location> accessible to the public?
 38. If YES, which parts and how can the public utilize <Location>?
 39. What activities occur at <Location>?

Probes:

- Cultivation, Husbandry, Value Added Processing, or Brewing/Distilling?
 - Distribution?
 - Storage?
40. Why did <Enterprise> choose <Location> for these activities
 41. Roughly, what was the cost to get <Location> ready for these activities?
 42. What challenges did <Enterprise> face in preparing <Location> for these activities?

Probes:

- Difficulties with removing remnants of previous uses?
- Challenges with pollution remediation?
- Challenges with building inspectors?
- Opposition from neighbors?

- Crime or vandalism?
43. If PRODUCTION, what percentage of the useable space is devoted to:
 - a. Cultivation?
 - b. Husbandry?
 - c. Food Processing?
 - d. Brewing/Distilling?
 44. If PRODUCTION, can you tell me about the types of equipment you use for:
 - a. Cultivation?
 - b. Husbandry?
 - c. Food Processing?
 - d. Brewing/Distilling?
 45. If PRODUCTION, what production equipment does <Enterprise> need to expand?
 - a. Why hasn't <Enterprise> acquired this equipment?
 46. If PRODUCTION, what does <Enterprise> get its material inputs for:
 - a. Cultivation?
 - b. Husbandry?
 - c. Food Processing?
 - d. Brewing/Distilling?
 47. If DISTRIBUTION, what percentage of the useable space is devoted to:
 - a. Processing?
 - b. Storage?
 48. If DISTRIBUTION, how do you store finished foods before sale?
- END RECURSIVE QUESTIONS*

Section 4 –Distribution

Section Preface: "Next, I want to talk about <Enterprise>'s production and distribution of food."

49. Tell me about how <Enterprise> distributes the produce for sale?

Probes:

- Who buys it?
 - How does the food reach its destination?
 - What is the farthest reach of your distribution?
50. At what locations in the region are <Enterprise> foods sold?
 51. Does <Enterprise> sell food to any distributors or wholesalers?
 52. What methods of transportation does <Enterprise> use to transport foods to points of sale or distributors or wholesalers?
 53. Which kinds of sales or distribution mechanisms are the most effective for growing <Enterprise>? Why do you think this?
 54. Which kinds of sales or distribution mechanisms are the least effective in growing your organization? Why do you think this?
 55. What factors prevent <Enterprise> from reaching your ideal number of customers or buyers? (#1C, #1H, #3, #4, #5)
 56. If you sensed greater local consumer demand, could you easily increase production to meet that demand? Why or why not?

57. What challenges would you face if you dramatically increased your current production of food?

Section 5 – Interaction with Government

58. *Section Preface: “In this final section, I will ask about <Enterprise> interactions with local government, and to a lesser extent state government.”*

59. In what ways does the government regulate or constrain your activities?

- a. What about zoning regulations?
- b. What about building codes?
- c. What about public health codes
- d. What about environmental protection codes?
- e. What about lease/licenses for the use of public land?
- f. What about labor regulations?
- g. What about water and storm sewer usage?
- h. What about public sales of your foods?
- i. Other ways?

60. Have these regulations changed over time?

- a. If YES, how so?

61. Has the enforcement of any of these regulations changed over time?

- a. If YES, how so?

62. Of the regulations that you just mentioned, which of those do you find overly burdensome? Why do you feel that way?

63. Has <Enterprise> had any contact with any local-level economic development officials (municipal or county)?

- a. If YES, in what capacity?
- b. If YES, has <Enterprise> benefited from any economic development incentives?

64. Has <Enterprise> had any contact with any local-level building inspectors (municipal or county)?

- a. If YES, in what capacity?

65. Has <Enterprise> had any contact with any local-level public health officials (municipal or county)?

- a. If YES, in what capacity?

66. Has <Enterprise> had any contact with any state-level officials?

- a. If YES, which agencies and in what capacities?

67. Have you or any other <Enterprise> staff participated in any business development training provided by any government agencies (give regional examples)?

- a. IF YES, which programs?
- b. If YES, where those programs helpful? In what ways?
- c. IF YES, how might those programs improve?

68. How would you describe the interactions that have take place between <Enterprise> and the local government officials you just mentioned?

Probes:

- Examples of positive interaction?
- Examples of negative interaction?

- Did you feel valued by the officials?
 - Did officials correspond with you in an efficient manner?
69. If you could change any local government policy that would help grow <Enterprise> more efficiently, what would you change?
70. If you could communicate anything to local government officials about your organization's food production and distribution efforts, what would that be?

Section 6 – Wrap Up

Section Preface: "Excellent, thank you for your help today, I have just a few wrap up questions."

71. I am assembling a list of urban food producers, both business and non-profit producers. Can you name any other producers I should include in my research?
72. Is there anything else you wish to tell me about the region's developing urban food system?

C.3 Interview Protocol – Civil Society Organization Staffer

Introductory Note:

Thank you again for agreeing to participate in my dissertation research. My research examines how post-industrial cities can encourage the development of urban food production as a tool of economic development. I requested an interview with your <Organization> because of your work in promotion of the region's urban food system.

Before we begin, it is important that you know your participation in this research is voluntary. You may at any time refuse to answer any question or end the interview at any point. I cannot compensate you or your organization for your assistance today; however, I hope that my research may improve the legitimacy of urban food production in the region.

Your responses today will guide the later stages of my research. I may wish to quote you directly in my findings. However, I will only do so with your permission. I have a form that outlines your rights in this research that requires your signature.

Provide IRB form.

Do you have questions before we begin?

Section 1 – Basics

Section Preface: "I am going to start with some basic questions about <Organization> history, development, and present organizational structure."

4. When was <Organization> started?
5. At the time of its founding, what were the reasons for creating <Organization>
6. Do those reasons continue to drive the organization <Organization>?
 - a. If YES, why is this so?
 - b. If NO, why not?
7. Have other motivations emerged since <Organization> started?
8. Was <Organization> founded in greater <Dayton/Newark>? If NOT, where?
9. Today, what are the main goals that <Organization> works to accomplish?
10. How many people work both employees and volunteers at <Organization>?
11. What are the major sources of income for <Organization>?
12. Have any of those income sources changed recently?
 - a. If YES, could you tell me more about that?
13. Outside of lack of money, what other major barriers impede <Organization> ability to work towards its mission?
14. What challenges has <Organization> encountered in pursuing your mission to improve the region's urban food system?

Section 2 – Perspective on the Urban food System Development (all #6)

Section Preface: "Now I would like to talk you about how you view the regional urban food system."

15. On the broad level, how would you describe the state of the region's urban food system?
16. What are some positive characteristics of the region's urban food system?

17. Has <Organization> collaborated with any other regional organizations and/or local governments to improve the urban food system? Are those collaboration's effective?
 18. What organization or group of organizations do you think are best suited to lead a regional effort to improve the urban food system?
 19. Are you aware of previous attempts to form a coalition to improve the region's food system?
 - a. If YES, did <Organization> participate any previous coalitions? Why ones?
 - b. If YES, how successful were those previous coalitions?
 - c. If YES, what barriers hampered their success?
 20. What suggestions do you have for improving the region's urban food system?
- Probes:
- Production?
 - Access to land?
 - Distribution?
 - Education about healthy foods?

Section 3 – Perspective on Local Government's Role in Food System Development

Section Preface: "For this final section of questions, I'm going to ask about <Organization> interaction with local government in the region. By local government, I mean both municipal and county governments."

21. Are local governments in this region an ally or an impediment to the growth of the urban food system, or something in between? Why do you think that?
22. Do you think that local governments in this region view urban food production as a valid economic activity or as a temporary phenomenon? Why do you think so?
23. Are you aware of any government initiatives to improve aspects of the region's urban food system? If so, can you tell me about them?
 - a. If YES, how could <insert name of local government(s)> do a better job of this?
24. Are you aware of any government regulations that restrict the ability of urban food producers in this region to grow or make food?
 - a. If YES, could you describe those regulations?
 - b. If YES, how could <insert name of local government(s)> improve those regulations to better encourage local producers while still protecting the public good?
25. What actions or policies should local governments in this region engage in regarding the urban food system?

Section 4 – Wrap Up

Section Preface: "Excellent thank you for your help today, I have just a few wrap up questions."

26. In a later stage of my research, I plan to conduct a survey of urban food producers that sell the food they grow or produce. To do this, I am assembling a list of urban food producers, both business and non-profit producers. Can you name any producers I should include in my survey?

27. Given my line of questioning today, what other community organizations that focus on urban food system development should I speak with for this research?
28. Is there anything else you wish to tell me about the region's urban food system?

APPENDIX D

SITE VISIT CHECKLIST

This appendix lists the site visit check list used in this research.

Section 1 - Site & Structures

1. What is the Site's Street Presence/Façade?
2. Signage
 - a. Frontage?
 - b. Internal?
3. Buildings
 - a. Number and Description of Each
 - b. Indication of Original Use?
 - c. Current Use(s)
4. Site Publically Accessible? (Presence of Urban Agrotourism?)
 - a. How could the public access the site?
 - b. When can public access the site?
 - c. What spaces can the public access?
 - d. Are spaces specifically designed for public access? (Benches, Verandas, Tasting Rooms, etc)
 - e. How would the public circulate the site and its buildings?
 - f. How can the public observe production operations?
5. Presence of Commercial Spaces?
 - a. Food Service/Bar Space
 - b. Meeting/Reception Space
6. Presence of Educational/Instructional Spaces?
 - a. Description
 - b. Location

Section 2 – Evidence of Post-Industrial Re-Use

1. Evidence of Vestigial Machinery or Apparatus
2. Incorporation of Elements of Industrial Past into Current Design Aesthetic
3. Elements of Industrial Past are Utilized in Current Production
4. Evidence of Current Remediation (Soil, Asbestos, Lead Paint, etc)
5. Estimate (%) of Site that Remains Un-remediated

Section 3 - Evidence of Production (existence, type, amount, location)

1. Cultivating Plants
 - a. Raised Beds
 - b. Hoophouses
 - c. Hydroponics
 - d. Vermiculture
 - e. Fruit Tree

2. Animal Husbandry
 - a. Types of Animals
 - b. Techniques Employed
 - c. Presence and Form of Animal Shelters
3. Valued Added Production
 - a. Kitchens
 - b. Canneries
 - c. Ovens
4. Brewing/Distilling
 - a. Stills
 - b. Kettles
 - c. Fermenters
5. Interconnections between Production Types/Techniques
 - a. Composting
6. On-Site Cooking (for on-site consumption by customers?)

Section 4 – Evidence of Distribution

6. On-Site Retailing?
 - a. Space Devoted to this Activity?
 - b. Specific Signage?
 - c. Payment Options?
 - d. Diversity of Choices?
7. Storage
 - a. Size and Types of Units
 - b. Location in Site & Building
8. Use of Shipping Materials?
 - a. Description
 - b. Branding on Shipping Material?
9. Methods of Transportation

APPENDIX E

REGULATIONS AFFECTING ENTERPRISES

This appendix contains tables of regulatory data specific to the four production types of urban food entrepreneurship.

Table E.1 Regulation of Farm and Farmers’ Markets in Both Regions

State	Terminology	Definition	Registration Requirements
New Jersey	Farm Market	<p>“facility used for the wholesale or retail marketing of the agricultural output of a commercial farm, and products that contribute to farm income”</p> <p>Retail marketing requires:</p> <ul style="list-style-type: none"> • 51%+ annual gross sales from agriculture sales of the commercial farm OR • 51%+ of sales area devoted to agriculture sales of the commercial farm <p>If farm market is located on less than five acres of land, that land must produce, “annually agricultural or horticultural products worth at least \$2,500.”^a</p>	No registration required.
	Community Farmers’ Market	<p>Not defined in New Jersey statute.</p> <p>“An established area where several farmers/growers gather on a regular, recurring basis to sell a variety of fresh fruits and vegetables as well as other farm products directly to the consumer.”^b</p>	No registration required.
Ohio	Farm Market	Producer operated facility where only the specific food items may offered for sale. ^c	Annual registration required with ODA Division of Food Safety. ¹²⁸ Registration as food retail business not required. ^d
	Farmers’ Market	“Location where producers congregate to offer food items for sale.” ^c	<p>Division of Food Safety is responsible for on-site inspections.^d</p> <p>Producers selling foods not explicitly permitted by O.A.C. 901:3-6-01 must registered as retail food businesses (RFEs).^e</p>

Sources:

- (a) [N.J.S.A 4:1C-3](#)
- (b) New Jersey Department of Agriculture (2007)
- (c) [O.A.C. 901:3-6](#)
- (d) [O.R.C. 3717.221](#)
- (e) [O.A.C. 901:3-6-08](#)

¹²⁸ Ohio Farm Market Registration Form: http://www.agri.ohio.gov/public_docs/forms/foodsafety/Food_3800-02.pdf
 Ohio Farmers’ Market Registration Form: http://www.agri.ohio.gov/public_docs/forms/foodsafety/Food_3800-03.pdf

Table E.2 Agricultural Exemptions to Building Code Regulations for Urban Farms

State	Requirements	Effect of Protection
New Jersey	<p>Requires status as ‘Commercial Farm’:</p> <ul style="list-style-type: none"> • Single or multiple, contiguous or non-contiguous parcels that are operated together as a single business and that are either:¹²⁹ <ol style="list-style-type: none"> a. more than five acres producing agricultural or horticultural products worth \$2,500 or more annually, and satisfying the eligibility criteria for farmland tax assessment b. less than five acres, producing agricultural or horticultural products worth \$50,000, and satisfying the criteria for farmland tax assessment but ignoring requirement of 5 contiguous acres. c. A beekeeping operation producing honey or other agricultural or horticultural apiary-related products, or providing crop pollination services, worth \$10,000 or more annually^a • Farmland tax assessment requires that the land be devoted to agriculture use for at least two years prior to application.^c <p>Requires commercial farm to:</p> <ul style="list-style-type: none"> • Conform with agriculture management practices set by the NJ State Agriculture Development Committee (NJSADC) or appropriate county agriculture board.^d • Comply with relevant state and federal laws and regulations • Not pose a direct threat to public health and safety • Be located in a zone that permits agriculture or was in operation as of July 2, 1998 	<p>Farm can preempt restrictive local zoning regulations and can be shielded from nuisance lawsuits, after going through a formal Right to Farm Act process.</p> <p>Farms must still comply with the state building code, which separately includes a few code exemptions for commercial farm buildings and temporary greenhouses.^b</p>
Ohio	<p>Exemption for buildings or structures requires that more than 50% of gross income from sales in the building or structure are produced or raised on farms owned or operated by the farmer.^e</p> <p>Local government entity must approve agricultural exemption if the building or structure complies with zoning.^f</p>	<p>If applicable, electrical and plumbing inspections are required from local agencies.</p>
<p>Sources:</p> <ul style="list-style-type: none"> (a) N.J.S.A. 4:1C-3 (2017) (b) N.J.A.C. 5:23-3.2 (2017) (c) N.J.S.A. 54:4-23.1 et seq. (d) N.J.S.A. 4:1C-10.9 (2017) (e) Ohio Building Code 101.2, see also O.R.C 3781.06 (f) O.R.C 3781.061 (g) Wyckoff (2016) 		

¹²⁹ The Sipos Decision requires that in order to qualify as a commercial farm, noncontiguous parcels of a farmland management unit must individually be eligible for farmland assessment by being at least five acres in size. This prevents urban farmers from assembling noncontiguous urban farm sites of less than five acres into a farmland management unit of at least five acres to qualify for farmland assessment (Sipos and Gentles v. Hunterdon County Agriculture Development Board, 2012).

Table E.3 Exemption Requirements for Permitting of Temporary Structures

State	Exemption	Notes
New Jersey	<p>Construction permit required unless ALL of the following criteria are met:</p> <p>(1) The tent, tensioned membrane structure, or canopy is 140 feet or less in any dimension and 16,800 square feet or less in area whether it is one unit or is composed of multiple units;</p> <p>(2) The tent, tensioned membrane structure, or canopy remains in place or will remain in place for fewer than 180 days;</p> <p>(3) The tent, tensioned membrane structure, or canopy is used or occupied only between April 1 and November 30;</p> <p>(4) The tent, tensioned membrane structure, or canopy does not have a permanent anchoring system or foundation; and</p> <p>(5) The tent, tensioned membrane structure, or canopy does not contain platforms or bleachers greater than 11 feet in height.^a</p> <p>Otherwise: any temporary structure meeting one of the previous MUST follow permitting requirements of the Uniform Fire Code.^e</p>	<p>Hoophouses must comply with extant zoning.</p> <p>Any electrical or mechanical equipment that would normally require a permit must be permitted.</p>
Ohio	<p>No temporary structure, permitted or exempted, can be in place for more than 180 days. Temporary tents and membraned structures^b are exempted from building permit if the following criteria are met:</p> <ol style="list-style-type: none"> 1. Smaller than 400 square feet (20' x 20') 2. Smaller than 700 square feet (20' x 35'), open on all sides, and located at least 12 feet away from other tents or buildings.^c <p>Temporary structures that are not tents or membraned structures greater than 120 square feet (~11' x 11') or more than 10 occupants require approval from building official.^d</p> <p>Otherwise: Application required with site plan, detailing: location, means of egress, and occupant load.^c</p>	<p>Hoophouses must comply with extant zoning.</p> <p>Fire department may require additional regulations.</p>
<p>Sources:</p> <ol style="list-style-type: none"> a) N.J.A.C 5:23-2.14 (b)4ii (2018) b) O.A.C. 4101:1-31-02 et seq. (2018) c) O.A.C. 4101:1-31-03 et seq. (2018) d) O.A.C. 4101:1-31-03.1.3 (2018) e) N.J.A.C. 5:70-2.7 		

Table E.4 Regulation of Hoophouses

State	Regulations	Notes
New Jersey	<p>Hoophouses are exempted from Uniform Construction Code if all the following criteria are met:</p> <ol style="list-style-type: none"> 1. Exemption applies only to commercial farm buildings as defined by NJ Right to Farm Act (see above),^a 2. There is no permanent anchoring system or foundation, 3. There is no storage, temporary or otherwise, of solvents, fertilizers, gases or other chemicals or flammable materials, 4. The structure is no wider than 31 feet and there is an unobstructed path of no greater length than 150 feet from any point to a door or fully accessible wall area; and, 5. The covering of the structure is of a material no greater than six mils (152.4 micrometers) in thickness, conforming to N.F.P.A. 701 standard, that yields approximately four pounds of maximum impact resistance to provide egress through the wall.^b 	<p>Any electrical, mechanical, or portable water system equipment that would normally require a permit must be permitted.^c</p> <p>Public must not have access to exempted hoophouses. Posting “Employees Only” recommended.^c</p> <p>Hoophouses must comply with extant zoning.^c</p>
Ohio	<p>If a high tunnel hoophouse was not considered agriculturally exempt , then the following would apply:</p> <ul style="list-style-type: none"> • Exempt from building code if: <ul style="list-style-type: none"> ○ Considered detached accessory structure ○ One story in height ○ Floor plan than 200 square feet (~14x14 feet) • Else must apply for build permit.^d 	<p>Any electrical, mechanical, or portable water system equipment that would normally require a permit must be permitted.</p> <p>Hoophouses must comply with extant zoning.</p>
<p>Sources:</p> <ol style="list-style-type: none"> a) N.J.S.A 4:1C-3 (2018) b) N.J.A.C 5:23-3.2(d)4 (2018) c) New Jersey Department of Agriculture (2015) d) O.A.C 4101:8-1-102.10 (2018) 		

Table E.5 Regulation of Produce Sales in New Jersey

Sales Method	Restrictions	Private Sector Requirements
Farm Market	Produce should be: ^a <ul style="list-style-type: none"> • Stored under clean sanitary conditions, • Stored above ground level, • No direct contact with the ground. 	Private sector buyers may require: <ul style="list-style-type: none"> • Liability insurance • Good Agriculture Practices (GAP)/ Good Handling Practice (GHP) certification • Other third-party certification • Visits to production sites
Community Farmers' Market ^b	Produce should be: ^a <ul style="list-style-type: none"> • Stored under clean sanitary conditions, • Stored above ground level, • No direct contact with the ground. 	
Direct to Restaurant Sales	No apparent regulations beyond Food Safety Modernization Act (FSMA) rules.	
Direct to Supermarket Sales		
Wholesale Sales		
Sources: a) New Jersey Department of Agriculture (2007) b) New Jersey Department of Agriculture (2018)		

Table E.6 Regulation of Produce Sales in Ohio

Sales Method	Restrictions	Private Sector Requirements
Farm Market ^a	Fruits and vegetables not processed beyond rough trimming and rinsing are considered, "Unprocessed" and thus unregulated. ^b	Private sector buyers may require: <ul style="list-style-type: none"> • Liability insurance • Good Agriculture Practices (GAP)/ Good Handling Practice (GHP) certification • Other third-party certification • Visits to production sites
Farmers' Market ^a		
Direct to Restaurant Sales	No apparent regulations beyond Food Safety Modernization Act (FSMA) rules.	
Direct to Supermarket Sales		
Wholesale Sales		
Sources: a) O.R.C. 3717.221 (2018) b) O.R.C. 3717.01(R) (2018)		

Table E.7 Animal Husbandry Food Production Registration Regulations in New Jersey

Production Type	Authorizing or Regulating Agency	Registration	Inspection	Other Regulations
Honey	NJDA Department of Plant Industry	Registration of over-winter locations for hives (e.g., bee yards) is required annually. ^a	Annual inspections required to prevent the spread of diseases. ^b	Hives must be, “modern, movable, frame hives which permit the thorough examination of every comb.” ^c
Eggs ^d	NJDA	Registration required. ¹³⁰	Exempted from USDA egg grading if flock is less than 3,000 birds. ¹³¹	
Poultry ^e	Municipal Health Department	Permit may be required by municipal health department. No state-level poultry inspection.	Producer/grower shall have local sanitation inspection of processing facility. Producer shall have cold storage or freezer units licensed and inspected.	Municipal governments may adopt additional ordinances. NJDA Animal Health conducts monthly inspections at slaughter facilities for poultry health. ^f
Meats (fresh/frozen)	USDA FSIS and local health agency.	Slaughtering, processing, and packaging can only occur at USDA inspect facilities. Producer shall have cold storage or freezer units licensed and inspected by local health agency.		
Sources: a) N.J.A.C 2:24-3.1 b) N.J.S.A 4:6-18 and N.J.A.C 2:24-4 c) N.J.S.A. 4:6-10 d) New Jersey Department of Agriculture (2007) e) Niche Meat Processor Assistance Network (2015) f) N.J.A.C 2:9 et seq				

¹³⁰ Archival research and consultations with relevant agencies could not locate additional information.

¹³¹ See [7 CFR 57.100](#) for more details on grading.

Due to common conditions present in urban agriculture (e.g., limited space, zoning restrictions, and public nuisance laws), maintaining a flock of more than 3000 birds is unfeasible.

Table E.8 Animal Husbandry Food Production Registration Regulations in Ohio

Production Type	Regulating Agency	Registration	Inspection	Other Regulations
Honey ^a	ODA Division of Plant Health	Beekeepers are exempt from registration as food processors as long as 75% or more of honey sold is from their own hives. ^b Registration of each apiary location required, which can contain multiple hives. ^c	ODA can inspect, but beekeepers may opt-out of inspections via form. ^c	If product is less than 75% of honey produced on own hives, producer must register as a food processor and follow all applicable laws. ^b
Small Scale Egg Producer ^d	ODA Division of Food Safety	Required if selling off-site OR maintaining over 500 birds. Producers with more than 500 birds must register as large egg producer. ¹³²	Annual on-farm inspection of registered producers: <ul style="list-style-type: none"> • Meeting labeling requirements • Maintaining refrigeration below 45°F • Testing of private wells for coliforms 	
Poultry ^e	ODA Division of Meat Inspection, in junction with USDA FSIS	License required for operation. Requires annual application. ^f Small scale grower-producers may be exempt from licensing requirement if selling to certain retail customers. ^g	Inspection required by either ODA Division of Meat Inspection or USDA FSIS.	<ul style="list-style-type: none"> • Hazard Analysis and Critical Control Points (HACCP) Checklist • Sanitation Standard Operating Procedures (SSOP) Program
Meat ^e		License required for operation. Requires annual application. ^f	Inspection required by either ODA Division of Meat Inspection or USDA FSIS.	
<p>Sources:</p> <ul style="list-style-type: none"> a) Ohio Department of Agriculture (2017b) b) O.R.C 3715.021 (2018) c) O.A.C. 901:5-55 (2018) d) Ohio Department of Agriculture (June 2016b) e) O.R.C. 918 (2018) f) O.R.C 918.08 (2018) g) See O.R.C. 918.27 (2018) for more details 				

¹³² Due to common conditions present in urban agriculture (e.g., limited space, zoning restrictions, and public nuisance laws), maintaining a flock of more than 500 birds is unfeasible.

Table E.9 Labeling, Packaging, and Handling Requirements for Animal Products in New Jersey

Production Type	Labeling	Packaging/Storage	Restrictions/Notes
Honey ^a	Product label shall contain: name and address of seller or processor; name of product; ingredient list in descending order; and the net weight of the product.	Jars can be reused, but must be washed and sanitized.	Processing and storage facility maintained in good sanitary condition.
Eggs (If flock less than 3,000 birds) ^b	Container in which eggs are sold shall contain: Name and address of the producer/packer; the word “eggs”; grade of the eggs; size-weight class of the eggs; numerical count of the contents, nutritional label *.	Eggs shall be packed in a clean container; if container is reused it shall be cleaned and relabeled by producer/packer. Temperature shall be maintained at or below 45°F. Eggs shall not be cooled directly on ice or water.	Standards of quality, grade, sanitation, refrigeration and records shall be maintained. Exempted from USDA, AMS egg grading program if annual flock does not exceed 3,000 birds.
Poultry (Fresh/Frozen) ^b	Labels must: <ul style="list-style-type: none"> • State fresh or frozen, • Statement of quantity of contents in terms of weight and measures. • Producer/growers name and address. Package labeled with location that processed and packed the product; date of packing, safe handling statement, and nutritional label.	(Poultry only) Safe Handling instructions that comply with Title 9 CRF 381.125(b)(2)(ii). Shall be stored and/or displayed in approved sanitary conditions. Fresh poultry shall be maintained at a temperature below 41°F.	
Meats (fresh/frozen) ^b	Labels must: <ul style="list-style-type: none"> • State fresh or frozen, • Statement of quantity of contents in terms of weight and measures. • Producer/growers name and address. • Package labeled with location that processed and packed the product; date of packing, safe handling statement, and nutritional label. 	Shall not be displayed in direct sunlight. Shall not be stored in direct contact with ice or water. Shall remain frozen at all times.	
Sources: a) Wesley L. Kline and Meredith Melendez (2016) b) New Jersey Department of Agriculture (2007)			

Table E.10 Labeling, Packaging, and Handling Requirements for Animal Products in Ohio

Production Type	Labeling	Packaging	Storage & Handling	Restrictions/Notes
Honey	Label on container required. Label requirements follows cottage food laws. ^a	Archival research and consultations with relevant agencies could not locate applicable information.		Beekeepers can request a voluntary inspection, completion allow them to place a seal of conformity upon any labeling. ^g
Eggs ¹³³	Carton labeling required for sales through: ^b <ul style="list-style-type: none"> • Farm Market • Farmers' Market • Wholesale <p>See Ohio Department of Agriculture (June 2016b) for details and example.^d</p> <p>Not required for on-site sales direct to consumer.^f</p>	Any clean, intact carton may be reused.	Refrigeration required to keep eggs below 45 degrees F for sales through: ^c <ul style="list-style-type: none"> • Farm Market • Farmers' Market • Wholesale <p>No refrigeration requirements if selling on-site direct to consumer, but not Farm Market.^f</p> <p>Follow Good Handling Practices (GHP).¹³⁴</p>	
Poultry (Fresh/Frozen)	Archival research and consultations with relevant agencies could not locate applicable information.			
Meats (fresh/frozen)	Archival research and consultations with relevant agencies could not locate applicable information.			
Sources:				
<ul style="list-style-type: none"> a) O.R.C. 3715.023 (2018) b) O.R.C. 925.021 (2018) c) O.A.C. 3717-1-03.1(8) (2018) d) O.R.C. 925.021 (2018) e) O.R.C. 925.03 (2018) f) O.R.C. 925.10 (2018) g) O.R.C. 3715.024 (2018) 				

¹³³ See Peggy Kirk Hall, Eric Barrett, Emily G. Adams, and Heather Neikirk (2017) for more details.

¹³⁴ Ibid.

Table E.11 Regulations of Animal Product Sales in New Jersey

Product	On-site/ Farm Market	Community Farmers' Market	Off-Site Retail Store	Direct to Restaurant/ Wholesale	Other
Honey ^a	Permitted	Permitted	Archival research and consultations with relevant agencies could not locate applicable information.		
Eggs ^a	Permitted	Permitted if exempted from USDA/AMS egg grading, if flock less than 3,000 birds.	Permitted	I failed to locate relevant information.	Some federal exemptions allow the sale of “restricted eggs” (e.g., dirty or damaged egg). ^c
Poultry ^d	No restrictions outside of USDA Food Safety Inspection Service (FSIS) slaughter exemption. ^f Sale of any slaughtered poultry at a USDA inspected facility and possessing approval stamp is unrestricted. Poultry must be frozen.				
Meats (fresh/frozen)	Archival research and consultations with relevant agencies could not locate applicable information.				
Sources: a) New Jersey Department of Agriculture (2007) b) New Jersey Department of Agriculture (2018) c) 9 CFR 57.100 but registration required with NJDA (2007) d) Niche Meat Processor Assistance Network (2015) e) See www.eXtension.org and 9 CFRE 381.10 for more details on federal exemptions					

Table E.12 Regulations of Animal Product Sales in Ohio

Product	Farm Market ^a	Farmers' Market ^a	Retail Store	Direct to Restaurant/ Wholesale	Other
Honey	Permitted.	Permitted.	Archival research and consultations with relevant agencies could not locate applicable information.		Permitted at informal on-site (i.e., not registered Farm Market). ^b
Eggs	Permitted if annually maintaining less than 500 chickens. ^c	Permitted only with Retail Food Establishment (RFE) license. ^d	Permitted if registered as RFE. ^d	Permitted.	Exempted from registration as RFE if annually maintaining less than 500 chickens. ^f Some federal exemptions allow the sale of "restricted eggs" (e.g., dirty or damaged egg). ^g
Poultry and Non-Amenable Meats (i.e., bison, rabbit, deer, etc)	Permitted if producer maintains and slaughter under 1000 birds annually. ^a Requires two or three compartment sink. ^c	Permitted only with RFE license. ^a	Archival research and consultations with relevant agencies could not locate applicable information.		Interstate sales restricted unless inspected by FSIS or produced at a CIS facility. ^h
	Sale of any slaughtered poultry at a USDA inspected facility and possessing approval stamp is unrestricted, but vendors must conform to storage and handling safety requirements. ^h				
Amenable Meat (i.e., cattle, sheep, swine, goats, etc)	Restricted under Farm Market rules; requires RFE license. ^a	Permitted only with RFE license. ^a	Archival research and consultations with relevant agencies could not locate applicable information.		Interstate sales restricted unless inspected by FSIS or produced at a CIS facility. ^h
	Sale of any slaughtered poultry at a USDA inspected facility and possessing approval stamp is unrestricted, but vendors must conform to storage and handling safety requirements. ^h				
Sources:					
a) O.A.C. 901:3-6 (2018)					
b) O.R.C 3717.22 (2018)					
c) O.A.C. 901:3-6-04 (2018)					
d) O.R.C. 3717.21 (2018)					
e) O.R.C. 3717.22(B)(16)(f) (2018)					
f) O.R.C. 3717.22(B)(8) (2018)					
g) 9 CFR 57.100 (2018)					
h) US Department of Agriculture (2018)					

Table E.13 Regulation of Valued-Added Food Production in New Jersey

Production Type	Products	Regulating Agency	Registration	Inspection	Other Regulations
Baked Goods ^a	Breads, pastries, etc	Municipal or county-level public health department.	Commercial kitchen licensed and inspected.		
Jarred non-potentially hazardous foods ^a	Jams, Jellies, fruit butters, etc	Municipal or county-level public health department.	Commercial kitchen licensed and inspected.		
Canned / jarred Low Acid or Acidified Foods for Room Temp. Storage ^a		USDA or FDA	USDA or FDA registers and inspects processing facility. Production can only occur at certified retort canning facility.		
Canned/ jarred High Acid or Acidified Foods Refrigerated Storage ^a	Pickle vegetables, salsa, etc	USDA or FDA or state or local health authority.	Commercial kitchen licensed and inspected. Recipe, formula, and processing procedures need to be evaluated by an approved food laboratory. Acidifying records maintained for each batch.		
Cider (non-alcoholic) ^b		NJ Dept of Health or local health authority.	Producer/processor shall be licensed and inspected by the NJ Dept of Health or local health authority.		
Sources: a) (New Jersey Department of Agriculture, 2007) b) (US Food And Drug Administration, 2017a)					

Table E.14 Regulation of Valued-Added Food Production in Ohio

Production Type	Products	Regulating Agency	Registration	Inspection	Other Regulations
Cottage Food Production Operation ^a	See (a) for complete list of permitted and restricted products	County Public Health Department	Annual Registration Required	None, but products are subject to random sampling.	
Apple Cider and Juice ^c (non-alcoholic)	Apple cider and other juices	FDA	None	Compliance with FDA Hazard Analysis and Critical Control Point (HACCP) required. ^d	Exempted from Juice HACCP if sold in packages directly to consumers at production location.
Home Bakery ^b	See (b) for complete list of permitted and restricted products	ODA Division of Food Safety	Annual Registration Required	Initial inspection required for license issuance.	Home kitchen may not be carpeted. Home must be pet and pest free. Homes with private well must be tested annually for coliform bacteria.
Bakery ^c	See (e) for complete list of permitted and restricted products	ODA Division of Food Safety	Annual Registration Required	License application is supplied at time of inspection.	Wholesale and retail bakeries are regulated the same way. ^f
<ul style="list-style-type: none"> • Bottling • Canning • Frozen Food • Syrups and Extracts • Cold Storage^g 		ODA Division of Food Safety	Annual Registration Required	License application is supplied at time of inspection.	Must comply with Good Manufacturing Practices.
<p>Sources:</p> <ul style="list-style-type: none"> a) Ohio Department of Agriculture (June 2016a) b) Ohio Department of Agriculture (2017a) c) Ohio Department of Agriculture (2010) d) US Food And Drug Administration (2017a) e) O.R.C 911 (2018) f) O.R.C. 911.021 (2018) g) Ohio Department of Agriculture (2018) 					

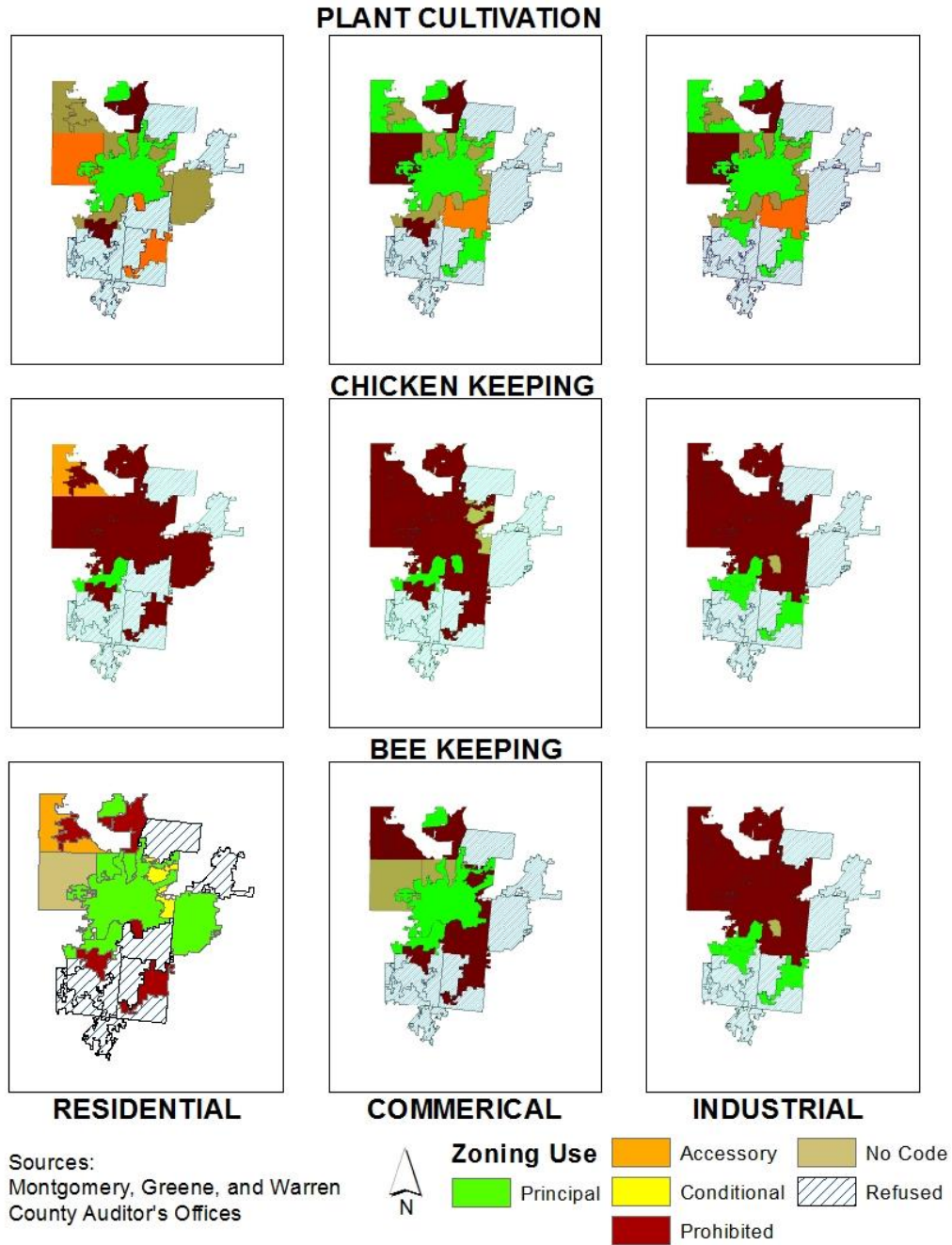
Table E.15 Regulations of Value-Added Product Sales in Ohio

Product	Farm Market	Farmers' Market	Retail Store	Direct to Restaurant	Wholesale	Other
Cottage Food Products ^a	Permitted	Permitted	Permitted	Archival research and consultations with relevant agencies could not locate applicable information.		May not be sold outside of State of Ohio
Home Bakery ^b	Permitted	Permitted	Permitted if retail store is Home Bakery location.	Permitted	Permitted	May not be sold outside of State of Ohio
Sources:						
a) O.A.C. 901:3-6						
b) Ohio Department of Agriculture (2017a)						

APPENDIX F

ZONING IN THE DAYTON REGION

This appendix shows zoning regulations in the greater Dayton region.



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